# A reconstruction of Henri Andoyer's trigonometric tables (1915–1918)

# Volume 2

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**2 november 2012**

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# Foreword to the reconstruction.

> This monumental work will serve as the basis of all smaller tables
> for many generations—perhaps centuries—to come.
>
> L. J. Comrie, 1925 [13, p. 387]

> The centesimal [1] division of the quadrant, a French product,
> has never thrived, and is now dying a lingering death,
> with what is probably its death-blow dealt by a Frenchman himself
> —by Andoyer in his wonderful single-handed production,
> the *Nouvelles Tables Trigonométriques Fondamentales*.
>
> L. J. Comrie, 1926 [14, p. 620]

This book is a reconstruction of Henri Andoyer's tables of trigonometric functions, published in three volumes between 1915 and 1918 [4]. [2] These three volumes are a sequel to Andoyer's tables of logarithms [2], published in 1911, of which we have also produced a reconstruction [30].

Andoyer's tables give the six basic trigonometric functions (sine, cosine, tangent, cotangent, secant, and cosecant) with 15 places every 10 sexagesimal seconds of the quadrant, going beyond all previous works of similar extents, in particular Rheticus' *Opus palatinum* (1596) [28] (which gave 10 decimals, see our reconstruction [34]), Pitiscus' *Thesaurus mathematicus* (1613) [27] (which gave 15 decimals, of which the last is doubtful, see also our reconstruction [33]), Briggs's *Trigonometria Britannica* (1633) [10] (which gave 15 decimals for the sines, but only 10 for the tangents and secants, and with an interval of $36''$, see also our reconstruction [32]), and the *Tables du cadastre* (1790s, unpublished) (which followed a centesimal division of the quadrant and only gave the sines, albeit with 25 decimals, but a larger interval, see also our reconstruction [35]), etc.

The early development of trigonometry up to Pitiscus' *Thesaurus* is recounted in Glen van Brummelen's *The mathematics of the heavens and the Earth* (2009) [38] who wrote that "[i]t took over three centuries before [the *Thesaurus mathematicus*] was eventually replaced less than 100 years ago, by Andoyer's 20-place [sic] tables of 1915–1918."

1. This citation should however slightly be relativized, as Andoyer's main tables are sexagesimal.
2. Andoyer's tables are available on *archive.org* (id: `nouvellestablest01andouoft`, `nouvellestablest02andouoft`, and `nouvellestablest03andouoft`).

Andoyer did all the computations by himself, without the help of a machine, and produced these tables in a very short time. The first part of the first volume lays the foundations for the calculations and gives the pivots of the main tables. The remaining parts of the tables were computed by interpolation, in a way similar to the one employed in the *Tables du cadastre*.

We draw the attention of the reader to Andoyer's rounding-off notation. Andoyer uses a rule devised by T. N. Thiele and writes for instance 2.4 when the exact value to represent is located between 2.375 (exclusive) and 2.425 (inclusive) and 2.4+ when the exact value is located between 2.425 (exclusive) and 2.475 (inclusive). The boundary cases do never occur in the three volumes. [3]

One may wonder if the accuracy of Andoyer's tables was really needed, and it is interesting to recall Ernest W. Brown's comments when reviewing Andoyer's tables of logarithms [11]. After having observed that the accuracy of observations has increased very much in the past fifty years, Brown stressed that the "problem is not so much that of getting the numerical value of a single function [...] in such cases one can usually adopt devices which grind out the result at the cost of trouble and time. Many of the present day problems are on a large scale. The calculations are turned over to professional computers [...] Extended tables and, if possible, mechanical devices are more and more sought after in order to economize time and money in scientific work, just as in business."

For the reconstruction, we have tried to be as close as possible to the original tables, retaining in particular the page numbers and the page breaks in the introduction. Although the layout of the introduction is not totally pleasing, retaining the page breaks was felt necessary for easy reference to the original volume. A few minor things have however been changed, such as the number of continuation dots, or the use of old style numerals in mathematical formulæ. All the numerical values in the tables have been recomputed using the GNU `mpfr` multiprecision library [18]. Since the computations are supposed to be correct here, we naturally did not include the original erratas. The first volume had an errata of 13 items, the errata of the second volume contained 26 items (including one for volume 1) and the third errata had 32 items. Most of the errors were printing errors, sometimes merely unreadable characters. In a number of cases, the errors were incorrect roundings. These erratas listed only very few genuine composition errors. The first errata also corrected an error in Andoyer's 1911 logarithmic tables.

Andoyer did not claim that his calculations were totally correct, and in his introduction, he writes that the last digit is in general in error by less than a quarter of that unit, but that it can sometimes be larger, without exceeding half a unit. An examination of some pages of the tables shows that there are indeed a few errors, but we haven't found any error contradicting Andoyer's claim. One can for instance find small (rounding) errors on pages 7–21, 30, 41, 44–47, 51–53, 56, 60–63, 64–65 of volume 1 and certainly in other places. For an additional errata containing seven typographical errors, see Fletcher

3. For more on this notation, see Andoyer's 1911 tables of logarithms (pages IX–X), as well as J. C. P. Miller's note on rounding-off notations [25]. Roussilhe and Brandicourt who borrowed some of Andoyer's tables gave the following explanation in 1925: "The sign + following a decimal signifies that the value of the next following figure would lie between 2,5 and 7,5; the absence of this sign indicates that the last figure is correct to within −0,25 and +0,25 of a unit in that decimal place." [36]

*et al.* [16, p. 784], who write that every value of Andoyer's tables have been tested to the 12th decimal.

Manuscripts of Andoyer's tables can be found in the library of the Sorbonne university in Paris (MS 1864–1875) and were donated by Andoyer in 1920. Andoyer's first volume of tables, published in 1911, was reviewed by Benjamin Baillaud [7] and Ernest W. Brown [11] and these reviews may also be of interest for the present volumes. The first of the three volumes of trigonometric tables was reviewed by Baillaud [8]. Roussilhe and Brandicourt's tables [36] [4] are based on Andoyer's (see Archibald [6, pp. 38–39]), and some errors are given by Fletcher *et al.* [16, p. 896].

Denis Roegel, 2 november 2012

4. In 1922, at the first general assembly of the international geodesic and geophysical union, it was suggested to publish the natural values of the trigonometric functions computed in the *Tables du cadastre* (Prony's tables) [35]. At that moment, these tables seemed of particular interest, because they were decimal, and were well adapted to (mechanical) calculating machines. A committee studied this question and concluded in 1924 that it was not necessary to publish Prony's tables, which give only the values of sines and cosines to 22 places for every centigrade. Andoyer's tables (1915 and 1916) give the six trigonometric lines to 20 places for every grade. For geodesical purposes, seven-place tables were necessary. Past tables were considered inadequate. It was then decided to produce eight-place tables. These tables were based on tables by Callet (sines to 15 places for every decigrade) and completed and interpolated using Andoyer's tables. The pages 5–21 from Andoyer's 1915 volume were reproduced in Roussilhe and Brandicourt's volume [36].

# References

The following list covers the most important references [5] related to Andoyer' tables. Not all items of this list are mentioned in the text, and the sources which have not been seen are marked so. We have added notes about the contents of the articles in certain cases.


[1] Marie Henri Andoyer. Nouvelles Tables trigonométriques fondamentales. *Comptes rendus hebdomadaires des séances de l'Académie des sciences*, 150:591–592, janvier-juin 1910.

[2] Marie Henri Andoyer. *Nouvelles tables trigonométriques fondamentales contenant les logarithmes des lignes trigonométriques....* Paris: Librairie A. Hermann et fils, 1911. [Reconstruction by D. Roegel in 2010 [30].]

[3] Marie Henri Andoyer. Fundamental trigonometrical and logarithmic tables. In Knott [23], pages 243–260.

[4] Marie Henri Andoyer. *Nouvelles tables trigonométriques fondamentales contenant les valeurs naturelles des lignes trigonométriques....* Paris: Librairie A. Hermann et fils, 1915–1918. [3 volumes]

[5] Marie Henri Andoyer. *Tables logarithmiques à treize décimales.* Paris: Librairie J. Hermann, 1922. [Reconstruction by D. Roegel in 2010 [31].]

[6] Raymond Clare Archibald. Tables of trigonometric functions in non-sexagesimal arguments. *Mathematical Tables and other Aids to Computation*, 1(2):33–44, April 1943.

[7] Benjamin Baillaud. H. Andoyer: Nouvelles tables trigonométriques fondamentales (logarithmes). *Bulletin Astronomique, Série I*, 28:470–475, 1911. [Review of [2].]

[8] Benjamin Baillaud. Andoyer (H.): Nouvelles tables trigonométriques fondamentales (valeurs naturelles), t. I. *Bulletin Astronomique, Série I*, 32:225–229, 1915. [Review of volume 1 of Andoyer's trigonometrical tables.]

[9] Benjamin Baillaud. Henri Andoyer. *Journal des Observateurs*, 12(11):193–198, 1929. [obituary]


5. **Note on the titles of the works:** Original titles come with many idiosyncrasies and features (line splitting, size, fonts, etc.) which can often not be reproduced in a list of references. It has therefore seemed pointless to capitalize works according to conventions which not only have no relation with the original work, but also do not restore the title entirely. In the following list of references, most title words (except in German) will therefore be left uncapitalized. The names of the authors have also been homogenized and initials expanded, as much as possible.

The reader should keep in mind that this list is not meant as a facsimile of the original works. The original style information could no doubt have been added as a note, but we have not done it here.

[10] Henry Briggs and Henry Gellibrand. *Trigonometria Britannica*. Gouda: Pieter Rammazeyn, 1633. [The tables were reconstructed by D. Roegel in 2010. [32]]

[11] Ernest William Brown. Review of "H. Andoyer: Nouvelles tables trigonométriques fondamentales". *Bulletin of the American Mathematical Society*, 18(7):365–368, 1912.

[12] Paul Caubet. Henri Andoyer, vu par un de ses élèves. *Journal des Observateurs*, 13(4):61–64, April 1930.

[13] Leslie John Comrie. Logarithmic and trigonometrical tables. *Monthly Notices of the Royal Astronomical Society*, 85(4):386–388, February 1925.

[14] Leslie John Comrie. The use of a standard equinox in astronomy. *Monthly Notices of the Royal Astronomical Society*, 86(8):618–631, June 1926.

[15] Jean-Baptiste Joseph Delambre. *Histoire de l'astronomie moderne*. Paris: Veuve Courcier, 1821. [two volumes]

[16] Alan Fletcher, Jeffery Charles Percy Miller, Louis Rosenhead, and Leslie John Comrie. *An index of mathematical tables*. Oxford: Blackwell scientific publications Ltd., 1962. [2nd edition (1st in 1946), 2 volumes]

[17] C. H. Forsyth. Review of "H. Andoyer: Tables logarithmiques à treize décimales". *Bulletin of the American Mathematical Society*, 29(8):373, October 1923.

[18] Laurent Fousse, Guillaume Hanrot, Vincent Lefèvre, Patrick Pélissier, and Paul Zimmermann. MPFR: A multiple-precision binary floating-point library with correct rounding. *ACM Transactions on Mathematical Software*, 33(2), 2007.

[19] James Whitbread Lee Glaisher. *Report of the committee on mathematical tables*. London: Taylor and Francis, 1873. [Also published as part of the "Report of the forty-third meeting of the British Association for the advancement of science," London: John Murray, 1874. A review by R. Radau was published in the *Bulletin des sciences mathématiques et astronomiques*, volume 11, 1876, pp. 7–27]

[20] James Henderson. *Bibliotheca tabularum mathematicarum, being a descriptive catalogue of mathematical tables. Part I: Logarithmic tables (A. Logarithms of numbers)*, volume XIII of *Tracts for computers*. London: Cambridge University Press, 1926.

[21] Samuel Herrick, Jr. Natural-value trigonometric tables. *Publications of the Astronomical Society of the Pacific*, 50(296):234–237, 1938.

[22] J. J. Obituary of Henri Andoyer. *Monthly Notices of the Royal Astronomical Society*, 90(4):384–386, February 1930.

[23] Cargill Gilston Knott, editor. *Napier Tercentenary Memorial Volume*. London: Longmans, Green and company, 1915.

[24] Charles Maurain. Notice sur la vie et les travaux de Henri Andoyer (1862–1929) présentée en la séance du 22 décembre 1930. In *Institut de France, Académie des sciences : Notices et discours*, volume 1, pages 329–340. Paris: Gauthier-Villars, 1937.

[25] Jeffery Charles Percy Miller. Rounding-off notation. *Mathematical Tables and other Aids to Computation*, 1(8):335, October 1944.

[26] Émile Picard. Discours aux funérailles de Henri Andoyer. In *Institut de France, Académie des sciences : Notices et discours*, volume 1, pages 260–263. Paris: Gauthier-Villars, 1937.

[27] Bartholomaeus Pitiscus. *Thesaurus mathematicus sive canon sinuum ad radium* 1. 00000. 00000. 00000. *et ad dena quœque scrupula secunda quadrantis : una cum sinibus primi et postremi gradus, ad eundem radium, et ad singula scrupula secunda quadrantis : adiunctis ubique differentiis primis et secundis; atque, ubi res tulit, etiam tertijs.* Frankfurt: Nicolaus Hoffmann, 1613. [The tables were reconstructed by D. Roegel in 2010. [33]]

[28] Georg Joachim Rheticus and Valentinus Otho. *Opus palatinum de triangulis.* Neustadt: Matthaeus Harnisch, 1596. [This table was recomputed in 2010 by D. Roegel [34].]

[29] Denis Roegel. A reconstruction of Adriaan Vlacq's tables in the *Trigonometria artificialis* (1633). Technical report, LORIA, Nancy, 2010. [This is a recalculation of the tables of [40].]

[30] Denis Roegel. A reconstruction of Henri Andoyer's table of logarithms (1911). Technical report, LORIA, Nancy, 2010. [This is a reconstruction of [2].]

[31] Denis Roegel. A reconstruction of Henri Andoyer's table of logarithms (1922). Technical report, LORIA, Nancy, 2010. [This is a reconstruction of [5].]

[32] Denis Roegel. A reconstruction of the tables of Briggs and Gellibrand's *Trigonometria Britannica* (1633). Technical report, LORIA, Nancy, 2010. [This is a recalculation of the tables of [10].]

[33] Denis Roegel. A reconstruction of the tables of Pitiscus' *Thesaurus Mathematicus* (1613). Technical report, LORIA, Nancy, 2010. [This is a recalculation of the tables of [27].]

[34] Denis Roegel. A reconstruction of the tables of Rheticus's *Opus Palatinum* (1596). Technical report, LORIA, Nancy, 2010. [This is a recalculation of the tables of [28].]

[35] Denis Roegel. The great logarithmic and trigonometric tables of the French Cadastre: a preliminary investigation. Technical report, LORIA, Nancy, 2010.

[36] Henri Charles Clément Roussilhe and Brandicourt. *Tables à 8 décimales des valeurs naturelles des sinus, cosinus et tangentes dans le système décimal, de centigrade en centigrade de 0 à 100 grades, suivies de tables à 20 décimales des valeurs naturelles des six lignes trigonométriques dans le système décimal, de grade en grade de 0 à 100 grades.* Paris: Section de géodésie de l'Union géodésique et géophysique internationale, 1925. [2nd edition in 1933]

[37] Demetrius Selivanov, Julius Bauschinger, and Henri Andoyer. Calcul des différences et interpolation. In *Encyclopédie des sciences mathématiques pures et appliquées, tome I, volume 4*, pages 47–160. Paris: Gauthier-Villars, 1909. [Reprinted by Jacques Gabay, 1993.]

[38] Glen van Brummelen. *The mathematics of the heavens and the Earth: the early history of trigonometry.* Princeton: Princeton University Press, 2009.

[39] Georg Vega. *Thesaurus logarithmorum completus.* Leipzig: Weidmann, 1794.

[40] Adriaan Vlacq. *Trigonometria artificialis.* Gouda: Pieter Rammazeyn, 1633. [The tables were reconstructed by D. Roegel in 2010. [29]]

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| 10 | 0 | 0,23393 41846 53311 | 5 11351 00796 + | 4,27470 65867 35044 | 93 41934 46060 + | 0 | 50 |
| | 10 | 0,23398 53197 54107 + | 362 60955 + | 7377 23932 88983 + | 38063 99606 + | 50 | |
| | 20 | 0,23403 64560 15063 | 374 21394 + | 7283 85868 89377 | 34195 98026 + | 40 | |
| | 30 | 08 75934 36457 + | 385 82113 + | 7190 51672 91350 | 30330 41113 + | 30 | |
| | 40 | 13 87320 18571 | 397 43112 | 7097 21342 50237 | 26467 28661 | 20 | |
| | 50 | 18 98717 61683 | 409 04390 + | 7003 94875 21576 | 22606 60463 + | 10 | |
| 11 | 0 | 24 10126 66073 + | 420 65949 + | 6910 72268 61112 + | 18748 36314 + | 0 | 49 |
| | 10 | 29 21547 32023 | 432 27788 | 6817 53520 24798 | 14892 56009 + | 50 | |
| | 20 | 34 32979 59811 | 443 89906 + | 6724 38627 68788 + | 11039 19342 | 40 | |
| | 30 | 39 44423 49717 + | 455 52305 | 6631 27588 49446 + | 07188 26107 + | 30 | |
| | 40 | 44 55879 02022 + | 467 14984 | 6538 20400 23339 | 93 03339 76101 | 20 | |
| | 50 | 49 67346 17006 + | 478 77943 | 6445 17060 47238 | 92 99493 69117 + | 10 | |
| 12 | 0 | 54 78824 94949 + | 490 41182 | 6352 17566 78120 + | 95650 04953 | 0 | 48 |
| | 10 | 59 90315 36131 | 502 04701 | 6259 21916 73167 + | 91808 83402 + | 50 | |
| | 20 | 65 01817 40832 | 513 68500 | 6166 30107 89765 | 87970 04262 + | 40 | |
| | 30 | 70 13331 09332 | 525 32579 + | 6073 42137 85503 | 84133 67328 + | 30 | |
| | 40 | 75 24856 41912 | 536 96939 | 5980 58004 18174 | 80299 72398 | 20 | |
| | 50 | 80 36393 38851 | 548 61579 | 5887 77704 45776 | 76468 19266 + | 10 | |
| 13 | 0 | 85 47942 00430 | 560 26499 | 5795 01236 26510 | 72639 07731 | 0 | 47 |
| | 10 | 90 59502 26929 + | 571 91699 + | 5702 28597 18779 | 68812 37588 + | 50 | |
| | 20 | 0,23495 71074 18629 | 583 57180 + | 5609 59784 81190 | 64988 08637 | 40 | |
| | 30 | 0,23500 82657 75809 + | 595 22941 + | 5516 94796 72553 + | 61166 20672 + | 30 | |
| | 40 | 05 94252 98751 | 606 88983 | 5424 33630 51881 | 57346 73493 + | 20 | |
| | 50 | 11 05859 87733 + | 618 55304 + | 5331 76283 78387 | 53529 66898 | 10 | |
| 14 | 0 | 16 17478 43038 | 630 21906 + | 5239 22754 11489 | 49715 00684 | 0 | 46 |
| | 10 | 21 29108 64945 | 641 88789 + | 5146 73039 10805 | 45902 74649 | 50 | |
| | 20 | 26 40750 53734 + | 653 55952 + | 5054 27136 36156 | 42092 88592 | 40 | |
| | 30 | 31 52404 09686 + | 665 23396 | 4961 85043 47564 | 38285 42312 | 30 | |
| | 40 | 36 64069 33082 + | 676 91120 | 4869 46758 05252 | 34480 35607 + | 20 | |
| | 50 | 41 75746 24202 + | 688 59124 + | 4777 12277 69644 + | 30677 68278 | 10 | |
| 15 | 0 | 46 87434 83327 | 700 27409 + | 4684 81600 01366 + | 26877 40122 | 0 | 45 |
| | 10 | 51 99135 10736 | 711 95975 | 4592 54722 61244 + | 23079 50940 | 50 | |
| | 20 | 57 10847 06711 + | 723 64821 + | 4500 31643 10304 | 19284 00531 | 40 | |
| | 30 | 62 22570 71532 + | 735 33948 | 4408 12359 09773 | 15490 88695 + | 30 | |
| | 40 | 67 34306 05480 + | 747 03355 + | 4315 96868 21077 + | 11700 15233 + | 20 | |
| | 50 | 72 46053 08836 | 758 73043 + | 4223 85168 05844 | 07911 79945 | 10 | |
| 16 | 0 | 77 57811 81880 | 770 43012 + | 4131 77256 25899 | 04125 82631 | 0 | 44 |
| | 10 | 82 69582 24892 | 782 13262 | 4039 73130 43267 + | 92 00342 23092 + | 50 | |
| | 20 | 87 81364 38154 | 793 83792 | 3947 72788 20175 + | 91 96561 01130 | 40 | |
| | 30 | 92 93158 21946 + | 805 54603 | 3855 76227 19045 + | 92782 16544 + | 30 | |
| | 40 | 0,23598 04963 76549 + | 817 25695 | 3763 83445 02501 | 89005 69138 | 20 | |
| | 50 | 0,23603 16781 02244 + | 828 97067 + | 3671 94439 33363 | 85231 58712 | 10 | |
| 17 | 0 | 08 28609 99312 | 840 68721 | 3580 09207 74651 | 81459 85068 | 0 | 43 |
| | 10 | 13 40450 68033 | 852 40655 | 3488 27747 89582 + | 77690 48008 + | 50 | |
| | 20 | 18 52303 08688 | 864 12870 + | 3396 50057 41574 | 73923 47335 + | 40 | |
| | 30 | 23 64167 21558 + | 875 85366 + | 3304 76133 94238 + | 70158 82851 + | 30 | |
| | 40 | 28 76043 06925 | 887 58143 + | 3213 05975 11387 | 66396 54359 | 20 | |
| | 50 | 33 87930 65068 | 899 31201 | 3121 39578 57028 | 62636 61661 | 10 | |
| 18 | 0 | 38 99829 96269 + | 911 04540 | 3029 76941 95367 | 58879 04560 + | 0 | 42 |
| | 10 | 44 11741 00809 + | 922 78160 | 2938 18062 90806 | 55123 82861 | 50 | |
| | 20 | 49 23663 78969 | 934 52061 | 2846 62939 07945 + | 51370 96365 + | 40 | |
| | 30 | 54 35598 31030 | 946 26242 + | 2755 11568 11579 + | 47620 44878 | 30 | |
| | 40 | 59 47544 57272 + | 958 00705 + | 2663 63947 66701 + | 43872 28202 + | 20 | |
| | 50 | 64 59502 57978 + | 969 75449 + | 2572 20075 38498 + | 40126 46143 | 10 | |
| 19 | 0 | 69 71472 33428 | 981 50475 | 2480 79948 92355 + | 36382 98504 | 0 | 41 |
| | 10 | 74 83453 83903 | 5 11993 25781 | 2389 43565 93851 + | 32641 85089 + | 50 | |
| | 20 | 79 95447 09684 + | 5 12005 01368 + | 2298 10924 08762 | 28903 05704 + | 40 | |
| | 30 | 85 07452 11053 | 016 77237 + | 2206 82021 03058 | 25166 60153 + | 30 | |
| | 40 | 90 19468 88290 + | 028 53387 + | 2115 56854 42904 + | 21432 48242 + | 20 | |
| | 50 | 0,23695 31497 41677 + | 5 12040 29818 + | 2024 35421 94662 | 91 17700 69776 | 10 | |
| 20 | 0 | 0,23700 43537 71496 | | 4,21933 17721 24886 + | | 0 | 40 |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°



A page from Andoyer's original book (volume 2).

# Nouvelles

# *Tables Trigonométriques*

# Fondamentales

contenant les valeurs naturelles des lignes trigonométriques
de centième en centième du quadrant avec vingt décimales,
de neuf en neuf minutes avec dix-sept décimales,
et de dix en dix secondes avec quinze décimales,


PAR

H. ANDOYER

PROFESSEUR A LA FACULTÉ DES SCIENCES DE L'UNIVERSITÉ DE PARIS
MEMBRE DU BUREAU DES LONGITUDES


TOME DEUXIEME


*Ouvrage publié à l'aide d'une subvention accordée par l'Université de Paris (Fondation Commercy)*

PARIS

LIBRAIRIE SCIENTIFIQUE A. HERMANN ET FILS
6, Rue de la Sorbonne, 6

1916

# Tables IV B

**contenant les tangentes et les cotangentes**
**de tous les angles du quadrant de dix en dix secondes,**
**et leurs différences, avec quinze décimales.**

# 0°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,00000 00000 00000 | 4 84813 68149 | ∞ | ∞ | 0 | **60** |
| | 10 | 04 84813 68149 | 3 68377 | 20626,48060 85491 79476 | 10313,24032 85152 73812+ | 50 | |
| | 20 | 09 69627 36526 | 3 68832+ | 10313,24028 00339 05663+ | 3437,74678 69453 95337+ | 40 | |
| | 30 | 14 54441 05358+ | 3 69516+ | 6875,49349 30885 10326 | 1718,87340 15529 25757 | 30 | |
| | 40 | 19 39254 74875 | 3 70428 | 5156,62009 15355 84569 | 1031,32404 73959 37967 | 20 | |
| | 50 | 24 24068 45303 | 3 71567+ | 4125,29604 41396 46601+ | 687,54937 03174 44118 | 10 | |
| **1** | 0 | 29 08882 16870+ | 3 72935 | 3437,74667 38222 02483+ | 491,10669 77011 61966 | 0 | **59** |
| | 10 | 33 93695 89805+ | 3 74530+ | 2946,63997 61210 40517+ | 368,33002 73159 85670+ | 50 | |
| | 20 | 38 78509 64335+ | 3 76353+ | 2578,30994 88050 54847 | 286,47891 37258 68191 | 40 | |
| | 30 | 43 63323 40689 | 3 78404+ | 2291,83103 50791 86656 | 229,18313 42127 86006+ | 30 | |
| | 40 | 48 48137 19094 | 3 80683+ | 2062,64790 08664 00649+ | 187,51347 63850 89925+ | 20 | |
| | 50 | 53 32950 99777+ | 3 83190+ | 1875,13442 44813 10724 | 156,26123 30143 17917+ | 10 | |
| **2** | 0 | 58 17764 82968 | 3 85925+ | 1718,87319 14669 92806+ | 132,22104 58060 31811+ | 0 | **58** |
| | 10 | 63 02578 68894 | 3 88888+ | 1586,65214 56609 60995+ | 113,33232 72852 35639+ | 50 | |
| | 20 | 67 87392 57782 | 3 92079 | 1473,31981 83757 25356 | 98,22135 24685 98756+ | 40 | |
| | 30 | 72 72206 49861 | 3 95497+ | 1375,09846 59071 26600 | 85,94368 54300 81344 | 30 | |
| | 40 | 77 57020 45358+ | 3 99144 | 1289,15478 04770 45255+ | 75,83266 55160 08236+ | 20 | |
| | 50 | 82 41834 44503 | 4 03018+ | 1213,32211 49610 37019+ | 67,40681 55876 14036 | 10 | |
| **3** | 0 | 87 26648 47521+ | 4 07121 | 1145,91529 93734 22983+ | 60,31136 30163 34765 | 0 | **57** |
| | 10 | 92 11462 54642 | 4 11451 | 1085,60393 63570 88218+ | 54,28022 83307 47441 | 50 | |
| | 20 | 0,00096 96276 66093 | 4 16009 | 1031,32370 80263 40778 | 49,11068 43145 29791 | 40 | |
| | 30 | 0,00101 81090 82102 | 4 20795 | 982,21302 37118 10987 | 44,64607 81187 05513+ | 30 | |
| | 40 | 06 65905 02897+ | 4 25809 | 937,56694 55931 05473+ | 40,76381 18614 67068+ | 20 | |
| | 50 | 11 50719 28706+ | 4 31051 | 896,80313 37316 38405 | 37,36682 88863 83485+ | 10 | |
| **4** | 0 | 16 35533 59757 | 4 36520+ | 859,43630 48452 54919+ | 34,37748 38683 09990 | 0 | **56** |
| | 10 | 21 20347 96278 | 4 42218+ | 825,05882 09769 44929 | 31,73306 32753 98878+ | 50 | |
| | 20 | 26 05162 38496 | 4 48144 | 793,32575 77015 46051 | 29,38246 71928 11280+ | 40 | |
| | 30 | 30 89976 86640 | 4 54297+ | 763,94329 05087 34770 | 27,28372 06905 00983 | 30 | |
| | 40 | 35 74791 40937 | 4 60678+ | 736,65956 98182 33787 | 25,40208 58953 26291+ | 20 | |
| | 50 | 40 59606 01616 | 4 67288 | 711,25748 39229 07495+ | 23,70861 45796 69126+ | 10 | |
| **5** | 0 | 45 44420 68903+ | 4 74125 | 687,54886 93432 38369+ | 22,17902 75848 82067+ | 0 | **55** |
| | 10 | 50 29235 43029 | 4 81190 | 665,36984 17583 56302 | 20,79283 93708 56353+ | 50 | |
| | 20 | 55 14050 24219 | 4 88483 | 644,57700 23874 99948+ | 19,53266 82671 96671 | 40 | |
| | 30 | 59 98865 12702 | 4 96004 | 625,04433 41203 03277+ | 18,38368 87315 07019 | 30 | |
| | 40 | 64 83680 08706+ | 5 03753 | 606,66064 53887 96258+ | 17,33319 31560 19395+ | 20 | |
| | 50 | 69 68495 12459 | 5 11729+ | 589,32745 22327 76863 | 16,37023 88784 89132 | 10 | |
| **6** | 0 | 74 53310 24189 | 5 19934 | 572,95721 33542 87731 | 15,48536 19748 12731+ | 0 | **54** |
| | 10 | 79 38125 44123 | 5 28367 | 557,47185 13794 74999+ | 14,67034 37740 58211 | 50 | |
| | 20 | 84 22940 72490 | 5 37027 | 542,80150 76054 16788+ | 13,91801 92810 54096+ | 40 | |
| | 30 | 89 07756 09517 | 5 45915+ | 528,88348 83243 62691+ | 13,22211 91250 25349+ | 30 | |
| | 40 | 93 92571 55432+ | 5 55032 | 515,66136 91993 37342+ | 12,57713 84926 08520 | 20 | |
| | 50 | 0,00198 77387 10464+ | 5 64376 | 503,08423 07067 28822+ | 11,97822 79053 64380 | 10 | |
| **7** | 0 | 0,00203 62202 74840+ | 5 73948 | 491,10600 28013 64442+ | 11,42110 17776 95471 | 0 | **53** |
| | 10 | 08 47018 48788+ | 5 83748 | 479,68490 10236 68971 | 10,90196 15223 67683 | 50 | |
| | 20 | 13 31834 32536+ | 5 93776 | 468,78293 95013 01288 | 10,41743 06173 95139+ | 40 | |
| | 30 | 18 16650 26312+ | 6 04032 | 458,36550 88839 06148+ | 9,96449 95540 51299 | 30 | |
| | 40 | 23 01466 30344+ | 6 14515+ | 448,40100 93298 54849+ | 9,54047 89841 12443+ | 20 | |
| | 50 | 27 86282 44860 | 6 25227 | 438,86053 03457 42406 | 9,14295 96997 94825 | 10 | |
| **8** | 0 | 32 71098 70087 | 6 36166+ | 429,71757 06459 47581 | 8,76977 83308 43650+ | 0 | **52** |
| | 10 | 37 55915 06253+ | 6 47334 | 420,94779 23151 03930+ | 8,41898 78440 29605 | 50 | |
| | 20 | 42 40731 53588 | 6 58729+ | 412,52880 44710 74325+ | 8,08883 20917 34092 | 40 | |
| | 30 | 47 25548 12317+ | 6 70352+ | 404,43997 23793 40233+ | 7,77772 37866 86456 | 30 | |
| | 40 | 52 10364 82670 | 6 82204 | 396,66224 85926 53777+ | 7,48422 53856 98179+ | 20 | |
| | 50 | 56 95181 64874 | 6 94283 | 389,17802 32069 55598 | 7,20703 24514 31533 | 10 | |
| **9** | 0 | 61 79998 59157 | 7 06590 | 381,97099 07555 24065 | 6,94495 91317 61307+ | 0 | **51** |
| | 10 | 66 64815 65747 | 7 19125 | 375,02603 16237 62757+ | 6,69692 54542 16332+ | 50 | |
| | 20 | 71 49632 84872 | 7 31888 | 368,32910 61695 46425 | 6,46194 61807 52731 | 40 | |
| | 30 | 76 34450 16759+ | 7 44878+ | 361,86715 99887 93694 | 6,23912 10076 40754 | 30 | |
| | 40 | 81 19267 61638 | 7 58097 | 355,62803 89811 52940 | 6,02762 59280 76903 | 20 | |
| | 50 | 86 04085 19735+ | 4 84817 71543+ | 349,60041 30530 76037 | 5,82670 56024 91304 | 10 | |
| **10** | 0 | 0,00290 88902 91279 | | 343,77370 74505 84733 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,00290 88902 91279 | 4 84817 85218 | 343,77370 74505 84733 | 5,63566 66043 93580+ | 0 | **50** |
| | 10 | 0,00295 73720 76497 | 7 99120+ | 338,13804 08461 91152+ | 5,45387 14287 84516 | 50 | |
| | 20 | 0,00300 58538 75618 | 8 13251 | 332,68416 94174 06636+ | 5,28073 31662 99751+ | 40 | |
| | 30 | 05 43356 88868+ | 8 27609 | 327,40343 62511 06885 | 5,11571 07598 69020 | 30 | |
| | 40 | 10 28175 16478 | 8 42195 | 322,28772 54912 37865 | 4,95830 47721 96689+ | 20 | |
| | 50 | 15 12993 58673 | 8 57009+ | 317,32942 07190 41175+ | 4,80805 36021 45887+ | 10 | |
| **11** | 0 | 19 97812 15682+ | 8 72051 | 312,52136 71168 95287+ | 4,66453 00964 25778+ | 0 | **49** |
| | 10 | 24 82630 87733+ | 8 87321 | 307,85683 70204 69509 | 4,52733 85100 75733 | 50 | |
| | 20 | 29 67449 75054+ | 9 02819 | 303,32949 85103 93776 | 4,39611 17753 06184+ | 40 | |
| | 30 | 34 52268 77873+ | 9 18544+ | 298,93338 67350 87591+ | 4,27050 90434 55390 | 30 | |
| | 40 | 39 37087 96418 | 9 34498 | 294,66287 76916 32202 | 4,15021 34692 88491 | 20 | |
| | 50 | 44 21907 30916+ | 9 50680 | 290,51266 42223 43710+ | 4,03493 02107 11939+ | 10 | |
| **12** | 0 | 49 06726 81596+ | 9 67089 | 286,47773 40116 31771 | 3,92438 46202 96127+ | 0 | **48** |
| | 10 | 53 91546 48685+ | 4 84819 83726+ | 282,55334 93913 35643+ | 3,81832 06078 70205+ | 50 | |
| | 20 | 58 76366 32412 | 4 84820 00592 | 278,73502 87834 65438 | 3,71649 91559 41379+ | 40 | |
| | 30 | 63 61186 33004 | 0 17685 | 275,01852 96275 24058+ | 3,61869 69718 51909+ | 30 | |
| | 40 | 68 46006 50689 | 0 35006 | 271,39983 26556 72149 | 3,52470 52624 67283 | 20 | |
| | 50 | 73 30826 85695+ | 0 52555+ | 267,87512 73932 04866 | 3,43432 86188 28279 | 10 | |
| **13** | 0 | 78 15647 38250+ | 0 70332 | 264,44079 87743 76587+ | 3,34738 39996 31322 | 0 | **47** |
| | 10 | 83 00468 08583 | 0 88337 | 261,09341 47747 45265+ | 3,26369 98036 54310+ | 50 | |
| | 20 | 87 85288 96920 | 1 06570 | 257,82971 49710 90955 | 3,18311 50223 43174 | 40 | |
| | 30 | 92 70110 03490 | 1 25030+ | 254,64659 99487 47781 | 3,10547 84647 38602 | 30 | |
| | 40 | 0,00397 54931 28520+ | 1 43719+ | 251,54112 14840 09179 | 3,03064 80477 70399+ | 20 | |
| | 50 | 0,00402 39752 72239+ | 1 62636 | 248,51047 34362 38779+ | 2,95849 01456 93978+ | 10 | |
| **14** | 0 | 07 24574 34875+ | 1 81780+ | 245,55198 32905 44801 | 2,88887 89931 02667 | 0 | **46** |
| | 10 | 12 09396 16656 | 2 01152+ | 242,66310 42974 42134 | 2,82169 61365 32042+ | 50 | |
| | 20 | 16 94218 17808+ | 2 20753 | 239,84140 81609 10091+ | 2,75682 99301 88051 | 40 | |
| | 30 | 21 79040 38561+ | 2 40581 | 237,08457 82307 22040 | 2,69417 50717 87664+ | 30 | |
| | 40 | 26 63862 79142+ | 2 60637+ | 234,39040 31589 34375+ | 2,63363 21749 06452 | 20 | |
| | 50 | 31 48685 39780 | 2 80921+ | 231,75677 09840 27924 | 2,57510 73745 88006 | 10 | |
| **15** | 0 | 36 33508 20701+ | 3 01433+ | 229,18166 36094 39918 | 2,51851 19632 91107 | 0 | **45** |
| | 10 | 41 18331 22135 | 3 22173+ | 226,66315 16461 48810+ | 2,46376 20545 36558+ | 50 | |
| | 20 | 46 03154 44308+ | 3 43141+ | 224,19938 95916 12252+ | 2,41077 82718 70925+ | 40 | |
| | 30 | 50 87977 87449+ | 3 64337 | 221,78861 13197 41327 | 2,35948 54609 92554 | 30 | |
| | 40 | 55 72801 51787 | 3 85760+ | 219,42912 58587 48773 | 2,30981 24230 89348+ | 20 | |
| | 50 | 60 57625 37547+ | 4 07412+ | 217,11931 34356 59425 | 2,26169 16676 20678 | 10 | |
| **16** | 0 | 65 42449 44960 | 4 29292 | 214,85762 17680 38747 | 2,21505 91829 39758 | 0 | **44** |
| | 10 | 70 27273 74252 | 4 51399+ | 212,64256 25850 98989 | 2,16985 42233 00150+ | 50 | |
| | 20 | 75 12098 25651 | 4 73735 | 210,47270 83617 98838+ | 2,12601 91109 22409+ | 40 | |
| | 30 | 79 96922 99386 | 4 96298 | 208,34668 92508 76429 | 2,08349 90519 16060 | 30 | |
| | 40 | 84 81747 95684 | 5 19089+ | 206,26319 01989 60369 | 2,04224 19649 59464+ | 20 | |
| | 50 | 89 66573 14773+ | 5 42108+ | 204,22094 82340 00904+ | 2,00219 83217 36946 | 10 | |
| **17** | 0 | 94 51398 56882 | 5 65355+ | 202,21874 99122 63958 | 1,96332 09982 19998 | 0 | **43** |
| | 10 | 0,00499 36224 22237+ | 5 88830+ | 200,25542 89140 43960 | 1,92556 51359 58406+ | 50 | |
| | 20 | 0,00504 21050 11068+ | 6 12533+ | 198,32986 37780 85553+ | 1,88888 80126 18634+ | 40 | |
| | 30 | 09 05876 23602 | 6 36464+ | 196,44097 57654 66919+ | 1,85324 89210 71557+ | 30 | |
| | 40 | 13 90702 60066+ | 6 60623+ | 194,58772 68443 95362 | 1,81860 90563 90346 | 20 | |
| | 50 | 18 75529 20690 | 6 85010 | 192,76911 77880 05016 | 1,78493 14101 72562 | 10 | |
| **18** | 0 | 23 60356 05700 | 7 09625 | 190,98418 63778 32454 | 1,75218 06716 48905 | 0 | **42** |
| | 10 | 28 45183 15325 | 7 34467+ | 189,23200 57061 83549 | 1,72032 31350 85044 | 50 | |
| | 20 | 33 30010 49792+ | 7 59538 | 187,51168 25710 98505 | 1,68932 66130 22969 | 40 | |
| | 30 | 38 14838 09330+ | 7 84836+ | 185,82235 59580 75536 | 1,65916 03549 44759+ | 30 | |
| | 40 | 42 99665 94167 | 8 10363 | 184,16319 56031 30776+ | 1,62979 49709 74881+ | 20 | |
| | 50 | 47 84494 04529+ | 8 36117 | 182,53340 06321 55895+ | 1,60120 23602 67428 | 10 | |
| **19** | 0 | 52 69322 40647 | 8 62099+ | 180,93219 82718 88467 | 1,57335 56437 52403 | 0 | **41** |
| | 10 | 57 54151 02746+ | 8 88309+ | 179,35884 26281 36064 | 1,54622 91009 40413 | 50 | |
| | 20 | 62 38979 91056 | 9 14748 | 177,81261 35271 95651 | 1,51979 81105 08277+ | 40 | |
| | 30 | 67 23809 05803+ | 9 41414 | 176,29281 54166 87373+ | 1,49403 90944 09222+ | 30 | |
| | 40 | 72 08638 47217+ | 9 68308 | 174,79877 63222 78151 | 1,46892 94652 70708 | 20 | |
| | 50 | 76 93468 15525+ | 4 84829 95430 | 173,32984 68570 07443 | 1,44444 75768 60716 | 10 | |
| **20** | 0 | 0,00581 78298 10955+ | | 171,88539 92801 46727 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 89°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,00581 78298 10955+ | 4 84830 22779+ | 171,88539 92801 46727 | 1,42057 26774 19627 | 0 | **40** |
| | 10 | 86 63128 33735 | 0 50357+ | 170,46482 66027 27100 | 1,39728 48656 69772+ | 50 | |
| | 20 | 91 47958 84092+ | 0 78163+ | 169,06754 17370 57327+ | 1,37456 50493 28510+ | 40 | |
| | 30 | 0,00596 32789 62256 | 1 06197 | 167,69297 66877 28817 | 1,35239 49059 63307+ | 30 | |
| | 40 | 0,00601 17620 68453 | 1 34458+ | 166,34058 17817 65509+ | 1,33075 68460 38929 | 20 | |
| | 50 | 06 02452 02911+ | 1 62948 | 165,00982 49357 26580+ | 1,30963 39780 17572 | 10 | |
| **21** | 0 | 10 87283 65859+ | 1 91665+ | 163,70019 09577 09008 | 1,28901 00753 82606+ | 0 | **39** |
| | 10 | 15 72115 57525+ | 2 20611 | 162,41118 08823 26401+ | 1,26886 95454 65708 | 50 | |
| | 20 | 20 56947 78136+ | 2 49784+ | 161,14231 13368 60693+ | 1,24919 73999 65541+ | 40 | |
| | 30 | 25 41780 27921 | 2 79186 | 159,89311 39368 95152 | 1,22997 92270 53900+ | 30 | |
| | 40 | 30 26613 07107 | 3 08815 | 158,66313 47098 41251 | 1,21120 11649 72357+ | 20 | |
| | 50 | 35 11446 15922 | 3 38672+ | 157,45193 35448 68893+ | 1,19284 98770 29091 | 10 | |
| **22** | 0 | 39 96279 54594+ | 3 68757+ | 156,25908 36678 39802+ | 1,17491 25279 11673 | 0 | **38** |
| | 10 | 44 81113 23352 | 3 99070+ | 155,08417 11399 28130 | 1,15737 67612 37242 | 50 | |
| | 20 | 49 65947 22422+ | 4 29611+ | 153,92679 43786 90888 | 1,14023 06782 66747+ | 40 | |
| | 30 | 54 50781 52034 | 4 60380+ | 152,78656 37004 24140+ | 1,12346 28177 14780 | 30 | |
| | 40 | 59 35616 12414+ | 4 91377+ | 151,66310 08827 09360+ | 1,10706 21365 91017+ | 20 | |
| | 50 | 64 20451 03792 | 5 22602+ | 150,55603 87461 18343 | 1,09101 79920 13484 | 10 | |
| **23** | 0 | 69 05286 26394+ | 5 54055 | 149,46502 07541 04859 | 1,07532 01239 37684 | 0 | **37** |
| | 10 | 73 90121 80450 | 5 85736 | 148,38970 06301 67175 | 1,05995 86387 49283 | 50 | |
| | 20 | 78 74957 66186 | 6 17644+ | 147,32974 19914 17892 | 1,04492 39936 71333+ | 40 | |
| | 30 | 83 59793 83830+ | 6 49781+ | 146,28481 79977 46558+ | 1,03020 69819 40161+ | 30 | |
| | 40 | 88 44630 33612 | 6 82146 | 145,25461 10158 06397 | 1,01579 87187 06906 | 20 | |
| | 50 | 93 29467 15758 | 7 14738+ | 144,23881 22970 99491 | 1,00169 06276 24403+ | 10 | |
| **24** | 0 | 0,00698 14304 30496+ | 7 47559 | 143,23712 16694 75087+ | 98787 44280 81599+ | 0 | **36** |
| | 10 | 0,00702 99141 78055+ | 7 80607+ | 142,24924 72413 93488 | 97434 21230 50009 | 50 | |
| | 20 | 07 83979 58663 | 8 13884 | 141,27490 51183 43479 | 96108 59875 08919 | 40 | |
| | 30 | 12 68817 72547 | 8 47388+ | 140,31381 91308 34560 | 94809 85574 18047 | 30 | |
| | 40 | 17 53656 19935+ | 8 81120+ | 139,36572 05734 16513 | 93537 26192 08259 | 20 | |
| | 50 | 22 38495 01056 | 9 15081 | 138,43034 79542 08254 | 92290 11997 62727 | 10 | |
| **25** | 0 | 27 23334 16137 | 9 49269 | 137,50744 67544 45527+ | 91067 75568 62530+ | 0 | **35** |
| | 10 | 32 08173 65406 | 4 84839 83685+ | 136,59676 91975 82996+ | 89869 51700 72266+ | 50 | |
| | 20 | 36 93013 49091 | 4 84840 18329+ | 135,69807 40275 10730 | 88694 77320 42656+ | 40 | |
| | 30 | 41 77853 67420+ | 0 53201+ | 134,81112 62954 68073+ | 87542 91402 08488+ | 30 | |
| | 40 | 46 62694 20622 | 0 88301+ | 133,93569 71552 59585+ | 86413 34888 61493+ | 20 | |
| | 50 | 51 47535 08923+ | 1 23629+ | 133,07156 36663 98092 | 85305 50615 78924 | 10 | |
| **26** | 0 | 56 32376 32553 | 1 59185+ | 132,21850 86048 19168+ | 84218 83239 89712 | 0 | **34** |
| | 10 | 61 17217 91738+ | 1 94969+ | 131,37632 02808 29456+ | 83152 79168 61115 | 50 | |
| | 20 | 66 02059 86708 | 2 30981 | 130,54479 23639 68341+ | 82106 86494 89721+ | 40 | |
| | 30 | 70 86902 17689 | 2 67221 | 129,72372 37144 78619+ | 81080 54933 81602 | 30 | |
| | 40 | 75 71744 84910 | 3 03689 | 128,91291 82210 97017+ | 80073 35762 07234+ | 20 | |
| | 50 | 80 56587 88599 | 3 40384+ | 128,11218 46448 89783 | 79084 81760 17637+ | 10 | |
| **27** | 0 | 85 41431 28983+ | 3 77308+ | 127,32133 64688 72145+ | 78114 47157 08891 | 0 | **33** |
| | 10 | 90 26275 06292 | 4 14460 | 126,54019 17531 63254+ | 77161 87577 22925+ | 50 | |
| | 20 | 95 11119 20752 | 4 51839+ | 125,76857 29954 40329+ | 76226 59989 73128+ | 40 | |
| | 30 | 0,00799 95963 72591+ | 4 89447 | 125,00630 69964 67200+ | 75308 22659 83930+ | 30 | |
| | 40 | 0,00804 80808 62038+ | 5 27283 | 124,25322 47304 83270 | 74406 35102 34120 | 20 | |
| | 50 | 09 65653 89321+ | 5 65346+ | 123,50916 12202 49150 | 73520 58036 94187+ | 10 | |
| **28** | 0 | 14 50499 54668 | 6 03638 | 122,77395 54165 54962+ | 72650 53345 48515 | 0 | **32** |
| | 10 | 19 35345 58305+ | 6 42157+ | 122,04745 00820 06448 | 71795 84030 93709 | 50 | |
| | 20 | 24 20192 00463 | 6 80904+ | 121,32949 16789 12739 | 70956 14178 04836+ | 40 | |
| | 30 | 29 05038 81367+ | 7 19880 | 120,61993 02611 07902+ | 70131 08915 61761 | 30 | |
| | 40 | 33 89886 01247+ | 7 59083+ | 119,91861 93695 46141+ | 69320 34380 28163 | 20 | |
| | 50 | 38 74733 60331 | 7 98515 | 119,22541 59315 17978+ | 68523 57681 76239 | 10 | |
| **29** | 0 | 43 59581 58846 | 8 38174 | 118,54018 01633 41739+ | 67740 46869 50408+ | 0 | **31** |
| | 10 | 48 44429 97020 | 8 78061+ | 117,86277 54763 91331 | 66970 70900 63714+ | 50 | |
| | 20 | 53 29278 75081+ | 9 18176+ | 117,19306 83863 27616+ | 66213 99609 20923+ | 40 | |
| | 30 | 58 14127 93258 | 9 58520 | 116,53092 84254 06693 | 65470 03676 62621+ | 30 | |
| | 40 | 62 98977 51777+ | 4 84849 99091 | 115,87622 80577 44072 | 64738 54603 24910 | 20 | |
| | 50 | 67 83827 50868+ | 4 84850 39890 | 115,22884 25974 19162 | 64019 24681 09554 | 10 | |
| **30** | 0 | 0,00872 68677 90759 | | 114,58865 01293 09608 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 89°

# 0°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,00872 68677 90759 | 4 84850 80917+ | 114,58865 01293 09608 | 63311 86967 59706 | 0 | **30** |
| | 10 | 77 53528 71676 | 1 22172+ | 113,95553 14325 49902 | 2616 15260 36564+ | 50 | |
| | 20 | 82 38379 93848+ | 1 63655+ | 113,32936 99065 13338 | 1931 84072 92551 | 40 | |
| | 30 | 87 23231 57504 | 2 05366+ | 112,71005 14992 20787 | 1258 68611 36815 | 30 | |
| | 40 | 92 08083 62870+ | 2 47305+ | 112,09746 46380 83972 | 60596 44751 89070+ | 20 | |
| | 50 | 0,00896 92936 10176 | 2 89472+ | 111,49150 01628 94901+ | 59944 89019 17963 | 10 | |
| **31** | 0 | 0,00901 77788 99648+ | 3 31867+ | 110,89205 12609 76938+ | 9303 78565 60355+ | 0 | **29** |
| | 10 | 06 62642 31516+ | 3 74490+ | 110,29901 34044 16583 | 8672 91151 18089+ | 50 | |
| | 20 | 11 47496 06007 | 4 17341+ | 109,71228 42892 98493 | 8052 05124 28936 | 40 | |
| | 30 | 16 32350 23348+ | 4 60420+ | 109,13176 37768 69557 | 7440 99403 08618+ | 30 | |
| | 40 | 21 17204 83769 | 5 03727+ | 108,55735 38365 60938+ | 6839 53457 60932 | 20 | |
| | 50 | 26 02059 87496+ | 5 47262+ | 107,98895 84908 00006+ | 6247 47292 53113 | 10 | |
| **32** | 0 | 30 86915 34758+ | 5 91025 | 107,42648 37615 46893+ | 5664 61430 53766+ | 0 | **28** |
| | 10 | 35 71771 25784 | 6 35016 | 106,86983 76184 93127 | 5090 76896 30758+ | 50 | |
| | 20 | 40 56627 60800 | 6 79235 | 106,31892 99288 62368+ | 4525 75201 06626+ | 40 | |
| | 30 | 45 41484 40035 | 7 23682 | 105,77367 24087 55742 | 3969 38327 69148+ | 30 | |
| | 40 | 50 26341 63716+ | 7 68356+ | 105,23397 85759 86593+ | 3421 48716 34840 | 20 | |
| | 50 | 55 11199 32073+ | 8 13259+ | 104,69976 37043 51754 | 2881 89250 63232+ | 10 | |
| **33** | 0 | 59 96057 45333 | 8 58390+ | 104,17094 47792 88521+ | 2350 43244 19900+ | 0 | **27** |
| | 10 | 64 80916 03723 | 9 03749 | 103,64744 04548 68621 | 1826 94427 86279 | 50 | |
| | 20 | 69 65775 07472 | 9 49336 | 103,12917 10120 82342+ | 1311 26937 14413+ | 40 | |
| | 30 | 74 50634 56808 | 4 84859 95150+ | 102,61605 83183 67929 | 0803 25300 24863+ | 30 | |
| | 40 | 79 35494 51958+ | 4 84860 41193+ | 102,10802 57883 43065+ | 50302 74426 46057+ | 20 | |
| | 50 | 84 20354 93152 | 0 87464 | 101,60499 83456 97008 | 49809 59594 93470 | 10 | |
| **34** | 0 | 89 05215 80616 | 1 33963 | 101,10690 23862 03538 | 9323 66443 87079 | 0 | **26** |
| | 10 | 93 90077 14579 | 1 80689+ | 100,61366 57418 16459+ | 8844 80960 05598 | 50 | |
| | 20 | 0,00998 74938 95269 | 2 27644+ | 100,12521 76458 10861 | 8372 89468 76083+ | 40 | |
| | 30 | 0,01003 59801 22913+ | 2 74827 | 99,64148 86989 34778 | 7907 78623 97535+ | 30 | |
| | 40 | 08 44663 97740+ | 3 22238 | 99,16241 08365 37242+ | 7449 35398 97208+ | 20 | |
| | 50 | 13 29527 19978+ | 3 69876+ | 98,68791 72966 40034 | 6997 47077 18375+ | 10 | |
| **35** | 0 | 18 14390 89855 | 4 17743+ | 98,21794 25889 21658+ | 6552 01243 38354 | 0 | **25** |
| | 10 | 22 99255 07598+ | 4 65838 | 97,75242 24645 83305 | 6112 85775 15657 | 50 | |
| | 20 | 27 84119 73437 | 5 14161 | 97,29129 38870 67647+ | 5679 88834 65171+ | 40 | |
| | 30 | 32 68984 87598 | 5 62711+ | 96,83449 50036 02476+ | 5252 98860 60313+ | 30 | |
| | 40 | 37 53850 50309+ | 6 11490+ | 96,38196 51175 42163 | 4832 04560 61165 | 20 | |
| | 50 | 42 38716 61800 | 6 60497 | 95,93364 46614 80998 | 4416 94903 67621 | 10 | |
| **36** | 0 | 47 23583 22297 | 7 09732 | 95,48947 51711 13377 | 4007 59112 96628+ | 0 | **24** |
| | 10 | 52 08450 32029 | 7 59194+ | 95,04939 92598 16748+ | 3603 86658 82636+ | 50 | |
| | 20 | 56 93317 91224 | 8 08885+ | 94,61336 05939 34112 | 3205 67252 00403+ | 40 | |
| | 30 | 61 78186 00109+ | 8 58804+ | 94,18130 38687 33708+ | 2812 90837 09352 | 30 | |
| | 40 | 66 63054 58913+ | 9 08951 | 93,75317 47850 24356+ | 2425 47586 18692+ | 20 | |
| | 50 | 71 47923 67865 | 4 84869 59326 | 93,32892 00264 05664 | 2043 27892 72561 | 10 | |
| **37** | 0 | 76 32793 27190+ | 4 84870 09928+ | 92,90848 72371 33103 | 1666 22365 54465+ | 0 | **23** |
| | 10 | 81 17663 37119+ | 0 60759+ | 92,49182 50005 78637+ | 1294 21823 10333 | 50 | |
| | 20 | 86 02533 97879 | 1 11818+ | 92,07888 28182 68305 | 0927 17287 89516 | 40 | |
| | 30 | 90 87405 09697+ | 1 63105 | 91,66961 10894 78789 | 0564 99981 03106+ | 30 | |
| | 40 | 0,01095 72276 72802+ | 2 14620 | 91,26396 10913 75683 | 40207 61316 98956+ | 20 | |
| | 50 | 0,01100 57148 87422+ | 2 66363 | 90,86188 49596 76726+ | 39854 92898 52816 | 10 | |
| **38** | 0 | 05 42021 53785+ | 3 18334 | 90,46333 56698 23910 | 9506 86511 75026+ | 0 | **22** |
| | 10 | 10 26894 72119+ | 3 70533 | 90,06826 70186 48883+ | 9163 34121 32225 | 50 | |
| | 20 | 15 11768 42652+ | 4 22959+ | 89,67663 36065 16659 | 8824 27865 83546 | 40 | |
| | 30 | 19 96642 65612 | 4 75614+ | 89,28839 08199 33113 | 8489 60053 30815+ | 30 | |
| | 40 | 24 81517 41226+ | 5 28497+ | 88,90349 48146 02297+ | 8159 23156 82258 | 20 | |
| | 50 | 29 66392 69724 | 5 81608+ | 88,52190 24989 20039+ | 7833 09810 29255 | 10 | |
| **39** | 0 | 34 51268 51333 | 6 34947+ | 88,14357 15178 90785 | 7511 12804 35712+ | 0 | **21** |
| | 10 | 39 36144 86280+ | 6 88514+ | 87,76846 02374 55072+ | 7193 25082 39606 | 50 | |
| | 20 | 44 21021 74795 | 7 42309+ | 87,39652 77292 15466+ | 6879 39736 66295 | 40 | |
| | 30 | 49 05899 17105 | 7 96333 | 87,02773 37555 49171+ | 6569 50004 53212+ | 30 | |
| | 40 | 53 90777 13437+ | 8 50584 | 86,66203 87550 95958+ | 6263 49264 85543 | 20 | |
| | 50 | 58 75655 64021+ | 4 84879 05063 | 86,29940 38286 10415+ | 35961 31034 42530 | 10 | |
| **40** | 0 | 0,01163 60534 69084+ | | 85,93979 07251 67886 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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# 0°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,01163 60534 69084+ | 4 84879 59770 | 85,93979 07251 67886 | 35662 88964 54054 | 0 | **20** |
| | 10 | 68 45414 28855 | 4 84880 14705+ | 85,58316 18287 13831+ | 5368 16837 67149 | 50 | |
| | 20 | 73 30294 43560+ | 0 69868+ | 85,22948 01449 46682+ | 5077 08564 22118 | 40 | |
| | 30 | 78 15175 13429 | 1 25260 | 84,87870 92885 24564+ | 4789 58179 37947 | 30 | |
| | 40 | 83 00056 38689 | 1 80879 | 84,53081 34705 86617+ | 4505 59840 06703+ | 20 | |
| | 50 | 87 84938 19568 | 2 36726+ | 84,18575 74865 79914 | 4225 07821 96633+ | 10 | |
| **41** | 0 | 92 69820 56294+ | 2 92802 | 83,84350 67043 83280+ | 3947 96516 63669 | 0 | **19** |
| | 10 | 0,01197 54703 49096+ | 3 49105+ | 83,50402 70527 19611+ | 3674 20428 71083 | 50 | |
| | 20 | 0,01202 39586 98202 | 4 05636+ | 83,16728 50098 48528 | 3403 74173 17022+ | 40 | |
| | 30 | 07 24471 03838+ | 4 62396 | 82,83324 75925 31505+ | 3136 52472 69671 | 30 | |
| | 40 | 12 09355 66235 | 5 19383+ | 82,50188 23452 61834+ | 2872 50155 09799 | 20 | |
| | 50 | 16 94240 85618+ | 5 76599+ | 82,17315 73297 52035+ | 2611 62150 80461+ | 10 | |
| **42** | 0 | 21 79126 62217+ | 6 34043 | 81,84704 11146 71574 | 2353 83490 43627 | 0 | **18** |
| | 10 | 26 64012 96260+ | 6 91714+ | 81,52350 27656 27947 | 2099 09302 43509 | 50 | |
| | 20 | 31 48899 87975 | 7 49614 | 81,20251 18353 84438 | 1847 34810 76393+ | 40 | |
| | 30 | 36 33787 37589 | 8 07742 | 80,88403 83543 08044+ | 1598 55332 66766 | 30 | |
| | 40 | 41 18675 45331 | 8 66097+ | 80,56805 28210 41278+ | 1352 66276 49529 | 20 | |
| | 50 | 46 03564 11428+ | 9 24681+ | 80,25452 61933 91749+ | 1109 63139 58134 | 10 | |
| **43** | 0 | 50 88453 36110 | 4 84889 83493+ | 79,94342 98794 33615+ | 0869 41506 18437+ | 0 | **17** |
| | 10 | 55 73343 19603+ | 4 84890 42533 | 79,63473 57288 15178 | 0631 97045 48105+ | 50 | |
| | 20 | 60 58233 62136+ | 1 01801 | 79,32841 60242 67072 | 0397 25509 61401 | 40 | |
| | 30 | 65 43124 63938 | 1 61297 | 79,02444 34733 05671 | 30165 22731 79185 | 30 | |
| | 40 | 70 28016 25235 | 2 21021 | 78,72279 12001 26486 | 29935 84624 43975 | 20 | |
| | 50 | 75 12908 46256 | 2 80973+ | 78,42343 27376 82511 | 9709 07177 39907 | 10 | |
| **44** | 0 | 79 97801 27229+ | 3 41153+ | 78,12634 20199 42604 | 9484 86456 17455 | 0 | **16** |
| | 10 | 84 82694 68383 | 4 01561+ | 77,83149 33743 25149 | 9263 18600 22760 | 50 | |
| | 20 | 89 67588 69945 | 4 62198 | 77,53886 15143 02389 | 9043 99821 31437 | 40 | |
| | 30 | 94 52483 32143 | 5 23062+ | 77,24842 15321 70952 | 8827 26401 86719 | 30 | |
| | 40 | 0,01299 37378 55205 | 5 84154+ | 76,96014 88919 84232+ | 8612 94693 41817 | 20 | |
| | 50 | 0,01304 22274 39360 | 6 45475 | 76,67401 94226 42416 | 8401 01115 06362+ | 10 | |
| **45** | 0 | 09 07170 84835 | 7 07023+ | 76,39000 93111 36053 | 8191 42151 96823 | 0 | **15** |
| | 10 | 13 92067 91859 | 7 68800+ | 76,10809 50959 39230+ | 7984 14353 90757+ | 50 | |
| | 20 | 18 76965 60659 | 8 30805 | 75,82825 36605 48473 | 7779 14333 84819 | 40 | |
| | 30 | 23 61863 91464 | 8 93037+ | 75,55046 22271 63654 | 7576 38766 56378+ | 30 | |
| | 40 | 28 46762 84501+ | 4 84899 55498+ | 75,27469 83505 07275+ | 7375 84387 28672 | 20 | |
| | 50 | 33 31662 40000 | 4 84900 18187 | 75,00093 99117 78603+ | 7177 47990 39371 | 10 | |
| **46** | 0 | 38 16562 58187+ | 0 81104 | 74,72916 51127 39232 | 6981 26428 12469+ | 0 | **14** |
| | 10 | 43 01463 39291+ | 1 44249 | 74,45935 24699 26763 | 6787 16609 33400+ | 50 | |
| | 20 | 47 86364 83540+ | 2 07622 | 74,19148 08089 93362+ | 6595 15498 27285 | 40 | |
| | 30 | 52 71266 91163 | 2 71223+ | 73,92552 92591 66077+ | 6405 20113 40224+ | 30 | |
| | 40 | 57 56169 62386 | 3 35052+ | 73,66147 72478 25853 | 6217 27526 23548+ | 20 | |
| | 50 | 62 41072 97438+ | 3 99109+ | 73,39930 44952 02304+ | 6031 34860 20940+ | 10 | |
| **47** | 0 | 67 25976 96548+ | 4 63395 | 73,13899 10091 81364 | 5847 39289 58350 | 0 | **13** |
| | 10 | 72 10881 59943+ | 5 27908+ | 72,88051 70802 23014 | 5665 38038 36621+ | 50 | |
| | 20 | 76 95786 87852 | 5 92650 | 72,62386 32763 86392+ | 5485 28379 26761+ | 40 | |
| | 30 | 81 80692 80502 | 6 57619+ | 72,36901 04384 59631 | 5307 07632 67764+ | 30 | |
| | 40 | 86 65599 38121+ | 7 22817 | 72,11593 96751 91866+ | 5130 73165 66936 | 20 | |
| | 50 | 91 50506 60938+ | 7 88243 | 71,86463 23586 24930+ | 4956 22391 02635 | 10 | |
| **48** | 0 | 0,01396 35414 49181+ | 8 53897 | 71,61507 01195 22295+ | 4783 52766 29373+ | 0 | **12** |
| | 10 | 0,01401 20323 03078+ | 9 19778+ | 71,36723 48428 92922 | 4612 61792 85206 | 50 | |
| | 20 | 06 05232 22857 | 4 84909 85888+ | 71,12110 86636 07716 | 4443 47015 01348 | 40 | |
| | 30 | 10 90142 08746 | 4 84910 52226+ | 70,87667 39621 06368 | 4276 06019 13960 | 30 | |
| | 40 | 15 75052 60972+ | 1 18793 | 70,63391 33601 92408 | 4110 36432 78039+ | 20 | |
| | 50 | 20 59963 79765+ | 1 85587 | 70,39280 97169 14368+ | 3946 35923 83362 | 10 | |
| **49** | 0 | 25 44875 65352+ | 2 52609+ | 70,15334 61245 31006+ | 3784 02199 72420 | 0 | **11** |
| | 10 | 30 29788 17962 | 3 19860 | 69,91550 59045 58586+ | 3623 33006 60297+ | 50 | |
| | 20 | 35 14701 37822 | 3 87338+ | 69,67927 26038 98289 | 3464 26128 56439 | 40 | |
| | 30 | 39 99615 25160+ | 4 55045 | 69,44462 99910 41849+ | 3306 79386 88250+ | 30 | |
| | 40 | 44 84529 80205+ | 5 22980 | 69,21156 20523 53599 | 3150 90639 26492 | 20 | |
| | 50 | 49 69445 03185 | 4 84915 91142+ | 68,98005 29884 27107 | 22996 57779 12412 | 10 | |
| **50** | 0 | 0,01454 54360 94327+ | | 68,75008 72105 14695+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 89°

# 0°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,01454 54360 94327+ | 4 84916 59533+ | 68,75008 72105 14695+ | 22843 78734 86572 | 0 | **10** |
| | 10 | 59 39277 53861 | 7 28152+ | 68,52164 93370 28123 | 2692 51469 19327+ | 50 | |
| | 20 | 64 24194 82013+ | 7 96999+ | 68,29472 41901 08795+ | 2542 73978 42908+ | 40 | |
| | 30 | 69 09112 79013+ | 8 66075 | 68,06929 67922 65887 | 2394 44291 85067+ | 30 | |
| | 40 | 73 94031 45088 | 4 84919 35378 | 67,84535 23630 80819+ | 2247 60471 04249 | 20 | |
| | 50 | 78 78950 80466 | 4 84920 04909+ | 67,62287 63159 76570+ | 2102 20609 26244 | 10 | |
| **51** | 0 | 83 63870 85375+ | 0 74669 | 67,40185 42550 50326+ | 1958 22830 82286+ | 0 | **9** |
| | 10 | 88 48791 60044+ | 1 44656+ | 67,18227 19719 68040 | 1815 65290 48558 | 50 | |
| | 20 | 93 33713 04701+ | 2 14872+ | 66,96411 54429 19481+ | 1674 46172 87062+ | 40 | |
| | 30 | 0,01498 18635 19573+ | 2 85316 | 66,74737 08256 32419+ | 1534 63691 87835 | 30 | |
| | 40 | 0,01503 03558 04890 | 3 55988 | 66,53202 44564 44584+ | 1396 16090 12455 | 20 | |
| | 50 | 07 88481 60878 | 4 26888 | 66,31806 28474 32129+ | 1259 01638 38821+ | 10 | |
| **52** | 0 | 12 73405 87766+ | 4 98016+ | 66,10547 26835 93307+ | 1123 18635 07169 | 0 | **8** |
| | 10 | 17 58330 85783 | 5 69372+ | 65,89424 08200 86139 | 0988 65405 67280 | 50 | |
| | 20 | 22 43256 55155+ | 6 40957 | 65,68435 42795 18859 | 0855 40302 26879 | 40 | |
| | 30 | 27 28182 96112+ | 7 12769+ | 65,47580 02492 91979+ | 0723 41703 01163 | 30 | |
| | 40 | 32 13110 08882 | 7 84810+ | 65,26856 60789 90816+ | 0592 68011 63448 | 20 | |
| | 50 | 36 98037 93692+ | 8 57079 | 65,06263 92778 27369 | 0463 17656 96903+ | 10 | |
| **53** | 0 | 41 82966 50771+ | 4 84929 29576 | 64,85800 75121 30465+ | 0334 89092 47346+ | 0 | **7** |
| | 10 | 46 67895 80347+ | 4 84930 02301 | 64,65465 86028 83118+ | 0207 80795 77065 | 50 | |
| | 20 | 51 52825 82648+ | 0 75254 | 64,45258 05233 06053+ | 20081 91268 19650 | 40 | |
| | 30 | 56 37756 57902+ | 1 48435+ | 64,25176 13964 86404 | 19957 19034 35811+ | 30 | |
| | 40 | 61 22688 06338 | 2 21844+ | 64,05218 94930 50592 | 9833 62641 70150 | 20 | |
| | 50 | 66 07620 28182+ | 2 95482 | 63,85385 32288 80442 | 9711 20660 08861 | 10 | |
| **54** | 0 | 70 92553 23665 | 3 69348 | 63,65674 11628 71581 | 9589 91681 38351+ | 0 | **6** |
| | 10 | 75 77486 93013 | 4 43441+ | 63,46084 19947 33229+ | 9469 74319 04748 | 50 | |
| | 20 | 80 62421 36454+ | 5 17763+ | 63,26614 45628 28481+ | 9350 67207 74265+ | 40 | |
| | 30 | 85 47356 54218 | 5 92313+ | 63,07263 78420 54216 | 9232 69002 94427 | 30 | |
| | 40 | 90 32292 46531+ | 6 67092 | 62,88031 09417 59788+ | 9115 78380 56107 | 20 | |
| | 50 | 0,01595 17229 13623+ | 7 42098 | 62,68915 31037 03682 | 8999 94036 56377+ | 10 | |
| **55** | 0 | 0,01600 02166 55721+ | 8 17332+ | 62,49915 37000 47304+ | 8885 14686 62144 | 0 | **5** |
| | 10 | 04 87104 73054 | 8 92795 | 62,31030 22313 85160+ | 8771 39065 74545 | 50 | |
| | 20 | 09 72043 65849+ | 4 84939 68486 | 62,12258 83248 10615+ | 8658 65927 94102+ | 40 | |
| | 30 | 14 56983 34335 | 4 84940 44405 | 61,93600 17320 16513 | 8546 94045 86598+ | 30 | |
| | 40 | 19 41923 78740 | 1 20552 | 61,75053 23274 29914 | 8436 22210 49670+ | 20 | |
| | 50 | 24 26864 99291+ | 1 96927 | 61,56617 01063 80244 | 8326 49230 80096+ | 10 | |
| **56** | 0 | 29 11806 96218+ | 2 73530+ | 61,38290 51833 00147+ | 8217 73933 41766 | 0 | **4** |
| | 10 | 33 96749 69749 | 3 50361+ | 61,20072 77899 58381 | 8109 95162 34310 | 50 | |
| | 20 | 38 81693 20110+ | 4 27421+ | 61,01962 82737 24071 | 8003 11778 62378+ | 40 | |
| | 30 | 43 66637 47532 | 5 04709 | 60,83959 70958 61692+ | 7897 22660 05554+ | 30 | |
| | 40 | 48 51582 52241 | 5 82225 | 60,66062 48298 56138 | 7792 26700 88879+ | 20 | |
| | 50 | 53 36528 34466 | 6 59969 | 60,48270 21597 67258+ | 7688 22811 53991 | 10 | |
| **57** | 0 | 58 21474 94435 | 7 37941+ | 60,30581 98786 13267+ | 7585 09918 30838 | 0 | **3** |
| | 10 | 63 06422 32376+ | 8 16141+ | 60,12996 88867 82429+ | 7482 86963 09982+ | 50 | |
| | 20 | 67 91370 48518 | 8 94570 | 59,95514 01904 72447 | 7381 52903 15455+ | 40 | |
| | 30 | 72 76319 43088 | 4 84949 73227 | 59,78132 49001 56991 | 7281 06710 78167+ | 30 | |
| | 40 | 77 61269 16315 | 4 84950 52111+ | 59,60851 42290 78823+ | 7181 47373 09850 | 20 | |
| | 50 | 82 46219 68427 | 1 31225 | 59,43669 94917 68973+ | 7082 73891 77527 | 10 | |
| **58** | 0 | 87 31170 99651+ | 2 10566 | 59,26587 21025 91447 | 6984 85282 78493+ | 0 | **2** |
| | 10 | 92 16123 10217+ | 2 90135+ | 59,09602 35743 12953+ | 6887 80576 15798 | 50 | |
| | 20 | 0,01697 01076 00353 | 3 69933 | 58,92714 55166 97155+ | 6791 58815 74211+ | 40 | |
| | 30 | 0,01701 86029 70285+ | 4 49958+ | 58,75922 96351 22944 | 6696 19058 96676+ | 30 | |
| | 40 | 06 70984 20244 | 5 30212+ | 58,59226 77292 26267+ | 6601 60376 61220+ | 20 | |
| | 50 | 11 55939 50456+ | 6 10694+ | 58,42625 16915 65047 | 6507 81852 58329+ | 10 | |
| **59** | 0 | 16 40895 61151 | 6 91404+ | 58,26117 35063 06717+ | 6414 82583 68762+ | 0 | **1** |
| | 10 | 21 25852 52555+ | 7 72343 | 58,09702 52479 37955+ | 6322 61679 41808+ | 50 | |
| | 20 | 26 10810 24898+ | 8 53509+ | 57,93379 90799 96147 | 6231 18261 73965 | 40 | |
| | 30 | 30 95768 78408 | 4 84959 34904 | 57,77148 72538 22182 | 6140 51464 88035+ | 30 | |
| | 40 | 35 80728 13312 | 4 84960 16527 | 57,61008 21073 34146+ | 6050 60435 12634 | 20 | |
| | 50 | 40 65688 29839+ | 4 84960 98378 | 57,44957 60638 21512+ | 15961 44330 62088 | 10 | |
| **60** | 0 | 0,01745 50649 28217+ | | 57,28996 16307 59424+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 89°

# 1°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,01745 50649 28217+ | 4 84961 80457+ | 57,28996 16307 59424+ | 15873 02321 16732 | 0 | **60** |
| | 10 | 50 35611 08675 | 62 62765 | 57,13123 13986 42693 | 785 33588 03580 | 50 | |
| | 20 | 55 20573 71440 | 63 45300+ | 56,97337 80398 39113 | 698 37323 77374 | 40 | |
| | 30 | 60 05537 16740+ | 64 28064+ | 56,81639 43074 61739 | 612 12732 01994+ | 30 | |
| | 40 | 64 90501 44805 | 65 11056+ | 56,66027 30342 59744+ | 526 59027 32226 | 20 | |
| | 50 | 69 75466 55861+ | 65 94276+ | 56,50500 71315 27518+ | 441 75434 95877 | 10 | |
| **1** | 0 | 74 60432 50138+ | 66 77725 | 56,35058 95880 31641+ | 357 61190 76234+ | 0 | **59** |
| | 10 | 79 45399 27863+ | 67 61401+ | 56,19701 34689 55407 | 274 15540 94856 | 50 | |
| | 20 | 84 30366 89265 | 68 45306+ | 56,04427 19148 60550+ | 191 37741 94688 | 40 | |
| | 30 | 89 15335 34571+ | 69 29439+ | 55,89235 81406 65863 | 109 27060 23500+ | 30 | |
| | 40 | 94 00304 64011 | 70 13800+ | 55,74126 54346 42362+ | 15027 82772 17639 | 20 | |
| | 50 | 0,01798 85274 77811+ | 70 98390 | 55,59098 71574 24724 | 14947 04163 86079 | 10 | |
| **2** | 0 | 0,01803 70245 76201+ | 71 83207+ | 55,44151 67410 38645 | 866 90530 94779+ | 0 | **58** |
| | 10 | 08 55217 59409 | 72 68253+ | 55,29284 76879 43865+ | 787 41178 51332 | 50 | |
| | 20 | 13 40190 27662+ | 73 53527+ | 55,14497 35700 92533+ | 708 55420 89892+ | 40 | |
| | 30 | 18 25163 81190 | 74 39029+ | 54,99788 80280 02640+ | 630 32581 56397+ | 30 | |
| | 40 | 23 10138 20219+ | 75 24760 | 54,85158 47698 46243 | 552 71992 94052 | 20 | |
| | 50 | 27 95113 44979+ | 76 10718+ | 54,70605 75705 52191+ | 475 72996 29087 | 10 | |
| **3** | 0 | 32 80089 55698 | 76 96905+ | 54,56130 02709 23104+ | 399 34941 56781 | 0 | **57** |
| | 10 | 37 65066 52603+ | 77 83320+ | 54,41730 67767 66323 | 323 57187 27738+ | 50 | |
| | 20 | 42 50044 35923+ | 78 69963+ | 54,27407 10580 38585 | 248 39100 34418 | 40 | |
| | 30 | 47 35023 05887+ | 79 56835 | 54,13158 71480 04167 | 173 80055 97912 | 30 | |
| | 40 | 52 20002 62722+ | 80 43935 | 53,98984 91424 06255 | 099 79437 54963+ | 20 | |
| | 50 | 57 04983 06657+ | 81 31262+ | 53,84885 11986 51291+ | 14026 36636 45224 | 10 | |
| **4** | 0 | 61 89964 37920 | 82 18819 | 53,70858 75350 06067+ | 13953 51051 98738 | 0 | **56** |
| | 10 | 66 74946 56739 | 83 06603 | 53,56905 24298 07329+ | 881 22091 23658 | 50 | |
| | 20 | 71 59929 63342 | 83 94616 | 53,43024 02206 83671+ | 809 49168 94182 | 40 | |
| | 30 | 76 44913 57958 | 84 82856+ | 53,29214 53037 89490 | 738 31707 38705+ | 30 | |
| | 40 | 81 29898 40814+ | 85 71325+ | 53,15476 21330 50784+ | 667 69136 28190+ | 20 | |
| | 50 | 86 14884 12140 | 86 60023 | 53,01808 52194 22594 | 597 60892 64740 | 10 | |
| **5** | 0 | 90 99870 72163 | 87 48948+ | 52,88210 91301 57853+ | 528 06420 70379+ | 0 | **55** |
| | 10 | 0,01895 84858 21111+ | 88 38102 | 52,74682 84880 87474+ | 459 05171 76036 | 50 | |
| | 20 | 0,01900 69846 59213+ | 89 27484 | 52,61223 79709 11438+ | 390 56604 10717+ | 40 | |
| | 30 | 05 54835 86697+ | 90 17094 | 52,47833 23105 00721 | 322 60182 90881 | 30 | |
| | 40 | 10 39826 03791+ | 91 06932+ | 52,34510 62922 09840+ | 255 15380 09989+ | 20 | |
| | 50 | 15 24817 10724 | 91 96999+ | 52,21255 47541 99851 | 188 21674 28256+ | 10 | |
| **6** | 0 | 20 09809 07723+ | 92 87294 | 52,08067 25867 71594+ | 121 78550 62567 | 0 | **54** |
| | 10 | 24 94801 95017+ | 93 77817+ | 51,94945 47317 09027+ | 13055 85500 76578+ | 50 | |
| | 20 | 29 79795 72835 | 94 68568+ | 51,81889 61816 32449 | 12990 42022 70996+ | 40 | |
| | 30 | 34 64790 41403+ | 95 59548+ | 51,68899 19793 61452+ | 925 47620 74017 | 30 | |
| | 40 | 39 49786 00952 | 96 50756 | 51,55973 72172 87435 | 861 01805 31938+ | 20 | |
| | 50 | 44 34782 51708+ | 97 42192+ | 51,43112 70367 55496+ | 797 04092 99936 | 10 | |
| **7** | 0 | 49 19779 93900+ | 98 33856+ | 51,30315 66274 55560+ | 733 54006 32996+ | 0 | **53** |
| | 10 | 54 04778 27757+ | 4 84999 25749+ | 51,17582 12268 22564 | 670 51073 77010+ | 50 | |
| | 20 | 58 89777 53506+ | 4 85000 17870+ | 51,04911 61194 45553+ | 607 94829 60018+ | 40 | |
| | 30 | 63 74777 71377 | 01 10219+ | 50,92303 66364 85535 | 545 84813 83606+ | 30 | |
| | 40 | 68 59778 81596+ | 02 02797 | 50,79757 81551 01928 | 484 20572 14452+ | 20 | |
| | 50 | 73 44780 84393 | 02 95602+ | 50,67273 60978 87475+ | 423 01655 76014+ | 10 | |
| **8** | 0 | 78 29783 79995+ | 03 88636+ | 50,54850 59323 11461 | 362 27621 40364 | 0 | **52** |
| | 10 | 83 14787 68632 | 04 81898+ | 50,42488 31701 71097 | 301 98031 20157 | 50 | |
| | 20 | 87 99792 50530+ | 05 75389 | 50,30186 33670 50940 | 242 12452 60741+ | 40 | |
| | 30 | 92 84798 25919+ | 06 69108 | 50,17944 21217 90198+ | 182 70458 32402 | 30 | |
| | 40 | 0,01997 69804 95027+ | 07 63054+ | 50,05761 50759 57796 | 123 71626 22731 | 20 | |
| | 50 | 0,02002 54812 58082 | 08 57230 | 49,93637 79133 35065 | 065 15539 29132+ | 10 | |
| **9** | 0 | 07 39821 15312 | 09 51633+ | 49,81572 63594 05932+ | 12007 01785 51452 | 0 | **51** |
| | 10 | 12 24830 66945+ | 10 46265+ | 49,69565 61808 54480 | 11949 29957 84729 | 50 | |
| | 20 | 17 09841 13211 | 11 41125+ | 49,57616 31850 69751 | 891 99654 12071+ | 40 | |
| | 30 | 21 94852 54336+ | 12 36214 | 49,45724 32196 57679+ | 835 10476 97651+ | 30 | |
| | 40 | 26 79864 90550 | 13 31530+ | 49,33889 21719 60028 | 778 62033 79815+ | 20 | |
| | 50 | 31 64878 22080+ | 4 85014 27075+ | 49,22110 59685 80212 | 11722 53936 64310+ | 10 | |
| **10** | 0 | 0,02036 49892 49156 | | 49,10388 05749 15901+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,02036 49892 49156 | 4 85015 22848+ | 49,10388 05749 15901+ | 11666 85802 17622+ | 0 | **50** |
| | 10 | 41 34907 72004+ | 16 18850 | 48,98721 19946 98279+ | 611 57251 60426+ | 50 | |
| | 20 | 46 19923 90854+ | 17 15080 | 48,87109 62695 37853 | 556 67910 61143+ | 40 | |
| | 30 | 51 04941 05934 | 18 11538 | 48,75552 94784 76710 | 502 17409 29604+ | 30 | |
| | 40 | 55 89959 17472 | 19 08224 | 48,64050 77375 47105+ | 448 05382 10819+ | 20 | |
| | 50 | 60 74978 25696+ | 20 05139 | 48,52602 71993 36286 | 394 31467 78847 | 10 | |
| **11** | 0 | 65 59998 30835 | 21 02282 | 48,41208 40525 57439+ | 340 95309 30766 | 0 | **49** |
| | 10 | 70 45019 33117 | 21 99653 | 48,29867 45216 26673 | 287 96553 80746+ | 50 | |
| | 20 | 75 30041 32770 | 22 97252+ | 48,18579 48662 45926+ | 235 34852 54214 | 40 | |
| | 30 | 80 15064 30022+ | 23 95080+ | 48,07344 13809 91712+ | 183 09860 82113+ | 30 | |
| | 40 | 85 00088 25102+ | 24 93136+ | 47,96161 03949 09599 | 131 21237 95262 | 20 | |
| | 50 | 89 85113 18239 | 25 91421 | 47,85029 82711 14336+ | 079 68647 18797 | 10 | |
| **12** | 0 | 94 70139 09660 | 26 89933+ | 47,73950 14063 95540 | 11028 51755 66709+ | 0 | **48** |
| | 10 | 0,02099 55165 99593+ | 27 88674+ | 47,62921 62308 28830+ | 10977 70234 36471 | 50 | |
| | 20 | 0,02104 40193 88268+ | 28 87644 | 47,51943 92073 92359+ | 927 23758 03743 | 40 | |
| | 30 | 09 25222 75912+ | 29 86841+ | 47,41016 68315 88616+ | 877 12005 17172+ | 30 | |
| | 40 | 14 10252 62754 | 30 86267+ | 47,30139 56310 71444 | 827 34657 93270+ | 20 | |
| | 50 | 18 95283 49021+ | 31 85922 | 47,19312 21652 78173+ | 777 91402 11374 | 10 | |
| **13** | 0 | 23 80315 34943+ | 32 85804+ | 47,08534 30250 66799+ | 728 81927 08685 | 0 | **47** |
| | 10 | 28 65348 20748 | 33 85915+ | 46,97805 48323 58114+ | 680 05925 75393+ | 50 | |
| | 20 | 33 50382 06663+ | 34 86254+ | 46,87125 42397 82721+ | 631 63094 49871+ | 40 | |
| | 30 | 38 35416 92918 | 35 86822 | 46,76493 79303 32850 | 583 53133 13950 | 30 | |
| | 40 | 43 20452 79740+ | 36 87618 | 46,65910 26170 18899+ | 535 75744 88265 | 20 | |
| | 50 | 48 05489 67358+ | 37 88642+ | 46,55374 50425 30634+ | 488 30636 27678+ | 10 | |
| **14** | 0 | 52 90527 56001 | 38 89895 | 46,44886 19789 02956 | 441 17517 16775 | 0 | **46** |
| | 10 | 57 75566 45895+ | 39 91375+ | 46,34445 02271 86181 | 394 36100 65422 | 50 | |
| | 20 | 62 60606 37271+ | 40 93085 | 46,24050 66171 20759 | 347 86103 04407+ | 40 | |
| | 30 | 67 45647 30356 | 41 95022+ | 46,13702 80068 16351+ | 301 67243 81138+ | 30 | |
| | 40 | 72 30689 25378+ | 42 97188+ | 46,03401 12824 35213 | 255 79245 55413+ | 20 | |
| | 50 | 77 15732 22567 | 43 99582+ | 45,93145 33578 79799+ | 210 21833 95253+ | 10 | |
| **15** | 0 | 82 00776 22149+ | 45 02205 | 45,82935 11744 84546 | 164 94737 72805 | 0 | **45** |
| | 10 | 86 85821 24354+ | 46 05056 | 45,72770 17007 11741 | 119 97688 60300+ | 50 | |
| | 20 | 91 70867 29410+ | 47 08135 | 45,62650 19318 51440 | 075 30421 26085+ | 40 | |
| | 30 | 0,02196 55914 37545+ | 48 11442+ | 45,52574 88897 25355 | 10030 92673 30703 | 30 | |
| | 40 | 0,02201 40962 48988 | 49 14978+ | 45,42543 96223 94652 | 9986 84185 23043 | 20 | |
| | 50 | 06 26011 63967 | 50 18743 | 45,32557 12038 71609 | 943 04700 36546+ | 10 | |
| **16** | 0 | 11 11061 82709+ | 51 22735+ | 45,22614 07338 35062+ | 899 53964 85471 | 0 | **44** |
| | 10 | 15 96113 05445 | 52 26956+ | 45,12714 53373 49591+ | 856 31727 61209+ | 50 | |
| | 20 | 20 81165 32401+ | 53 31406 | 45,02858 21645 88382 | 813 37740 28670+ | 40 | |
| | 30 | 25 66218 63807+ | 54 36083+ | 44,93044 83905 59712 | 770 71757 22708+ | 30 | |
| | 40 | 30 51272 99891 | 55 40989+ | 44,83274 12148 37003+ | 728 33535 44611+ | 20 | |
| | 50 | 35 36328 40880 | 56 46124 | 44,73545 78612 92391+ | 686 22834 58641 | 10 | |
| **17** | 0 | 40 21384 87004 | 57 51486+ | 44,63859 55778 33750+ | 644 39416 88623 | 0 | **43** |
| | 10 | 45 06442 38490+ | 58 57077+ | 44,54215 16361 45127+ | 602 83047 14592 | 50 | |
| | 20 | 49 91500 95568+ | 59 62897 | 44,44612 33314 30535+ | 561 53492 69486+ | 40 | |
| | 30 | 54 76560 58465+ | 60 68945 | 44,35050 79821 61048+ | 520 50523 35891 | 30 | |
| | 40 | 59 61621 27410+ | 61 75221+ | 44,25530 29298 25157+ | 479 73911 42828+ | 20 | |
| | 50 | 64 46683 02632 | 62 81726 | 44,16050 55386 82329 | 439 23431 62603 | 10 | |
| **18** | 0 | 69 31745 84358 | 63 88459 | 44,06611 31955 19726 | 398 98861 07684+ | 0 | **42** |
| | 10 | 74 16809 72816+ | 64 95420 | 43,97212 33094 12041+ | 358 99979 27645+ | 50 | |
| | 20 | 79 01874 68236+ | 66 02610 | 43,87853 33114 84396 | 319 26568 06138+ | 40 | |
| | 30 | 83 86940 70846+ | 67 10028 | 43,78534 06546 78257+ | 279 78411 57922 | 30 | |
| | 40 | 88 72007 80874+ | 68 17674+ | 43,69254 28135 20335+ | 240 55296 25928 | 20 | |
| | 50 | 93 57075 98549 | 69 25549+ | 43,60013 72838 94407+ | 201 57010 78374+ | 10 | |
| **19** | 0 | 0,02298 42145 24098+ | 70 33652+ | 43,50812 15828 16033+ | 162 83346 05918+ | 0 | **41** |
| | 10 | 0,02303 27215 57751 | 71 41984 | 43,41649 32482 10114+ | 124 34095 18854 | 50 | |
| | 20 | 08 12286 99735 | 72 50544+ | 43,32524 98386 91260+ | 086 09053 44347+ | 40 | |
| | 30 | 12 97359 50279+ | 73 59332+ | 43,23438 89333 46913 | 048 08018 23716 | 30 | |
| | 40 | 17 82433 09612 | 74 68349+ | 43,14390 81315 23197 | 9010 30789 09746+ | 20 | |
| | 50 | 22 67507 77961+ | 4 85075 77594+ | 43,05380 50526 13450+ | 8972 77167 64050 | 10 | |
| **20** | 0 | 0,02327 52583 55556+ | | 42,96407 73358 49400+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

# 1°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,02327 52583 55556+ | 4 85076 87068+ | 42,96407 73358 49400+ | 8935 46957 54457+ | 0 | **40** |
| | 10 | 32 37660 42624+ | 77 96770+ | 87472 26400 94943 | 898 39964 52454+ | 50 | |
| | 20 | 37 22738 39395 | 79 06701 | 78573 86436 42488+ | 861 55996 30649 | 40 | |
| | 30 | 42 07817 46096 | 80 16859+ | 69712 30440 11839+ | 824 94862 60278+ | 30 | |
| | 40 | 46 92897 62955+ | 81 27247 | 60887 35577 51561 | 788 56375 08754+ | 20 | |
| | 50 | 51 77978 90202 | 82 37862+ | 52098 79202 42806+ | 752 40347 37239 | 10 | |
| **21** | 0 | 56 63061 28064+ | 83 48706+ | 43346 38855 05567+ | 716 46594 98257 | 0 | **39** |
| | 10 | 61 48144 76771 | 84 59779 | 34629 92260 07310+ | 680 74935 33346 | 50 | |
| | 20 | 66 33229 36550 | 85 71080 | 25949 17324 73964+ | 645 25187 70734+ | 40 | |
| | 30 | 71 18315 07630 | 86 82609 | 17303 92137 03229+ | 609 97173 23057 | 30 | |
| | 40 | 76 03401 90239 | 87 94367 | 08693 94963 80173 | 574 90714 85099+ | 20 | |
| | 50 | 80 88489 84606 | 89 06353 | 42,00119 04248 95073+ | 540 05637 31580+ | 10 | |
| **22** | 0 | 85 73578 90959 | 90 18567+ | 41,91578 98611 63493 | 505 41767 14959 | 0 | **38** |
| | 10 | 90 58669 09526+ | 91 31010+ | 83073 56844 48534 | 470 98932 63276+ | 50 | |
| | 20 | 0,02395 43760 40537 | 92 43682 | 74602 57911 85257+ | 436 76963 78028+ | 40 | |
| | 30 | 0,02400 28852 84218+ | 93 56581+ | 66165 80948 07229 | 402 75692 32066 | 30 | |
| | 40 | 05 13946 40800+ | 94 69710 | 57763 05255 75163 | 368 94951 67528+ | 20 | |
| | 50 | 09 99041 10510+ | 95 83066+ | 49394 10304 07635 | 335 34576 93801+ | 10 | |
| **23** | 0 | 14 84136 93577 | 96 96652 | 41058 75727 13833+ | 301 94404 85508 | 0 | **37** |
| | 10 | 19 69233 90229 | 98 10465+ | 32756 81322 28325+ | 268 74273 80525+ | 50 | |
| | 20 | 24 54332 00694+ | 4 85099 24507+ | 24488 07048 47800 | 235 74023 78028+ | 40 | |
| | 30 | 29 39431 25202 | 4 85100 38778 | 16252 33024 69771+ | 202 93496 36563 | 30 | |
| | 40 | 34 24531 63980 | 01 53277 | 41,08049 39528 33208+ | 170 32534 72145 | 20 | |
| | 50 | 39 09633 17256+ | 02 68004 | 40,99879 06993 61063+ | 137 90983 56385+ | 10 | |
| **24** | 0 | 43 94735 85261 | 03 82960 | 91741 16010 04678 | 105 68689 14641+ | 0 | **36** |
| | 10 | 48 79839 68221 | 04 98144 | 83635 47320 90037 | 073 65499 24193+ | 50 | |
| | 20 | 53 64944 66365 | 06 13557 | 75561 81821 65843 | 041 81263 12448 | 40 | |
| | 30 | 58 50050 79922 | 07 29198 | 67520 00558 53395 | 8010 15831 55163+ | 30 | |
| | 40 | 63 35158 09120 | 08 45067+ | 59509 84726 98231+ | 7978 69056 74701+ | 20 | |
| | 50 | 68 20266 54188 | 09 61166 | 51531 15670 23530 | 947 40792 38302+ | 10 | |
| **25** | 0 | 73 05376 15353+ | 10 77492+ | 43583 74877 85227+ | 916 30893 56385+ | 0 | **35** |
| | 10 | 77 90486 92846 | 11 94047+ | 35667 43984 28842 | 885 39216 80868+ | 50 | |
| | 20 | 82 75598 86893+ | 13 10831 | 27782 04767 47973+ | 854 65620 03514+ | 40 | |
| | 30 | 87 60711 97724 | 14 27843 | 19927 39147 44459+ | 824 09962 54299 | 30 | |
| | 40 | 92 45826 25567 | 15 45083 | 12103 29184 90160+ | 793 72104 99799+ | 20 | |
| | 50 | 0,02497 30941 70650 | 16 62552 | 40,04309 57079 90361 | 763 51909 41608 | 10 | |
| **26** | 0 | 0,02502 16058 33202 | 17 80249+ | 39,96546 05170 48752+ | 733 49239 14762+ | 0 | **34** |
| | 10 | 07 01176 13451+ | 18 98175+ | 88812 55931 33990 | 703 63958 86203 | 50 | |
| | 20 | 11 86295 11627 | 20 16329+ | 81108 91972 47787 | 673 95934 53244+ | 40 | |
| | 30 | 16 71415 27956+ | 21 34712+ | 73434 96037 94543 | 644 45033 42075 | 30 | |
| | 40 | 21 56536 62669 | 22 53323+ | 65790 51004 52468 | 615 11124 06270+ | 20 | |
| | 50 | 26 41659 15992+ | 23 72163+ | 58175 39880 46197 | 585 94076 25330+ | 10 | |
| **27** | 0 | 31 26782 88156 | 24 91231+ | 50589 45804 20866+ | 556 93761 03232+ | 0 | **33** |
| | 10 | 36 11907 79387+ | 26 10528+ | 43032 52043 17634 | 528 10050 67008+ | 50 | |
| | 20 | 40 97033 89916 | 27 30053+ | 35504 41992 50625+ | 499 42818 65338 | 40 | |
| | 30 | 45 82161 19970 | 28 49807+ | 28004 99173 85287+ | 470 91939 67160 | 30 | |
| | 40 | 50 67289 69777+ | 29 69789+ | 20534 07234 18127+ | 442 57289 60303 | 20 | |
| | 50 | 55 52419 39567 | 30 90000+ | 13091 49944 57824+ | 414 38745 50137 | 10 | |
| **28** | 0 | 60 37550 29567+ | 32 10439+ | 39,05677 11199 07687+ | 386 36185 58236+ | 0 | **32** |
| | 10 | 65 22682 40007 | 33 31107+ | 38,98290 75013 49451 | 358 49489 21067+ | 50 | |
| | 20 | 70 07815 71114+ | 34 52003+ | 90932 25524 28383 | 330 78536 88689+ | 40 | |
| | 30 | 74 92950 23118 | 35 73128+ | 83601 46987 39693+ | 303 23210 23471+ | 30 | |
| | 40 | 79 78085 96246+ | 36 94481+ | 76298 23777 16222 | 275 83391 98831+ | 20 | |
| | 50 | 84 63222 90728 | 38 16063+ | 69022 40385 17390+ | 248 58965 97986 | 10 | |
| **29** | 0 | 89 48361 06791+ | 39 37874 | 61773 81419 19404+ | 221 49817 12720 | 0 | **31** |
| | 10 | 94 33500 44665+ | 40 59912+ | 54552 31602 06684+ | 194 55831 42171 | 50 | |
| | 20 | 0,02599 18641 04578 | 41 82180 | 47357 75770 64514 | 167 76895 91629+ | 40 | |
| | 30 | 0,02604 03782 86758 | 43 04676 | 40189 98874 72884+ | 141 12898 71356+ | 30 | |
| | 40 | 08 88925 91433+ | 44 27400 | 33048 85976 01528 | 114 63728 95412+ | 20 | |
| | 50 | 13 74070 18834 | 4 85145 50353 | 25934 22247 06115+ | 7088 29276 80506+ | 10 | |
| **30** | 0 | 0,02618 59215 69187 | | 38,18845 92970 25609 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,02618 59215 69187 | 4 85146 73534+ | 38,18845 92970 25609 | 7062 09433 44857 | 0 | **30** |
| | 10 | 23 44362 42721+ | 47 96944+ | 11783 83536 80752+ | 036 04091 07066+ | 50 | |
| | 20 | 28 29510 39666 | 49 20583 | 38,04747 79445 73686 | 7010 13142 85015 | 40 | |
| | 30 | 33 14659 60249 | 50 44450 | 37,97737 66302 88670+ | 6984 36482 94763+ | 30 | |
| | 40 | 37 99810 04699 | 51 68545+ | 90753 29819 93907 | 958 74006 49473+ | 20 | |
| | 50 | 42 84961 73244+ | 52 92870 | 83794 55813 44433+ | 933 25609 58338+ | 10 | |
| **31** | 0 | 47 70114 66114+ | 54 17422+ | 76861 30203 86095 | 907 91189 25534 | 0 | **29** |
| | 10 | 52 55268 83537 | 55 42203+ | 69953 39014 60561 | 882 70643 49174 | 50 | |
| | 20 | 57 40424 25740+ | 56 67213+ | 63070 68371 11387 | 857 63871 20286+ | 40 | |
| | 30 | 62 25580 92954 | 57 92451+ | 56213 04499 91100+ | 832 70772 21799 | 30 | |
| | 40 | 67 10738 85405+ | 59 17918+ | 49380 33727 69301+ | 807 91247 27538 | 20 | |
| | 50 | 71 95898 03324 | 60 43614 | 42572 42480 41763+ | 783 25198 01241 | 10 | |
| **32** | 0 | 76 81058 46938 | 61 69538 | 35789 17282 40522+ | 758 72526 95582 | 0 | **28** |
| | 10 | 81 66220 16476 | 62 95690+ | 29030 44755 44940+ | 734 33137 51205 | 50 | |
| | 20 | 86 51383 12167 | 64 22071+ | 22296 11617 93735+ | 710 06933 95777+ | 40 | |
| | 30 | 91 36547 34238+ | 65 48681+ | 15586 04683 97958+ | 685 93821 43047+ | 30 | |
| | 40 | 0,02696 21712 82919+ | 66 75519+ | 08900 10862 54911 | 661 93705 91919 | 20 | |
| | 50 | 0,02701 06879 58439+ | 68 02586+ | 37,02238 17156 62992 | 638 06494 25534+ | 10 | |
| **33** | 0 | 05 92047 61025+ | 69 29881+ | 36,95600 10662 37457+ | 614 32094 10372 | 0 | **27** |
| | 10 | 10 77216 90907+ | 70 57405+ | 88985 78568 27085 | 590 70413 95351+ | 50 | |
| | 20 | 15 62387 48313 | 71 85158 | 82395 08154 31733+ | 567 21363 10953+ | 40 | |
| | 30 | 20 47559 33471 | 73 13139+ | 75827 86791 20780 | 543 84851 68347+ | 30 | |
| | 40 | 25 32732 46610+ | 74 41349 | 69284 01939 52433 | 520 60790 58533+ | 20 | |
| | 50 | 30 17906 87959+ | 75 69787+ | 62763 41148 93899+ | 497 49091 51492 | 10 | |
| **34** | 0 | 35 03082 57747 | 76 98454 | 56265 92057 42408 | 474 49666 95345 | 0 | **26** |
| | 10 | 39 88259 56201 | 78 27349+ | 49791 42390 47063 | 451 62430 15527+ | 50 | |
| | 20 | 44 73437 83550+ | 79 56473+ | 43339 79960 31535+ | 428 87295 13971+ | 40 | |
| | 30 | 49 58617 40024 | 80 85826+ | 36910 92665 17564 | 406 24176 68293+ | 30 | |
| | 40 | 54 43798 25850+ | 82 15407+ | 30504 68488 49270+ | 383 72990 31002 | 20 | |
| | 50 | 59 28980 41258 | 83 45217+ | 24120 95498 18268+ | 361 33652 28704 | 10 | |
| **35** | 0 | 64 14163 86475+ | 84 75256 | 17759 61845 89564+ | 339 06079 61329+ | 0 | **25** |
| | 10 | 68 99348 61731 | 86 05523 | 11420 55766 28235 | 316 90190 01362+ | 50 | |
| | 20 | 73 84534 67254 | 87 36018+ | 36,05103 65576 26872+ | 294 85901 93078+ | 40 | |
| | 30 | 78 69722 03272+ | 88 66742+ | 35,98808 79674 33794 | 272 93134 51798 | 30 | |
| | 40 | 83 54910 70015 | 89 97695+ | 92535 86539 81996 | 251 11807 63141 | 20 | |
| | 50 | 88 40100 67710+ | 91 28877 | 86284 74732 18855 | 229 41841 82298 | 10 | |
| **36** | 0 | 93 25291 96587+ | 92 60287 | 80055 32890 36557 | 207 83158 33305+ | 0 | **24** |
| | 10 | 0,02798 10484 56874+ | 93 91926 | 73847 49732 03251+ | 186 35679 08330 | 50 | |
| | 20 | 0,02802 95678 48800+ | 95 23793 | 67661 14052 94922 | 164 99326 66964 | 40 | |
| | 30 | 07 80873 72593+ | 96 55889 | 61496 14726 27957+ | 143 74024 35528 | 30 | |
| | 40 | 12 66070 28482+ | 97 88213+ | 55352 40701 92429+ | 122 59696 06380+ | 20 | |
| | 50 | 17 51268 16696+ | 4 85199 20767 | 49229 81005 86049 | 101 56266 37237+ | 10 | |
| **37** | 0 | 22 36467 37463 | 4 85200 53548+ | 43128 24739 48811 | 080 63660 50501 | 0 | **23** |
| | 10 | 27 21667 91012 | 01 86559 | 37047 61078 98310 | 059 81804 32592+ | 50 | |
| | 20 | 32 06869 77571 | 03 19798+ | 30987 79274 65717+ | 039 10624 33298 | 40 | |
| | 30 | 36 92072 97369+ | 04 53266 | 24948 68650 32420 | 6018 50047 65118+ | 30 | |
| | 40 | 41 77277 50635+ | 05 86962+ | 18930 18602 67301+ | 5998 00002 02629 | 20 | |
| | 50 | 46 62483 37597+ | 07 20887+ | 12932 18600 64672+ | 977 60415 81845+ | 10 | |
| **38** | 0 | 51 47690 58485 | 08 55041 | 06954 58184 82827 | 957 31217 99599 | 0 | **22** |
| | 10 | 56 32899 13526 | 09 89423+ | 35,00997 26966 83228 | 937 12338 12916 | 50 | |
| | 20 | 61 18109 02949+ | 11 24034+ | 34,95060 14628 70312+ | 917 03706 38408+ | 40 | |
| | 30 | 66 03320 26984 | 12 58874 | 89143 10922 31904 | 897 05253 51670+ | 30 | |
| | 40 | 70 88532 85858 | 13 93942+ | 83246 05668 80233+ | 877 16910 86679+ | 20 | |
| | 50 | 75 73746 79800+ | 15 29239 | 77368 88757 93554 | 857 38610 35209 | 10 | |
| **39** | 0 | 80 58962 09039+ | 16 64765 | 71511 50147 58344+ | 837 70284 46243+ | 0 | **21** |
| | 10 | 85 44178 73804+ | 18 00519 | 65673 79863 12101 | 818 11866 25404 | 50 | |
| | 20 | 90 29396 74323+ | 19 36502 | 59855 67996 86697 | 798 63289 34378 | 40 | |
| | 30 | 95 14616 10825+ | 20 72713+ | 54057 04707 52318+ | 779 24487 90358 | 30 | |
| | 40 | 0,02899 99836 83539 | 22 09154 | 48277 80219 61961 | 759 95396 65483+ | 20 | |
| | 50 | 0,02904 85058 92693 | 4 85223 45823 | 42517 84822 96477+ | 5740 75950 86294 | 10 | |
| **40** | 0 | 0,02909 70282 38516 | | 34,36777 08872 10184 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,02909 70282 38516 | 4 85224 82720+ | 34,36777 08872 10184 | 5721 66086 33184+ | 0 | **20** |
| | 10 | 14 55507 21236+ | 26 19847 | 31055 42785 76999+ | 702 65739 39868+ | 50 | |
| | 20 | 19 40733 41083 | 27 57201+ | 25352 77046 37131 | 683 74846 92848+ | 40 | |
| | 30 | 24 25960 98285 | 28 94785+ | 19669 02199 44282+ | 664 93346 30891+ | 30 | |
| | 40 | 29 11189 93070+ | 30 32598 | 14004 08853 13391 | 646 21175 44508+ | 20 | |
| | 50 | 33 96420 25668 | 31 70639 | 08357 87677 68882+ | 627 58272 75445+ | 10 | |
| **41** | 0 | 38 81651 96307 | 33 08908+ | 34,02730 29404 93437 | 609 04577 16175 | 0 | **19** |
| | 10 | 43 66885 05215+ | 34 47407 | 33,97121 24827 77261+ | 590 60028 09396 | 50 | |
| | 20 | 48 52119 52622+ | 35 86134 | 91530 64799 67865+ | 572 24565 47538+ | 40 | |
| | 30 | 53 37355 38756+ | 37 25090 | 85958 40234 20327+ | 553 98129 72275 | 30 | |
| | 40 | 58 22592 63846+ | 38 64274+ | 80404 42104 48052 | 535 80661 74038 | 20 | |
| | 50 | 63 07831 28121 | 40 03687+ | 74868 61442 74014+ | 517 72102 91539 | 10 | |
| **42** | 0 | 67 93071 31808+ | 41 43329+ | 69350 89339 82475+ | 499 72395 11299 | 0 | **18** |
| | 10 | 72 78312 75138 | 42 83200+ | 63851 16944 71176+ | 481 81480 67179 | 50 | |
| | 20 | 77 63555 58338+ | 44 23299+ | 58369 35464 03997+ | 463 99302 39920+ | 40 | |
| | 30 | 82 48799 81638 | 45 63627+ | 52905 36161 64077 | 446 25803 56687 | 30 | |
| | 40 | 87 34045 45265+ | 47 04184+ | 47459 10358 07390 | 428 60927 90612 | 20 | |
| | 50 | 92 19292 49450 | 48 44970 | 42030 49430 16778+ | 411 04619 60355+ | 10 | |
| **43** | 0 | 0,02997 04540 94420+ | 49 85984+ | 36619 44810 56423 | 393 56823 29660 | 0 | **17** |
| | 10 | 0,03001 89790 80404+ | 51 27227 | 31225 87987 26763 | 376 17484 06915+ | 50 | |
| | 20 | 06 75042 07631+ | 52 68699 | 25849 70503 19847 | 358 86547 44728+ | 40 | |
| | 30 | 11 60294 76330+ | 54 10399+ | 20490 83955 75119 | 341 63959 39493 | 30 | |
| | 40 | 16 45548 86730 | 55 52328+ | 15149 19996 35625+ | 324 49666 30973 | 20 | |
| | 50 | 21 30804 39058+ | 56 94486+ | 09824 70330 04652+ | 307 43615 01881+ | 10 | |
| **44** | 0 | 26 16061 33545 | 58 36873 | 33,04517 26715 02770+ | 290 45752 77470+ | 0 | **16** |
| | 10 | 31 01319 70418 | 59 79488+ | 32,99226 80962 25300 | 273 56027 25122 | 50 | |
| | 20 | 35 86579 49906+ | 61 22332+ | 93953 24935 00178 | 256 74386 53946 | 40 | |
| | 30 | 40 71840 72239 | 62 65405+ | 88696 50548 46232+ | 240 00779 14380+ | 30 | |
| | 40 | 45 57103 37644+ | 64 08707 | 83456 49769 31851+ | 223 35153 97799 | 20 | |
| | 50 | 50 42367 46351+ | 65 52237+ | 78233 14615 34052+ | 206 77460 36119 | 10 | |
| **45** | 0 | 55 27632 98589 | 66 95996+ | 73026 37154 97933+ | 190 27648 01417+ | 0 | **15** |
| | 10 | 60 12899 94585+ | 68 39984+ | 67836 09506 96516 | 173 85667 05549 | 50 | |
| | 20 | 64 98168 34570 | 69 84201 | 62662 23839 90967 | 157 51467 99768+ | 40 | |
| | 30 | 69 83438 18771 | 71 28646+ | 57504 72371 91198+ | 141 25001 74360+ | 30 | |
| | 40 | 74 68709 47417+ | 72 73320+ | 52363 47370 16838 | 125 06219 58266+ | 20 | |
| | 50 | 79 53982 20738 | 74 18223+ | 47238 41150 58571+ | 108 95073 18724+ | 10 | |
| **46** | 0 | 84 39256 38962 | 75 63355+ | 42129 46077 39847 | 092 91514 60905 | 0 | **14** |
| | 10 | 89 24532 02317 | 77 08716 | 37036 54562 78941+ | 076 95496 27556 | 50 | |
| | 20 | 94 09809 11033 | 78 54305 | 31959 59066 51385+ | 061 06970 98649+ | 40 | |
| | 30 | 0,03098 95087 65338 | 80 00123 | 26898 52095 52736 | 045 25891 91033 | 30 | |
| | 40 | 0,03103 80367 65461+ | 81 46170 | 21853 26203 61702+ | 029 52212 58084 | 20 | |
| | 50 | 08 65649 11631+ | 82 92445+ | 16823 73991 03618+ | 5013 85886 89368 | 10 | |
| **47** | 0 | 13 50932 04077 | 84 38950 | 11809 88104 14250+ | 4998 26869 10302+ | 0 | **13** |
| | 10 | 18 36216 43027 | 85 85683 | 06811 61235 03948 | 982 75113 81821 | 50 | |
| | 20 | 23 21502 28710 | 87 32645 | 32,01828 86121 22127 | 967 30576 00044+ | 40 | |
| | 30 | 28 06789 61355+ | 88 79836 | 31,96861 55545 22082+ | 951 93210 95953 | 30 | |
| | 40 | 32 92078 41191+ | 90 27255+ | 91909 62334 26129+ | 936 62974 35063 | 20 | |
| | 50 | 37 77368 68447 | 91 74904 | 86972 99359 91066+ | 921 39822 17108+ | 10 | |
| **48** | 0 | 42 62660 43351 | 93 22781 | 82051 59537 73958 | 906 23710 75722+ | 0 | **12** |
| | 10 | 47 47953 66132+ | 94 70887 | 77145 35826 98235+ | 891 14596 78127 | 50 | |
| | 20 | 52 33248 37019+ | 96 19222 | 72254 21230 20108+ | 876 12437 24820+ | 40 | |
| | 30 | 57 18544 56241+ | 97 67785+ | 67378 08792 95287+ | 861 17189 49274 | 30 | |
| | 40 | 62 03842 24027+ | 4 85299 16578 | 62516 91603 46013+ | 846 28811 17627 | 20 | |
| | 50 | 66 89141 40605+ | 4 85300 65599+ | 57670 62792 28386+ | 831 47260 28387+ | 10 | |
| **49** | 0 | 71 74442 06205 | 02 14849+ | 52839 15531 99999 | 816 72495 12136+ | 0 | **11** |
| | 10 | 76 59744 21054+ | 03 64328+ | 48022 43036 87862+ | 802 04474 31234 | 50 | |
| | 20 | 81 45047 85382+ | 05 14036 | 43220 38562 56628+ | 787 43156 79528+ | 40 | |
| | 30 | 86 30352 99419 | 06 63972+ | 38432 95405 77100 | 772 88501 82071 | 30 | |
| | 40 | 91 15659 63391+ | 08 14138 | 33660 06903 95029 | 758 40468 94829 | 20 | |
| | 50 | 0,03196 00967 77529+ | 4 85309 64532+ | 28901 66435 00200 | 4743 99018 04408+ | 10 | |
| **50** | 0 | 0,03200 86277 42062 | | 31,24157 67416 95791+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,03200 86277 42062 | 4 85311 15155+ | 31,24157 67416 95791+ | 4729 64109 27772 | 0 | **10** |
| | 10 | 05 71588 57217+ | 12 66007+ | 19428 03307 68019+ | 715 35703 11966+ | 50 | |
| | 20 | 10 56901 23224+ | 14 17088 | 14712 67604 56053+ | 701 13760 33849+ | 40 | |
| | 30 | 15 42215 40312+ | 15 68397+ | 10011 53844 22204 | 686 98241 99821 | 30 | |
| | 40 | 20 27531 08710+ | 17 19936 | 05324 55602 22383 | 672 89109 45555+ | 20 | |
| | 50 | 25 12848 28646+ | 18 71703+ | 31,00651 66492 76828 | 658 86324 35739 | 10 | |
| **51** | 0 | 29 98167 00350 | 20 23699+ | 30,95992 80168 41089 | 644 89848 63808+ | 0 | **9** |
| | 10 | 34 83487 24049+ | 21 75924+ | 91347 90319 77280+ | 630 99644 51693 | 50 | |
| | 20 | 39 68808 99974+ | 23 28378+ | 86716 90675 25587 | 617 15674 49558 | 40 | |
| | 30 | 44 54132 28353 | 24 81061+ | 82099 75000 76029 | 603 37901 35553 | 30 | |
| | 40 | 49 39457 09414+ | 26 33973 | 77496 37099 40476 | 589 66288 15561 | 20 | |
| | 50 | 54 24783 43387 | 27 87113+ | 72906 70811 24915 | 576 00798 22951 | 10 | |
| **52** | 0 | 59 10111 30500+ | 29 40483 | 68330 70013 01964+ | 562 41395 18333 | 0 | **8** |
| | 10 | 63 95440 70983+ | 30 94081 | 63768 28617 83631+ | 548 88042 89315+ | 50 | |
| | 20 | 68 80771 65064+ | 32 47908 | 59219 40574 94316 | 535 40705 50265+ | 40 | |
| | 30 | 73 66104 12972+ | 34 01964 | 54683 99869 44051 | 521 99347 42070+ | 30 | |
| | 40 | 78 51438 14936+ | 35 56249 | 50162 00522 01980 | 508 63933 31905 | 20 | |
| | 50 | 83 36773 71186 | 37 10763 | 45653 36588 70075+ | 495 34428 12995 | 10 | |
| **53** | 0 | 88 22110 81948+ | 38 65505+ | 41158 02160 57080 | 482 10797 04392 | 0 | **7** |
| | 10 | 93 07449 47454 | 40 20477 | 36675 91363 52688+ | 468 93005 50740 | 50 | |
| | 20 | 0,03297 92789 67931 | 41 75677+ | 32206 98358 01948+ | 455 81019 22054+ | 40 | |
| | 30 | 0,03302 78131 43608+ | 43 31107 | 27751 17338 79894 | 442 74804 13497+ | 30 | |
| | 40 | 07 63474 74715+ | 44 86765 | 23308 42534 66396 | 429 74326 45156 | 20 | |
| | 50 | 12 48819 61480+ | 46 42652 | 18878 68208 21240 | 416 79552 61824 | 10 | |
| **54** | 0 | 17 34166 04132+ | 47 98768+ | 14461 88655 59416 | 403 90449 32786 | 0 | **6** |
| | 10 | 22 19514 02901 | 49 55113+ | 10057 98206 26630 | 391 06983 51603+ | 50 | |
| | 20 | 27 04863 58014+ | 51 11687 | 05666 91222 75026+ | 378 29122 35901+ | 40 | |
| | 30 | 31 90214 69701+ | 52 68490 | 30,01288 62100 39125 | 365 56833 27160+ | 30 | |
| | 40 | 36 75567 38191+ | 54 25521+ | 29,96923 05267 11964+ | 352 90083 90506 | 20 | |
| | 50 | 41 60921 63713 | 55 82782+ | 92570 15183 21458+ | 340 28842 14507 | 10 | |
| **55** | 0 | 46 46277 46495+ | 57 40272 | 88229 86341 06951+ | 327 73076 10967+ | 0 | **5** |
| | 10 | 51 31634 86767+ | 58 97990+ | 83902 13264 95984 | 315 22754 14729+ | 50 | |
| | 20 | 56 16993 84758 | 60 55938 | 79586 90510 81254+ | 302 77844 83471+ | 40 | |
| | 30 | 61 02354 40696 | 62 14114 | 75284 12665 97783 | 290 38316 97509+ | 30 | |
| | 40 | 65 87716 54810 | 63 72519+ | 70993 74349 00273+ | 278 04139 59605+ | 20 | |
| | 50 | 70 73080 27329+ | 65 31154 | 66715 70209 40668 | 265 75281 94770+ | 10 | |
| **56** | 0 | 75 58445 58483+ | 66 90017 | 62449 94927 45897+ | 253 51713 50074 | 0 | **4** |
| | 10 | 80 43812 48500+ | 68 49109 | 58196 43213 95823+ | 241 33403 94455+ | 50 | |
| | 20 | 85 29180 97609+ | 70 08430 | 53955 09810 01368 | 229 20323 18536 | 40 | |
| | 30 | 90 14551 06039+ | 71 67980+ | 49725 89486 82832 | 217 12441 34430+ | 30 | |
| | 40 | 94 99922 74020 | 73 27759+ | 45508 77045 48401+ | 205 09728 75568 | 20 | |
| | 50 | 0,03399 85296 01779+ | 74 87767 | 41303 67316 72833+ | 193 12155 96504+ | 10 | |
| **57** | 0 | 0,03404 70670 89546+ | 76 48004 | 37110 55160 76329 | 181 19693 72746+ | 0 | **3** |
| | 10 | 09 56047 37550+ | 78 08470 | 32929 35467 03582+ | 169 32313 00571 | 50 | |
| | 20 | 14 41425 46020+ | 79 69165 | 28760 03154 03011+ | 157 49984 96848+ | 40 | |
| | 30 | 19 26805 15185+ | 81 30088+ | 24602 53169 06163+ | 145 72680 98868 | 30 | |
| | 40 | 24 12186 45274 | 82 91241+ | 20456 80488 07295 | 134 00372 64164+ | 20 | |
| | 50 | 28 97569 36515+ | 84 52623+ | 16322 80115 43130+ | 122 33031 70347 | 10 | |
| **58** | 0 | 33 82953 89139 | 86 14234 | 12200 47083 72783+ | 110 70630 14928 | 0 | **2** |
| | 10 | 38 68340 03373 | 87 76073+ | 08089 76453 57855+ | 099 13140 15155+ | 50 | |
| | 20 | 43 53727 79446+ | 89 38142+ | 29,03990 63313 42700 | 087 60534 07848 | 40 | |
| | 30 | 48 39117 17589 | 91 00440 | 28,99903 02779 34852 | 076 12784 49227+ | 30 | |
| | 40 | 53 24508 18029+ | 92 62967 | 95826 89994 85624+ | 064 69864 14757+ | 20 | |
| | 50 | 58 09900 80996 | 94 25722+ | 91762 20130 70867 | 053 31745 98980 | 10 | |
| **59** | 0 | 62 95295 06718+ | 95 88707 | 87708 88384 71887 | 041 98403 15357+ | 0 | **1** |
| | 10 | 67 80690 95426 | 97 51921 | 83666 89981 56529+ | 030 69808 96112+ | 50 | |
| | 20 | 72 66088 47347 | 4 85399 15363+ | 79636 20172 60417+ | 019 45936 92071+ | 40 | |
| | 30 | 77 51487 62710+ | 4 85400 79035+ | 75616 74235 68346 | 4008 26760 72509 | 30 | |
| | 40 | 82 36888 41746 | 02 42936 | 71608 47474 95836+ | 3997 12254 24994+ | 20 | |
| | 50 | 87 22290 84682 | 4 85404 07066 | 67611 35220 70842 | 3986 02391 55238+ | 10 | |
| **60** | 0 | 0,03492 07694 91747+ | | 28,63625 32829 15603+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 88°

# 2°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,03492 07694 91747+ | 4 85405 71424+ | 28,63625 32829 15603+ | 3974 97146 86943 | 0 | **60** |
| | 10 | 0,03496 93100 63172+ | 07 36012+ | 59650 35682 28660+ | 963 96494 61651+ | 50 | |
| | 20 | 0,03501 78507 99184+ | 09 00829 | 55686 39187 67009 | 953 00409 38600 | 40 | |
| | 30 | 06 63917 00013+ | 10 65875 | 51733 38778 28409 | 942 08865 94572+ | 30 | |
| | 40 | 11 49327 65888+ | 12 31149+ | 47791 29912 33836+ | 931 21839 23753 | 20 | |
| | 50 | 16 34739 97038+ | 13 96653+ | 43860 08073 10083+ | 920 39304 37584+ | 10 | |
| **1** | 0 | 21 20153 93692 | 15 62386+ | 39939 68768 72499 | 909 61236 64624+ | 0 | **59** |
| | 10 | 26 05569 56078+ | 17 28348+ | 36030 07532 07874+ | 898 87611 50405 | 50 | |
| | 20 | 30 90986 84427 | 18 94539+ | 32131 19920 57470 | 888 18404 57292+ | 40 | |
| | 30 | 35 76405 78966+ | 20 60959+ | 28243 01516 00177+ | 877 53591 64349 | 30 | |
| | 40 | 40 61826 39926 | 22 27608+ | 24365 47924 35828+ | 866 93148 67196+ | 20 | |
| | 50 | 45 47248 67534+ | 23 94486+ | 20498 54775 68632 | 856 37051 77880 | 10 | |
| **2** | 0 | 50 32672 62021 | 25 61594 | 16642 17723 90751+ | 845 85277 24733+ | 0 | **58** |
| | 10 | 55 18098 23615 | 27 28930 | 12796 32446 66018 | 835 37801 52246+ | 50 | |
| | 20 | 60 03525 52545 | 28 96495+ | 08960 94645 13772 | 824 94601 20932 | 40 | |
| | 30 | 64 88954 49040+ | 30 64290 | 05136 00043 92840 | 814 55653 07197 | 30 | |
| | 40 | 69 74385 13330+ | 32 32313 | 28,01321 44390 85643 | 804 20934 03212+ | 20 | |
| | 50 | 74 59817 45643+ | 34 00565+ | 27,97517 23456 82430+ | 793 90421 16784+ | 10 | |
| **3** | 0 | 79 45251 46209+ | 35 69047+ | 93723 33035 65645+ | 783 64091 71228 | 0 | **57** |
| | 10 | 84 30687 15257 | 37 37758 | 89939 68943 94417+ | 773 41923 05241+ | 50 | |
| | 20 | 89 16124 53014+ | 39 06697+ | 86166 27020 89176 | 763 23892 72781 | 40 | |
| | 30 | 94 01563 59712+ | 40 75866+ | 82403 03128 16394+ | 753 09978 42938+ | 30 | |
| | 40 | 0,03598 87004 35579 | 42 45264+ | 78649 93149 73456 | 743 00157 99818 | 20 | |
| | 50 | 0,03603 72446 80843+ | 44 14891+ | 74906 92991 73638 | 732 94409 42416 | 10 | |
| **4** | 0 | 08 57890 95735 | 45 84747+ | 71173 98582 31221+ | 722 92710 84501 | 0 | **56** |
| | 10 | 13 43336 80482+ | 47 54832+ | 67451 05871 46721 | 712 95040 54493 | 50 | |
| | 20 | 18 28784 35315 | 49 25147 | 63738 10830 92228 | 703 01376 95349 | 40 | |
| | 30 | 23 14233 60462 | 50 95690+ | 60035 09453 96879+ | 693 11698 64444 | 30 | |
| | 40 | 27 99684 56152+ | 52 66463 | 56341 97755 32435+ | 683 25984 33456+ | 20 | |
| | 50 | 32 85137 22615 | 54 37464+ | 52658 71770 98979 | 673 44212 88253+ | 10 | |
| **5** | 0 | 37 70591 60079+ | 56 08695 | 48985 27558 10725+ | 663 66363 28778 | 0 | **55** |
| | 10 | 42 56047 68774+ | 57 80155 | 45321 61194 81947+ | 653 92414 68935+ | 50 | |
| | 20 | 47 41505 48929+ | 59 51844 | 41667 68780 13012 | 644 22346 36484 | 40 | |
| | 30 | 52 26965 00773+ | 61 23762 | 38023 46433 76528 | 634 56137 72922 | 30 | |
| | 40 | 57 12426 24535 | 62 95909 | 34388 90296 03606 | 624 93768 33382+ | 20 | |
| | 50 | 61 97889 20444+ | 64 68285+ | 30763 96527 70223+ | 615 35217 86520+ | 10 | |
| **6** | 0 | 66 83353 88729+ | 66 40891 | 27148 61309 83703 | 605 80466 14409+ | 0 | **54** |
| | 10 | 71 68820 29620+ | 68 13725+ | 23542 80843 69293+ | 596 29493 12433+ | 50 | |
| | 20 | 76 54288 43346 | 69 86789 | 19946 51350 56860 | 586 82278 89182+ | 40 | |
| | 30 | 81 39758 30135 | 71 60082 | 16359 69071 67677+ | 577 38803 66347 | 30 | |
| | 40 | 86 25229 90217 | 73 33604 | 12782 30268 01330+ | 567 99047 78616 | 20 | |
| | 50 | 91 10703 23821 | 75 07355 | 09214 31220 22714+ | 558 62991 73574+ | 10 | |
| **7** | 0 | 0,03695 96178 31176 | 76 81335+ | 05655 68228 49140 | 549 30616 11602 | 0 | **53** |
| | 10 | 0,03700 81655 12511+ | 78 55545 | 27,02106 37612 37537+ | 540 01901 65771+ | 50 | |
| | 20 | 05 67133 68056 | 80 29983+ | 26,98566 35710 71766+ | 530 76829 21749+ | 40 | |
| | 30 | 10 52613 98039+ | 82 04651 | 95035 58881 50017 | 521 55379 77699+ | 30 | |
| | 40 | 15 38096 02690+ | 83 79548 | 91514 03501 72317 | 512 37534 44183 | 20 | |
| | 50 | 20 23579 82239 | 85 54674 | 88001 65967 28134+ | 503 23274 44060+ | 10 | |
| **8** | 0 | 25 09065 36913 | 87 30029+ | 84498 42692 84073+ | 494 12581 12400 | 0 | **52** |
| | 10 | 29 94552 66942+ | 89 05614 | 81004 30111 71673+ | 485 05435 96378 | 50 | |
| | 20 | 34 80041 72556+ | 90 81427+ | 77519 24675 75295+ | 476 01820 55187+ | 40 | |
| | 30 | 39 65532 53984 | 92 57470+ | 74043 22855 20107+ | 467 01716 59943 | 30 | |
| | 40 | 44 51025 11454 | 94 33742+ | 70576 21138 60164+ | 458 05105 93589+ | 20 | |
| | 50 | 49 36519 45196+ | 96 10243+ | 67118 16032 66575+ | 449 11970 50809+ | 10 | |
| **9** | 0 | 54 22015 55439+ | 97 86974 | 63669 04062 15766 | 440 22292 37933 | 0 | **51** |
| | 10 | 59 07513 42413+ | 4 85499 63933+ | 60228 81769 77832+ | 431 36053 72848 | 50 | |
| | 20 | 63 93013 06347 | 4 85501 41122 | 56797 45716 04985 | 422 53236 84908+ | 40 | |
| | 30 | 68 78514 47469 | 03 18540 | 53374 92479 20076+ | 413 73824 14849+ | 30 | |
| | 40 | 73 64017 66009 | 04 96187 | 49961 18655 05227 | 404 97798 14697+ | 20 | |
| | 50 | 78 49522 62196 | 4 85506 74063+ | 46556 20856 90529 | 3396 25141 47684 | 10 | |
| **10** | 0 | 0,03783 35029 36259+ | | 26,43159 95715 42845+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

# 2°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,03783 35029 36259+ | 4 85508 52169 | 26,43159 95715 42845+ | 3387 55836 88158+ | 0 | **50** |
| | 10 | 88 20537 88428+ | 10 30504 | 39772 39878 54687 | 78 89867 21505+ | 50 | |
| | 20 | 93 06048 18932+ | 12 09068 | 36393 50011 33181+ | 70 27215 44057 | 40 | |
| | 30 | 0,03797 91560 28000 | 13 87861 | 33023 22795 89124+ | 61 67864 63012 | 30 | |
| | 40 | 0,03802 77074 15861 | 15 66883+ | 29661 54931 26112+ | 53 11797 96350 | 20 | |
| | 50 | 07 62589 82744+ | 17 46135 | 26308 43133 29762+ | 44 58998 72751 | 10 | |
| **11** | 0 | 12 48107 28879+ | 19 25616 | 22963 84134 57012 | 36 09450 31513+ | 0 | **49** |
| | 10 | 17 33626 54495+ | 21 05326 | 19627 74684 25498 | 27 63136 22474 | 50 | |
| | 20 | 22 19147 59822 | 22 85265+ | 16300 11548 03024+ | 19 20040 05924+ | 40 | |
| | 30 | 27 04670 45087+ | 24 65434 | 12980 91507 97100 | 10 80145 52536+ | 30 | |
| | 40 | 31 90195 10521+ | 26 45832 | 09670 11362 44563+ | 3302 43436 43280+ | 20 | |
| | 50 | 36 75721 56353+ | 28 26459 | 06367 67926 01283 | 3294 09896 69347+ | 10 | |
| **12** | 0 | 41 61249 82812+ | 30 07315+ | 26,03073 58029 31935+ | 85 79510 32072+ | 0 | **48** |
| | 10 | 46 46779 90127+ | 31 88401 | 25,99787 78518 99863 | 77 52261 42858 | 50 | |
| | 20 | 51 32311 78528+ | 33 69716 | 96510 26257 57005 | 69 28134 23097+ | 40 | |
| | 30 | 56 17845 48244+ | 35 51260 | 93240 98123 33907+ | 61 07113 04100+ | 30 | |
| | 40 | 61 03380 99504+ | 37 33033+ | 89979 91010 29807 | 52 89182 27017 | 20 | |
| | 50 | 65 88918 32537+ | 39 15036 | 86727 01828 02790 | 44 74326 42765+ | 10 | |
| **13** | 0 | 70 74457 47573+ | 40 97268 | 83482 27501 60024+ | 36 62530 11957+ | 0 | **47** |
| | 10 | 75 59998 44841+ | 42 79729 | 80245 64971 48067 | 28 53778 04825+ | 50 | |
| | 20 | 80 45541 24570+ | 44 62419+ | 77017 11193 43241+ | 20 48055 01151+ | 40 | |
| | 30 | 85 31085 86990 | 46 45339+ | 73796 63138 42090 | 12 45345 90195+ | 30 | |
| | 40 | 90 16632 32329+ | 48 28488+ | 70584 17792 51894 | 3204 45635 70624 | 20 | |
| | 50 | 95 02180 60817+ | 50 11866+ | 67379 72156 81270 | 3196 48909 50440 | 10 | |
| **14** | 0 | 0,03899 87730 72684+ | 51 95474+ | 64183 23247 30830 | 88 55152 46913+ | 0 | **46** |
| | 10 | 0,03904 73282 68158+ | 53 79311 | 60994 68094 83916+ | 80 64349 86513 | 50 | |
| | 20 | 09 58836 47470 | 55 63377+ | 57814 03744 97403+ | 72 76487 04836+ | 40 | |
| | 30 | 14 44392 10847 | 57 47673 | 54641 27257 92567 | 64 91549 46543+ | 30 | |
| | 40 | 19 29949 58520 | 59 32197+ | 51476 35708 46023+ | 57 09522 65289 | 20 | |
| | 50 | 24 15508 90718 | 61 16952 | 48319 26185 80734+ | 49 30392 23655+ | 10 | |
| **15** | 0 | 29 01070 07669+ | 63 01935+ | 45169 95793 57079 | 41 54143 93087+ | 0 | **45** |
| | 10 | 33 86633 09605 | 64 87148 | 42028 41649 63991+ | 33 80763 53826 | 50 | |
| | 20 | 38 72197 96753 | 66 72590 | 38894 60886 10166 | 26 10236 94843+ | 40 | |
| | 30 | 43 57764 69343 | 68 58261+ | 35768 50649 15322 | 18 42550 13781 | 30 | |
| | 40 | 48 43333 27604+ | 70 44162 | 32650 08099 01541 | 10 77689 16881 | 20 | |
| | 50 | 53 28903 71767 | 72 30292+ | 29539 30409 84660 | 3103 15640 18927+ | 10 | |
| **16** | 0 | 58 14476 02059 | 74 16651+ | 26436 14769 65732+ | 3095 56389 43181+ | 0 | **44** |
| | 10 | 63 00050 18711 | 76 03240+ | 23340 58380 22551+ | 87 99923 21319 | 50 | |
| | 20 | 67 85626 21951 | 77 90058+ | 20252 58457 01232+ | 80 46227 93370 | 40 | |
| | 30 | 72 71204 12009+ | 79 77106 | 17172 12229 07862+ | 72 95290 07657+ | 30 | |
| | 40 | 77 56783 89115+ | 81 64382+ | 14099 16939 00204+ | 65 47096 20735+ | 20 | |
| | 50 | 82 42365 53498 | 83 51888+ | 11033 69842 79469+ | 58 01632 97330 | 10 | |
| **17** | 0 | 87 27949 05387 | 85 39624 | 07975 68209 82139+ | 50 58887 10279+ | 0 | **43** |
| | 10 | 92 13534 45011 | 87 27589 | 04925 09322 71860 | 43 18845 40475+ | 50 | |
| | 20 | 0,03996 99121 72600 | 89 15783 | 25,01881 90477 31384+ | 35 81494 76804+ | 40 | |
| | 30 | 0,04001 84710 88383+ | 91 04207 | 24,98846 08982 54580 | 28 46822 16088+ | 30 | |
| | 40 | 06 70301 92590 | 92 92859+ | 95817 62160 38491+ | 21 14814 63030 | 20 | |
| | 50 | 11 55894 85450 | 94 81742 | 92796 47345 75461+ | 13 85459 30151+ | 10 | |
| **18** | 0 | 16 41489 67192 | 96 70853+ | 89782 61886 45310 | 3006 58743 37742+ | 0 | **42** |
| | 10 | 21 27086 38045+ | 4 85598 60194+ | 86776 03143 07567+ | 2999 34654 13800+ | 50 | |
| | 20 | 26 12684 98240 | 4 85600 49765 | 83776 68488 93767 | 92 13178 93976+ | 40 | |
| | 30 | 30 98285 48005+ | 02 39565 | 80784 55309 99790+ | 84 94305 21520+ | 30 | |
| | 40 | 35 83887 87570 | 04 29594 | 77799 61004 78270 | 77 78020 47225+ | 20 | |
| | 50 | 40 69492 17164+ | 06 19852+ | 74821 82984 31044+ | 70 64312 29373 | 10 | |
| **19** | 0 | 45 55098 37017 | 08 10340+ | 71851 18672 01671+ | 63 53168 33682 | 0 | **41** |
| | 10 | 50 40706 47358 | 10 01058 | 68887 65503 67989+ | 56 44576 33251 | 50 | |
| | 20 | 55 26316 48416 | 11 92005 | 65931 20927 34739 | 49 38524 08509+ | 40 | |
| | 30 | 60 11928 40421 | 13 83181 | 62981 82403 26229 | 42 34999 47163+ | 30 | |
| | 40 | 64 97542 23602 | 15 74587 | 60039 47403 79066 | 35 33990 44142+ | 20 | |
| | 50 | 69 83157 98189 | 4 85617 66222 | 57104 13413 34923 | 2928 35485 01550+ | 10 | |
| **20** | 0 | 0,04074 68775 64410+ | | 24,54175 77928 33373 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,04074 68775 64410+ | 4 85619 58086+ | 24,54175 77928 33373 | 2921 39471 28612 | 0 | **40** |
| | 10 | 79 54395 22497 | 21 50180 | 51254 38457 04761 | 14 45937 41623+ | 50 | |
| | 20 | 84 40016 72677 | 23 42503+ | 48339 92519 63137+ | 07 54871 63902 | 40 | |
| | 30 | 89 25640 15180+ | 25 35056 | 45432 37647 99235 | 2900 66262 25736 | 30 | |
| | 40 | 94 11265 50236+ | 27 27838+ | 42531 71385 73499+ | 2893 80097 64334 | 20 | |
| | 50 | 0,04098 96892 78075 | 29 20850 | 39637 91288 09165+ | 86 96366 23777+ | 10 | |
| **21** | 0 | 0,04103 82521 98925 | 31 14091 | 36750 94921 85388 | 80 15056 54972+ | 0 | **39** |
| | 10 | 08 68153 13016 | 33 07561+ | 33870 79865 30415+ | 73 36157 15598+ | 50 | |
| | 20 | 13 53786 20577+ | 35 01261+ | 30997 43708 14816+ | 66 59656 70064+ | 40 | |
| | 30 | 18 39421 21839 | 36 95191 | 28130 84051 44752+ | 59 85543 89457+ | 30 | |
| | 40 | 23 25058 17029+ | 38 89349+ | 25270 98507 55295 | 53 13807 51498+ | 20 | |
| | 50 | 28 10697 06379+ | 40 83738 | 22417 84700 03796+ | 46 44436 40494+ | 10 | |
| **22** | 0 | 32 96337 90117+ | 42 78356 | 19571 40263 63302 | 39 77419 47292 | 0 | **38** |
| | 10 | 37 81980 68473 | 44 73203 | 16731 62844 16010 | 33 12745 69232 | 50 | |
| | 20 | 42 67625 41676 | 46 68279+ | 13898 50098 46778 | 26 50404 10103 | 40 | |
| | 30 | 47 53272 09955+ | 48 63586 | 11071 99694 36675+ | 19 90383 80097 | 30 | |
| | 40 | 52 38920 73541+ | 50 59121+ | 08252 09310 56578+ | 13 32673 95764+ | 20 | |
| | 50 | 57 24571 32663 | 52 54886+ | 05438 76636 60814 | 06 77263 79969 | 10 | |
| **23** | 0 | 62 10223 87550 | 54 50881+ | 24,02631 99372 80845 | 2800 24142 61845 | 0 | **37** |
| | 10 | 66 95878 38431 | 56 47105+ | 23,99831 75230 19000 | 2793 73299 76752 | 50 | |
| | 20 | 71 81534 85536+ | 58 43559 | 97038 01930 42248 | 87 24724 66232 | 40 | |
| | 30 | 76 67193 29095+ | 60 40242 | 94250 77205 76016 | 80 78406 77967+ | 30 | |
| | 40 | 81 52853 69337+ | 62 37154+ | 91469 98798 98049 | 74 34335 65736+ | 20 | |
| | 50 | 86 38516 06492+ | 64 34297 | 88695 64463 32312+ | 67 92500 89372+ | 10 | |
| **24** | 0 | 91 24180 40789 | 66 31668+ | 85927 71962 42940 | 61 52892 14721+ | 0 | **36** |
| | 10 | 0,04196 09846 72457+ | 68 29269+ | 83166 19070 28218+ | 55 15499 13600 | 50 | |
| | 20 | 0,04200 95515 01727 | 70 27100 | 80411 03571 14618+ | 48 80311 63754 | 40 | |
| | 30 | 05 81185 28827 | 72 25160+ | 77662 23259 50864+ | 42 47319 48818+ | 30 | |
| | 40 | 10 66857 53987+ | 74 23450 | 74919 75940 02045+ | 36 16512 58276+ | 20 | |
| | 50 | 15 52531 77437+ | 76 21969 | 72183 59427 43769+ | 29 87880 87417 | 10 | |
| **25** | 0 | 20 38207 99406+ | 78 20718 | 69453 71546 56352 | 23 61414 37299 | 0 | **35** |
| | 10 | 25 23886 20124+ | 80 19696 | 66730 10132 19053 | 17 37103 14708 | 50 | |
| | 20 | 30 09566 39821 | 82 18904 | 64012 73029 04345 | 11 14937 32117+ | 40 | |
| | 30 | 34 95248 58725 | 84 18341+ | 61301 58091 72227+ | 2704 94907 07651+ | 30 | |
| | 40 | 39 80932 77066 | 86 18008 | 58596 63184 64576 | 2698 77002 65044+ | 20 | |
| | 50 | 44 66618 95074+ | 88 17904+ | 55897 86181 99531+ | 92 61214 33603 | 10 | |
| **26** | 0 | 49 52307 12979 | 90 18030+ | 53205 24967 65928 | 86 47532 48168 | 0 | **34** |
| | 10 | 54 37997 31009+ | 92 18386 | 50518 77435 17760 | 80 35947 49076+ | 50 | |
| | 20 | 59 23689 49395+ | 94 18971+ | 47838 41487 68683+ | 74 26449 82124+ | 40 | |
| | 30 | 64 09383 68367 | 96 19786 | 45164 15037 86558+ | 68 19029 98529+ | 30 | |
| | 40 | 68 95079 88153 | 4 85698 20830 | 42495 96007 88029 | 62 13678 54894+ | 20 | |
| | 50 | 73 80778 08983 | 4 85700 22104 | 39833 82329 33134+ | 56 10386 13169 | 10 | |
| **27** | 0 | 78 66478 31087 | 02 23607+ | 37177 71943 19966 | 50 09143 40615 | 0 | **33** |
| | 10 | 83 52180 54694+ | 04 25340+ | 34527 62799 79350+ | 44 09941 09771 | 50 | |
| | 20 | 88 37884 80034+ | 06 27303 | 31883 52858 69579+ | 38 12769 98414+ | 40 | |
| | 30 | 93 23591 07337+ | 08 29495 | 29245 40088 71165 | 32 17620 89527 | 30 | |
| | 40 | 0,04298 09299 36832+ | 10 31916+ | 26613 22467 81638 | 26 24484 71260+ | 20 | |
| | 50 | 0,04302 95009 68749 | 12 34568 | 23986 97983 10377+ | 20 33352 36900 | 10 | |
| **28** | 0 | 07 80722 03317 | 14 37449 | 21366 64630 73477+ | 14 44214 84831 | 0 | **32** |
| | 10 | 12 66436 40766 | 16 40559+ | 18752 20415 88646+ | 08 57063 18504 | 50 | |
| | 20 | 17 52152 81325+ | 18 43899+ | 16143 63352 70143 | 2602 71888 46400 | 40 | |
| | 30 | 22 37871 25225 | 20 47469 | 13540 91464 23742+ | 2596 88681 81999 | 30 | |
| | 40 | 27 23591 72694 | 22 51268+ | 10944 02782 41744 | 91 07434 43742+ | 20 | |
| | 50 | 32 09314 23962+ | 24 55297+ | 08352 95347 98001+ | 85 28137 55004 | 10 | |
| **29** | 0 | 36 95038 79260 | 26 59556 | 05767 67210 42997+ | 79 50782 44053+ | 0 | **31** |
| | 10 | 41 80765 38816 | 28 64044+ | 03188 16427 98944 | 73 75360 44027 | 50 | |
| | 20 | 46 66494 02860+ | 30 68762 | 23,00614 41067 54917 | 68 01862 92890+ | 40 | |
| | 30 | 51 52224 71622+ | 32 73709+ | 22,98046 39204 62027 | 62 30281 33410+ | 30 | |
| | 40 | 56 37957 45332 | 34 78886+ | 95484 08923 28616+ | 56 60607 13122+ | 20 | |
| | 50 | 61 23692 24218+ | 4 85736 84293+ | 92927 48316 15494 | 2550 92831 84295+ | 10 | |
| **30** | 0 | 0,04366 09429 08512 | | 22,90376 55484 31198 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,04366 09429 08512 | 4 85738 89929+ | 22,90376 55484 31198 | 2545 26947 03905+ | 0 | **30** |
| | 10 | 70 95167 98442 | 40 95796 | 87831 28537 27292+ | 39 62944 33599+ | 50 | |
| | 20 | 75 80908 94237+ | 43 01891+ | 85291 65592 93693 | 34 00815 39667+ | 40 | |
| | 30 | 80 66651 96129 | 45 08217 | 82757 64777 54025+ | 28 40551 93010+ | 30 | |
| | 40 | 85 52397 04345+ | 47 14771+ | 80229 24225 61015 | 22 82145 69110+ | 20 | |
| | 50 | 90 38144 19117+ | 49 21556+ | 77706 42079 91904 | 17 25588 47999+ | 10 | |
| **31** | 0 | 0,04395 23893 40674 | 51 28570+ | 75189 16491 43904+ | 11 70872 14229+ | 0 | **29** |
| | 10 | 0,04400 09644 69244+ | 53 35814+ | 72677 45619 29675 | 06 17988 56843+ | 50 | |
| | 20 | 04 95398 05059+ | 55 43288+ | 70171 27630 72832 | 2500 66929 69344 | 40 | |
| | 30 | 09 81153 48347+ | 57 50991+ | 67670 60701 03487+ | 2495 17687 49666+ | 30 | |
| | 40 | 14 66910 99339+ | 59 58924+ | 65175 43013 53821 | 89 70254 00147+ | 20 | |
| | 50 | 19 52670 58264 | 61 67087+ | 62685 72759 53673+ | 84 24621 27497 | 10 | |
| **32** | 0 | 24 38432 25351+ | 63 75480 | 60201 48138 26176+ | 78 80781 42769 | 0 | **28** |
| | 10 | 29 24196 00831+ | 65 84102 | 57722 67356 83407 | 73 38726 61334 | 50 | |
| | 20 | 34 09961 84933+ | 67 92954 | 55249 28630 22073 | 67 98449 02849+ | 40 | |
| | 30 | 38 95729 77887 | 70 02035 | 52781 30181 19223+ | 62 59940 91233+ | 30 | |
| | 40 | 43 81499 79922+ | 72 11346+ | 50318 70240 27990 | 57 23194 54634 | 20 | |
| | 50 | 48 67271 91269 | 74 20887+ | 47861 47045 73356+ | 51 88202 25404 | 10 | |
| **33** | 0 | 53 53046 12156 | 76 30658 | 45409 58843 47952 | 46 54956 40074 | 0 | **27** |
| | 10 | 58 38822 42814 | 78 40658+ | 42963 03887 07878 | 41 23449 39322 | 50 | |
| | 20 | 63 24600 83472+ | 80 50888+ | 40521 80437 68556+ | 35 93673 67949 | 40 | |
| | 30 | 68 10381 34361 | 82 61348 | 38085 86764 00607+ | 30 65621 74851+ | 30 | |
| | 40 | 72 96163 95709 | 84 72037+ | 35655 21142 25755+ | 25 39286 12995 | 20 | |
| | 50 | 77 81948 67747 | 86 82957 | 33229 81856 12760+ | 20 14659 39387+ | 10 | |
| **34** | 0 | 82 67735 50704 | 88 94106 | 30809 67196 73373 | 14 91734 15052 | 0 | **26** |
| | 10 | 87 53524 44810 | 91 05484+ | 28394 75462 58321+ | 09 70503 05003 | 50 | |
| | 20 | 92 39315 50294+ | 93 17093 | 25985 04959 53318+ | 2404 50958 78218+ | 40 | |
| | 30 | 0,04497 25108 67388 | 95 28931+ | 23580 54000 75100 | 2399 33094 07616+ | 30 | |
| | 40 | 0,04502 10903 96319+ | 97 40999+ | 21181 20906 67483+ | 94 16901 70026 | 20 | |
| | 50 | 06 96701 37319 | 4 85799 53297 | 18787 04004 97457+ | 89 02374 46166 | 10 | |
| **35** | 0 | 11 82500 90616 | 4 85801 65824+ | 16398 01630 51291+ | 83 89505 20617+ | 0 | **25** |
| | 10 | 16 68302 56440+ | 03 78582 | 14014 12125 30674 | 78 78286 81800+ | 50 | |
| | 20 | 21 54106 35022+ | 05 91569 | 11635 33838 48873+ | 73 68712 21946+ | 40 | |
| | 30 | 26 39912 26591+ | 08 04786 | 09261 65126 26927 | 68 60774 37078+ | 30 | |
| | 40 | 31 25720 31377+ | 10 18232+ | 06893 04351 89848+ | 63 54466 26981+ | 20 | |
| | 50 | 36 11530 49610 | 12 31909 | 04529 49885 62867 | 58 49780 95183 | 10 | |
| **36** | 0 | 40 97342 81519 | 14 45815 | 22,02171 00104 67684 | 53 46711 48926 | 0 | **24** |
| | 10 | 45 83157 27334 | 16 59951 | 21,99817 53393 18758+ | 48 45250 99146 | 50 | |
| | 20 | 50 68973 87284+ | 18 74316+ | 97469 08142 19612+ | 43 45392 60448+ | 40 | |
| | 30 | 55 54792 61601+ | 20 88912 | 95125 62749 59164 | 38 47129 51084+ | 30 | |
| | 40 | 60 40613 50513+ | 23 03737+ | 92787 15620 08079+ | 33 50454 92926+ | 20 | |
| | 50 | 65 26436 54251 | 25 18792+ | 90453 65165 15153 | 28 55362 11447+ | 10 | |
| **37** | 0 | 70 12261 73044 | 27 34077+ | 88125 09803 03705+ | 23 61844 35697 | 0 | **23** |
| | 10 | 74 98089 07121+ | 29 49592+ | 85801 47958 68008+ | 18 69894 98278 | 50 | |
| | 20 | 79 83918 56714 | 31 65337 | 83482 78063 69730+ | 13 79507 35323+ | 40 | |
| | 30 | 84 69750 22051+ | 33 81311+ | 81168 98556 34407 | 08 90674 86477+ | 30 | |
| | 40 | 89 55584 03363 | 35 97516 | 78860 07881 47929+ | 2304 03390 94869+ | 20 | |
| | 50 | 94 41420 00878+ | 38 13950 | 76556 04490 53060 | 2299 17649 07092+ | 10 | |
| **38** | 0 | 0,04599 27258 14828+ | 40 30614 | 74256 86841 45967+ | 94 33442 73184 | 0 | **22** |
| | 10 | 0,04604 13098 45442 | 42 47507+ | 71962 53398 72783+ | 89 50765 46601+ | 50 | |
| | 20 | 08 98940 92949+ | 44 64631 | 69673 02633 26182 | 84 69610 84201 | 40 | |
| | 30 | 13 84785 57581 | 46 81984+ | 67388 33022 41980+ | 79 89972 46218 | 30 | |
| | 40 | 18 70632 39565+ | 48 99568 | 65108 43049 95762+ | 75 11843 96243 | 20 | |
| | 50 | 23 56481 39133 | 51 17381 | 62833 31205 99519+ | 70 35219 01203 | 10 | |
| **39** | 0 | 28 42332 56514 | 53 35424 | 60562 95986 98317 | 65 60091 31339 | 0 | **21** |
| | 10 | 33 28185 91938 | 55 53697 | 58297 35895 66978 | 60 86454 60185+ | 50 | |
| | 20 | 38 14041 45635 | 57 72199+ | 56036 49441 06792+ | 56 14302 64551+ | 40 | |
| | 30 | 42 99899 17834+ | 59 90932 | 53780 35138 42241 | 51 43629 24496+ | 30 | |
| | 40 | 47 85759 08767 | 62 09894+ | 51528 91509 17744+ | 46 74428 23314 | 20 | |
| | 50 | 52 71621 18661+ | 4 85864 29087 | 49282 17080 94430+ | 2242 06693 47508+ | 10 | |
| **40** | 0 | 0,04657 57485 47748+ | | 21,47040 10387 46922 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,04657 57485 47748+ | 4 85866 48509+ | 21,47040 10387 46922 | 2237 40418 86776+ | 0 | **20** |
| | 10 | 62 43351 96258 | 68 68161+ | 44802 69968 60146 | 32 75598 33986+ | 50 | |
| | 20 | 67 29220 64419+ | 70 88043+ | 42569 94370 26159 | 28 12225 85160+ | 40 | |
| | 30 | 72 15091 52463 | 73 08155+ | 40341 82144 40998+ | 23 50295 39452 | 30 | |
| | 40 | 77 00964 60618+ | 75 28497+ | 38118 31849 01546+ | 18 89800 99127 | 20 | |
| | 50 | 81 86839 89116 | 77 49069 | 35899 42048 02419+ | 14 30736 69547+ | 10 | |
| **41** | 0 | 86 72717 38185 | 79 69870+ | 33685 11311 32872 | 09 73096 59148+ | 0 | **19** |
| | 10 | 91 58597 08055+ | 81 90902 | 31475 38214 73723+ | 05 16874 79420+ | 50 | |
| | 20 | 0,04696 44478 98957+ | 84 12163+ | 29270 21339 94303 | 2200 62065 44892 | 40 | |
| | 30 | 0,04701 30363 11121+ | 86 33655 | 27069 59274 49410+ | 2196 08662 73108+ | 30 | |
| | 40 | 06 16249 44776+ | 88 55376+ | 24873 50611 76302 | 91 56660 84614+ | 20 | |
| | 50 | 11 02138 00153 | 90 77327+ | 22681 93950 91687+ | 87 06054 02936 | 10 | |
| **42** | 0 | 15 88028 77480+ | 92 99509 | 20494 87896 88751+ | 82 56836 54561 | 0 | **18** |
| | 10 | 20 73921 76989+ | 95 21920 | 18312 31060 34190+ | 78 09002 68921 | 50 | |
| | 20 | 25 59816 98909+ | 97 44561 | 16134 22057 65269+ | 73 62546 78374+ | 40 | |
| | 30 | 30 45714 43470+ | 4 85899 67432 | 13960 59510 86895 | 69 17463 18188 | 30 | |
| | 40 | 35 31614 10902+ | 4 85901 90533 | 11791 42047 68707 | 64 73746 26517 | 20 | |
| | 50 | 40 17516 01435+ | 04 13864 | 09626 68301 42190 | 60 31390 44390+ | 10 | |
| **43** | 0 | 45 03420 15299+ | 06 37425 | 07466 36910 97800 | 55 90390 15691+ | 0 | **17** |
| | 10 | 49 89326 52724 | 08 61215+ | 05310 46520 82108+ | 51 50739 87141+ | 50 | |
| | 20 | 54 75235 13939+ | 10 85236+ | 03158 95780 94967 | 47 12434 08280+ | 40 | |
| | 30 | 59 61145 99176 | 13 09487 | 21,01011 83346 86686+ | 42 75467 31452+ | 30 | |
| | 40 | 64 47059 08663+ | 15 33968 | 20,98869 07879 55234 | 38 39834 11786+ | 20 | |
| | 50 | 69 32974 42631+ | 17 58678+ | 96730 68045 43447+ | 34 05529 07180 | 10 | |
| **44** | 0 | 74 18892 01310 | 19 83619+ | 94596 62516 36267 | 29 72546 78283 | 0 | **16** |
| | 10 | 79 04811 84929+ | 22 08790 | 92466 89969 57984 | 25 40881 88480 | 50 | |
| | 20 | 83 90733 93720 | 24 34191 | 90341 49087 69504 | 21 10529 03874 | 40 | |
| | 30 | 88 76658 27910+ | 26 59821+ | 88220 38558 65630 | 16 81482 93269+ | 30 | |
| | 40 | 93 62584 87732 | 28 85682+ | 86103 57075 72360+ | 12 53738 28157+ | 20 | |
| | 50 | 0,04798 48513 73414+ | 31 11773 | 83991 03337 44203 | 08 27289 82697+ | 10 | |
| **45** | 0 | 0,04803 34444 85187+ | 33 38093+ | 81882 76047 61505 | 2104 02132 33702+ | 0 | **15** |
| | 10 | 08 20378 23281 | 35 64644+ | 79778 73915 27803 | 2099 78260 60621+ | 50 | |
| | 20 | 13 06313 87925+ | 37 91425 | 77678 95654 67181+ | 95 55669 45526+ | 40 | |
| | 30 | 17 92251 79351 | 40 18436 | 75583 39985 21655 | 91 34353 73093 | 30 | |
| | 40 | 22 78191 97787 | 42 45677 | 73492 05631 48562 | 87 14308 30586+ | 20 | |
| | 50 | 27 64134 43463+ | 44 73147+ | 71404 91323 17975+ | 82 95528 07847+ | 10 | |
| **46** | 0 | 32 50079 16611 | 47 00848+ | 69321 95795 10128 | 78 78007 97273+ | 0 | **14** |
| | 10 | 37 36026 17459+ | 49 28779+ | 67243 17787 12854+ | 74 61742 93806+ | 50 | |
| | 20 | 42 21975 46239 | 51 56940+ | 65168 56044 19048 | 70 46727 94915 | 40 | |
| | 30 | 47 07927 03179+ | 53 85331+ | 63098 09316 24133+ | 66 32958 00580+ | 30 | |
| | 40 | 51 93880 88510+ | 56 13952+ | 61031 76358 23552+ | 62 20428 13283+ | 20 | |
| | 50 | 56 79837 02463 | 58 42803+ | 58969 55930 10269+ | 58 09133 37984+ | 10 | |
| **47** | 0 | 61 65795 45266+ | 60 71884+ | 56911 46796 72285 | 53 99068 82114+ | 0 | **13** |
| | 10 | 66 51756 17151+ | 63 01196 | 54857 47727 90170 | 49 90229 55556 | 50 | |
| | 20 | 71 37719 18347+ | 65 30737+ | 52807 57498 34614+ | 45 82610 70629+ | 40 | |
| | 30 | 76 23684 49084+ | 67 60508+ | 50761 74887 63984+ | 41 76207 42081 | 30 | |
| | 40 | 81 09652 09593 | 69 90510 | 48719 98680 21903+ | 37 71014 87065 | 20 | |
| | 50 | 85 95622 00103+ | 72 20741+ | 46682 27665 34838+ | 33 67028 25130 | 10 | |
| **48** | 0 | 90 81594 20845 | 74 51203+ | 44648 60637 09708+ | 29 64242 78207 | 0 | **12** |
| | 10 | 0,04895 67568 72048+ | 76 81895 | 42618 96394 31501+ | 25 62653 70593+ | 50 | |
| | 20 | 0,04900 53545 53943+ | 79 12817 | 40593 33740 60908 | 21 62256 28938+ | 40 | |
| | 30 | 05 39524 66760 | 81 43969 | 38571 71484 31969+ | 17 63045 82230+ | 30 | |
| | 40 | 10 25506 10729 | 83 75351 | 36554 08438 49739 | 13 65017 61783 | 20 | |
| | 50 | 15 11489 86080 | 86 06963 | 34540 43420 87956 | 09 68167 01219+ | 10 | |
| **49** | 0 | 19 97475 93043 | 88 38805 | 32530 75253 86736+ | 05 72489 36463 | 0 | **11** |
| | 10 | 24 83464 31848 | 90 70877+ | 30525 02764 50273+ | 2001 77980 05718 | 50 | |
| | 20 | 29 69455 02725+ | 93 03180 | 28523 24784 44555+ | 1997 84634 49460+ | 40 | |
| | 30 | 34 55448 05905+ | 95 35712+ | 26525 40149 95095 | 93 92448 10424 | 30 | |
| | 40 | 39 41443 41618+ | 4 85997 68475+ | 24531 47701 84671 | 90 01416 33584+ | 20 | |
| | 50 | 44 27441 10094 | 4 86000 01468+ | 22541 46285 51086+ | 1986 11534 66149+ | 10 | |
| **50** | 0 | 0,04949 13441 11562 | | 20,20555 34750 84937 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

# 2°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,04949 13441 11562 | 4 86002 34691+ | 20,20555 34750 84937 | 1982 22798 57543+ | 0 | **10** |
| | 10 | 53 99443 46253+ | 04 68144+ | 18573 11952 27393+ | 78 35203 59395+ | 50 | |
| | 20 | 58 85448 14398 | 07 01828 | 16594 76748 67998 | 74 48745 25525+ | 40 | |
| | 30 | 63 71455 16226 | 09 35741+ | 14620 28003 42472+ | 70 63419 11932+ | 30 | |
| | 40 | 68 57464 51967+ | 11 69885 | 12649 64584 30540 | 66 79220 76781+ | 20 | |
| | 50 | 73 43476 21852+ | 14 04259 | 10682 85363 53758+ | 62 96145 80391 | 10 | |
| **51** | 0 | 78 29490 26111 | 16 38863 | 08719 89217 73367+ | 59 14189 85219 | 0 | **9** |
| | 10 | 83 15506 64974 | 18 73697 | 06760 75027 88149 | 55 33348 55852 | 50 | |
| | 20 | 88 01525 38671 | 21 08761 | 04805 41679 32296+ | 51 53617 58993 | 40 | |
| | 30 | 92 87546 47432 | 23 44055+ | 02853 88061 73303+ | 47 74992 63448 | 30 | |
| | 40 | 0,04997 73569 91488 | 25 79580+ | 20,00906 13069 09855+ | 43 97469 40114 | 20 | |
| | 50 | 0,05002 59595 71068 | 28 15335+ | 19,98962 15599 69741+ | 40 21043 61966+ | 10 | |
| **52** | 0 | 07 45623 86403+ | 30 51320+ | 97021 94556 07775 | 36 45711 04048+ | 0 | **8** |
| | 10 | 12 31654 37724 | 32 87535+ | 95085 48845 03727 | 32 71467 43458 | 50 | |
| | 20 | 17 17687 25259+ | 35 23981 | 93152 77377 60269 | 28 98308 59335+ | 40 | |
| | 30 | 22 03722 49240+ | 37 60656+ | 91223 79069 00933+ | 25 26230 32853+ | 30 | |
| | 40 | 26 89760 09897 | 39 97562+ | 89298 52838 68080 | 21 55228 47203 | 20 | |
| | 50 | 31 75800 07459+ | 42 34698+ | 87376 97610 20877 | 17 85298 87584 | 10 | |
| **53** | 0 | 36 61842 42158+ | 44 72065 | 85459 12311 33293 | 14 16437 41190+ | 0 | **7** |
| | 10 | 41 47887 14223+ | 47 09661+ | 83544 95873 92102+ | 10 48639 97203+ | 50 | |
| | 20 | 46 33934 23885 | 49 47488+ | 81634 47233 94899+ | 06 81902 46775+ | 40 | |
| | 30 | 51 19983 71373 | 51 85545+ | 79727 65331 48124 | 1903 16220 83022 | 30 | |
| | 40 | 56 06035 56918+ | 54 23832+ | 77824 49110 65102 | 1899 51591 01008 | 20 | |
| | 50 | 60 92089 80751 | 56 62350 | 75924 97519 64094 | 95 88008 97739 | 10 | |
| **54** | 0 | 65 78146 43101 | 59 01097+ | 74029 09510 66355+ | 92 25470 72147+ | 0 | **6** |
| | 10 | 70 64205 44198+ | 61 40075+ | 72136 84039 94207+ | 88 63972 25084+ | 50 | |
| | 20 | 75 50266 84274 | 63 79284 | 70248 20067 69123 | 85 03509 59305+ | 40 | |
| | 30 | 80 36330 63558 | 66 18722+ | 68363 16558 09817+ | 81 44078 79463 | 30 | |
| | 40 | 85 22396 82280+ | 68 58391 | 66481 72479 30354+ | 77 85675 92092+ | 20 | |
| | 50 | 90 08465 40672 | 70 98290 | 64603 86803 38262+ | 74 28297 05603+ | 10 | |
| **55** | 0 | 94 94536 38962 | 73 38419+ | 62729 58506 32658+ | 70 71938 30269+ | 0 | **5** |
| | 10 | 0,05099 80609 77381+ | 75 78779 | 60858 86568 02389+ | 67 16595 78214+ | 50 | |
| | 20 | 0,05104 66685 56160+ | 78 19369 | 58991 69972 24175 | 63 62265 63405+ | 40 | |
| | 30 | 09 52763 75529+ | 80 60189 | 57128 07706 60769+ | 60 08944 01641 | 30 | |
| | 40 | 14 38844 35718+ | 83 01239+ | 55267 98762 59128+ | 56 56627 10539 | 20 | |
| | 50 | 19 24927 36958+ | 85 42520+ | 53411 42135 48589+ | 53 05311 09529+ | 10 | |
| **56** | 0 | 24 11012 79478+ | 87 84031+ | 51558 36824 39060 | 49 54992 19842 | 0 | **4** |
| | 10 | 28 97100 63510 | 90 25772+ | 49708 81832 19218 | 46 05666 64496 | 50 | |
| | 20 | 33 83190 89282+ | 92 67744+ | 47862 76165 54722 | 42 57330 68291 | 40 | |
| | 30 | 38 69283 57027 | 95 09946+ | 46020 18834 86431 | 39 09980 57796+ | 30 | |
| | 40 | 43 55378 66973+ | 97 52378+ | 44181 08854 28634+ | 35 63612 61341+ | 20 | |
| | 50 | 48 41476 19352 | 4 86099 95041+ | 42345 45241 67293 | 32 18223 09005 | 10 | |
| **57** | 0 | 53 27576 14393+ | 4 86102 37934 | 40513 27018 58288 | 28 73808 32606 | 0 | **3** |
| | 10 | 58 13678 52327+ | 04 81057+ | 38684 53210 25681+ | 25 30364 65694 | 50 | |
| | 20 | 62 99783 33385 | 07 24411 | 36859 22845 59988 | 21 87888 43538 | 40 | |
| | 30 | 67 85890 57796 | 09 67995 | 35037 34957 16450 | 18 46376 03118+ | 30 | |
| | 40 | 72 72000 25791 | 12 11809+ | 33218 88581 13331 | 15 05823 83117+ | 20 | |
| | 50 | 77 58112 37600+ | 14 55854 | 31403 82757 30214 | 11 66228 23907+ | 10 | |
| **58** | 0 | 82 44226 93454+ | 17 00129 | 29592 16529 06306+ | 08 27585 67543+ | 0 | **2** |
| | 10 | 87 30343 93583+ | 19 44634+ | 27783 88943 38763 | 04 89892 57753+ | 50 | |
| | 20 | 92 16463 38218 | 21 89370 | 25978 99050 81009+ | 1801 53145 39928+ | 40 | |
| | 30 | 0,05197 02585 27588+ | 24 34336+ | 24177 45905 41081 | 1798 17340 61113+ | 30 | |
| | 40 | 0,05201 88709 61924+ | 26 79533 | 22379 28564 79968 | 94 82474 69997+ | 20 | |
| | 50 | 06 74836 41457+ | 29 24959+ | 20584 46090 09970 | 91 48544 16907 | 10 | |
| **59** | 0 | 11 60965 66417 | 31 70617 | 18792 97545 93063 | 88 15545 53792+ | 0 | **1** |
| | 10 | 16 47097 37034 | 34 16504+ | 17004 82000 39270+ | 84 83475 34223+ | 50 | |
| | 20 | 21 33231 53538+ | 36 62622+ | 15219 98525 05047 | 81 52330 13377 | 40 | |
| | 30 | 26 19368 16161 | 39 08971 | 13438 46194 91670+ | 78 22106 48029+ | 30 | |
| | 40 | 31 05507 25132 | 41 55550 | 11660 24088 43641 | 74 92800 96548 | 20 | |
| | 50 | 35 91648 80682 | 4 86144 02359 | 09885 31287 47093 | 1771 64410 18881+ | 10 | |
| **60** | 0 | 0,05240 77792 83041 | | 19,08113 66877 28211 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 87°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,05240 77792 83041 | 4 86146 49399 | 19,08113 66877 28211 | 1768 36930 76551+ | 0 | **60** |
| | 10 | 45 63939 32440 | 48 96669 | 06345 29946 51659+ | 65 10359 32644 | 50 | |
| | 20 | 50 50088 29109 | 51 44169+ | 04580 19587 19015+ | 61 84692 51799+ | 40 | |
| | 30 | 55 36239 73278 | 53 91900+ | 02818 34894 67216 | 58 59927 00206 | 30 | |
| | 40 | 60 22393 65178+ | 56 39861+ | 19,01059 74967 67010 | 55 36059 45590+ | 20 | |
| | 50 | 65 08550 05040 | 58 88053+ | 18,99304 38908 21419+ | 52 13086 57208+ | 10 | |
| **1** | 0 | 69 94708 93093+ | 61 36475+ | 97552 25821 64211 | 48 91005 05838 | 0 | **59** |
| | 10 | 74 80870 29569 | 63 85128+ | 95803 34816 58373 | 45 69811 63769 | 50 | |
| | 20 | 79 67034 14697+ | 66 34011+ | 94057 65004 94604 | 42 49503 04796+ | 40 | |
| | 30 | 84 53200 48709 | 68 83125 | 92315 15501 89807 | 39 30076 04213 | 30 | |
| | 40 | 89 39369 31834 | 71 32469 | 90575 85425 85594+ | 36 11527 38796+ | 20 | |
| | 50 | 94 25540 64303 | 73 82043+ | 88839 73898 46798 | 32 93853 86807+ | 10 | |
| **2** | 0 | 0,05299 11714 46346+ | 76 31848+ | 87106 80044 59990+ | 29 77052 27977+ | 0 | **58** |
| | 10 | 0,05303 97890 78195 | 78 81884 | 85377 02992 32013 | 26 61119 43501 | 50 | |
| | 20 | 08 84069 60079 | 81 32150 | 83650 41872 88512 | 23 46052 16029 | 40 | |
| | 30 | 13 70250 92228+ | 83 82646 | 81926 95820 72483 | 20 31847 29660 | 30 | |
| | 40 | 18 56434 74875 | 86 33373 | 80206 63973 42823 | 17 18501 69932+ | 20 | |
| | 50 | 23 42621 08248 | 88 84330+ | 78489 45471 72890+ | 14 06012 23817+ | 10 | |
| **3** | 0 | 28 28809 92578+ | 91 35518+ | 76775 39459 49073+ | 10 94375 79708+ | 0 | **57** |
| | 10 | 33 15001 28097 | 93 86937 | 75064 45083 69365 | 07 83589 27417 | 50 | |
| | 20 | 38 01195 15033+ | 96 38585+ | 73356 61494 41948 | 04 73649 58162+ | 40 | |
| | 30 | 42 87391 53619+ | 4 86198 90465 | 71651 87844 83785+ | 1701 64553 64566 | 30 | |
| | 40 | 47 73590 44084+ | 4 86201 42575 | 69950 23291 19219+ | 1698 56298 40640+ | 20 | |
| | 50 | 52 59791 86659+ | 03 94915+ | 68251 66992 78579 | 95 48880 81787 | 10 | |
| **4** | 0 | 57 45995 81574+ | 06 47486+ | 66556 18111 96792 | 92 42297 84783 | 0 | **56** |
| | 10 | 62 32202 29061 | 09 00288 | 64863 75814 12009+ | 89 36546 47777 | 50 | |
| | 20 | 67 18411 29349 | 11 53320 | 63174 39267 64232 | 86 31623 70282 | 40 | |
| | 30 | 72 04622 82668+ | 14 06582+ | 61488 07643 93950+ | 83 27526 53166 | 30 | |
| | 40 | 76 90836 89251 | 16 60075+ | 59804 80117 40784+ | 80 24251 98645+ | 20 | |
| | 50 | 81 77053 49326+ | 19 13799 | 58124 55865 42139 | 77 21797 10279 | 10 | |
| **5** | 0 | 86 63272 63126 | 21 67753+ | 56447 34068 31860 | 74 20158 92959 | 0 | **55** |
| | 10 | 91 49494 30879 | 24 21938 | 54773 13909 38901 | 71 19334 52905 | 50 | |
| | 20 | 0,05396 35718 52817 | 26 76353+ | 53101 94574 85995+ | 68 19320 97656 | 40 | |
| | 30 | 0,05401 21945 29170+ | 29 30999+ | 51433 75253 88339+ | 65 20115 36063+ | 30 | |
| | 40 | 06 08174 60170 | 31 85876 | 49768 55138 52276+ | 62 21714 78284+ | 20 | |
| | 50 | 10 94406 46046 | 34 40983 | 48106 33423 73991+ | 59 24116 35776 | 10 | |
| **6** | 0 | 15 80640 87029 | 36 96320+ | 46447 09307 38216 | 56 27317 21284+ | 0 | **54** |
| | 10 | 20 66877 83349+ | 39 51888+ | 44790 81990 16931+ | 53 31314 48842+ | 50 | |
| | 20 | 25 53117 35238 | 42 07687+ | 43137 50675 68089 | 50 36105 33760+ | 40 | |
| | 30 | 30 39359 42925+ | 44 63717 | 41487 14570 34328+ | 47 41686 92618+ | 30 | |
| | 40 | 35 25604 06642+ | 47 19977 | 39839 72883 41710 | 44 48056 43262 | 20 | |
| | 50 | 40 11851 26619+ | 49 76467+ | 38195 24826 98448 | 41 55211 04793+ | 10 | |
| **7** | 0 | 44 98101 03087 | 52 33189 | 36553 69615 93654+ | 38 63147 97566+ | 0 | **53** |
| | 10 | 49 84353 36276 | 54 90140+ | 34915 06467 96088 | 35 71864 43177 | 50 | |
| | 20 | 54 70608 26416+ | 57 47323 | 33279 34603 52911 | 32 81357 64460 | 40 | |
| | 30 | 59 56865 73739+ | 60 04736 | 31646 53245 88451 | 29 91624 85481 | 30 | |
| | 40 | 64 43125 78476 | 62 62380 | 30016 61621 02970 | 27 02663 31529 | 20 | |
| | 50 | 69 29388 40855+ | 65 20254+ | 28389 58957 71441 | 24 14470 29110+ | 10 | |
| **8** | 0 | 74 15653 61110 | 67 78359+ | 26765 44487 42330+ | 21 27043 05945 | 0 | **52** |
| | 10 | 79 01921 39469+ | 70 36695 | 25144 17444 36385+ | 18 40378 90954+ | 50 | |
| | 20 | 83 88191 76164 | 72 95261 | 23525 77065 45431 | 15 54475 14261 | 40 | |
| | 30 | 88 74464 71425+ | 75 54058 | 21910 22590 31170 | 12 69329 07177+ | 30 | |
| | 40 | 93 60740 25483+ | 78 13086 | 20297 53261 23992+ | 09 84938 02204 | 20 | |
| | 50 | 0,05498 47018 38569+ | 80 72344 | 18687 68323 21788+ | 07 01299 33018+ | 10 | |
| **9** | 0 | 0,05503 33299 10913+ | 83 31833 | 17080 67023 88770 | 04 18410 34473 | 0 | **51** |
| | 10 | 08 19582 42746+ | 85 91552+ | 15476 48613 54297 | 1601 36268 42587 | 50 | |
| | 20 | 13 05868 34299 | 88 51503 | 13875 12345 11710 | 1598 54870 94539+ | 40 | |
| | 30 | 17 92156 85802 | 91 11684 | 12276 57474 17170+ | 95 74215 28665+ | 30 | |
| | 40 | 22 78447 97486 | 93 72095+ | 10680 83258 88505 | 92 94298 84448 | 20 | |
| | 50 | 27 64741 69582 | 4 86296 32738 | 09087 88960 04057+ | 1590 15119 02513 | 10 | |
| **10** | 0 | 0,05532 51038 02320 | | 18,07497 73841 01544+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,05532 51038 02320 | 4 86298 93611 | 18,07497 73841 01544+ | 1587 36673 24622+ | 0 | **50** |
| | 10 | 37 37336 95931 | 4 86301 54715 | 05910 37167 76922 | 84 58958 93670 | 50 | |
| | 20 | 42 23638 50645+ | 04 16049+ | 04325 78208 83252 | 81 81973 53673+ | 40 | |
| | 30 | 47 09942 66695 | 06 77614+ | 02743 96235 29578+ | 79 05714 49769 | 30 | |
| | 40 | 51 96249 44309+ | 09 39410+ | 18,01164 90520 79809+ | 76 30179 28206+ | 20 | |
| | 50 | 56 82558 83720 | 12 01437 | 17,99588 60341 51603 | 73 55365 36342 | 10 | |
| **11** | 0 | 61 68870 85157 | 14 63694+ | 98015 04976 15261 | 70 81270 22634 | 0 | **49** |
| | 10 | 66 55185 48851+ | 17 26182+ | 96444 23705 92626+ | 68 07891 36636 | 50 | |
| | 20 | 71 41502 75034 | 19 88901+ | 94876 15814 55990+ | 65 35226 28991 | 40 | |
| | 30 | 76 27822 63935+ | 22 51851 | 93310 80588 26999+ | 62 63272 51427 | 30 | |
| | 40 | 81 14145 15786+ | 25 15031+ | 91748 17315 75572 | 59 92027 56749+ | 20 | |
| | 50 | 86 00470 30818 | 27 78442+ | 90188 25288 18822+ | 57 21488 98838 | 10 | |
| **12** | 0 | 90 86798 09260+ | 30 42084+ | 88631 03799 19984+ | 54 51654 32638 | 0 | **48** |
| | 10 | 0,05595 73128 51345 | 33 05957 | 87076 52144 87346+ | 51 82521 14158 | 50 | |
| | 20 | 0,05600 59461 57302 | 35 70060+ | 85524 69623 73188+ | 49 14087 00462+ | 40 | |
| | 30 | 05 45797 27362 | 38 34394+ | 83975 55536 72726+ | 46 46349 49665+ | 30 | |
| | 40 | 10 32135 61756+ | 40 98959+ | 82429 09187 23060+ | 43 79306 20928 | 20 | |
| | 50 | 15 18476 60716 | 43 63755 | 80885 29881 02132+ | 41 12954 74450+ | 10 | |
| **13** | 0 | 20 04820 24471+ | 46 28781+ | 79344 16926 27682 | 38 47292 71467 | 0 | **47** |
| | 10 | 24 91166 53253 | 48 94039 | 77805 69633 56215 | 35 82317 74241+ | 50 | |
| | 20 | 29 77515 47292 | 51 59527 | 76269 87315 81973+ | 33 18027 46062 | 40 | |
| | 30 | 34 63867 06819 | 54 25246 | 74736 69288 35911+ | 30 54419 51235 | 30 | |
| | 40 | 39 50221 32065 | 56 91195+ | 73206 14868 84676+ | 27 91491 55079+ | 20 | |
| | 50 | 44 36578 23261 | 59 57376+ | 71678 23377 29597 | 25 29241 23923 | 10 | |
| **14** | 0 | 49 22937 80637 | 62 23787+ | 70152 94136 05674 | 22 67666 25096+ | 0 | **46** |
| | 10 | 54 09300 04424+ | 64 90430 | 68630 26469 80577+ | 20 06764 26928+ | 50 | |
| | 20 | 58 95664 94854+ | 67 57303 | 67110 19705 53649 | 17 46532 98739 | 40 | |
| | 30 | 63 82032 52157+ | 70 24406+ | 65592 73172 54910 | 14 86970 10837 | 30 | |
| | 40 | 68 68402 76564 | 72 91741+ | 64077 86202 44073+ | 12 28073 34513 | 20 | |
| | 50 | 73 54775 68305+ | 75 59307 | 62565 58129 09560+ | 09 69840 42035 | 10 | |
| **15** | 0 | 78 41151 27612 | 78 27103 | 61055 88288 67525+ | 07 12269 06644 | 0 | **45** |
| | 10 | 83 27529 54715+ | 80 95130+ | 59548 76019 60881 | 04 55357 02548 | 50 | |
| | 20 | 88 13910 49846 | 83 63388+ | 58044 20662 58333 | 1501 99102 04917 | 40 | |
| | 30 | 93 00294 13234+ | 86 31877+ | 56542 21560 53416+ | 1499 43501 89879 | 30 | |
| | 40 | 0,05697 86680 45112 | 89 00597+ | 55042 78058 63537+ | 96 88554 34514+ | 20 | |
| | 50 | 0,05702 73069 45709 | 91 69548 | 53545 89504 29023 | 94 34257 16852 | 10 | |
| **16** | 0 | 07 59461 15257+ | 94 38729+ | 52051 55247 12171 | 91 80608 15863 | 0 | **44** |
| | 10 | 12 45855 53987 | 97 08142 | 50559 74638 96308 | 89 27605 11457 | 50 | |
| | 20 | 17 32252 62129 | 4 86399 77785+ | 49070 47033 84851 | 86 75245 84476+ | 40 | |
| | 30 | 22 18652 39914+ | 4 86402 47659+ | 47583 71788 00374+ | 84 23528 16693 | 30 | |
| | 40 | 27 05054 87574 | 05 17765 | 46099 48259 83681+ | 81 72449 90802+ | 20 | |
| | 50 | 31 91460 05339 | 07 88101 | 44617 75809 92879 | 79 22008 90419 | 10 | |
| **17** | 0 | 36 77867 93439+ | 10 58668 | 43138 53801 02460 | 76 72203 00072 | 0 | **43** |
| | 10 | 41 64278 52107+ | 13 29465+ | 41661 81598 02388 | 74 23030 05200+ | 50 | |
| | 20 | 46 50691 81573+ | 16 00494+ | 40187 58567 97187+ | 71 74487 92148+ | 40 | |
| | 30 | 51 37107 82068 | 18 71754 | 38715 84080 05039 | 69 26574 48162+ | 30 | |
| | 40 | 56 23526 53822 | 21 43245 | 37246 57505 56876+ | 66 79287 61382+ | 20 | |
| | 50 | 61 09947 97067 | 24 14966+ | 35779 78217 95494+ | 64 32625 20842 | 10 | |
| **18** | 0 | 65 96372 12033+ | 26 86919 | 34315 45592 74652+ | 61 86585 16461 | 0 | **42** |
| | 10 | 70 82798 98952+ | 29 59102+ | 32853 59007 58191+ | 59 41165 39043 | 50 | |
| | 20 | 75 69228 58055 | 32 31517 | 31394 17842 19148+ | 56 96363 80268+ | 40 | |
| | 30 | 80 55660 89572 | 35 04162+ | 29937 21478 38879+ | 54 52178 32693 | 30 | |
| | 40 | 85 42095 93734 | 37 77038+ | 28482 69300 06186+ | 52 08606 89740 | 20 | |
| | 50 | 90 28533 70773 | 40 50146 | 27030 60693 16446+ | 49 65647 45700 | 10 | |
| **19** | 0 | 0,05795 14974 20919 | 43 23484+ | 25580 95045 70746+ | 47 23297 95722 | 0 | **41** |
| | 10 | 0,05800 01417 44403 | 45 97053+ | 24133 71747 75024+ | 44 81556 35813+ | 50 | |
| | 20 | 04 87863 41457 | 48 70854 | 22688 90191 39211 | 42 40420 62832+ | 40 | |
| | 30 | 09 74312 12310+ | 51 44885 | 21246 49770 76378 | 39 99888 74486 | 30 | |
| | 40 | 14 60763 57195+ | 54 19147+ | 19806 49882 01892+ | 37 59958 69323+ | 20 | |
| | 50 | 19 47217 76343 | | 18368 89923 32568+ | 1435 20628 46735 | 10 | |
| **20** | 0 | 0,05824 33674 69983+ | 4 86456 93640+ | 17,16933 69294 85834 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,05824 33674 69983+ | 4 86459 68364+ | 17,16933 69294 85834 | 1432 81896 06944+ | 0 | **40** |
| | 10 | 29 20134 38348 | 62 43320 | 15500 87398 78889+ | 30 43759 51008 | 50 | |
| | 20 | 34 06596 81668 | 65 18506 | 14070 43639 27881+ | 28 06216 80808 | 40 | |
| | 30 | 38 93062 00174+ | 67 93923+ | 12642 37422 47073+ | 25 69265 99049+ | 30 | |
| | 40 | 43 79529 94098 | 70 69572 | 11216 68156 48024 | 23 32905 09257 | 20 | |
| | 50 | 48 66000 63669+ | 73 45451 | 09793 35251 38767 | 20 97132 15768+ | 10 | |
| **21** | 0 | 53 52474 09120+ | 76 21561+ | 08372 38119 22998+ | 18 61945 23732+ | 0 | **39** |
| | 10 | 58 38950 30682 | 78 97903 | 06953 76173 99266 | 16 27342 39105+ | 50 | |
| | 20 | 63 25429 28585 | 81 74475+ | 05537 48831 60160+ | 13 93321 68645 | 40 | |
| | 30 | 68 11911 03060+ | 84 51279 | 04123 55509 91515 | 11 59881 19908 | 30 | |
| | 40 | 72 98395 54339 | 87 28313+ | 02711 95628 71607 | 09 27019 01244+ | 20 | |
| | 50 | 77 84882 82652+ | 90 05579 | 17,01302 68609 70362+ | 06 94733 21797+ | 10 | |
| **22** | 0 | 82 71372 88231+ | 92 83075+ | 16,99895 73876 48565 | 04 63021 91494+ | 0 | **38** |
| | 10 | 87 57865 71307 | 95 60803+ | 98491 10854 57070+ | 02 31883 21047+ | 50 | |
| | 20 | 92 44361 32110+ | 4 86498 38762 | 97088 78971 36023 | 1400 01315 21946 | 40 | |
| | 30 | 0,05897 30859 70873 | 4 86501 16952 | 95688 77656 14077+ | 1397 71316 06455+ | 30 | |
| | 40 | 0,05902 17360 87825 | 03 95373 | 94291 06340 07621+ | 95 41883 87613+ | 20 | |
| | 50 | 07 03864 83198 | 06 74025 | 92895 64456 20008+ | 93 13016 79223 | 10 | |
| **23** | 0 | 11 90371 57223 | 09 52908+ | 91502 51439 40785+ | 90 84712 95852+ | 0 | **37** |
| | 10 | 16 76881 10131+ | 12 32022+ | 90111 66726 44933 | 88 56970 52830 | 50 | |
| | 20 | 21 63393 42154 | 15 11368 | 88723 09755 92103 | 86 29787 66239 | 40 | |
| | 30 | 26 49908 53522+ | 17 90944+ | 87336 79968 25863+ | 84 03162 52917 | 30 | |
| | 40 | 31 36426 44467 | 20 70752 | 85952 76805 72947 | 81 77093 30448+ | 20 | |
| | 50 | 36 22947 15219 | 23 50791 | 84570 99712 42498 | 79 51578 17164+ | 10 | |
| **24** | 0 | 41 09470 66010 | 26 31061 | 83191 48134 25333+ | 77 26615 32137+ | 0 | **36** |
| | 10 | 45 95996 97070+ | 29 11562 | 81814 21518 93196 | 75 02202 95176+ | 50 | |
| | 20 | 50 82526 08632+ | 31 92294 | 80439 19315 98019+ | 72 78339 26827 | 40 | |
| | 30 | 55 69058 00926+ | 34 73257 | 79066 40976 71192+ | 70 55022 48363 | 30 | |
| | 40 | 60 55592 74183+ | 37 54451+ | 77695 85954 22829+ | 68 32250 81786+ | 20 | |
| | 50 | 65 42130 28635+ | 40 35877+ | 76327 53703 41043 | 66 10022 49823+ | 10 | |
| **25** | 0 | 70 28670 64512+ | 43 17534 | 74961 43680 91219+ | 63 88335 75920 | 0 | **35** |
| | 10 | 75 15213 82046+ | 45 99422 | 73597 55345 15299+ | 61 67188 84237+ | 50 | |
| | 20 | 80 01759 81468+ | 48 81541 | 72235 88156 31062 | 59 46579 99651+ | 40 | |
| | 30 | 84 88308 63009+ | 51 63891+ | 70876 41576 31411 | 57 26507 47747 | 30 | |
| | 40 | 89 74860 26901 | 54 46473 | 69519 15068 83664 | 55 06969 54814+ | 20 | |
| | 50 | 94 61414 73374 | 57 29285+ | 68164 08099 28849+ | 52 87964 47848 | 10 | |
| **26** | 0 | 0,05999 47972 02659 | 60 12329+ | 66811 20134 81001+ | 50 69490 54541 | 0 | **34** |
| | 10 | 0,06004 34532 14988+ | 62 95604+ | 65460 50644 26460+ | 48 51546 03281+ | 50 | |
| | 20 | 09 21095 10593 | 65 79110+ | 64111 99098 23179 | 46 34129 23151 | 40 | |
| | 30 | 14 07660 89703+ | 68 62848 | 62765 64969 00028 | 44 17238 43920+ | 30 | |
| | 40 | 18 94229 52551+ | 71 46816+ | 61421 47730 56107+ | 42 00871 96046+ | 20 | |
| | 50 | 23 80800 99368 | 74 31016+ | 60079 46858 60061+ | 39 85028 10667+ | 10 | |
| **27** | 0 | 28 67375 30384+ | 77 15447+ | 58739 61830 49394 | 37 69705 19602 | 0 | **33** |
| | 10 | 33 53952 45832 | 80 00110 | 57401 92125 29792 | 35 54901 55344+ | 50 | |
| | 20 | 38 40532 45942 | 82 85003+ | 56066 37223 74448 | 33 40615 51061+ | 40 | |
| | 30 | 43 27115 30945+ | 85 70128+ | 54732 96608 23386+ | 31 26845 40589+ | 30 | |
| | 40 | 48 13701 01074 | 88 55484+ | 53401 69762 82797 | 29 13589 58431+ | 20 | |
| | 50 | 53 00289 56558+ | 91 41071+ | 52072 56173 24365+ | 27 00846 39752+ | 10 | |
| **28** | 0 | 57 86880 97630 | 94 26890+ | 50745 55326 84613 | 24 88614 20379 | 0 | **32** |
| | 10 | 62 73475 24520+ | 97 12940 | 49420 66712 64234 | 22 76891 36792+ | 50 | |
| | 20 | 67 60072 37460+ | 4 86599 99221 | 48097 89821 27441 | 20 65676 26129+ | 40 | |
| | 30 | 72 46672 36682 | 4 86602 85733+ | 46777 24145 01311+ | 18 54967 26175+ | 30 | |
| | 40 | 77 33275 22415+ | 05 72477+ | 45458 69177 75136 | 16 44762 75364+ | 20 | |
| | 50 | 82 19880 94892+ | 08 59452 | 44142 24414 99771 | 14 35061 12774+ | 10 | |
| **29** | 0 | 87 06489 54345 | 11 46658+ | 42827 89353 86996+ | 12 25860 78123+ | 0 | **31** |
| | 10 | 91 93101 01003+ | 14 34096 | 41515 63493 08873 | 10 17160 11769+ | 50 | |
| | 20 | 0,06096 79715 35099 | 17 21765 | 40205 46332 97103+ | 08 08957 54703+ | 40 | |
| | 30 | 0,06101 66332 56864 | 20 09665 | 38897 37375 42400+ | 06 01251 48549+ | 30 | |
| | 40 | 06 52952 66529 | 22 97796+ | 37591 36123 93850+ | 03 94040 35561+ | 20 | |
| | 50 | 11 39575 64325 | 4 86625 86159 | 36287 42083 58289+ | 1301 87322 58617 | 10 | |
| **30** | 0 | 0,06116 26201 50484+ | | 16,34985 54760 99672+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,06116 26201 50484+ | 4 86628 74753 | 16,34985 54760 99672+ | 1299 81096 61218+ | 0 | **30** |
| | 10 | 21 12830 25237+ | 31 63578+ | 33685 73664 38453+ | 97 75360 87488+ | 50 | |
| | 20 | 25 99461 88816 | 34 52635+ | 32387 98303 50965+ | 95 70113 82165 | 40 | |
| | 30 | 30 86096 41451+ | 37 41923+ | 31092 28189 68800+ | 93 65353 90601+ | 30 | |
| | 40 | 35 72733 83375 | 40 31443 | 29798 62835 78198+ | 91 61079 58763 | 20 | |
| | 50 | 40 59374 14817+ | 43 21193+ | 28507 01756 19435+ | 89 57289 33222 | 10 | |
| **31** | 0 | 45 46017 36011 | 46 11175+ | 27217 44466 86214 | 87 53981 61156 | 0 | **29** |
| | 10 | 50 32663 47187 | 49 01389 | 25929 90485 25057+ | 85 51154 90347 | 50 | |
| | 20 | 55 19312 48576 | 51 91834 | 24644 39330 34710+ | 83 48807 69175+ | 40 | |
| | 30 | 60 05964 40410+ | 54 82510+ | 23360 90522 65535 | 81 46938 46618+ | 30 | |
| | 40 | 64 92619 22920+ | 57 73418 | 22079 43584 18916+ | 79 45545 72247+ | 20 | |
| | 50 | 69 79276 96338+ | 60 64557 | 20799 98038 46669 | 77 44627 96226+ | 10 | |
| **32** | 0 | 74 65937 60895+ | 63 55927+ | 19522 53410 50442+ | 75 44183 69306 | 0 | **28** |
| | 10 | 79 52601 16822+ | 66 47529 | 18247 09226 81136+ | 73 44211 42824 | 50 | |
| | 20 | 84 39267 64351+ | 69 39362 | 16973 65015 38312+ | 71 44709 68700+ | 40 | |
| | 30 | 89 25937 03714 | 72 31427 | 15702 20305 69612 | 69 45676 99435+ | 30 | |
| | 40 | 94 12609 35140+ | 75 23723 | 14432 74628 70176+ | 67 47111 88108 | 20 | |
| | 50 | 0,06198 99284 58863+ | 78 16250 | 13165 27516 82068+ | 65 49012 88369+ | 10 | |
| **33** | 0 | 0,06203 85962 75113+ | 81 09009 | 11899 78503 93699 | 63 51378 54446+ | 0 | **27** |
| | 10 | 08 72643 84122+ | 84 01999+ | 10636 27125 39252+ | 61 54207 41132 | 50 | |
| | 20 | 13 59327 86122 | 86 95221 | 09374 72917 98120+ | 59 57498 03788 | 40 | |
| | 30 | 18 46014 81343 | 89 88674 | 08115 15419 94333 | 57 61248 98339 | 30 | |
| | 40 | 23 32704 70017 | 92 82358+ | 06857 54170 95993+ | 55 65458 81272+ | 20 | |
| | 50 | 28 19397 52375+ | 95 76274+ | 05601 88712 14721 | 53 70126 09634 | 10 | |
| **34** | 0 | 33 06093 28650 | 4 86698 70422 | 04348 18586 05087 | 51 75249 41025 | 0 | **26** |
| | 10 | 37 92791 99072+ | 4 86701 64801 | 03096 43336 64062 | 49 80827 33601 | 50 | |
| | 20 | 42 79493 63873+ | 04 59411+ | 01846 62509 30460+ | 47 86858 46069 | 40 | |
| | 30 | 47 66198 23284+ | 07 54253+ | 16,00598 75650 84391+ | 45 93341 37683+ | 30 | |
| | 40 | 52 52905 77538 | 10 49326+ | 15,99352 82309 46708+ | 44 00274 68245+ | 20 | |
| | 50 | 57 39616 26864+ | 13 44631+ | 98108 82034 78463 | 42 07656 98099+ | 10 | |
| **35** | 0 | 62 26329 71496 | 16 40168 | 96866 74377 80363+ | 40 15486 88131 | 0 | **25** |
| | 10 | 67 13046 11664 | 19 35935+ | 95626 58890 92232+ | 38 23762 99763+ | 50 | |
| | 20 | 71 99765 47599+ | 22 31935 | 94388 35127 92469 | 36 32483 94956+ | 40 | |
| | 30 | 76 86487 79534 | 25 28165+ | 93152 02643 97512+ | 34 41648 36203 | 30 | |
| | 40 | 81 73213 07700 | 28 24628 | 91917 60995 61309+ | 32 51254 86526+ | 20 | |
| | 50 | 86 59941 32328 | 31 21322 | 90685 09740 74783 | 30 61302 09479+ | 10 | |
| **36** | 0 | 91 46672 53650 | 34 18247 | 89454 48438 65303+ | 28 71788 69140+ | 0 | **24** |
| | 10 | 0,06296 33406 71897 | 37 15404 | 88225 76649 96163 | 26 82713 30111+ | 50 | |
| | 20 | 0,06301 20143 87301 | 40 12792+ | 86998 93936 66051+ | 24 94074 57514+ | 40 | |
| | 30 | 06 06884 00093+ | 43 10412+ | 85773 99862 08537 | 23 05871 16992+ | 30 | |
| | 40 | 10 93627 10506 | 46 08264 | 84550 93990 91544+ | 21 18101 74703 | 20 | |
| | 50 | 15 80373 18770 | 49 06347 | 83329 75889 16841+ | 19 30764 97318+ | 10 | |
| **37** | 0 | 20 67122 25117 | 52 04661+ | 82110 45124 19523 | 17 43859 52022 | 0 | **23** |
| | 10 | 25 53874 29778+ | 55 03208 | 80893 01264 67501 | 15 57384 06507+ | 50 | |
| | 20 | 30 40629 32986+ | 58 01985+ | 79677 43880 60993 | 13 71337 28974+ | 40 | |
| | 30 | 35 27387 34972 | 61 00995 | 78463 72543 32018+ | 11 85717 88128 | 30 | |
| | 40 | 40 14148 35966+ | 64 00235+ | 77251 86825 43890+ | 10 00524 53174 | 20 | |
| | 50 | 45 00912 36202+ | 66 99708 | 76041 86300 90716+ | 08 15755 93819+ | 10 | |
| **38** | 0 | 49 87679 35910+ | 69 99412 | 74833 70544 96897 | 06 31410 80269+ | 0 | **22** |
| | 10 | 54 74449 35323 | 72 99348 | 73627 39134 16627+ | 04 47487 83223+ | 50 | |
| | 20 | 59 61222 34670+ | 75 99515 | 72422 91646 33404 | 02 63985 73874+ | 40 | |
| | 30 | 64 47998 34186 | 78 99914 | 71220 27660 59529+ | 1200 80903 23906+ | 30 | |
| | 40 | 69 34777 34100 | 82 00544+ | 70019 46757 35623 | 1198 98239 05492 | 20 | |
| | 50 | 74 21559 34644+ | 85 01406+ | 68820 48518 30131 | 97 15991 91290 | 10 | |
| **39** | 0 | 79 08344 36051 | 88 02500+ | 67623 32526 38840+ | 95 34160 54443+ | 0 | **21** |
| | 10 | 83 95132 38551 | 91 03825+ | 66427 98365 84397 | 93 52743 68578 | 50 | |
| | 20 | 88 81923 42377 | 94 05382+ | 65234 45622 15819 | 91 71740 07798 | 40 | |
| | 30 | 93 68717 47759+ | 4 86797 07171 | 64042 73882 08021 | 89 91148 46686 | 30 | |
| | 40 | 0,06398 55514 54930+ | 4 86800 09191+ | 62852 82733 61335 | 88 10967 60299+ | 20 | |
| | 50 | 0,06403 42314 64122 | 4 86803 11443+ | 61664 71766 01035+ | 1186 31196 24170+ | 10 | |
| **40** | 0 | 0,06408 29117 75565+ | | 15,60478 40569 76865 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,06408 29117 75565+ | 4 86806 13927 | 15,60478 40569 76865 | 1184 51833 14301 | 0 | **20** |
| | 10 | 13 15923 89492+ | 09 16642 | 59293 88736 62563+ | 82 72877 07162+ | 50 | |
| | 20 | 18 02733 06134+ | 12 19589 | 58111 15859 55401 | 80 94326 79692+ | 40 | |
| | 30 | 22 89545 25724 | 15 22767+ | 56930 21532 75708+ | 79 16181 09294+ | 30 | |
| | 40 | 27 76360 48491+ | 18 26178 | 55751 05351 66414+ | 77 38438 73833+ | 20 | |
| | 50 | 32 63178 74669+ | 21 29820 | 54573 66912 92581 | 75 61098 51635+ | 10 | |
| **41** | 0 | 37 50000 04489+ | 24 33693+ | 53398 05814 40945+ | 73 84159 21485+ | 0 | **19** |
| | 10 | 42 36824 38183 | 27 37799 | 52224 21655 19460 | 72 07619 62624 | 50 | |
| | 20 | 47 23651 75982 | 30 42136 | 51052 14035 56836+ | 70 31478 54746 | 40 | |
| | 30 | 52 10482 18118 | 33 46704+ | 49881 82557 02090 | 68 55734 77999+ | 30 | |
| | 40 | 56 97315 64822+ | 36 51505 | 48713 26822 24090+ | 66 80387 12982 | 20 | |
| | 50 | 61 84152 16327+ | 39 56537+ | 47546 46435 11108+ | 65 05434 40739 | 10 | |
| **42** | 0 | 66 70991 72865 | 42 61801+ | 46381 41000 70369+ | 63 30875 42763+ | 0 | **18** |
| | 10 | 71 57834 34666+ | 45 67297 | 45218 10125 27606 | 61 56709 00990+ | 50 | |
| | 20 | 76 44680 01963+ | 48 73024+ | 44056 53416 26615+ | 59 82933 97800 | 40 | |
| | 30 | 81 31528 74987+ | 51 78983+ | 42896 70482 28815+ | 58 09549 16009 | 30 | |
| | 40 | 86 18380 53971 | 54 85174+ | 41738 60933 12806+ | 56 36553 38875+ | 20 | |
| | 50 | 91 05235 39145+ | 57 91597 | 40582 24379 73930+ | 54 63945 50092+ | 10 | |
| **43** | 0 | 0,06495 92093 30742+ | 60 98251+ | 39427 60434 23838 | 52 91724 33787+ | 0 | **17** |
| | 10 | 0,06500 78954 28993+ | 64 05137+ | 38274 68709 90050+ | 51 19888 74520 | 50 | |
| | 20 | 05 65818 34131 | 67 12255+ | 37123 48821 15531 | 49 48437 57280 | 40 | |
| | 30 | 10 52685 46386+ | 70 19605 | 35974 00383 58251 | 47 77369 67487 | 30 | |
| | 40 | 15 39555 65991+ | 73 27186+ | 34826 23013 90764 | 46 06683 90985+ | 20 | |
| | 50 | 20 26428 93178+ | 76 35000 | 33680 16329 99778+ | 44 36379 14046+ | 10 | |
| **44** | 0 | 25 13305 28178+ | 79 43045 | 32535 79950 85732 | 42 66454 23362 | 0 | **16** |
| | 10 | 30 00184 71223+ | 82 51322 | 31393 13496 62370 | 40 96908 06046 | 50 | |
| | 20 | 34 87067 22545+ | 85 59830+ | 30252 16588 56324 | 39 27739 49631 | 40 | |
| | 30 | 39 73952 82376 | 88 68571 | 29112 88849 06693 | 37 58947 42067 | 30 | |
| | 40 | 44 60841 50947 | 91 77543+ | 27975 29901 64626 | 35 90530 71719+ | 20 | |
| | 50 | 49 47733 28490+ | 94 86747+ | 26839 39370 92906 | 34 22488 27367 | 10 | |
| **45** | 0 | 54 34628 15238 | 4 86897 96183+ | 25705 16882 65539 | 32 54818 98199+ | 0 | **15** |
| | 10 | 59 21526 11422 | 4 86901 05851+ | 24572 62063 67339+ | 30 87521 73817+ | 50 | |
| | 20 | 64 08427 17273+ | 04 15751 | 23441 74541 93522 | 29 20595 44229 | 40 | |
| | 30 | 68 95331 33024+ | 07 25882+ | 22312 53946 49293 | 27 54038 99848 | 30 | |
| | 40 | 73 82238 58907 | 10 36246 | 21184 99907 49445 | 25 87851 31493 | 20 | |
| | 50 | 78 69148 95153 | 13 46841 | 20059 12056 17951+ | 24 22031 30386 | 10 | |
| **46** | 0 | 83 56062 41994+ | 16 57668+ | 18934 90024 87566 | 22 56577 88148 | 0 | **14** |
| | 10 | 88 42978 99662+ | 19 68727+ | 17812 33446 99418 | 20 91489 96800+ | 50 | |
| | 20 | 93 29898 68390 | 22 80018 | 16691 41957 02617 | 19 26766 48762 | 40 | |
| | 30 | 0,06598 16821 48408 | 25 91541 | 15572 15190 53855 | 17 62406 36846+ | 30 | |
| | 40 | 0,06603 03747 39949 | 29 03295+ | 14454 52784 17008+ | 15 98408 54261 | 20 | |
| | 50 | 07 90676 43244+ | 32 15282 | 13338 54375 62748 | 14 34771 94605+ | 10 | |
| **47** | 0 | 12 77608 58526+ | 35 27500+ | 12224 19603 68142+ | 12 71495 51869+ | 0 | **13** |
| | 10 | 17 64543 86027 | 38 39951 | 11111 48108 16273 | 11 08578 20432+ | 50 | |
| | 20 | 22 51482 25978 | 41 52633 | 10000 39529 95840+ | 09 46018 95059+ | 40 | |
| | 30 | 27 38423 78611 | 44 65547 | 08890 93511 00781 | 07 83816 70901 | 30 | |
| | 40 | 32 25368 44158 | 47 78693+ | 07783 09694 29880 | 06 21970 43491+ | 20 | |
| | 50 | 37 12316 22851+ | 50 92071+ | 06676 87723 86388+ | 04 60479 08746+ | 10 | |
| **48** | 0 | 41 99267 14922+ | 54 05681+ | 05572 27244 77641+ | 02 99341 62963 | 0 | **12** |
| | 10 | 46 86221 20604 | 57 19523 | 04469 27903 14679 | 1101 38557 02814+ | 50 | |
| | 20 | 51 73178 40127 | 60 33597 | 03367 89346 11864+ | 1099 78124 25353 | 40 | |
| | 30 | 56 60138 73724 | 63 47903 | 02268 11221 86511+ | 98 18042 28005+ | 30 | |
| | 40 | 61 47102 21627 | 66 62440+ | 01169 93179 58506 | 96 58310 08571+ | 20 | |
| | 50 | 66 34068 84067+ | 69 77210+ | 15,00073 34869 49935 | 94 98926 65223 | 10 | |
| **49** | 0 | 71 21038 61278 | 72 92212 | 14,98978 35942 84711+ | 93 39890 96503 | 0 | **11** |
| | 10 | 76 08011 53490 | 76 07445+ | 97884 96051 88208+ | 91 81202 01322 | 50 | |
| | 20 | 80 94987 60935+ | 79 22911+ | 96793 14849 86886+ | 90 22858 78958+ | 40 | |
| | 30 | 85 81966 83847 | 82 38609 | 95702 91991 07928 | 88 64860 29055+ | 30 | |
| | 40 | 90 68949 22456 | 85 54538+ | 94614 27130 78872+ | 87 07205 51620+ | 20 | |
| | 50 | 0,06695 55934 76994+ | 4 86988 70700+ | 93527 19925 27252 | 1085 49893 47024 | 10 | |
| **50** | 0 | 0,06700 42923 47695 | | 14,92441 70031 80228 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 3°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,06700 42923 47695 | 4 86991 87094 | 14,92441 70031 80228 | 1083 92923 15995 | 0 | **10** |
| | 10 | 05 29915 34789 | 95 03719+ | 91357 77108 64233 | 82 36293 59624+ | 50 | |
| | 20 | 10 16910 38509 | 4 86998 20577+ | 90275 40815 04608+ | 80 80003 79359 | 40 | |
| | 30 | 15 03908 59086+ | 4 87001 37667 | 89194 60811 25249+ | 79 24052 77001+ | 30 | |
| | 40 | 19 90909 96753+ | 04 54989 | 88115 36758 48248 | 77 68439 54710 | 20 | |
| | 50 | 24 77914 51742+ | 07 72543 | 87037 68318 93538+ | 76 13163 14995 | 10 | |
| **51** | 0 | 29 64922 24285+ | 10 90328+ | 85961 55155 78543+ | 74 58222 60718+ | 0 | **9** |
| | 10 | 34 51933 14614 | 14 08346+ | 84886 96933 17825 | 73 03616 95093+ | 50 | |
| | 20 | 39 38947 22960+ | 17 26596+ | 83813 93316 22731+ | 71 49345 21679 | 40 | |
| | 30 | 44 25964 49557 | 20 45078+ | 82742 43971 01052+ | 69 95406 44383+ | 30 | |
| | 40 | 49 12984 94635+ | 23 63792+ | 81672 48564 56669 | 68 41799 67459 | 20 | |
| | 50 | 54 00008 58428 | 26 82739 | 80604 06764 89210 | 66 88523 95503 | 10 | |
| **52** | 0 | 58 87035 41166+ | 30 01917 | 79537 18240 93707 | 65 35578 33453+ | 0 | **8** |
| | 10 | 63 74065 43083+ | 33 21327+ | 78471 82662 60253+ | 63 82961 86592 | 50 | |
| | 20 | 68 61098 64411 | 36 40970 | 77407 99700 73661+ | 62 30673 60536+ | 40 | |
| | 30 | 73 48135 05381 | 39 60844+ | 76345 69027 13125 | 60 78712 61246 | 30 | |
| | 40 | 78 35174 66225 | 42 80951 | 75284 90314 51879 | 59 27077 95013+ | 20 | |
| | 50 | 83 22217 47176 | 46 01289+ | 74225 63236 56865+ | 57 75768 68469+ | 10 | |
| **53** | 0 | 88 09263 48465+ | 49 21860+ | 73167 87467 88396 | 56 24783 88576 | 0 | **7** |
| | 10 | 92 96312 70326 | 52 42663+ | 72111 62683 99820 | 54 74122 62629+ | 50 | |
| | 20 | 0,06797 83365 12989+ | 55 63698+ | 71056 88561 37190+ | 53 23783 98255 | 40 | |
| | 30 | 0,06802 70420 76688+ | 58 84966 | 70003 64777 38936 | 51 73767 03408+ | 30 | |
| | 40 | 07 57479 61654 | 62 06465+ | 68951 91010 35527 | 50 24070 86374 | 20 | |
| | 50 | 12 44541 68119+ | 65 28197 | 67901 66939 49153 | 48 74694 55761+ | 10 | |
| **54** | 0 | 17 31606 96316+ | 68 50160+ | 66852 92244 93391+ | 47 25637 20506+ | 0 | **6** |
| | 10 | 22 18675 46477 | 71 72356+ | 65805 66607 72884+ | 45 76897 89868+ | 50 | |
| | 20 | 27 05747 18833 | 74 94784+ | 64759 89709 83016 | 44 28475 73429 | 40 | |
| | 30 | 31 92822 13617+ | 78 17444+ | 63715 61234 09587 | 42 80369 81091+ | 30 | |
| | 40 | 36 79900 31062 | 81 40337 | 62672 80864 28495+ | 41 32579 23077+ | 20 | |
| | 50 | 41 66981 71399 | 84 63461+ | 61631 48285 05418 | 39 85103 09929 | 10 | |
| **55** | 0 | 46 54066 34860+ | 87 86818 | 60591 63181 95489 | 38 37940 52503+ | 0 | **5** |
| | 10 | 51 41154 21679 | 91 10407 | 59553 25241 42985+ | 36 91090 61975 | 50 | |
| | 20 | 56 28245 32086 | 94 34228+ | 58516 34150 81010+ | 35 44552 49831 | 40 | |
| | 30 | 61 15339 66314+ | 4 87097 58281+ | 57480 89598 31179+ | 33 98325 27872+ | 30 | |
| | 40 | 66 02437 24596 | 4 87100 82567+ | 56446 91273 03307+ | 32 52408 08212 | 20 | |
| | 50 | 70 89538 07163+ | 04 07085 | 55414 38864 95095+ | 31 06800 03273 | 10 | |
| **56** | 0 | 75 76642 14248+ | 07 31835 | 54383 32064 91822 | 29 61500 25787 | 0 | **4** |
| | 10 | 80 63749 46083+ | 10 56817+ | 53353 70564 66035 | 28 16507 88794 | 50 | |
| | 20 | 85 50860 02901 | 13 82032 | 52325 54056 77241+ | 26 71822 05639+ | 40 | |
| | 30 | 90 37973 84932+ | 17 07478+ | 51298 82234 71602 | 25 27441 89975 | 30 | |
| | 40 | 0,06895 25090 92411 | 20 33157+ | 50273 54792 81626+ | 23 83366 55756 | 20 | |
| | 50 | 0,06900 12211 25568+ | 23 59069 | 49249 71426 25870+ | 22 39595 17239+ | 10 | |
| **57** | 0 | 04 99334 84637+ | 26 85212+ | 48227 31831 08631+ | 20 96126 88984+ | 0 | **3** |
| | 10 | 09 86461 69850 | 30 11588 | 47206 35704 19647 | 19 52960 85849+ | 50 | |
| | 20 | 14 73591 81438 | 33 38196 | 46186 82743 33797+ | 18 10096 22993 | 40 | |
| | 30 | 19 60725 19634 | 36 65036+ | 45168 72647 10804+ | 16 67532 15869 | 30 | |
| | 40 | 24 47861 84670+ | 39 92109 | 44152 05114 94935+ | 15 25267 80230 | 20 | |
| | 50 | 29 35001 76779+ | 43 19414 | 43136 79847 14705+ | 13 83302 32121+ | 10 | |
| **58** | 0 | 34 22144 96193+ | 46 46951+ | 42122 96544 82584 | 12 41634 87883+ | 0 | **2** |
| | 10 | 39 09291 43145 | 49 74721 | 41110 54909 94701 | 11 00264 64149 | 50 | |
| | 20 | 43 96441 17865+ | 53 02722+ | 40099 54645 30552 | 09 59190 77841+ | 40 | |
| | 30 | 48 83594 20588+ | 56 30957 | 39089 95454 52710+ | 08 18412 46175 | 30 | |
| | 40 | 53 70750 51545 | 59 59423+ | 38081 77042 06535 | 06 77928 86653 | 20 | |
| | 50 | 58 57910 10968+ | 62 88122 | 37074 99113 19882+ | 05 37739 17064+ | 10 | |
| **59** | 0 | 63 45072 99090+ | 66 17053+ | 36069 61374 02817+ | 03 97842 55488 | 0 | **1** |
| | 10 | 68 32239 16144 | 69 46217 | 35065 63531 47330 | 02 58238 20284+ | 50 | |
| | 20 | 73 19408 62361 | 72 75612+ | 34063 05293 27045+ | 1001 18925 30100+ | 40 | |
| | 30 | 78 06581 37973+ | 76 05241 | 33061 86367 96945 | 999 79903 03865 | 30 | |
| | 40 | 82 93757 43214+ | 79 35101+ | 32062 06464 93080 | 98 41170 60789 | 20 | |
| | 50 | 87 80936 78316 | 4 87182 65194+ | 31063 65294 32291+ | 997 02727 20363+ | 10 | |
| **60** | 0 | 0,06992 68119 43510+ | | 14,30066 62567 11928 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 86°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,06992 68119 43510+ | 4 87185 95520 | 14,30066 62567 11928 | 995 64572 02359 | 0 | **60** |
| | 10 | 0,06997 55305 39030 | 89 26077+ | 29070 97995 09569 | 94 26704 26825 | 50 | |
| | 20 | 0,07002 42494 65107+ | 92 56867+ | 28076 71290 82744 | 92 89123 14086+ | 40 | |
| | 30 | 07 29687 21975+ | 95 87890 | 27083 82167 68657+ | 91 51827 84745+ | 30 | |
| | 40 | 12 16883 09865+ | 4 87199 19145 | 26092 30339 83912 | 90 14817 59678+ | 20 | |
| | 50 | 17 04082 29010+ | 4 87202 50632+ | 25102 15522 24233+ | 88 78091 60036 | 10 | |
| **1** | 0 | 21 91284 79642+ | 05 82352 | 24113 37430 64197+ | 87 41649 07239+ | 0 | **59** |
| | 10 | 26 78490 61994+ | 09 14304 | 23125 95781 56958 | 86 05489 22984 | 50 | |
| | 20 | 31 65699 76299 | 12 46488+ | 22139 90292 33974 | 84 69611 29232+ | 40 | |
| | 30 | 36 52912 22787+ | 15 78905+ | 21155 20681 04741+ | 83 34014 48219 | 30 | |
| | 40 | 41 40128 01693+ | 19 11555 | 20171 86666 56522+ | 81 98698 02443+ | 20 | |
| | 50 | 46 27347 13248+ | 22 44437 | 19189 87968 54079 | 80 63661 14675+ | 10 | |
| **2** | 0 | 51 14569 57685+ | 25 77551+ | 18209 24307 39403+ | 79 28903 07947+ | 0 | **58** |
| | 10 | 56 01795 35237 | 29 10898 | 17229 95404 31456+ | 77 94423 05558 | 50 | |
| | 20 | 60 89024 46135 | 32 44477+ | 16252 00981 25898 | 76 60220 31070 | 40 | |
| | 30 | 65 76256 90612+ | 35 78289 | 15275 40760 94828+ | 75 26294 08307 | 30 | |
| | 40 | 70 63492 68902 | 39 12333+ | 14300 14466 86521+ | 73 92643 61355 | 20 | |
| | 50 | 75 50731 81235 | 42 46610 | 13326 21823 25166+ | 72 59268 14561 | 10 | |
| **3** | 0 | 80 37974 27845 | 45 81119 | 12353 62555 10605+ | 71 26166 92529+ | 0 | **57** |
| | 10 | 85 25220 08964+ | 49 15861 | 11382 36388 18076 | 69 93339 20125 | 50 | |
| | 20 | 90 12469 24825+ | 52 50835 | 10412 43048 97951+ | 68 60784 22467+ | 40 | |
| | 30 | 94 99721 75660+ | 55 86042 | 09443 82264 75483+ | 67 28501 24935 | 30 | |
| | 40 | 0,07099 86977 61702 | 59 21481 | 08476 53763 50548+ | 65 96489 53158+ | 20 | |
| | 50 | 0,07104 74236 83183 | 62 57152+ | 07510 57273 97390 | 64 64748 33025 | 10 | |
| **4** | 0 | 09 61499 40336 | 65 93057 | 06545 92525 64365+ | 63 33276 90672 | 0 | **56** |
| | 10 | 14 48765 33393 | 69 29193+ | 05582 59248 73693 | 62 02074 52491+ | 50 | |
| | 20 | 19 36034 62586+ | 72 65563 | 04620 57174 21201+ | 60 71140 45125 | 40 | |
| | 30 | 24 23307 28149+ | 76 02165 | 03659 86033 76076+ | 59 40473 95463+ | 30 | |
| | 40 | 29 10583 30314+ | 79 38999+ | 02700 45559 80613+ | 58 10074 30647+ | 20 | |
| | 50 | 33 97862 69313+ | 82 76066+ | 01742 35485 49965+ | 56 79940 78066 | 10 | |
| **5** | 0 | 38 85145 45380 | 86 13366 | 14,00785 55544 71899+ | 55 50072 65353 | 0 | **55** |
| | 10 | 43 72431 58746 | 89 50898 | 13,99830 05472 06546+ | 54 20469 20390+ | 50 | |
| | 20 | 48 59721 09644 | 92 88662+ | 98875 85002 86156 | 52 91129 71303 | 40 | |
| | 30 | 53 47013 98306+ | 96 26660 | 97922 93873 14853+ | 51 62053 46460 | 30 | |
| | 40 | 58 34310 24966+ | 4 87299 64890 | 96971 31819 68393+ | 50 33239 74474+ | 20 | |
| | 50 | 63 21609 89856+ | 4 87303 03352+ | 96020 98579 93918+ | 49 04687 84200+ | 10 | |
| **6** | 0 | 68 08912 93208+ | 06 42047+ | 95071 93892 09718 | 47 76397 04732+ | 0 | **54** |
| | 10 | 72 96219 35256 | 09 80975 | 94124 17495 04985+ | 46 48366 65405+ | 50 | |
| | 20 | 77 83529 16231 | 13 20135+ | 93177 69128 39580+ | 45 20595 95793 | 40 | |
| | 30 | 82 70842 36366+ | 16 59528+ | 92232 48532 43787+ | 43 93084 25707 | 30 | |
| | 40 | 87 58158 95895 | 19 99154 | 91288 55448 18080+ | 42 65830 85195+ | 20 | |
| | 50 | 92 45478 95048+ | 23 39012 | 90345 89617 32885 | 41 38835 04544 | 10 | |
| **7** | 0 | 0,07197 32802 34060+ | 26 79103 | 89404 50782 28341 | 40 12096 14271 | 0 | **53** |
| | 10 | 0,07202 20129 13163+ | 30 19426+ | 88464 38686 14070 | 38 85613 45131+ | 50 | |
| | 20 | 07 07459 32590 | 33 59982+ | 87525 53072 68938+ | 37 59386 28111+ | 40 | |
| | 30 | 11 94792 92572+ | 37 00771+ | 86587 93686 40827+ | 36 33413 94430 | 30 | |
| | 40 | 16 82129 93344 | 40 41793 | 85651 60272 46397+ | 35 07695 75538 | 20 | |
| | 50 | 21 69470 35136+ | 43 83047 | 84716 52576 70859+ | 33 82231 03116 | 10 | |
| **8** | 0 | 26 56814 18183+ | 47 24534 | 83782 70345 67743+ | 32 57019 09074 | 0 | **52** |
| | 10 | 31 44161 42717+ | 50 66253+ | 82850 13326 58669+ | 31 32059 25550+ | 50 | |
| | 20 | 36 31512 08970+ | 54 08205+ | 81918 81267 33119+ | 30 07350 84912 | 40 | |
| | 30 | 41 18866 17176 | 57 50390+ | 80988 73916 48207+ | 28 82893 19751 | 30 | |
| | 40 | 46 06223 67566+ | 60 92808 | 80059 91023 28456+ | 27 58685 62886+ | 20 | |
| | 50 | 50 93584 60374+ | 64 35458+ | 79132 32337 65570 | 26 34727 47361+ | 10 | |
| **9** | 0 | 55 80948 95833 | 67 78341+ | 78205 97610 18208+ | 25 11018 06443+ | 0 | **51** |
| | 10 | 60 68316 74174+ | 71 21457 | 77280 86592 11765 | 23 87556 73623+ | 50 | |
| | 20 | 65 55687 95631+ | 74 64805+ | 76356 99035 38141+ | 22 64342 82613 | 40 | |
| | 30 | 70 43062 60437+ | 78 08387 | 75434 34692 55528+ | 21 41375 67346+ | 30 | |
| | 40 | 75 30440 68824+ | 81 52201 | 74512 93316 88182 | 20 18654 61978 | 20 | |
| | 50 | 80 17822 21025+ | 4 87384 96247+ | 73592 74662 26204 | 918 96179 00881 | 10 | |
| **10** | 0 | 0,07285 05207 17273 | | 13,72673 78483 25323 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,07285 05207 17273 | 4 87388 40527+ | 13,72673 78483 25323 | 917 73948 18648 | 0 | **50** |
| | 10 | 89 92595 57800+ | 91 85039+ | 71756 04535 06675 | 16 51961 50088+ | 50 | |
| | 20 | 94 79987 42840 | 95 29784+ | 70839 52573 56586+ | 15 30218 30230 | 40 | |
| | 30 | 0,07299 67382 72624+ | 4 87398 74762+ | 69924 22355 26356+ | 14 08717 94315 | 30 | |
| | 40 | 0,07304 54781 47387 | 4 87402 19973 | 69010 13637 32041 | 12 87459 77801+ | 20 | |
| | 50 | 09 42183 67360 | 05 65416+ | 68097 26177 54239+ | 11 66443 16362 | 10 | |
| **11** | 0 | 14 29589 32776+ | 09 11092+ | 67185 59734 37877+ | 10 45667 45882 | 0 | **49** |
| | 10 | 19 16998 43869 | 12 57001+ | 66275 14066 91995+ | 09 25132 02460 | 50 | |
| | 20 | 24 04411 00870+ | 16 03143+ | 65365 88934 89535+ | 08 04836 22405+ | 40 | |
| | 30 | 28 91827 04014 | 19 49518 | 64457 84098 67130 | 06 84779 42240 | 30 | |
| | 40 | 33 79246 53532+ | 22 96125+ | 63550 99319 24889+ | 05 64960 98694+ | 20 | |
| | 50 | 38 66669 49658 | 26 42966 | 62645 34358 26195+ | 04 45380 28708+ | 10 | |
| **12** | 0 | 43 54095 92624 | 29 90039 | 61740 88977 97487 | 03 26036 69431+ | 0 | **48** |
| | 10 | 48 41525 82663 | 33 37345 | 60837 62941 28055+ | 02 06929 58219 | 50 | |
| | 20 | 53 28959 20008 | 36 84884 | 59935 56011 69836+ | 900 88058 32634 | 40 | |
| | 30 | 58 16396 04892 | 40 32655+ | 59034 67953 37202+ | 899 69422 30445+ | 30 | |
| | 40 | 63 03836 37547+ | 43 80660 | 58134 98531 06757 | 98 51020 89627+ | 20 | |
| | 50 | 67 91280 18207+ | 47 28897+ | 57236 47510 17129+ | 97 32853 48358 | 10 | |
| **13** | 0 | 72 78727 47105 | 50 77368 | 56339 14656 68771 | 96 14919 45019+ | 0 | **47** |
| | 10 | 77 66178 24473 | 54 26071 | 55442 99737 23752 | 94 97218 18195 | 50 | |
| | 20 | 82 53632 50544 | 57 75007 | 54548 02519 05557 | 93 79749 06672 | 40 | |
| | 30 | 87 41090 25551+ | 61 24176 | 53654 22769 98884+ | 92 62511 49438 | 30 | |
| | 40 | 92 28551 49727+ | 64 73578 | 52761 60258 49447 | 91 45504 85679+ | 20 | |
| | 50 | 0,07397 16016 23305+ | 68 23213 | 51870 14753 63767 | 90 28728 54785 | 10 | |
| **14** | 0 | 0,07402 03484 46518 | 71 73080+ | 50979 86025 08982 | 89 12181 96340 | 0 | **46** |
| | 10 | 06 90956 19599 | 75 23181 | 50090 73843 12642 | 87 95864 50128+ | 50 | |
| | 20 | 11 78431 42780 | 78 73514+ | 49202 77978 62513 | 86 79775 56131+ | 40 | |
| | 30 | 16 65910 16294+ | 82 24081 | 48315 98203 06381+ | 85 63914 54526+ | 30 | |
| | 40 | 21 53392 40376 | 85 74880+ | 47430 34288 51855 | 84 48280 85686+ | 20 | |
| | 50 | 26 40878 15256+ | 89 25913 | 46545 86007 66168+ | 83 32873 90180 | 10 | |
| **15** | 0 | 31 28367 41169+ | 92 77178+ | 45662 53133 75988+ | 82 17693 08768 | 0 | **45** |
| | 10 | 36 15860 18348 | 96 28676+ | 44780 35440 67220+ | 81 02737 82407 | 50 | |
| | 20 | 41 03356 47025 | 4 87499 80408 | 43899 32702 84813 | 79 88007 52245 | 40 | |
| | 30 | 45 90856 27433 | 4 87503 32372+ | 43019 44695 32568+ | 78 73501 59620+ | 30 | |
| | 40 | 50 78359 59805 | 06 84569+ | 42140 71193 72947+ | 77 59219 46066 | 20 | |
| | 50 | 55 65866 44374+ | 10 37000 | 41263 11974 26882 | 76 45160 53301+ | 10 | |
| **16** | 0 | 60 53376 81374+ | 13 89663 | 40386 66813 73580+ | 75 31324 23238+ | 0 | **44** |
| | 10 | 65 40890 71037+ | 17 42559+ | 39511 35489 50342 | 74 17709 97976+ | 50 | |
| | 20 | 70 28408 13597 | 20 95688+ | 38637 17779 52365+ | 73 04317 19803 | 40 | |
| | 30 | 75 15929 09285+ | 24 49051 | 37764 13462 32562+ | 71 91145 31193 | 30 | |
| | 40 | 80 03453 58336 | 28 02646 | 36892 22317 01369+ | 70 78193 74809 | 20 | |
| | 50 | 84 90981 60982 | 31 56474+ | 36021 44123 26560+ | 69 65461 93498+ | 10 | |
| **17** | 0 | 89 78513 17456+ | 35 10536 | 35151 78661 33062 | 68 52949 30294 | 0 | **43** |
| | 10 | 94 66048 27992+ | 38 64830 | 34283 25712 02768 | 67 40655 28413 | 50 | |
| | 20 | 0,07499 53586 92822+ | 42 19357+ | 33415 85056 74355+ | 66 28579 31256+ | 40 | |
| | 30 | 0,07504 41129 12180+ | 45 74118 | 32549 56477 43098+ | 65 16720 82409 | 30 | |
| | 40 | 09 28674 86298+ | 49 29112 | 31684 39756 60689+ | 64 05079 25637+ | 20 | |
| | 50 | 14 16224 15410 | 52 84338+ | 30820 34677 35052 | 62 93654 04889 | 10 | |
| **18** | 0 | 19 03776 99748+ | 56 39798 | 29957 41023 30163 | 61 82444 64293+ | 0 | **42** |
| | 10 | 23 91333 39546+ | 59 95491 | 29095 58578 65869+ | 60 71450 48160 | 50 | |
| | 20 | 28 78893 35037+ | 63 51417 | 28234 87128 17709+ | 59 60671 00977+ | 40 | |
| | 30 | 33 66456 86454+ | 67 07576 | 27375 26457 16732+ | 58 50105 67413+ | 30 | |
| | 40 | 38 54023 94030+ | 70 63968 | 26516 76351 49319 | 57 39753 92313+ | 20 | |
| | 50 | 43 41594 57998+ | 74 20593 | 25659 36597 57005+ | 56 29615 20701+ | 10 | |
| **19** | 0 | 48 29168 78591+ | 77 77451+ | 24803 06982 36304 | 55 19688 97777+ | 0 | **41** |
| | 10 | 53 16746 56043 | 81 34543 | 23947 87293 38526+ | 54 09974 68917+ | 50 | |
| | 20 | 58 04327 90586 | 84 91867+ | 23093 77318 69609 | 53 00471 79672+ | 40 | |
| | 30 | 62 91912 82453+ | 88 49425+ | 22240 76846 89936+ | 51 91179 75770 | 30 | |
| | 40 | 67 79501 31879 | 92 07216 | 21388 85667 14166+ | 50 82098 03109 | 20 | |
| | 50 | 72 67093 39095 | | 20538 03569 11057+ | | 10 | |
| **20** | 0 | 0,07577 54689 04335+ | 4 87595 65240 | 13,19688 30343 03293 | 849 73226 07764+ | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,07577 54689 04335+ | 4 87599 23497+ | 13,19688 30343 03293 | 848 64563 35982+ | 0 | **40** |
| | 10 | 82 42288 27833 | 4 87602 81988 | 8839 65779 67310+ | 47 56109 34181+ | 50 | |
| | 20 | 87 29891 09820+ | 06 40711+ | 7992 09670 33129 | 46 47863 48951+ | 40 | |
| | 30 | 92 17497 50532 | 09 99668 | 7145 61806 84178 | 45 39825 27053 | 30 | |
| | 40 | 0,07597 05107 50200 | 13 58858 | 6300 21981 57124+ | 44 31994 15417+ | 20 | |
| | 50 | 0,07601 92721 09057+ | 17 18281 | 5455 89987 41707 | 43 24369 61145 | 10 | |
| **21** | 0 | 06 80338 27338+ | 20 77937+ | 4612 65617 80562 | 42 16951 11504 | 0 | **39** |
| | 10 | 11 67959 05276 | 24 37827 | 3770 48666 69058 | 41 09738 13932+ | 50 | |
| | 20 | 16 55583 43103 | 27 97949+ | 2929 38928 55125+ | 40 02730 16034+ | 40 | |
| | 30 | 21 43211 41052 | 31 58305+ | 2089 36198 39091 | 38 95926 65582 | 30 | |
| | 40 | 26 30842 99357+ | 35 18894+ | 1250 40271 73509 | 37 89327 10513 | 20 | |
| | 50 | 31 18478 18252 | 38 79717 | 13,10412 50944 62996+ | 36 82930 98930 | 10 | |
| **22** | 0 | 36 06116 97969 | 42 40772+ | 13,09575 68013 64066 | 35 76737 79102+ | 0 | **38** |
| | 10 | 40 93759 38741+ | 46 02061+ | 8739 91275 84963+ | 34 70746 99462+ | 50 | |
| | 20 | 45 81405 40803 | 49 63583+ | 7905 20528 85501 | 33 64958 08606+ | 40 | |
| | 30 | 50 69055 04387 | 53 25339 | 7071 55570 76895 | 32 59370 55293+ | 30 | |
| | 40 | 55 56708 29725+ | 56 87327+ | 6238 96200 21601+ | 31 53983 88446+ | 20 | |
| | 50 | 60 44365 17053+ | 60 49549+ | 5407 42216 33155 | 30 48797 57148+ | 10 | |
| **23** | 0 | 65 32025 66603 | 64 12005 | 4576 93418 76006+ | 29 43811 10644+ | 0 | **37** |
| | 10 | 70 19689 78607+ | 67 74693+ | 3747 49607 65361+ | 28 39023 98340+ | 50 | |
| | 20 | 75 07357 53301 | 71 37615 | 2919 10583 67021 | 27 34435 69802 | 40 | |
| | 30 | 79 95028 90916 | 75 00770 | 2091 76147 97219 | 26 30045 74754 | 30 | |
| | 40 | 84 82703 91686+ | 78 64158+ | 1265 46102 22465 | 25 25853 63080+ | 20 | |
| | 50 | 89 70382 55845 | 82 27780+ | 13,00440 20248 59384+ | 24 21858 84823 | 10 | |
| **24** | 0 | 94 58064 83625+ | 85 91635+ | 12,99615 98389 74561+ | 23 18060 90181+ | 0 | **36** |
| | 10 | 0,07699 45750 75260+ | 89 55724 | 8792 80328 84380 | 22 14459 29512+ | 50 | |
| | 20 | 0,07704 33440 30984+ | 93 20045+ | 7970 65869 54867+ | 21 11053 53329 | 40 | |
| | 30 | 09 21133 51030 | 4 87696 84600+ | 7149 54816 01538+ | 20 07843 12300+ | 30 | |
| | 40 | 14 08830 35630+ | 4 87700 49389 | 6329 46972 89238 | 19 04827 57250 | 20 | |
| | 50 | 18 96530 85019+ | 04 14411 | 5510 42145 31988+ | 18 02006 39157 | 10 | |
| **25** | 0 | 23 84234 99430+ | 07 79666 | 4692 40138 92831+ | 16 99379 09153+ | 0 | **35** |
| | 10 | 28 71942 79096+ | 11 45154+ | 3875 40759 83678 | 15 96945 18526+ | 50 | |
| | 20 | 33 59654 24251 | 15 10876+ | 3059 43814 65151+ | 14 94704 18715 | 40 | |
| | 30 | 38 47369 35127 | 18 76831+ | 2244 49110 46436+ | 13 92655 61310 | 30 | |
| | 40 | 43 35088 11958+ | 22 43020+ | 1430 56454 85126 | 12 90798 98055+ | 20 | |
| | 50 | 48 22810 54979 | 26 09442+ | 12,90617 65655 87070+ | 11 89133 80845 | 10 | |
| **26** | 0 | 53 10536 64421 | 29 76098 | 12,89805 76522 06225+ | 10 87659 61724+ | 0 | **34** |
| | 10 | 57 98266 40519 | 33 42986+ | 8994 88862 44501 | 09 86375 92888 | 50 | |
| | 20 | 62 85999 83505+ | 37 10109 | 8185 02486 51612+ | 08 85282 26681 | 40 | |
| | 30 | 67 73736 93614+ | 40 77464+ | 7376 17204 24932 | 07 84378 15596+ | 30 | |
| | 40 | 72 61477 71079+ | 44 45054 | 6568 32826 09335+ | 06 83663 12276 | 20 | |
| | 50 | 77 49222 16133+ | 48 12876+ | 5761 49162 97059+ | 05 83136 69509+ | 10 | |
| **27** | 0 | 82 36970 29010 | 51 80932+ | 4955 66026 27550 | 04 82798 40234 | 0 | **33** |
| | 10 | 87 24722 09942+ | 55 49222 | 4150 83227 87315+ | 03 82647 77533+ | 50 | |
| | 20 | 92 12477 59164+ | 59 17745 | 3347 00580 09782+ | 02 82684 34636+ | 40 | |
| | 30 | 0,07797 00236 76909+ | 62 86501+ | 2544 17895 75146 | 01 82907 64919+ | 30 | |
| | 40 | 0,07801 87999 63411 | 66 55491+ | 1742 34988 10226 | 800 83317 21902+ | 20 | |
| | 50 | 06 75766 18902+ | 70 24715 | 0941 51670 88323+ | 799 83912 59250+ | 10 | |
| **28** | 0 | 11 63536 43617+ | 73 94171+ | 12,80141 67758 29073 | 98 84693 30772+ | 0 | **32** |
| | 10 | 16 51310 37789 | 77 63862 | 12,79342 83064 98300 | 97 85658 90421 | 50 | |
| | 20 | 21 39088 01651 | 81 33786 | 8544 97406 07879 | 96 86808 92291+ | 40 | |
| | 30 | 26 26869 35437 | 85 03943+ | 7748 10597 15587+ | 95 88142 90621 | 30 | |
| | 40 | 31 14654 39380+ | 88 74334+ | 6952 22454 24967 | 94 89660 39789+ | 20 | |
| | 50 | 36 02443 13715 | 92 44959 | 6157 32793 85177+ | 93 91360 94317+ | 10 | |
| **29** | 0 | 40 90235 58674 | 96 15817 | 5363 41432 90860 | 92 93244 08867+ | 0 | **31** |
| | 10 | 45 78031 74490+ | 4 87799 86908+ | 4570 48188 81992+ | 91 95309 38241 | 50 | |
| | 20 | 50 65831 61399 | 4 87803 58233+ | 3778 52879 43751+ | 90 97556 37379+ | 40 | |
| | 30 | 55 53635 19632+ | 07 29792 | 2987 55323 06372+ | 89 99984 61364 | 30 | |
| | 40 | 60 41442 49424+ | 11 01584 | 2197 55338 45008+ | 89 02593 65414+ | 20 | |
| | 50 | 65 29253 51008+ | 4 87814 73610 | 1408 52744 79593+ | 788 05383 04889 | 10 | |
| **30** | 0 | 0,07870 17068 24618+ | | 12,70620 47361 74704+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,07870 17068 24618+ | 4 87818 45869+ | 12,70620 47361 74704+ | 787 08352 35282+ | 0 | **30** |
| | 10 | 75 04886 70487+ | 22 18362 | 12,69833 39009 39422 | 86 11501 12228+ | 50 | |
| | 20 | 79 92708 88850 | 25 91088+ | 9047 27508 27193+ | 85 14828 91496 | 40 | |
| | 30 | 84 80534 79938+ | 29 64049 | 8262 12679 35697+ | 84 18335 28991 | 30 | |
| | 40 | 89 68364 43987+ | 33 37242+ | 7477 94344 06706+ | 83 22019 80754 | 20 | |
| | 50 | 94 56197 81230 | 37 10670 | 6694 72324 25952 | 82 25882 02962+ | 10 | |
| **31** | 0 | 0,07899 44034 91899+ | 40 84330+ | 5912 46442 22989+ | 81 29921 51927+ | 0 | **29** |
| | 10 | 0,07904 31875 76230 | 44 58225 | 5131 16520 71062 | 80 34137 84094 | 50 | |
| | 20 | 09 19720 34455+ | 48 32353+ | 4350 82382 86968+ | 79 38530 56041 | 40 | |
| | 30 | 14 07568 66809 | 52 06715 | 3571 43852 30927+ | 78 43099 24481 | 30 | |
| | 40 | 18 95420 73524 | 55 81310+ | 2793 00753 06446+ | 77 47843 46258+ | 20 | |
| | 50 | 23 83276 54835 | 59 56140 | 2015 52909 60188 | 76 52762 78351+ | 10 | |
| **32** | 0 | 28 71136 10974+ | 63 31202+ | 1239 00146 81837 | 75 57856 77868 | 0 | **28** |
| | 10 | 33 58999 42177 | 67 06499 | 12,60463 42290 03969 | 74 63125 02048+ | 50 | |
| | 20 | 38 46866 48676 | 70 82029 | 12,59688 79165 01920+ | 73 68567 08264 | 40 | |
| | 30 | 43 34737 30705+ | 74 57793 | 8915 10597 93656 | 72 74182 54015+ | 30 | |
| | 40 | 48 22611 88498 | 78 33790+ | 8142 36415 39640+ | 71 79970 96934 | 20 | |
| | 50 | 53 10490 22288+ | 82 10021+ | 7370 56444 42706+ | 70 85931 94780 | 10 | |
| **33** | 0 | 57 98372 32310 | 85 86486+ | 6599 70512 47926+ | 69 92065 05442+ | 0 | **27** |
| | 10 | 62 86258 18796+ | 89 63185 | 5829 78447 42483+ | 68 98369 86939 | 50 | |
| | 20 | 67 74147 81981+ | 93 40117+ | 5060 80077 55544+ | 68 04845 97415 | 40 | |
| | 30 | 72 62041 22099 | 4 87897 17283+ | 4292 75231 58129+ | 67 11492 95144 | 30 | |
| | 40 | 77 49938 39382+ | 4 87900 94683 | 3525 63738 62985+ | 66 18310 38525 | 20 | |
| | 50 | 82 37839 34065+ | 04 72316+ | 2759 45428 24461 | 65 25297 86084+ | 10 | |
| **34** | 0 | 87 25744 06382+ | 08 50184 | 1994 20130 38376 | 64 32454 96475+ | 0 | **26** |
| | 10 | 92 13652 56566+ | 12 28285 | 1229 87675 41900+ | 63 39781 28476 | 50 | |
| | 20 | 0,07997 01564 84851 | 16 06619+ | 12,50466 47894 13424+ | 62 47276 40989+ | 40 | |
| | 30 | 0,08001 89480 91471 | 19 85188 | 12,49704 00617 72435 | 61 54939 93043 | 30 | |
| | 40 | 06 77400 76659 | 23 63990+ | 8942 45677 79392 | 60 62771 43789+ | 20 | |
| | 50 | 11 65324 40649+ | 27 43026+ | 8181 82906 35602+ | 59 70770 52504+ | 10 | |
| **35** | 0 | 16 53251 83676 | 31 22296+ | 7422 12135 83098+ | 58 78936 78587+ | 0 | **25** |
| | 10 | 21 41183 05972+ | 35 01800 | 6663 33199 04511 | 57 87269 81560+ | 50 | |
| | 20 | 26 29118 07772+ | 38 81537+ | 5905 45929 22950+ | 56 95769 21068 | 40 | |
| | 30 | 31 17056 89310+ | 42 61509 | 5148 50160 01882+ | 56 04434 56877 | 30 | |
| | 40 | 36 04999 50819 | 46 41714 | 4392 45725 45006 | 55 13265 48875 | 20 | |
| | 50 | 40 92945 92533 | 50 22153 | 3637 32459 96131 | 54 22261 57072 | 10 | |
| **36** | 0 | 45 80896 14686 | 54 02825+ | 2883 10198 39059 | 53 31422 41597 | 0 | **24** |
| | 10 | 50 68850 17511+ | 57 83732 | 2129 78775 97462 | 52 40747 62701 | 50 | |
| | 20 | 55 56808 01244 | 61 64872+ | 1377 38028 34761 | 51 50236 80753+ | 40 | |
| | 30 | 60 44769 66116+ | 65 46247 | 12,40625 87791 54007+ | 50 59889 56244 | 30 | |
| | 40 | 65 32735 12363+ | 69 27855 | 12,39875 27901 97763+ | 49 69705 49780+ | 20 | |
| | 50 | 70 20704 40218+ | 73 09697 | 9125 58196 47983 | 48 79684 22090 | 10 | |
| **37** | 0 | 75 08677 49915+ | 76 91773 | 8376 78512 25892+ | 47 89825 34017+ | 0 | **23** |
| | 10 | 79 96654 41688+ | 80 74083 | 7628 88686 91875 | 47 00128 46525 | 50 | |
| | 20 | 84 84635 15771+ | 84 56626+ | 6881 88558 45350 | 46 10593 20693 | 40 | |
| | 30 | 89 72619 72398 | 88 39404 | 6135 77965 24657 | 45 21219 17717 | 30 | |
| | 40 | 94 60608 11802 | 92 22415+ | 5390 56746 06940 | 44 32005 98910+ | 20 | |
| | 50 | 0,08099 48600 34217+ | 96 05661 | 4646 24740 08029+ | 43 42953 25702+ | 10 | |
| **38** | 0 | 0,08104 36596 39878+ | 4 87999 89140 | 3902 81786 82327 | 42 54060 59637 | 0 | **22** |
| | 10 | 09 24596 29018+ | 4 88003 72853+ | 3160 27726 22690 | 41 65327 62374 | 50 | |
| | 20 | 14 12600 01872 | 07 56800+ | 2418 62398 60316 | 40 76753 95688 | 40 | |
| | 30 | 19 00607 58672+ | 11 40981+ | 1677 85644 64628 | 39 88339 21466+ | 30 | |
| | 40 | 23 88618 99654+ | 15 25396+ | 0937 97305 43161+ | 39 00083 01713+ | 20 | |
| | 50 | 28 76634 25051 | 19 10045+ | 12,30198 97222 41448 | 38 11984 98544 | 10 | |
| **39** | 0 | 33 64653 35097 | 22 94928+ | 12,29460 85237 42904 | 37 24044 74187 | 0 | **21** |
| | 10 | 38 52676 30025+ | 26 80045+ | 8723 61192 68717 | 36 36261 90985 | 50 | |
| | 20 | 43 40703 10071 | 30 65396+ | 7987 24930 77732 | 35 48636 11391+ | 40 | |
| | 30 | 48 28733 75467+ | 34 50981+ | 7251 76294 66340 | 34 61166 97973 | 30 | |
| | 40 | 53 16768 26449 | 38 36800+ | 6517 15127 68367 | 33 73854 13406 | 20 | |
| | 50 | 58 04806 63249+ | 4 88042 22853 | 5783 41273 54961 | 732 86697 20480 | 10 | |
| **40** | 0 | 0,08162 92848 86102+ | | 12,25050 54576 34481 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,08162 92848 86102+ | 4 88046 09140 | 12,25050 54576 34481 | 731 99695 82093+ | 0 | **20** |
| | 10 | 67 80894 95242+ | 49 95661 | 4318 54880 52388 | 1 12849 61256 | 50 | |
| | 20 | 72 68944 90904 | 53 82416 | 3587 42030 91132 | 730 26158 21087 | 40 | |
| | 30 | 77 56998 73319+ | 57 69405 | 2857 15872 70045+ | 729 39621 24815 | 30 | |
| | 40 | 82 45056 42724+ | 61 56628 | 2127 76251 45230 | 8 53238 35778+ | 20 | |
| | 50 | 87 33117 99352+ | 65 44085 | 1399 23013 09451+ | 7 67009 17424 | 10 | |
| **41** | 0 | 92 21183 43437+ | 69 31776 | 12,20671 56003 92027+ | 6 80933 33307 | 0 | **19** |
| | 10 | 0,08197 09252 75213+ | 73 19701 | 12,19944 75070 58720+ | 5 95010 47089+ | 50 | |
| | 20 | 0,08201 97325 94914+ | 77 07860+ | 9218 80060 11631+ | 5 09240 22542+ | 40 | |
| | 30 | 06 85403 02775 | 80 96253+ | 8493 70819 89089 | 4 23622 23543+ | 30 | |
| | 40 | 11 73483 99028+ | 84 84881 | 7769 47197 65545 | 3 38156 14078 | 20 | |
| | 50 | 16 61568 83910 | 88 73742+ | 7046 09041 51467+ | 2 52841 58236 | 10 | |
| **42** | 0 | 21 49657 57652+ | 92 62838 | 6323 56199 93231+ | 1 67678 20214+ | 0 | **18** |
| | 10 | 26 37750 20490+ | 4 88096 52167+ | 5601 88521 73017 | 720 82665 64317 | 50 | |
| | 20 | 31 25846 72658 | 4 88100 41731+ | 4881 05856 08699+ | 719 97803 54951 | 40 | |
| | 30 | 36 13947 14389+ | 04 31529+ | 4161 08052 53749 | 9 13091 56629 | 30 | |
| | 40 | 41 02051 45919 | 08 21561+ | 3441 94960 97119+ | 8 28529 33969+ | 20 | |
| | 50 | 45 90159 67480 | 12 11827+ | 2723 66431 63150 | 7 44116 51693+ | 10 | |
| **43** | 0 | 50 78271 79307+ | 16 02327+ | 2006 22315 11456+ | 6 59852 74626+ | 0 | **17** |
| | 10 | 55 66387 81635+ | 19 93062 | 1289 62462 36830+ | 5 75737 67697+ | 50 | |
| | 20 | 60 54507 74697+ | 23 84030+ | 12,10573 86724 69132+ | 4 91770 95939 | 40 | |
| | 30 | 65 42631 58728 | 27 75233+ | 12,09858 94953 73193+ | 4 07952 24485 | 30 | |
| | 40 | 70 30759 33961+ | 31 66670+ | 9144 87001 48708+ | 3 24281 18573+ | 20 | |
| | 50 | 75 18891 00632 | 35 58341+ | 8431 62720 30135 | 2 40757 43543 | 10 | |
| **44** | 0 | 80 07026 58973+ | 39 50246+ | 7719 21962 86592+ | 1 57380 64834 | 0 | **16** |
| | 10 | 84 95166 09220 | 43 42386 | 7007 64582 21758 | 710 74150 47989+ | 50 | |
| | 20 | 89 83309 51606 | 47 34760 | 6296 90431 73768+ | 709 91066 58652 | 40 | |
| | 30 | 94 71456 86366 | 51 27367+ | 5586 99365 15116+ | 9 08128 62565+ | 30 | |
| | 40 | 0,08299 59608 13733+ | 55 20209+ | 4877 91236 52551 | 8 25336 25573 | 20 | |
| | 50 | 0,08304 47763 33943+ | 59 13286 | 4169 65900 26978+ | 7 42689 13618+ | 10 | |
| **45** | 0 | 09 35922 47229+ | 63 06596+ | 3462 23211 13360 | 6 60186 92745+ | 0 | **15** |
| | 10 | 14 24085 53826 | 67 00141+ | 2755 63024 20614+ | 5 77829 29096 | 50 | |
| | 20 | 19 12252 53967+ | 70 93920+ | 2049 85194 91518+ | 4 95615 88911+ | 40 | |
| | 30 | 24 00423 47887+ | 74 87933+ | 1344 89579 02607 | 4 13546 38531+ | 30 | |
| | 40 | 28 88598 35821 | 78 82181 | 12,00640 76032 64075+ | 3 31620 44394 | 20 | |
| | 50 | 33 76777 18002+ | 82 76663 | 11,99937 44412 19681+ | 2 49837 73034 | 10 | |
| **46** | 0 | 38 64959 94665 | 86 71379 | 9234 94574 46647+ | 1 68197 91085+ | 0 | **14** |
| | 10 | 43 53146 66044 | 90 66329 | 8533 26376 55562+ | 0 86700 65278 | 50 | |
| | 20 | 48 41337 32373+ | 94 61514 | 7832 39675 90284+ | 700 05345 62438+ | 40 | |
| | 30 | 53 29531 93887 | 4 88198 56933 | 7132 34330 27846 | 699 24132 49490+ | 30 | |
| | 40 | 58 17730 50820 | 4 88202 52586 | 6433 10197 78356 | 8 43060 93453 | 20 | |
| | 50 | 63 05933 03406 | 06 48473+ | 5734 67136 84902+ | 7 62130 61442+ | 10 | |
| **47** | 0 | 67 94139 51879+ | 10 44595+ | 5037 05006 23460+ | 6 81341 20668 | 0 | **13** |
| | 10 | 72 82349 96475 | 14 40951+ | 4340 23665 02792 | 6 00692 38436+ | 50 | |
| | 20 | 77 70564 37426+ | 18 37542 | 3644 22972 64355+ | 5 20183 82148 | 40 | |
| | 30 | 82 58782 74968+ | 22 34367 | 2949 02788 82207+ | 4 39815 19297+ | 30 | |
| | 40 | 87 47005 09335+ | 26 31426 | 2254 62973 62910 | 3 59586 17474 | 20 | |
| | 50 | 92 35231 40761+ | 30 28719+ | 1561 03387 45436 | 2 79496 44360+ | 10 | |
| **48** | 0 | 0,08397 23461 69481 | 34 26247+ | 0868 23891 01075+ | 1 99545 67733+ | 0 | **12** |
| | 10 | 0,08402 11695 95729 | 38 24010 | 11,90176 24345 33342 | 1 19733 55461+ | 50 | |
| | 20 | 06 99934 19738+ | 42 22006+ | 11,89485 04611 77880+ | 690 40059 75508 | 40 | |
| | 30 | 11 88176 41745 | 46 20237+ | 8794 64552 02372+ | 689 60523 95927 | 30 | |
| | 40 | 16 76422 61983 | 50 18703 | 8105 04028 06446 | 8 81125 84865 | 20 | |
| | 50 | 21 64672 80686 | 54 17403 | 7416 22902 21580+ | 8 01865 10562 | 10 | |
| **49** | 0 | 26 52926 98089 | 58 16337 | 6728 21037 11018+ | 7 22741 41347 | 0 | **11** |
| | 10 | 31 41185 14426 | 62 15506 | 6040 98295 69671+ | 6 43754 45642+ | 50 | |
| | 20 | 36 29447 29932 | 66 14909 | 5354 54541 24029 | 5 64903 91960 | 40 | |
| | 30 | 41 17713 44841 | 70 14546+ | 4668 89637 32069 | 4 86189 48903 | 30 | |
| | 40 | 46 05983 59387 | 74 14418+ | 3984 03447 83166 | 4 07610 85165 | 20 | |
| | 50 | 50 94257 73805+ | 4 88278 14525 | 3299 95836 98001 | 683 29167 69528+ | 10 | |
| **50** | 0 | 0,08455 82535 88330+ | | 11,82616 66669 28473 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 4°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,08455 82535 88330+ | 4 88282 14866 | 11,82616 66669 28473 | 682 50859 70866+ | 0 | **10** |
| | 10 | 60 70818 03196+ | 86 15441 | 1934 15809 57606 | 1 72686 58142 | 50 | |
| | 20 | 65 59104 18637+ | 90 16251 | 1252 43122 99464 | 0 94648 00405+ | 40 | |
| | 30 | 70 47394 34888+ | 94 17295 | 11,80571 48474 99059 | 680 16743 66797 | 30 | |
| | 40 | 75 35688 52183+ | 4 88298 18574 | 11,79891 31731 32262 | 679 38973 26545 | 20 | |
| | 50 | 80 23986 70757+ | 4 88302 20087 | 9211 92758 05717+ | 8 61336 48966 | 10 | |
| **51** | 0 | 85 12288 90844+ | 06 21835 | 8533 31421 56751+ | 7 83833 03464+ | 0 | **9** |
| | 10 | 90 00595 12679+ | 10 23817 | 7855 47588 53287 | 7 06462 59532 | 50 | |
| | 20 | 94 88905 36497 | 14 26034 | 7178 41125 93755 | 6 29224 86748 | 40 | |
| | 30 | 0,08499 77219 62531 | 18 28485+ | 6502 11901 07007 | 5 52119 54778+ | 30 | |
| | 40 | 0,08504 65537 91016+ | 22 31171 | 5826 59781 52228+ | 4 75146 33375+ | 20 | |
| | 50 | 09 53860 22187+ | 26 34091+ | 5151 84635 18853 | 3 98304 92378+ | 10 | |
| **52** | 0 | 14 42186 56279 | 30 37246+ | 4477 86330 26474+ | 3 21595 01712 | 0 | **8** |
| | 10 | 19 30516 93525+ | 34 40636 | 3804 64735 24762+ | 2 45016 31387+ | 50 | |
| | 20 | 24 18851 34161+ | 38 44260 | 3132 19718 93375 | 1 68568 51500 | 40 | |
| | 30 | 29 07189 78421+ | 42 48118+ | 2460 51150 41875 | 0 92251 32231+ | 30 | |
| | 40 | 33 95532 26540 | 46 52212 | 1789 58899 09644 | 670 16064 43848 | 20 | |
| | 50 | 38 83878 78752 | 50 56539+ | 1119 42834 65796 | 669 40007 56700 | 10 | |
| **53** | 0 | 43 72229 35291+ | 54 61102 | 11,70450 02827 09096 | 8 64080 41223 | 0 | **7** |
| | 10 | 48 60583 96393+ | 58 65899 | 11,69781 38746 67873 | 7 88282 67935 | 50 | |
| | 20 | 53 48942 62292+ | 62 70930+ | 9113 50463 99938 | 7 12614 07439+ | 40 | |
| | 30 | 58 37305 33223 | 66 76196+ | 8446 37849 92498+ | 6 37074 30422+ | 30 | |
| | 40 | 63 25672 09419+ | 70 81697+ | 7780 00775 62076 | 5 61663 07653 | 20 | |
| | 50 | 68 14042 91117 | 74 87433 | 7114 39112 54422+ | 4 86380 09983+ | 10 | |
| **54** | 0 | 73 02417 78550 | 78 93403 | 6449 52732 44439+ | 4 11225 08347+ | 0 | **6** |
| | 10 | 77 90796 71953 | 82 99607+ | 5785 41507 36091+ | 3 36197 73763+ | 50 | |
| | 20 | 82 79179 71561 | 87 06047 | 5122 05309 62328 | 2 61297 77329+ | 40 | |
| | 30 | 87 67566 77608 | 91 12721 | 4459 44011 84999 | 1 86524 90226+ | 30 | |
| | 40 | 92 55957 90329 | 95 19630 | 3797 57486 94772+ | 1 11878 83716 | 20 | |
| | 50 | 0,08597 44353 09959 | 4 88399 26773+ | 3136 45608 11056+ | 660 37359 29142+ | 10 | |
| **55** | 0 | 0,08602 32752 36732+ | 4 88403 34151+ | 2476 08248 81914 | 659 62965 97929+ | 0 | **5** |
| | 10 | 07 21155 70883+ | 07 41764 | 1816 45282 83984+ | 8 88698 61581+ | 50 | |
| | 20 | 12 09563 12648 | 11 49611+ | 1157 56584 22403 | 8 14556 91684+ | 40 | |
| | 30 | 16 97974 62259+ | 15 57694 | 11,60499 42027 30718 | 7 40540 59904 | 30 | |
| | 40 | 21 86390 19953 | 19 66010+ | 11,59842 01486 70814+ | 6 66649 37984 | 20 | |
| | 50 | 26 74809 85964 | 23 74562+ | 9185 34837 32830+ | 5 92882 97750 | 10 | |
| **56** | 0 | 31 63233 60526 | 27 83348+ | 8529 41954 35080+ | 5 19241 11105+ | 0 | **4** |
| | 10 | 36 51661 43874+ | 31 92369+ | 7874 22713 23974+ | 4 45723 50034 | 50 | |
| | 20 | 41 40093 36244+ | 36 01625+ | 7219 76989 73940+ | 3 72329 86597 | 40 | |
| | 30 | 46 28529 37870 | 40 11116 | 6566 04659 87343+ | 2 99059 92934+ | 30 | |
| | 40 | 51 16969 48986 | 44 20841+ | 5913 05599 94408+ | 2 25913 41265 | 20 | |
| | 50 | 56 05413 69827+ | 48 30801+ | 5260 79686 53143+ | 1 52890 03885 | 10 | |
| **57** | 0 | 60 93862 00629 | 52 40996+ | 4609 26796 49259 | 0 79989 53168 | 0 | **3** |
| | 10 | 65 82314 41625+ | 56 51426 | 3958 46806 96091 | 650 07211 61566 | 50 | |
| | 20 | 70 70770 93052 | 60 62090+ | 3308 39595 34525 | 649 34556 01607+ | 40 | |
| | 30 | 75 59231 55142+ | 64 72990 | 2659 05039 32917+ | 8 62022 45898 | 30 | |
| | 40 | 80 47696 28132+ | 68 84124 | 2010 43016 87019+ | 7 89610 67119+ | 20 | |
| | 50 | 85 36165 12256+ | 72 95493 | 1362 53406 19900 | 7 17320 38031 | 10 | |
| **58** | 0 | 90 24638 07749+ | 77 07096+ | 0715 36085 81869 | 6 45151 31467 | 0 | **2** |
| | 10 | 0,08695 13115 14846 | 81 18935+ | 11,50068 90934 50402 | 5 73103 20338 | 50 | |
| | 20 | 0,08700 01596 33781+ | 85 31008+ | 11,49423 17831 30064 | 5 01175 77630 | 40 | |
| | 30 | 04 90081 64790 | 89 43317 | 8778 16655 52433+ | 4 29368 76405+ | 30 | |
| | 40 | 09 78571 08107 | 93 55860 | 8133 87286 76028+ | 3 57681 89800 | 20 | |
| | 50 | 14 67064 63967 | 4 88497 68638 | 7490 29604 86228 | 2 86114 91026 | 10 | |
| **59** | 0 | 19 55562 32605 | 4 88501 81651 | 6847 43489 95202 | 2 14667 53369+ | 0 | **1** |
| | 10 | 24 44064 14256 | 05 94898+ | 6205 28822 41833 | 1 43339 50190+ | 50 | |
| | 20 | 29 32570 09154+ | 10 08381 | 5563 85482 91642 | 0 72130 54924+ | 40 | |
| | 30 | 34 21080 17535+ | 14 22098+ | 4923 13352 36717+ | 640 01040 41080 | 30 | |
| | 40 | 39 09594 39634+ | 18 36051 | 4283 12311 95637+ | 639 30068 82238+ | 20 | |
| | 50 | 43 98112 75685+ | 4 88522 50238+ | 3643 82243 13399 | 638 59215 52056 | 10 | |
| **60** | 0 | 0,08748 86635 25924 | | 11,43005 23027 61343 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 85°

# 5°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,08748 86635 25924 | 4 88526 64660+ | 11,43005 23027 61343 | 637 88480 24261+ | 0 | **60** |
| | 10 | 53 75161 90584+ | 30 79318 | 2367 34547 37081+ | 7 17862 72656 | 50 | |
| | 20 | 58 63692 69902+ | 34 94210 | 1730 16684 64425+ | 6 47362 71114+ | 40 | |
| | 30 | 63 52227 64112+ | 39 09337 | 1093 69321 93311 | 5 76979 93583 | 30 | |
| | 40 | 68 40766 73449+ | 43 24699 | 11,40457 92341 99728 | 5 06714 14081 | 20 | |
| | 50 | 73 29309 98148+ | 47 40296 | 11,39822 85627 85647 | 4 36565 06698+ | 10 | |
| **1** | 0 | 78 17857 38444+ | 51 56128 | 9188 49062 78948+ | 3 66532 45598+ | 0 | **59** |
| | 10 | 83 06408 94572+ | 55 72195 | 8554 82530 33349+ | 2 96616 05015 | 50 | |
| | 20 | 87 94964 66767+ | 59 88496+ | 7921 85914 28334+ | 2 26815 59253 | 40 | |
| | 30 | 92 83524 55264 | 64 05033+ | 7289 59098 69081+ | 1 57130 82688+ | 30 | |
| | 40 | 0,08797 72088 60297+ | 68 21805+ | 6658 01967 86393+ | 0 87561 49768 | 20 | |
| | 50 | 0,08802 60656 82103 | 72 38812+ | 6027 14406 36625 | 630 18107 35010 | 10 | |
| **2** | 0 | 07 49229 20915+ | 76 56054 | 5396 96299 01615+ | 629 48768 13001 | 0 | **58** |
| | 10 | 12 37805 76969+ | 80 73531 | 4767 47530 88614+ | 8 79543 58399 | 50 | |
| | 20 | 17 26386 50501 | 84 91243 | 4138 67987 30215 | 8 10433 45932 | 40 | |
| | 30 | 22 14971 41744 | 89 09190 | 3510 57553 84283 | 7 41437 50397 | 30 | |
| | 40 | 27 03560 50934 | 93 27372 | 2883 16116 33886 | 6 72555 46660 | 20 | |
| | 50 | 31 92153 78306 | 4 88597 45789 | 2256 43560 87226+ | 6 03787 09656+ | 10 | |
| **3** | 0 | 36 80751 24095+ | 4 88601 64441+ | 1630 39773 77570 | 5 35132 14391+ | 0 | **57** |
| | 10 | 41 69352 88536+ | 05 83328+ | 1005 04641 63178+ | 4 66590 35938 | 50 | |
| | 20 | 46 57958 71865 | 10 02451 | 11,30380 38051 27241 | 3 98161 49437 | 40 | |
| | 30 | 51 46568 74316 | 14 21808 | 11,29756 39889 77803+ | 3 29845 30099 | 30 | |
| | 40 | 56 35182 96124+ | 18 41400+ | 9133 10044 47704+ | 2 61641 53202 | 20 | |
| | 50 | 61 23801 37525 | 22 61228+ | 8510 48402 94503 | 1 93549 94090+ | 10 | |
| **4** | 0 | 66 12423 98753+ | 26 81291 | 7888 54853 00412+ | 1 25570 28178+ | 0 | **56** |
| | 10 | 71 01050 80044+ | 31 01589 | 7267 29282 72234 | 620 57702 30946 | 50 | |
| | 20 | 75 89681 81633 | 35 22121+ | 6646 71580 41288 | 619 89945 77941 | 40 | |
| | 30 | 80 78317 03754+ | 39 42890 | 6026 81634 63347 | 9 22300 44777 | 30 | |
| | 40 | 85 66956 46644+ | 43 63893 | 5407 59334 18570 | 8 54766 07136 | 20 | |
| | 50 | 90 55600 10537+ | 47 85131+ | 4789 04568 11433+ | 7 87342 40765+ | 10 | |
| **5** | 0 | 0,08895 44247 95668+ | 52 06605 | 4171 17225 70668 | 7 20029 21478+ | 0 | **55** |
| | 10 | 0,08900 32900 02273+ | 56 28313+ | 3553 97196 49189+ | 6 52826 25155+ | 50 | |
| | 20 | 05 21556 30587 | 60 50257+ | 2937 44370 24034 | 5 85733 27742 | 40 | |
| | 30 | 10 10216 80844+ | 64 72436+ | 2321 58636 96292 | 5 18750 05248+ | 30 | |
| | 40 | 14 98881 53281 | 68 94850+ | 1706 39886 91044 | 4 51876 33752 | 20 | |
| | 50 | 19 87550 48131+ | 73 17500 | 1091 88010 57292 | 3 85111 89394 | 10 | |
| **6** | 0 | 24 76223 65631+ | 77 40384+ | 11,20478 02898 67898 | 3 18456 48381 | 0 | **54** |
| | 10 | 29 64901 06016 | 81 63504+ | 11,19864 84442 19517 | 2 51909 86985 | 50 | |
| | 20 | 34 53582 69520+ | 85 86859+ | 9252 32532 32532 | 1 85471 81541 | 40 | |
| | 30 | 39 42268 56380 | 90 10450 | 8640 47060 50991 | 1 19142 08449+ | 30 | |
| | 40 | 44 30958 66830 | 94 34275+ | 8029 27918 42542 | 610 52920 44174+ | 20 | |
| | 50 | 49 19653 01105+ | 4 88698 58336 | 7418 74997 98367+ | 609 86806 65244+ | 10 | |
| **7** | 0 | 54 08351 59441+ | 4 88702 82632 | 6808 88191 33123 | 9 20800 48251 | 0 | **53** |
| | 10 | 58 97054 42073+ | 07 07163+ | 6199 67390 84872+ | 8 54901 69849 | 50 | |
| | 20 | 63 85761 49237 | 11 31930 | 5591 12489 15023 | 7 89110 06758 | 40 | |
| | 30 | 68 74472 81167 | 15 56932 | 4983 23379 08265+ | 7 23425 35758+ | 30 | |
| | 40 | 73 63188 38099 | 19 82169 | 4375 99953 72507 | 6 57847 33695+ | 20 | |
| | 50 | 78 51908 20268 | 24 07641+ | 3769 42106 38811 | 5 92375 77476+ | 10 | |
| **8** | 0 | 83 40632 27909+ | 28 33349 | 3163 49730 61334+ | 5 27010 44070 | 0 | **52** |
| | 10 | 88 29360 61258+ | 32 59292 | 2558 22720 17264+ | 4 61751 10509 | 50 | |
| | 20 | 93 18093 20551 | 36 85470+ | 1953 60969 06755+ | 3 96597 53886 | 40 | |
| | 30 | 0,08998 06830 06021+ | 41 11884 | 1349 64371 52869+ | 3 31549 51357+ | 30 | |
| | 40 | 0,09002 95571 17905+ | 45 38533+ | 0746 32822 01512 | 2 66606 80141 | 20 | |
| | 50 | 07 84316 56439 | 49 65417+ | 11,10143 66215 21371 | 2 01769 17515 | 10 | |
| **9** | 0 | 12 73066 21856+ | 53 92537+ | 11,09541 64446 03856 | 1 37036 40819 | 0 | **51** |
| | 10 | 17 61820 14394 | 58 19892+ | 8940 27409 63037 | 0 72408 27455 | 50 | |
| | 20 | 22 50578 34286 | 62 47483 | 8339 55001 35582 | 600 07884 54884 | 40 | |
| | 30 | 27 39340 81769 | 66 75308+ | 7739 47116 80698 | 599 43465 00629 | 30 | |
| | 40 | 32 28107 57077+ | 71 03370 | 7140 03651 80069+ | 8 79149 42273 | 20 | |
| | 50 | 37 16878 60447+ | 4 88775 31666+ | 6541 24502 37796+ | 598 14937 57459 | 10 | |
| **10** | 0 | 0,09042 05653 92114 | | 11,05943 09564 80338 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,09042 05653 92114 | 4 88779 60198+ | 11,05943 09564 80338 | 597 50829 23890+ | 0 | **50** |
| | 10 | 46 94433 52312+ | 83 88966 | 5345 58735 56447+ | 6 86824 19331 | 50 | |
| | 20 | 51 83217 41278+ | 88 17968+ | 4748 71911 37116+ | 6 22922 21602+ | 40 | |
| | 30 | 56 72005 59247 | 92 47207 | 4152 48989 15514 | 5 59123 08588+ | 30 | |
| | 40 | 61 60798 06454 | 4 88796 76680+ | 3556 89866 06925+ | 4 95426 58230 | 20 | |
| | 50 | 66 49594 83134+ | 4 88801 06389+ | 2961 94439 48695+ | 4 31832 48528 | 10 | |
| **11** | 0 | 71 38395 89524 | 05 36334+ | 2367 62607 00167+ | 3 68340 57542 | 0 | **49** |
| | 10 | 76 27201 25858+ | 09 66514+ | 1773 94266 42626 | 3 04950 63390+ | 50 | |
| | 20 | 81 16010 92372+ | 13 96930 | 1180 89315 79235+ | 2 41662 44250 | 40 | |
| | 30 | 86 04824 89302+ | 18 27580+ | 11,00588 47653 34985+ | 1 78475 78357 | 30 | |
| | 40 | 90 93643 16883 | 22 58467 | 10,99996 69177 56628+ | 1 15390 44003+ | 20 | |
| | 50 | 0,09095 82465 75350+ | 26 89589 | 9405 53787 12625 | 590 52406 19542 | 10 | |
| **12** | 0 | 0,09100 71292 64939+ | 31 20946+ | 8815 01380 93082+ | 589 89522 83381+ | 0 | **48** |
| | 10 | 05 60123 85886 | 35 52539+ | 8225 11858 09701 | 9 26740 13989 | 50 | |
| | 20 | 10 48959 38425+ | 39 84368 | 7635 85117 95712+ | 8 64057 89888 | 40 | |
| | 30 | 15 37799 22793+ | 44 16432 | 7047 21060 05824+ | 8 01475 89660+ | 30 | |
| | 40 | 20 26643 39225+ | 48 48731+ | 6459 19584 16164 | 7 38993 91945 | 20 | |
| | 50 | 25 15491 87957 | 52 81266+ | 5871 80590 24218+ | 6 76611 75437+ | 10 | |
| **13** | 0 | 30 04344 69223+ | 57 14037 | 5285 03978 48781 | 6 14329 18889 | 0 | **47** |
| | 10 | 34 93201 83260+ | 61 47043 | 4698 89649 29892 | 5 52146 01109 | 50 | |
| | 20 | 39 82063 30303+ | 65 80285 | 4113 37503 28783 | 4 90062 00962+ | 40 | |
| | 30 | 44 70929 10588+ | 70 13762+ | 3528 47441 27820+ | 4 28076 97369+ | 30 | |
| | 40 | 49 59799 24351 | 74 47475 | 2944 19364 30451 | 3 66190 69308+ | 20 | |
| | 50 | 54 48673 71826 | 78 81423+ | 2360 53173 61142+ | 3 04402 95811+ | 10 | |
| **14** | 0 | 59 37552 53249+ | 83 15607+ | 1777 48770 65330+ | 2 42713 55967+ | 0 | **46** |
| | 10 | 64 26435 68857+ | 87 50027+ | 1195 06057 09363+ | 1 81122 28920 | 50 | |
| | 20 | 69 15323 18884+ | 91 84682+ | 0613 24934 80443+ | 1 19628 93868+ | 40 | |
| | 30 | 74 04215 03567 | 4 88896 19573+ | 10,90032 05305 86575 | 580 58233 30067 | 30 | |
| | 40 | 78 93111 23140+ | 4 88900 54700 | 10,89451 47072 56508 | 579 96935 16824+ | 20 | |
| | 50 | 83 82011 77840+ | 04 90062 | 8871 50137 39683+ | 9 35734 33505+ | 10 | |
| **15** | 0 | 88 70916 67903 | 09 25660 | 8292 14403 06178 | 8 74630 59528+ | 0 | **45** |
| | 10 | 93 59825 93563 | 13 61493+ | 7713 39772 46649+ | 8 13623 74366 | 50 | |
| | 20 | 0,09198 48739 55056+ | 17 97562+ | 7135 26148 72283+ | 7 52713 57545 | 40 | |
| | 30 | 0,09203 37657 52619 | 22 33867+ | 6557 73435 14738 | 6 91899 88647+ | 30 | |
| | 40 | 08 26579 86486+ | 26 70408 | 5980 81535 26090+ | 6 31182 47307+ | 20 | |
| | 50 | 13 15506 56894+ | 31 07184 | 5404 50352 78783+ | 5 70561 13214 | 10 | |
| **16** | 0 | 18 04437 64078+ | 35 44196 | 4828 79791 65569+ | 5 10035 66109+ | 0 | **44** |
| | 10 | 22 93373 08274+ | 39 81443+ | 4253 69755 99460 | 4 49605 85789+ | 50 | |
| | 20 | 27 82312 89718 | 44 18927 | 3679 20150 13670+ | 3 89271 52103 | 40 | |
| | 30 | 32 71257 08645 | 48 56646 | 3105 30878 61567+ | 3 29032 44951+ | 30 | |
| | 40 | 37 60205 65290+ | 52 94600+ | 2532 01846 16616 | 2 68888 44290 | 20 | |
| | 50 | 42 49158 59891 | 57 32791 | 1959 32957 72326 | 2 08839 30126 | 10 | |
| **17** | 0 | 47 38115 92682+ | 61 71217+ | 1387 24118 42200 | 1 48884 82519 | 0 | **43** |
| | 10 | 52 27077 63899+ | 66 09879+ | 0815 75233 59680+ | 0 89024 81582 | 50 | |
| | 20 | 57 16043 73779 | 70 48777 | 10,80244 86208 78098+ | 570 29259 07479 | 40 | |
| | 30 | 62 05014 22556 | 74 87910+ | 10,79674 56949 70619+ | 569 69587 40426+ | 30 | |
| | 40 | 66 93989 10466+ | 79 27280 | 9104 87362 30193 | 9 10009 60693 | 20 | |
| | 50 | 71 82968 37746 | 83 66885 | 8535 77352 69500 | 8 50525 48599 | 10 | |
| **18** | 0 | 76 71952 04631 | 88 06726 | 7967 26827 20901+ | 7 91134 84515+ | 0 | **42** |
| | 10 | 81 60940 11357 | 92 46802+ | 7399 35692 36386 | 7 31837 48866 | 50 | |
| | 20 | 86 49932 58159+ | 4 88996 87115 | 6832 03854 87520 | 6 72633 22124+ | 40 | |
| | 30 | 91 38929 45274+ | 4 89001 27663+ | 6265 31221 65395+ | 6 13521 84816+ | 30 | |
| | 40 | 0,09296 27930 72938 | 05 68447+ | 5699 17699 80578+ | 5 54503 17518+ | 20 | |
| | 50 | 0,09301 16936 41385+ | 10 09467+ | 5133 63196 63060 | 4 95577 00857 | 10 | |
| **19** | 0 | 06 05946 50853 | 14 50723+ | 4568 67619 62203 | 4 36743 15509+ | 0 | **41** |
| | 10 | 10 94961 01576 | 18 92215 | 4004 30876 46693+ | 3 78001 42204+ | 50 | |
| | 20 | 15 83979 93791 | 23 33942+ | 3440 52875 04488+ | 3 19351 61720 | 40 | |
| | 30 | 20 73003 27734 | 27 75906 | 2877 33523 42768+ | 2 60793 54884+ | 30 | |
| | 40 | 25 62031 03640 | 32 18105+ | 2314 72729 87884+ | 2 02327 02575+ | 20 | |
| | 50 | 30 51063 21745 | 4 89036 60540+ | 1752 70402 85309 | 561 43951 85722 | 10 | |
| **20** | 0 | 0,09335 40099 82286 | | 10,71191 26450 99586+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,09335 40099 82286 | 4 89041 03211+ | 10,71191 26450 99586+ | 560 85667 85301+ | 0 | **40** |
| | 10 | 40 29140 85497+ | 45 46118+ | 0630 40783 14285 | 560 27474 82341 | 50 | |
| | 20 | 45 18186 31616 | 49 89261+ | 10,70070 13308 31944 | 559 69372 57917+ | 40 | |
| | 30 | 50 07236 20877+ | 54 32640+ | 10,69510 43935 74026 | 9 11360 93156+ | 30 | |
| | 40 | 54 96290 53518 | 58 76255 | 8951 32574 80870 | 8 53439 69232+ | 20 | |
| | 50 | 59 85349 29773+ | 63 20106 | 8392 79135 11637 | 7 95608 67369+ | 10 | |
| **21** | 0 | 64 74412 49879+ | 67 64192+ | 7834 83526 44267+ | 7 37867 68839+ | 0 | **39** |
| | 10 | 69 63480 14072 | 72 08515 | 7277 45658 75428 | 6 80216 54964 | 50 | |
| | 20 | 74 52552 22587 | 76 53074 | 6720 65442 20464 | 6 22655 07111+ | 40 | |
| | 30 | 79 41628 75661 | 80 97868+ | 6164 42787 13352+ | 5 65183 06700+ | 30 | |
| | 40 | 84 30709 73529+ | 85 42899 | 5608 77604 06652 | 5 07800 35196 | 20 | |
| | 50 | 89 19795 16428+ | 89 88165+ | 5053 69803 71455+ | 4 50506 74112 | 10 | |
| **22** | 0 | 94 08885 04594 | 94 33668 | 4499 19296 97343+ | 3 93302 05010 | 0 | **38** |
| | 10 | 0,09398 97979 38262 | 4 89098 79406+ | 3945 25994 92333+ | 3 36186 09499+ | 50 | |
| | 20 | 0,09403 87078 17668+ | 4 89103 25381 | 3391 89808 82834 | 2 79158 69236+ | 40 | |
| | 30 | 08 76181 43049+ | 07 71591+ | 2839 10650 13597+ | 2 22219 65925 | 30 | |
| | 40 | 13 65289 14641+ | 12 18038+ | 2286 88430 47672+ | 1 65368 81317 | 20 | |
| | 50 | 18 54401 32679+ | 16 64721 | 1735 23061 66355+ | 1 08605 97210+ | 10 | |
| **23** | 0 | 23 43517 97400+ | 21 11639+ | 1184 14455 69144+ | 550 51930 95451 | 0 | **37** |
| | 10 | 28 32639 09040+ | 25 58794+ | 0633 62524 73693+ | 549 95343 57930+ | 50 | |
| | 20 | 33 21764 67835 | 30 06185+ | 10,60083 67181 15763 | 9 38843 66587+ | 40 | |
| | 30 | 38 10894 74020 | 34 53812 | 10,59534 28337 49175 | 8 82431 03408 | 30 | |
| | 40 | 43 00029 27832+ | 39 01675 | 8985 45906 45767+ | 8 26105 50422+ | 20 | |
| | 50 | 47 89168 29507+ | 43 49774+ | 8437 19800 95345 | 7 69866 89709+ | 10 | |
| **24** | 0 | 52 78311 79282 | 47 98109+ | 7889 49934 05635+ | 7 13715 03392+ | 0 | **36** |
| | 10 | 57 67459 77391+ | 52 46681 | 7342 36219 02243 | 6 57649 73642 | 50 | |
| | 20 | 62 56612 24072+ | 56 95488+ | 6795 78569 28600+ | 6 01670 82673 | 40 | |
| | 30 | 67 45769 19560+ | 61 44532 | 6249 76898 45927+ | 5 45778 12747+ | 30 | |
| | 40 | 72 34930 64092+ | 65 93811+ | 5704 31120 33180 | 4 89971 46171 | 20 | |
| | 50 | 77 24096 57904 | 70 43327+ | 5159 41148 87009 | 4 34250 65297 | 10 | |
| **25** | 0 | 82 13267 01231+ | 74 93079+ | 4615 06898 21712+ | 3 78615 52521+ | 0 | **35** |
| | 10 | 87 02441 94310+ | 79 43067+ | 4071 28282 69190+ | 3 23065 90288+ | 50 | |
| | 20 | 91 91621 37378 | 83 93292 | 3528 05216 78902+ | 2 67601 61084 | 40 | |
| | 30 | 0,09496 80805 30670 | 88 43752 | 2985 37615 17818+ | 2 12222 47441 | 30 | |
| | 40 | 0,09501 69993 74422 | 92 94449 | 2443 25392 70377+ | 1 56928 31936 | 20 | |
| | 50 | 06 59186 68871 | 4 89197 45382 | 1901 68464 38441+ | 1 01718 97191 | 10 | |
| **26** | 0 | 11 48384 14252+ | 4 89201 96551 | 1360 66745 41250+ | 540 46594 25871 | 0 | **34** |
| | 10 | 16 37586 10803+ | 06 47956 | 0820 20151 15379 | 539 91554 00687 | 50 | |
| | 20 | 21 26792 58760 | 10 99597+ | 10,50280 28597 14692 | 9 36598 04392+ | 40 | |
| | 30 | 26 16003 58357+ | 15 51475+ | 10,49740 91999 10299+ | 8 81726 19786 | 30 | |
| | 40 | 31 05219 09833 | 20 03589+ | 9202 10272 90513+ | 8 26938 29709+ | 20 | |
| | 50 | 35 94439 13422+ | 24 55939+ | 8663 83334 60804 | 7 72234 17049 | 10 | |
| **27** | 0 | 40 83663 69362 | 29 08526 | 8126 11100 43755 | 7 17613 64733+ | 0 | **33** |
| | 10 | 45 72892 77888 | 33 61349 | 7588 93486 79021+ | 6 63076 55736+ | 50 | |
| | 20 | 50 62126 39237 | 38 14408 | 7052 30410 23285 | 6 08622 73073+ | 40 | |
| | 30 | 55 51364 53645 | 42 67703 | 6516 21787 50212 | 5 54251 99804 | 30 | |
| | 40 | 60 40607 21348 | 47 21235 | 5980 67535 50408 | 4 99964 19030+ | 20 | |
| | 50 | 65 29854 42583 | 51 75002+ | 5445 67571 31377+ | 4 45759 13899 | 10 | |
| **28** | 0 | 70 19106 17585+ | 56 29007 | 4911 21812 17478+ | 3 91636 67596+ | 0 | **32** |
| | 10 | 75 08362 46592+ | 60 83247+ | 4377 30175 49882 | 3 37596 63355 | 50 | |
| | 20 | 79 97623 29840 | 65 37724+ | 3843 92578 86527 | 2 83638 84447 | 40 | |
| | 30 | 84 86888 67564 | 69 92437+ | 3311 08940 02080+ | 2 29763 14188+ | 30 | |
| | 40 | 89 76158 60001+ | 74 47387 | 2778 79176 87892 | 1 75969 35937+ | 20 | |
| | 50 | 94 65433 07388+ | 79 02573 | 2247 03207 51954+ | 1 22257 33095 | 10 | |
| **29** | 0 | 0,09599 54712 09961+ | 83 57995 | 1715 80950 18859+ | 0 68626 89102 | 0 | **31** |
| | 10 | 0,09604 43995 67956+ | 88 13653+ | 1185 12323 29757+ | 530 15077 87443+ | 50 | |
| | 20 | 09 33283 81610 | 92 69548+ | 0654 97245 42314 | 529 61610 11645 | 40 | |
| | 30 | 14 22576 51159 | 4 89297 25680 | 10,40125 35635 30669 | 9 08223 45274+ | 30 | |
| | 40 | 19 11873 76839 | 4 89301 82048 | 10,39596 27411 85394 | 8 54917 71941 | 20 | |
| | 50 | 24 01175 58886+ | 4 89306 38652 | 9067 72494 13453+ | 528 01692 75294+ | 10 | |
| **30** | 0 | 0,09628 90481 97538+ | | 10,38539 70801 38159 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,09628 90481 97538+ | 4 89310 95492+ | 10,38539 70801 38159 | 527 48548 39027 | 0 | **30** |
| | 10 | 33 79792 93031 | 15 52569+ | 8012 22252 99132 | 6 95484 46871 | 50 | |
| | 20 | 38 69108 45600+ | 20 09883 | 7485 26768 52261 | 6 42500 82601 | 40 | |
| | 30 | 43 58428 55483+ | 24 67433 | 6958 84267 69659+ | 5 89597 30032 | 30 | |
| | 40 | 48 47753 22916+ | 29 25219 | 6432 94670 39628 | 5 36773 73018+ | 20 | |
| | 50 | 53 37082 48135+ | 33 83242 | 5907 57896 66609+ | 4 84029 95457+ | 10 | |
| **31** | 0 | 58 26416 31377+ | 38 41501 | 5382 73866 71152 | 4 31365 81285 | 0 | **29** |
| | 10 | 63 15754 72878+ | 42 99997 | 4858 42500 89867 | 3 78781 14479 | 50 | |
| | 20 | 68 05097 72875 | 47 58729 | 4334 63719 75387+ | 3 26275 79056+ | 40 | |
| | 30 | 72 94445 31604 | 52 17697+ | 3811 37443 96331 | 2 73849 59075 | 30 | |
| | 40 | 77 83797 49302 | 56 76903 | 3288 63594 37256 | 2 21502 38632 | 20 | |
| | 50 | 82 73154 26204+ | 61 36344+ | 2766 42091 98624 | 1 69234 01865+ | 10 | |
| **32** | 0 | 87 62515 62549 | 65 96022+ | 2244 72857 96758+ | 1 17044 32952 | 0 | **28** |
| | 10 | 92 51881 58572 | 70 55937+ | 1723 55813 63806+ | 0 64933 16109 | 50 | |
| | 20 | 0,09697 41252 14509+ | 75 16088+ | 1202 90880 47697+ | 520 12900 35593 | 40 | |
| | 30 | 0,09702 30627 30598 | 79 76476+ | 0682 77980 12104+ | 519 60945 75700 | 30 | |
| | 40 | 07 20007 07074+ | 84 37101 | 10,30163 17034 36404+ | 9 09069 20765 | 20 | |
| | 50 | 12 09391 44175+ | 88 97962 | 10,29644 07965 15639+ | 8 57270 55162+ | 10 | |
| **33** | 0 | 16 98780 42137 | 93 59059 | 9125 50694 60477 | 8 05549 63306+ | 0 | **27** |
| | 10 | 21 88174 01196+ | 4 89398 20393+ | 8607 45144 97170+ | 7 53906 29649+ | 50 | |
| | 20 | 26 77572 21589+ | 4 89402 81964 | 8089 91238 67521 | 7 02340 38682+ | 40 | |
| | 30 | 31 66975 03553+ | 07 43771 | 7572 88898 28838+ | 6 50851 74935+ | 30 | |
| | 40 | 36 56382 47325 | 12 05815 | 7056 38046 53903 | 5 99440 22978 | 20 | |
| | 50 | 41 45794 53140 | 16 68095+ | 6540 38606 30925+ | 5 48105 67416+ | 10 | |
| **34** | 0 | 46 35211 21235+ | 21 30612+ | 6024 90500 63509 | 4 96847 92896+ | 0 | **26** |
| | 10 | 51 24632 51848 | 25 93366+ | 5509 93652 70612+ | 4 45666 84103 | 50 | |
| | 20 | 56 14058 45214+ | 30 56356+ | 4995 47985 86509+ | 3 94562 25757 | 40 | |
| | 30 | 61 03489 01571 | 35 19583+ | 4481 53423 60752+ | 3 43534 02619 | 30 | |
| | 40 | 65 92924 21154+ | 39 83047+ | 3968 09889 58133+ | 2 92581 99487 | 20 | |
| | 50 | 70 82364 04202 | 44 46747+ | 3455 17307 58646+ | 2 41706 01196+ | 10 | |
| **35** | 0 | 75 71808 50949+ | 49 10684+ | 2942 75601 57450 | 1 90905 92621+ | 0 | **25** |
| | 10 | 80 61257 61634+ | 53 74858+ | 2430 84695 64828+ | 1 40181 58673 | 50 | |
| | 20 | 85 50711 36492+ | 58 39268+ | 1919 44514 06155 | 0 89532 84300 | 40 | |
| | 30 | 90 40169 75761+ | 63 03916 | 1408 54981 21855+ | 510 38959 54487+ | 30 | |
| | 40 | 0,09795 29632 79677 | 67 68799+ | 0898 16021 67367+ | 509 88461 54259+ | 20 | |
| | 50 | 0,09800 19100 48477 | 72 33920 | 10,20388 27560 13108 | 9 38038 68676+ | 10 | |
| **36** | 0 | 05 08572 82397 | 76 99277+ | 10,19878 89521 44432 | 8 87690 82835 | 0 | **24** |
| | 10 | 09 98049 81674+ | 81 64871+ | 9370 01830 61597 | 8 37417 81870 | 50 | |
| | 20 | 14 87531 46545+ | 86 30702 | 8861 64412 79726+ | 7 87219 50953 | 40 | |
| | 30 | 19 77017 77247+ | 90 96769+ | 8353 77193 28773+ | 7 37095 75291 | 30 | |
| | 40 | 24 66508 74017 | 4 89495 63074 | 7846 40097 53482+ | 6 87046 40129+ | 20 | |
| | 50 | 29 56004 37091 | 4 89500 29615 | 7339 53051 13353 | 6 37071 30748+ | 10 | |
| **37** | 0 | 34 45504 66706 | 04 96392+ | 6833 15979 82604+ | 5 87170 32465+ | 0 | **23** |
| | 10 | 39 35009 63098+ | 09 63407 | 6327 28809 50139+ | 5 37343 30634 | 50 | |
| | 20 | 44 24519 26505+ | 14 30658+ | 5821 91466 19505 | 4 87590 10644+ | 40 | |
| | 30 | 49 14033 57164+ | 18 98147 | 5317 03876 08860+ | 4 37910 57922 | 30 | |
| | 40 | 54 03552 55311 | 23 65872 | 4812 65965 50938 | 3 88304 57929 | 20 | |
| | 50 | 58 93076 21183 | 28 33833+ | 4308 77660 93009 | 3 38771 96162+ | 10 | |
| **38** | 0 | 63 82604 55016+ | 33 02032+ | 3805 38888 96847 | 2 89312 58156 | 0 | **22** |
| | 10 | 68 72137 57049 | 37 70468 | 3302 49576 38691 | 2 39926 29478 | 50 | |
| | 20 | 73 61675 27516+ | 42 39140 | 2800 09650 09213 | 1 90612 95734 | 40 | |
| | 30 | 78 51217 66657 | 47 08049+ | 2298 19037 13478+ | 1 41372 42563+ | 30 | |
| | 40 | 83 40764 74706+ | 51 77195+ | 1796 77664 70915 | 0 92204 55641+ | 20 | |
| | 50 | 88 30316 51902 | 56 46578+ | 1295 85460 15273+ | 500 43109 20679 | 10 | |
| **39** | 0 | 93 19872 98480+ | 61 16198+ | 0795 42350 94594+ | 499 94086 23420+ | 0 | **21** |
| | 10 | 0,09898 09434 14679 | 65 86055 | 10,10295 48264 71174 | 9 45135 49647+ | 50 | |
| | 20 | 0,09902 99000 00734 | 70 56149 | 10,09796 03129 21526+ | 8 96256 85175+ | 40 | |
| | 30 | 07 88570 56883 | 75 26479+ | 9297 06872 36351 | 8 47450 15854+ | 30 | |
| | 40 | 12 78145 83362+ | 79 97047 | 8798 59422 20496+ | 7 98715 27569+ | 20 | |
| | 50 | 17 67725 80409+ | 4 89584 67851+ | 8300 60706 92927 | 497 50052 06239+ | 10 | |
| **40** | 0 | 0,09922 57310 48261 | | 10,07803 10654 86687+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

# 5°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,09922 57310 48261 | 4 89589 38893 | 10,07803 10654 86687+ | 497 01460 37819+ | 0 | **20** |
| | 10 | 27 46899 87153+ | 94 10171 | 7306 09194 48867+ | 6 52940 08298 | 50 | |
| | 20 | 32 36493 97325 | 4 89598 81686+ | 6809 56254 40570 | 6 04491 03696+ | 40 | |
| | 30 | 37 26092 79011+ | 4 89603 53439 | 6313 51763 36873+ | 5 56113 10073+ | 30 | |
| | 40 | 42 15696 32450 | 08 25428 | 5817 95650 26800 | 5 07806 13518+ | 20 | |
| | 50 | 47 05304 57878+ | 12 97654+ | 5322 87844 13281 | 4 59570 00158 | 10 | |
| **41** | 0 | 51 94917 55532+ | 17 70117+ | 4828 28274 13123+ | 4 11404 56150 | 0 | **19** |
| | 10 | 56 84535 25650 | 22 42818 | 4334 16869 56973+ | 3 63309 67687 | 50 | |
| | 20 | 61 74157 68468 | 27 15755 | 3840 53559 89286+ | 3 15285 20996 | 40 | |
| | 30 | 66 63784 84223 | 31 88929+ | 3347 38274 68290 | 2 67331 02337 | 30 | |
| | 40 | 71 53416 73152+ | 36 62340+ | 2854 70943 65953 | 2 19446 98003+ | 20 | |
| | 50 | 76 43053 35493 | 41 35989 | 2362 51496 67950 | 1 71632 94321+ | 10 | |
| **42** | 0 | 81 32694 71482 | 46 09874+ | 1870 79863 73628 | 1 23888 77652 | 0 | **18** |
| | 10 | 86 22340 81356+ | 50 83997 | 1379 55974 95976 | 0 76214 34388+ | 50 | |
| | 20 | 91 11991 65353+ | 55 58356+ | 0888 79760 61587+ | 490 28609 50957 | 40 | |
| | 30 | 0,09996 01647 23710 | 60 32953 | 10,00398 51151 10630+ | 489 81074 13817+ | 30 | |
| | 40 | 0,10000 91307 56663 | 65 07787 | 9,99908 70076 96813 | 9 33608 09462 | 20 | |
| | 50 | 05 80972 64449+ | 69 82857+ | 9419 36468 87351 | 8 86211 24415+ | 10 | |
| **43** | 0 | 10 70642 47307+ | 74 58165+ | 8930 50257 62935+ | 8 38883 45236+ | 0 | **17** |
| | 10 | 15 60317 05473 | 79 33710+ | 8442 11374 17699 | 7 91624 58515+ | 50 | |
| | 20 | 20 49996 39183+ | 84 09492+ | 7954 19749 59183+ | 7 44434 50875+ | 40 | |
| | 30 | 25 39680 48676 | 88 85512 | 7466 75315 08308+ | 6 97313 08972 | 30 | |
| | 40 | 30 29369 34188 | 93 61768+ | 6979 78001 99336+ | 6 50260 19492+ | 20 | |
| | 50 | 35 19062 95956+ | 4 89698 38262 | 6493 27741 79844 | 6 03275 69158 | 10 | |
| **44** | 0 | 40 08761 34218+ | 4 89703 14992+ | 6007 24466 10686 | 5 56359 44720+ | 0 | **16** |
| | 10 | 44 98464 49211 | 07 91960+ | 5521 68106 65965+ | 5 09511 32964 | 50 | |
| | 20 | 49 88172 41171+ | 12 69165+ | 5036 58595 33001+ | 4 62731 20705 | 40 | |
| | 30 | 54 77885 10337 | 17 46608 | 4551 95864 12296+ | 4 16018 94791+ | 30 | |
| | 40 | 59 67602 56945 | 22 24287+ | 4067 79845 17505 | 3 69374 42104 | 20 | |
| | 50 | 64 57324 81232+ | 27 02204 | 3584 10470 75400+ | 3 22797 49554 | 10 | |
| **45** | 0 | 69 47051 83436+ | 31 80358 | 3100 87673 25846+ | 2 76288 04084+ | 0 | **15** |
| | 10 | 74 36783 63794+ | 36 58749 | 2618 11385 21762 | 2 29845 92670+ | 50 | |
| | 20 | 79 26520 22543+ | 41 37377+ | 2135 81539 29091+ | 1 83471 02318 | 40 | |
| | 30 | 84 16261 59921 | 46 16243 | 1653 98068 26773+ | 1 37163 20065 | 30 | |
| | 40 | 89 06007 76164 | 50 95346 | 1172 60905 06708+ | 0 90922 32979+ | 20 | |
| | 50 | 93 95758 71509+ | 55 74686 | 0691 69982 73729 | 480 44748 28162 | 10 | |
| **46** | 0 | 0,10098 85514 46195+ | 60 54263 | 9,90211 25234 45567+ | 479 98640 92743 | 0 | **14** |
| | 10 | 0,10103 75275 00459 | 65 34078 | 9,89731 26593 52824+ | 9 52600 13885 | 50 | |
| | 20 | 08 65040 34536+ | 70 14130 | 9251 73993 38939+ | 9 06625 78780 | 40 | |
| | 30 | 13 54810 48666+ | 74 94419 | 8772 67367 60159+ | 8 60717 74652+ | 30 | |
| | 40 | 18 44585 43085+ | 79 74945+ | 8294 06649 85507+ | 8 14875 88756 | 20 | |
| | 50 | 23 34365 18031 | 84 55709+ | 7815 91773 96751+ | 7 69100 08376 | 10 | |
| **47** | 0 | 28 24149 73740+ | 89 36710+ | 7338 22673 88375+ | 7 23390 20827+ | 0 | **13** |
| | 10 | 33 13939 10451 | 94 17949 | 6860 99283 67548 | 6 77746 13456 | 50 | |
| | 20 | 38 03733 28400 | 4 89798 99425 | 6384 21537 54092 | 6 32167 73639 | 40 | |
| | 30 | 42 93532 27825 | 4 89803 81138 | 5907 89369 80453 | 5 86654 88781+ | 30 | |
| | 40 | 47 83336 08963 | 08 63088+ | 5432 02714 91671+ | 5 41207 46321 | 20 | |
| | 50 | 52 73144 72052 | 13 45276+ | 4956 61507 45351 | 4 95825 33723+ | 10 | |
| **48** | 0 | 57 62958 17328+ | 18 27702 | 4481 65682 11627 | 4 50508 38486+ | 0 | **12** |
| | 10 | 62 52776 45030+ | 23 10364+ | 4007 15173 73140+ | 4 05256 48136 | 50 | |
| | 20 | 67 42599 55395 | 27 93264+ | 3533 09917 25004+ | 3 60069 50229 | 40 | |
| | 30 | 72 32427 48659+ | 32 76402 | 3059 49847 74775+ | 3 14947 32351 | 30 | |
| | 40 | 77 22260 25062 | 37 59777 | 2586 34900 42424+ | 2 69889 82118+ | 20 | |
| | 50 | 82 12097 84839 | 42 43389+ | 2113 65010 60306 | 2 24896 87176+ | 10 | |
| **49** | 0 | 87 01940 28228+ | 47 27239 | 1641 40113 73129+ | 1 79968 35199+ | 0 | **11** |
| | 10 | 91 91787 55467+ | 52 11326+ | 1169 60145 37930 | 1 35104 13893 | 50 | |
| | 20 | 0,10196 81639 66794 | 56 95651 | 0698 25041 24037 | 0 90304 10989+ | 40 | |
| | 30 | 0,10201 71496 62445 | 61 80213+ | 9,80227 34737 13047+ | 0 45568 14252+ | 30 | |
| | 40 | 06 61358 42658+ | 66 65013 | 9,79756 89168 98795 | 470 00896 11473+ | 20 | |
| | 50 | 11 51225 07671+ | 4 89871 50050 | 9286 88272 87322 | 469 56287 90473+ | 10 | |
| **50** | 0 | 0,10216 41096 57721 | | 9,78817 31984 96848+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

# 5°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,10216 41096 57721 | 4 89876 35324+ | 9,78817 31984 96848+ | 469 11743 39103 | 0 | **10** |
| | 10 | 21 30972 93046 | 81 20836+ | 8348 20241 57745 | 8 67262 45241 | 50 | |
| | 20 | 26 20854 13882+ | 86 06586 | 7879 52979 12504 | 8 22844 96795 | 40 | |
| | 30 | 31 10740 20468+ | 90 92573+ | 7411 30134 15709 | 7 78490 81701+ | 30 | |
| | 40 | 36 00631 13042 | 4 89895 78798 | 6943 51643 34007 | 7 34199 87926 | 20 | |
| | 50 | 40 90526 91840 | 4 89900 65260 | 6476 17443 46081+ | 6 89972 03461+ | 10 | |
| **51** | 0 | 45 80427 57100 | 05 51960 | 6009 27471 42620 | 6 45807 16330+ | 0 | **9** |
| | 10 | 50 70333 09060 | 10 38897 | 5542 81664 26289 | 6 01705 14584+ | 50 | |
| | 20 | 55 60243 47957 | 15 26072 | 5076 79959 11705 | 5 57665 86301 | 40 | |
| | 30 | 60 50158 74029 | 20 13484+ | 4611 22293 25404 | 5 13689 19588+ | 30 | |
| | 40 | 65 40078 87513 | 25 01134+ | 4146 08604 05815+ | 4 69775 02581+ | 20 | |
| | 50 | 70 30003 88647+ | 29 89022 | 3681 38829 03234+ | 4 25923 23443+ | 10 | |
| **52** | 0 | 75 19933 77669+ | 34 77147 | 3217 12905 79790+ | 3 82133 70366+ | 0 | **8** |
| | 10 | 80 09868 54816+ | 39 65510 | 2753 30772 09424 | 3 38406 31570 | 50 | |
| | 20 | 84 99808 20326+ | 44 54110+ | 2289 92365 77854 | 2 94740 95300+ | 40 | |
| | 30 | 89 89752 74437 | 49 42948+ | 1826 97624 82553+ | 2 51137 49833+ | 30 | |
| | 40 | 94 79702 17385+ | 54 32024 | 1364 46487 32719+ | 2 07595 83472 | 20 | |
| | 50 | 0,10299 69656 49409+ | 59 21337+ | 0902 38891 49247+ | 1 64115 84545+ | 10 | |
| **53** | 0 | 0,10304 59615 70747 | 64 10888+ | 9,70440 74775 64702 | 1 20697 41413 | 0 | **7** |
| | 10 | 09 49579 81635 | 69 00677 | 9,69979 54078 23289 | 0 77340 42458+ | 50 | |
| | 20 | 14 39548 82312+ | 73 90703+ | 9518 76737 80830+ | 460 34044 76096 | 40 | |
| | 30 | 19 29522 73015+ | 78 80967+ | 9058 42693 04734+ | 459 90810 30764+ | 30 | |
| | 40 | 24 19501 53983 | 83 71469 | 8598 51882 73970+ | 9 47636 94931+ | 20 | |
| | 50 | 29 09485 25452+ | 88 62208+ | 8139 04245 79039 | 9 04524 57091+ | 10 | |
| **54** | 0 | 33 99473 87661 | 93 53185+ | 7679 99721 21947 | 8 61473 05766+ | 0 | **6** |
| | 10 | 38 89467 40846+ | 4 89998 44400+ | 7221 38248 16181 | 8 18482 29504 | 50 | |
| | 20 | 43 79465 85247 | 4 90003 35853 | 6763 19765 86677 | 7 75552 16879+ | 40 | |
| | 30 | 48 69469 21100+ | 08 27543+ | 6305 44213 69797+ | 7 32682 56496 | 30 | |
| | 40 | 53 59477 48644 | 13 19471+ | 5848 11531 13301+ | 6 89873 36982 | 20 | |
| | 50 | 58 49490 68115+ | 18 11637+ | 5391 21657 76319+ | 6 47124 46992+ | 10 | |
| **55** | 0 | 63 39508 79753 | 23 04041 | 4934 74533 29327 | 6 04435 75211 | 0 | **5** |
| | 10 | 68 29531 83794 | 27 96682+ | 4478 70097 54116 | 5 61807 10346 | 50 | |
| | 20 | 73 19559 80476+ | 32 89561+ | 4023 08290 43770 | 5 19238 41132 | 40 | |
| | 30 | 78 09592 70038 | 37 82678+ | 3567 89052 02638 | 4 76729 56331+ | 30 | |
| | 40 | 82 99630 52716+ | 42 76033+ | 3113 12322 46306+ | 4 34280 44732 | 20 | |
| | 50 | 87 89673 28750 | 47 69626 | 2658 78042 01574+ | 3 91890 95148+ | 10 | |
| **56** | 0 | 92 79720 98376 | 52 63456+ | 2204 86151 06426 | 3 49560 96420+ | 0 | **4** |
| | 10 | 0,10397 69773 61832+ | 57 57525 | 1751 36590 10005 | 3 07290 37415+ | 50 | |
| | 20 | 0,10402 59831 19357+ | 62 51831 | 1298 29299 72589+ | 2 65079 07025+ | 40 | |
| | 30 | 07 49893 71188+ | 67 46375 | 0845 64220 65564+ | 2 22926 94168+ | 30 | |
| | 40 | 12 39961 17563 | 72 41156+ | 9,60393 41293 71395+ | 1 80833 87790 | 20 | |
| | 50 | 17 30033 58720 | 77 36176+ | 9,59941 60459 83606 | 1 38799 76859+ | 10 | |
| **57** | 0 | 22 20110 94896+ | 82 31434 | 9490 21660 06746+ | 0 96824 50373 | 0 | **3** |
| | 10 | 27 10193 26330+ | 87 26929+ | 9039 24835 56373+ | 0 54907 97352 | 50 | |
| | 20 | 32 00280 53260 | 92 22663 | 8588 69927 59021+ | 450 13050 06844 | 40 | |
| | 30 | 36 90372 75923 | 4 90097 18634 | 8138 56877 52177+ | 449 71250 67921+ | 30 | |
| | 40 | 41 80469 94557 | 4 90102 14843+ | 7688 85626 84256+ | 9 29509 69682+ | 20 | |
| | 50 | 46 70572 09400+ | 07 11290+ | 7239 56117 14574 | 8 87827 01251 | 10 | |
| **58** | 0 | 51 60679 20691 | 12 07975+ | 6790 68290 13323 | 8 46202 51775 | 0 | **2** |
| | 10 | 56 50791 28666+ | 17 04898+ | 6342 22087 61548 | 8 04636 10429+ | 50 | |
| | 20 | 61 40908 33565+ | 22 02060 | 5894 17451 51118+ | 7 63127 66413+ | 40 | |
| | 30 | 66 31030 35625 | 26 99458+ | 5446 54323 84705 | 7 21677 08950+ | 30 | |
| | 40 | 71 21157 35084 | 31 97095+ | 4999 32646 75754+ | 6 80284 27291 | 20 | |
| | 50 | 76 11289 32179+ | 36 94970+ | 4552 52362 48463 | 6 38949 10708+ | 10 | |
| **59** | 0 | 81 01426 27150+ | 41 93083+ | 4106 13413 37754+ | 5 97671 48503 | 0 | **1** |
| | 10 | 85 91568 20234 | 46 91434+ | 3660 15741 89251+ | 5 56451 29997+ | 50 | |
| | 20 | 90 81715 11668+ | 51 90023+ | 3214 59290 59254+ | 5 15288 44541 | 40 | |
| | 30 | 0,10495 71867 01692 | 56 88850+ | 2769 44002 14713 | 4 74182 81507+ | 30 | |
| | 40 | 0,10500 62023 90542+ | 61 87915+ | 2324 69819 33205+ | 4 33134 30295 | 20 | |
| | 50 | 05 52185 78458 | 4 90166 87218+ | 1880 36685 02910+ | 443 92142 80325+ | 10 | |
| **60** | 0 | 0,10510 42352 65676+ | | 9,51436 44542 22585 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 84°

# 6°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,10510 42352 65676+ | 4 90171 86759+ | 9,51436 44542 22585 | 443 51208 21046+ | 0 | **60** |
| | 10 | 15 32524 52436 | 76 86539 | 0992 93334 01538+ | 3 10330 41929 | 50 | |
| | 20 | 20 22701 38975 | 81 86556 | 0549 83003 59609+ | 2 69509 32469 | 40 | |
| | 30 | 25 12883 25531 | 86 86811+ | 9,50107 13494 27140+ | 2 28744 82187 | 30 | |
| | 40 | 30 03070 12342+ | 91 87305 | 9,49664 84749 44953+ | 1 88036 80627 | 20 | |
| | 50 | 34 93261 99647+ | 4 90196 88036+ | 9222 96712 64326 | 1 47385 17357+ | 10 | |
| **1** | 0 | 39 83458 87684 | 4 90201 89006 | 8781 49327 46969 | 1 06789 81970+ | 0 | **59** |
| | 10 | 44 73660 76690+ | 06 90214 | 8340 42537 64998+ | 0 66250 64083 | 50 | |
| | 20 | 49 63867 66904 | 11 91660 | 7899 76287 00916 | 440 25767 53335 | 40 | |
| | 30 | 54 54079 58564 | 16 93344 | 7459 50519 47581 | 439 85340 39391 | 30 | |
| | 40 | 59 44296 51908 | 21 95266 | 7019 65179 08189+ | 9 44969 11939+ | 20 | |
| | 50 | 64 34518 47174 | 26 97426+ | 6580 20209 96250+ | 9 04653 60691+ | 10 | |
| **2** | 0 | 69 24745 44600+ | 31 99825 | 6141 15556 35558+ | 8 64393 75383+ | 0 | **58** |
| | 10 | 74 14977 44425+ | 37 02461+ | 5702 51162 60175+ | 8 24189 45773+ | 50 | |
| | 20 | 79 05214 46887 | 42 05336+ | 5264 26973 14402 | 7 84040 61645 | 40 | |
| | 30 | 83 95456 52223+ | 47 08449+ | 4826 42932 52757 | 7 43947 12803+ | 30 | |
| | 40 | 88 85703 60673+ | 52 11801 | 4388 98985 39953+ | 7 03908 89079+ | 20 | |
| | 50 | 93 75955 72474+ | 57 15390+ | 3951 95076 50874 | 6 63925 80324+ | 10 | |
| **3** | 0 | 0,10598 66212 87865 | 62 19218 | 3515 31150 70549 | 6 23997 76416 | 0 | **57** |
| | 10 | 0,10603 56475 07083 | 67 23284 | 3079 07152 94133 | 5 84124 67253 | 50 | |
| | 20 | 08 46742 30367 | 72 27588+ | 2643 23028 26880+ | 5 44306 42757+ | 40 | |
| | 30 | 13 37014 57955+ | 77 32131 | 2207 78721 84123 | 5 04542 92875+ | 30 | |
| | 40 | 18 27291 90086+ | 82 36911+ | 1772 74178 91247+ | 4 64834 07575+ | 20 | |
| | 50 | 23 17574 26998+ | 87 41930+ | 1338 09344 83672 | 4 25179 76850 | 10 | |
| **4** | 0 | 28 07861 68929 | 92 47188 | 0903 84165 06822 | 3 85579 90712+ | 0 | **56** |
| | 10 | 32 98154 16117 | 4 90297 52683+ | 0469 98585 16109+ | 3 46034 39200+ | 50 | |
| | 20 | 37 88451 68800+ | 4 90302 58417+ | 9,40036 52550 76909 | 3 06543 12374+ | 40 | |
| | 30 | 42 78754 27218 | 07 64390 | 9,39603 46007 64534+ | 2 67106 00317+ | 30 | |
| | 40 | 47 69061 91608 | 12 70600+ | 9170 78901 64216+ | 2 27722 93135 | 20 | |
| | 50 | 52 59374 62208+ | 17 77049 | 8738 51178 71082 | 1 88393 80954+ | 10 | |
| **5** | 0 | 57 49692 39257+ | 22 83736+ | 8306 62784 90127+ | 1 49118 53927 | 0 | **55** |
| | 10 | 62 40015 22994 | 27 90662 | 7875 13666 36200 | 1 09897 02226 | 50 | |
| | 20 | 67 30343 13656 | 32 97826 | 7444 03769 33974 | 0 70729 16046+ | 40 | |
| | 30 | 72 20676 11482 | 38 05228+ | 7013 33040 17927+ | 430 31614 85606+ | 30 | |
| | 40 | 77 11014 16710 | 43 12869 | 6583 01425 32321+ | 429 92554 01146 | 20 | |
| | 50 | 82 01357 29579 | 48 20748 | 6153 08871 31175 | 9 53546 52928 | 10 | |
| **6** | 0 | 86 91705 50327 | 53 28865+ | 5723 55324 78247+ | 9 14592 31236 | 0 | **54** |
| | 10 | 91 82058 79193 | 58 37221+ | 5294 40732 47011+ | 8 75691 26377+ | 50 | |
| | 20 | 0,10696 72417 16414 | 63 45816 | 4865 65041 20634 | 8 36843 28680+ | 40 | |
| | 30 | 0,10701 62780 62230 | 68 54648+ | 4437 28197 91953+ | 7 98048 28496+ | 30 | |
| | 40 | 06 53149 16878+ | 73 63719+ | 4009 30149 63457 | 7 59306 16197 | 20 | |
| | 50 | 11 43522 80598 | 78 73029+ | 3581 70843 47260 | 7 20616 82177 | 10 | |
| **7** | 0 | 16 33901 53627+ | 83 82577+ | 3154 50226 65083 | 6 81980 16853 | 0 | **53** |
| | 10 | 21 24285 36205 | 88 92364 | 2727 68246 48230 | 6 43396 10662+ | 50 | |
| | 20 | 26 14674 28569 | 94 02389 | 2301 24850 37567+ | 6 04864 54065 | 40 | |
| | 30 | 31 05068 30958 | 4 90399 12652+ | 1875 19985 83502+ | 5 66385 37542+ | 30 | |
| | 40 | 35 95467 43611 | 4 90404 23154+ | 1449 53600 45960 | 5 27958 51597+ | 20 | |
| | 50 | 40 85871 66765+ | 09 33895 | 1024 25641 94362+ | 4 89583 86754 | 10 | |
| **8** | 0 | 45 76281 00660+ | 14 44874+ | 0599 36058 07608+ | 4 51261 33558 | 0 | **52** |
| | 10 | 50 66695 45535 | 19 56092 | 9,30174 84796 74051 | 4 12990 82576+ | 50 | |
| | 20 | 55 57115 01627 | 24 67548 | 9,29750 71805 91474 | 3 74772 24398+ | 40 | |
| | 30 | 60 47539 69175 | 29 79242+ | 9326 97033 67075+ | 3 36605 49633+ | 30 | |
| | 40 | 65 37969 48417+ | 34 91176 | 8903 60428 17441+ | 2 98490 48913 | 20 | |
| | 50 | 70 28404 39593+ | 40 03347+ | 8480 61937 68529 | 2 60427 12888 | 10 | |
| **9** | 0 | 75 18844 42941 | 45 15758 | 8058 01510 55641 | 2 22415 32233 | 0 | **51** |
| | 10 | 80 09289 58699 | 50 28407 | 7635 79095 23408 | 1 84454 97641+ | 50 | |
| | 20 | 84 99739 87106 | 55 41294+ | 7213 94640 25766+ | 1 46545 99829 | 40 | |
| | 30 | 89 90195 28401 | 60 54421 | 6792 48094 25938 | 1 08688 29531+ | 30 | |
| | 40 | 94 80655 82821+ | 65 67785+ | 6371 39405 96406 | 0 70881 77507 | 20 | |
| | 50 | 0,10799 71121 50607 | 4 90470 81389 | 5950 68524 18899+ | 420 33126 34532+ | 10 | |
| **10** | 0 | 0,10804 61592 31996 | | 9,25530 35397 84367 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,10804 61592 31996 | 4 90475 95231 | 9,25530 35397 84367 | 419 95421 91406+ | 0 | **50** |
| | 10 | 09 52068 27227+ | 81 09311+ | 5110 39975 92960+ | 9 57768 38949+ | 50 | |
| | 20 | 14 42549 36539 | 86 23631 | 4690 82207 54011 | 9 20165 68000+ | 40 | |
| | 30 | 19 33035 60170 | 91 38189 | 4271 62041 86010 | 8 82613 69421 | 30 | |
| | 40 | 24 23526 98359 | 4 90496 52986 | 3852 79428 16589 | 8 45112 34091+ | 20 | |
| | 50 | 29 14023 51345 | 4 90501 68021 | 3434 34315 82498 | 8 07661 52913+ | 10 | |
| **11** | 0 | 34 04525 19366 | 06 83295 | 3016 26654 29584+ | 7 70261 16809+ | 0 | **49** |
| | 10 | 38 95032 02661+ | 11 98808 | 2598 56393 12775 | 7 32911 16722 | 50 | |
| | 20 | 43 85544 01469+ | 17 14559+ | 2181 23481 96053 | 6 95611 43613+ | 40 | |
| | 30 | 48 76061 16029 | 22 30549+ | 1764 27870 52440 | 6 58361 88467 | 30 | |
| | 40 | 53 66583 46578+ | 27 46778+ | 1347 69508 63973 | 6 21162 42286 | 20 | |
| | 50 | 58 57110 93357+ | 32 63246+ | 0931 48346 21687 | 5 84012 96093+ | 10 | |
| **12** | 0 | 63 47643 56603+ | 37 79953 | 0515 64333 25593+ | 5 46913 40933+ | 0 | **48** |
| | 10 | 68 38181 36556+ | 42 96898 | 9,20100 17419 84660 | 5 09863 67869 | 50 | |
| | 20 | 73 28724 33454+ | 48 14082 | 9,19685 07556 16791 | 4 72863 67984 | 40 | |
| | 30 | 78 19272 47536+ | 53 31505 | 9270 34692 48807 | 4 35913 32381+ | 30 | |
| | 40 | 83 09825 79041+ | 58 49166+ | 8855 98779 16425+ | 3 99012 52185+ | 20 | |
| | 50 | 88 00384 28207+ | 63 67066+ | 8441 99766 64240 | 3 62161 18538+ | 10 | |
| **13** | 0 | 92 90947 95274+ | 68 85206 | 8028 37605 45701+ | 3 25359 22603+ | 0 | **47** |
| | 10 | 0,10897 81516 80480 | 74 03584 | 7615 12246 23098 | 2 88606 55564 | 50 | |
| | 20 | 0,10902 72090 84064 | 79 22200+ | 7202 23639 67534 | 2 51903 08621+ | 40 | |
| | 30 | 07 62670 06265 | 84 41056+ | 6789 71736 58912+ | 2 15248 72998 | 30 | |
| | 40 | 12 53254 47321 | 89 60151 | 6377 56487 85914+ | 1 78643 39935+ | 20 | |
| | 50 | 17 43844 07472 | 94 79484+ | 5965 77844 45978+ | 1 42087 00695 | 10 | |
| **14** | 0 | 22 34438 86956+ | 4 90599 99056+ | 5554 35757 45283+ | 1 05579 46556+ | 0 | **46** |
| | 10 | 27 25038 86013 | 4 90605 18868 | 5143 30177 98727 | 0 69120 68821 | 50 | |
| | 20 | 32 15644 04881 | 10 38918 | 4732 61057 29906 | 410 32710 58806+ | 40 | |
| | 30 | 37 06254 43798+ | 15 59207 | 4322 28346 71099+ | 409 96349 07852+ | 30 | |
| | 40 | 41 96870 03005+ | 20 79734+ | 3912 31997 63247+ | 9 60036 07316+ | 20 | |
| | 50 | 46 87490 82740 | 26 00501+ | 3502 71961 55931 | 9 23771 48575+ | 10 | |
| **15** | 0 | 51 78116 83241+ | 31 21507 | 3093 48190 07355+ | 8 87555 23026 | 0 | **45** |
| | 10 | 56 68748 04748+ | 36 42752 | 2684 60634 84330 | 8 51387 22083 | 50 | |
| | 20 | 61 59384 47500+ | 41 64235+ | 2276 09247 62247 | 8 15267 37181 | 40 | |
| | 30 | 66 50026 11736 | 46 85958 | 1867 93980 25066 | 7 79195 59773+ | 30 | |
| | 40 | 71 40672 97693+ | 52 07919+ | 1460 14784 65292+ | 7 43171 81332+ | 20 | |
| | 50 | 76 31325 05613+ | 57 30120 | 1052 71612 83960 | 7 07195 93350 | 10 | |
| **16** | 0 | 81 21982 35733+ | 62 52559+ | 0645 64416 90610 | 6 71267 87335 | 0 | **44** |
| | 10 | 86 12644 88293 | 67 75238 | 9,10238 93149 03275 | 6 35387 54817 | 50 | |
| | 20 | 91 03312 63531 | 72 98155+ | 9,09832 57761 48458 | 5 99554 87343+ | 40 | |
| | 30 | 0,10995 93985 61686+ | 78 21312 | 9426 58206 61114+ | 5 63769 76481 | 30 | |
| | 40 | 0,11000 84663 82999 | 83 44708 | 9020 94436 84633+ | 5 28032 13814+ | 20 | |
| | 50 | 05 75347 27706+ | 88 68342+ | 8615 66404 70819 | 4 92341 90947 | 10 | |
| **17** | 0 | 10 66035 96049 | 93 92216 | 8210 74062 79872+ | 4 56698 99501 | 0 | **43** |
| | 10 | 15 56729 88265+ | 4 90699 16329 | 7806 17363 80371+ | 4 21103 31117 | 50 | |
| | 20 | 20 47429 04594 | 4 90704 40680+ | 7401 96260 49254+ | 3 85554 77454+ | 40 | |
| | 30 | 25 38133 45275 | 09 65271+ | 6998 10705 71800 | 3 50053 30190+ | 30 | |
| | 40 | 30 28843 10546+ | 14 90101+ | 6594 60652 41609+ | 3 14598 81021 | 20 | |
| | 50 | 35 19558 00648 | 20 15170+ | 6191 46053 60588+ | 2 79191 21660+ | 10 | |
| **18** | 0 | 40 10278 15819 | 25 40479 | 5788 66862 38928 | 2 43830 43840+ | 0 | **42** |
| | 10 | 45 01003 56298 | 30 66026+ | 5386 23031 95087+ | 2 08516 39312+ | 50 | |
| | 20 | 49 91734 22324 | 35 91813 | 4984 14515 55775 | 1 73248 99845 | 40 | |
| | 30 | 54 82470 14137 | 41 17838+ | 4582 41266 55930 | 1 38028 17225 | 30 | |
| | 40 | 59 73211 31975+ | 46 44103 | 4181 03238 38705+ | 1 02853 83257 | 20 | |
| | 50 | 64 63957 76078+ | 51 70607 | 3780 00384 55448+ | 0 67725 89764+ | 10 | |
| **19** | 0 | 69 54709 46685+ | 56 97350 | 3379 32658 65684 | 400 32644 28588 | 0 | **41** |
| | 10 | 74 45466 44036 | 62 24332+ | 2979 00014 37096+ | 399 97608 91586+ | 50 | |
| | 20 | 79 36228 68368+ | 67 51554 | 2579 02405 45509+ | 9 62619 70637+ | 40 | |
| | 30 | 84 26996 19922+ | 72 79014+ | 2179 39785 74872 | 9 27676 57634+ | 30 | |
| | 40 | 89 17768 98937 | 78 06714+ | 1780 12109 17238 | 8 92779 44490+ | 20 | |
| | 50 | 94 08547 05652 | | 1381 19329 72747+ | | 10 | |
| **20** | 0 | 0,11098 99330 40305+ | 4 90783 34653+ | 9,00982 61401 49612+ | 398 57928 23135 | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,11098 99330 40305+ | 4 90788 62832 | 9,00982 61401 49612+ | 398 23122 85516+ | 0 | **40** |
| | 10 | 0,11103 90119 03137+ | 93 91249+ | 0584 38278 64096 | 7 88363 23600 | 50 | |
| | 20 | 08 80912 94387+ | 4 90799 19906+ | 9,00186 49915 40495+ | 7 53649 29369 | 40 | |
| | 30 | 13 71712 14294 | 4 90804 48802+ | 8,99788 96266 11126+ | 7 18980 94823+ | 30 | |
| | 40 | 18 62516 63096+ | 09 77938 | 9391 77285 16303 | 6 84358 11982 | 20 | |
| | 50 | 23 53326 41034+ | 15 07313 | 8994 92927 04321+ | 6 49780 72879+ | 10 | |
| **21** | 0 | 28 44141 48347+ | 20 36927 | 8598 43146 31441+ | 6 15248 69569+ | 0 | **39** |
| | 10 | 33 34961 85274+ | 25 66780 | 8202 27897 61872 | 5 80761 94122 | 50 | |
| | 20 | 38 25787 52054+ | 30 96872+ | 7806 47135 67750 | 5 46320 38625 | 40 | |
| | 30 | 43 16618 48927 | 36 27204+ | 7411 00815 29124+ | 5 11923 95183+ | 30 | |
| | 40 | 48 07454 76131+ | 41 57776 | 7015 88891 33941+ | 4 77572 55918+ | 20 | |
| | 50 | 52 98296 33907+ | 46 88586+ | 6621 11318 78022+ | 4 43266 12971 | 10 | |
| **22** | 0 | 57 89143 22494 | 52 19636+ | 6226 68052 65052 | 4 09004 58496 | 0 | **38** |
| | 10 | 62 79995 42130+ | 57 50925+ | 5832 59048 06555+ | 3 74787 84668 | 50 | |
| | 20 | 67 70852 93056 | 62 82454+ | 5438 84260 21887+ | 3 40615 83677+ | 40 | |
| | 30 | 72 61715 75510+ | 68 14222+ | 5045 43644 38210 | 3 06488 47732 | 30 | |
| | 40 | 77 52583 89733 | 73 46230 | 4652 37155 90478 | 2 72405 69055+ | 20 | |
| | 50 | 82 43457 35963 | 78 78477 | 4259 64750 21422+ | 2 38367 39890+ | 10 | |
| **23** | 0 | 87 34336 14440 | 84 10963 | 3867 26382 81532 | 2 04373 52495 | 0 | **37** |
| | 10 | 92 25220 25403 | 89 43689 | 3475 22009 29037 | 1 70423 99144 | 50 | |
| | 20 | 0,11197 16109 69092 | 4 90894 76654 | 3083 51585 29893 | 1 36518 72129+ | 40 | |
| | 30 | 0,11202 07004 45746+ | 4 90900 09859 | 2692 15066 57763 | 1 02657 63761 | 30 | |
| | 40 | 06 97904 55605 | 05 43303 | 2301 12408 94002+ | 0 68840 66362+ | 20 | |
| | 50 | 11 88809 98908 | 10 76986+ | 1910 43568 27639+ | 0 35067 72277+ | 10 | |
| **24** | 0 | 16 79720 75894+ | 16 10909+ | 1520 08500 55362 | 390 01338 73864 | 0 | **36** |
| | 10 | 21 70636 86804 | 21 45072 | 1130 07161 81498 | 389 67653 63497+ | 50 | |
| | 20 | 26 61558 31876 | 26 79474 | 0740 39508 18001 | 9 34012 33569+ | 40 | |
| | 30 | 31 52485 11350 | 32 14115+ | 8,90351 05495 84431+ | 9 00414 76488+ | 30 | |
| | 40 | 36 43417 25465+ | 37 48996+ | 8,89962 05081 07943+ | 8 66860 84679 | 20 | |
| | 50 | 41 34354 74462 | 42 84117 | 9573 38220 23264+ | 8 33350 50582+ | 10 | |
| **25** | 0 | 46 25297 58579 | 48 19477 | 9185 04869 72682 | 7 99883 66656 | 0 | **35** |
| | 10 | 51 16245 78056 | 53 55077 | 8797 04986 06026 | 7 66460 25374 | 50 | |
| | 20 | 56 07199 33133 | 58 90916 | 8409 38525 80652 | 7 33080 19226 | 40 | |
| | 30 | 60 98158 24049 | 64 26995 | 8022 05445 61426 | 6 99743 40718 | 30 | |
| | 40 | 65 89122 51044 | 69 63313+ | 7635 05702 20708 | 6 66449 82373 | 20 | |
| | 50 | 70 80092 14357+ | 74 99871 | 7248 39252 38335 | 6 33199 36729+ | 10 | |
| **26** | 0 | 75 71067 14228+ | 80 36669 | 6862 06053 01605+ | 5 99991 96342+ | 0 | **34** |
| | 10 | 80 62047 50897+ | 85 73706 | 6476 06061 05263 | 5 66827 53782 | 50 | |
| | 20 | 85 53033 24603+ | 91 10983 | 6090 39233 51481 | 5 33706 01635+ | 40 | |
| | 30 | 90 44024 35586 | 4 90996 48499 | 5705 05527 49846 | 5 00627 32505 | 30 | |
| | 40 | 0,11295 35020 84085+ | 4 91001 86255+ | 5320 04900 17341 | 4 67591 39010 | 20 | |
| | 50 | 0,11300 26022 70340+ | 07 24251 | 4935 37308 78331 | 4 34598 13784+ | 10 | |
| **27** | 0 | 05 17029 94592 | 12 62486+ | 4551 02710 64546 | 4 01647 49479+ | 0 | **33** |
| | 10 | 10 08042 57078 | 18 00961+ | 4167 01063 15066+ | 3 68739 38761 | 50 | |
| | 20 | 14 99060 58039+ | 23 39676 | 3783 32323 76305+ | 3 35873 74310+ | 40 | |
| | 30 | 19 90083 97716 | 28 78630+ | 3399 96450 01995 | 3 03050 48827 | 30 | |
| | 40 | 24 81112 76346+ | 34 17825 | 3016 93399 53168 | 2 70269 55022+ | 20 | |
| | 50 | 29 72146 94171+ | 39 57258+ | 2634 23129 98145+ | 2 37530 85627 | 10 | |
| **28** | 0 | 34 63186 51430 | 44 96932+ | 2251 85599 12518+ | 2 04834 33385 | 0 | **32** |
| | 10 | 39 54231 48362+ | 50 36845+ | 1869 80764 79133+ | 1 72179 91057 | 50 | |
| | 20 | 44 45281 85208 | 55 76998+ | 1488 08584 88076+ | 1 39567 51418+ | 40 | |
| | 30 | 49 36337 62206+ | 61 17391+ | 1106 69017 36658 | 1 06997 07260+ | 30 | |
| | 40 | 54 27398 79598 | 66 58024 | 0725 62020 29397+ | 0 74468 51390+ | 20 | |
| | 50 | 59 18465 37622 | 71 98896+ | 8,80344 87551 78007 | 0 41981 76630+ | 10 | |
| **29** | 0 | 64 09537 36518+ | 77 40008+ | 8,79964 45570 01376+ | 380 09536 75817+ | 0 | **31** |
| | 10 | 69 00614 76527 | 82 81360+ | 9584 36033 25559 | 379 77133 41804+ | 50 | |
| | 20 | 73 91697 57887+ | 88 22952+ | 9204 58899 83754+ | 9 44771 67460 | 40 | |
| | 30 | 78 82785 80840 | 93 64784 | 8825 14128 16295 | 9 12451 45667 | 30 | |
| | 40 | 83 73879 45623+ | 4 91099 06855+ | 8446 01676 70627+ | 8 80172 69324+ | 20 | |
| | 50 | 88 64978 52479 | 4 91104 49166+ | 8067 21504 01303 | 378 47935 31346+ | 10 | |
| **30** | 0 | 0,11393 56083 01645+ | | 8,77688 73568 69956+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

# 6°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,11393 56083 01645+ | 4 91109 91717+ | 8,77688 73568 69956+ | 378 15739 24661 | 0 | **30** |
| | 10 | 0,11398 47192 93363 | 15 34508+ | 7310 57829 45295+ | 7 83584 42212+ | 50 | |
| | 20 | 0,11403 38308 27871+ | 20 77539+ | 6932 74245 03083 | 7 51470 76960+ | 40 | |
| | 30 | 08 29429 05411 | 26 20810 | 6555 22774 26122+ | 7 19398 21878+ | 30 | |
| | 40 | 13 20555 26221 | 31 64320+ | 6178 03376 04243+ | 6 87366 69956 | 20 | |
| | 50 | 18 11686 90542 | 37 08071 | 5801 16009 34287+ | 6 55376 14196+ | 10 | |
| **31** | 0 | 23 02823 98613 | 42 52061+ | 5424 60633 20091 | 6 23426 47619+ | 0 | **29** |
| | 10 | 27 93966 50674+ | 47 96292 | 5048 37206 72471+ | 5 91517 63258+ | 50 | |
| | 20 | 32 85114 46966+ | 53 40762 | 4672 45689 09213 | 5 59649 54162 | 40 | |
| | 30 | 37 76267 87728+ | 58 85472+ | 4296 86039 55050+ | 5 27822 13394 | 30 | |
| | 40 | 42 67426 73201 | 64 30422+ | 3921 58217 41657 | 4 96035 34031+ | 20 | |
| | 50 | 47 58591 03623+ | 69 75612+ | 3546 62182 07625+ | 4 64289 09168+ | 10 | |
| **32** | 0 | 52 49760 79236+ | 75 21043 | 3171 97892 98457 | 4 32583 31912 | 0 | **28** |
| | 10 | 57 40936 00279 | 80 66713 | 2797 65309 66545 | 4 00917 95384+ | 50 | |
| | 20 | 62 32116 66992 | 86 12623 | 2423 64391 71160+ | 3 69292 92722+ | 40 | |
| | 30 | 67 23302 79615 | 91 58773 | 2049 95098 78438 | 3 37708 17077 | 30 | |
| | 40 | 72 14494 38388 | 4 91197 05163 | 1676 57390 61361 | 3 06163 61615 | 20 | |
| | 50 | 77 05691 43551 | 4 91202 51793+ | 1303 51226 99746 | 2 74659 19516 | 10 | |
| **33** | 0 | 81 96893 95344+ | 07 98663+ | 0930 76567 80230 | 2 43194 83975 | 0 | **27** |
| | 10 | 86 88101 94007+ | 13 45773+ | 0558 33372 96255 | 2 11770 48201+ | 50 | |
| | 20 | 91 79315 39781+ | 18 93124 | 8,70186 21602 48053+ | 1 80386 05418+ | 40 | |
| | 30 | 0,11496 70534 32905+ | 24 40714+ | 8,69814 41216 42635 | 1 49041 48865 | 30 | |
| | 40 | 0,11501 61758 73619+ | 29 88544+ | 9442 92174 93770 | 1 17736 71792+ | 20 | |
| | 50 | 06 52988 62164 | 35 36615 | 9071 74438 21977+ | 0 86471 67467+ | 10 | |
| **34** | 0 | 11 44223 98779+ | 40 84926 | 8700 87966 54510 | 0 55246 29171+ | 0 | **26** |
| | 10 | 16 35464 83705+ | 46 33476+ | 8330 32720 25339 | 370 24060 50198+ | 50 | |
| | 20 | 21 26711 17182 | 51 82267+ | 7960 08659 75140 | 369 92914 23858+ | 40 | |
| | 30 | 26 17962 99449 | 57 31298+ | 7590 15745 51281+ | 9 61807 43474+ | 30 | |
| | 40 | 31 09220 30747+ | 62 80569+ | 7220 53938 07807 | 9 30740 02384 | 20 | |
| | 50 | 36 00483 11317 | 68 30080+ | 6851 23198 05423+ | 8 99711 93938 | 10 | |
| **35** | 0 | 40 91751 41397+ | 73 79832 | 6482 23486 11485+ | 8 68723 11502 | 0 | **25** |
| | 10 | 45 83025 21230 | 79 29824 | 6113 54762 99983+ | 8 37773 48456 | 50 | |
| | 20 | 50 74304 51053+ | 84 80055+ | 5745 16989 51527+ | 8 06862 98193 | 40 | |
| | 30 | 55 65589 31109+ | 90 30527+ | 5377 10126 53334 | 7 75991 54120+ | 30 | |
| | 40 | 60 56879 61637 | 4 91295 81240 | 5009 34134 99213+ | 7 45159 09659+ | 20 | |
| | 50 | 65 48175 42876+ | 4 91301 32192 | 4641 88975 89554+ | 7 14365 58245 | 10 | |
| **36** | 0 | 70 39476 75069 | 06 83385 | 4274 74610 31309+ | 6 83610 93325+ | 0 | **24** |
| | 10 | 75 30783 58453+ | 12 34817+ | 3907 90999 37984 | 6 52895 08364+ | 50 | |
| | 20 | 80 22095 93271+ | 17 86491 | 3541 38104 29619+ | 6 22217 96837+ | 40 | |
| | 30 | 85 13413 79762 | 23 38404 | 3175 15886 32782 | 5 91579 52235 | 30 | |
| | 40 | 90 04737 18166+ | 28 90558 | 2809 24306 80546+ | 5 60979 68061 | 20 | |
| | 50 | 94 96066 08724 | 34 42952 | 2443 63327 12486 | 5 30418 37832 | 10 | |
| **37** | 0 | 0,11599 87400 51676 | 39 95586 | 2078 32908 74654 | 4 99895 55079+ | 0 | **23** |
| | 10 | 0,11604 78740 47262 | 45 48460+ | 1713 33013 19574+ | 4 69411 13348 | 50 | |
| | 20 | 09 70085 95722+ | 51 01575+ | 1348 63602 06226 | 4 38965 06195+ | 40 | |
| | 30 | 14 61436 97298 | 56 54930+ | 0984 24637 00030+ | 4 08557 27194 | 30 | |
| | 40 | 19 52793 52228+ | 62 08526 | 0620 16079 72837 | 3 78187 69927+ | 20 | |
| | 50 | 24 44155 60754+ | 67 62362 | 8,60256 37892 02909 | 3 47856 27995+ | 10 | |
| **38** | 0 | 29 35523 23116 | 73 16438 | 8,59892 90035 74914 | 3 17562 95009 | 0 | **22** |
| | 10 | 34 26896 39554 | 78 70754+ | 9529 72472 79904+ | 2 87307 64594 | 50 | |
| | 20 | 39 18275 10308+ | 84 25311+ | 9166 85165 15310+ | 2 57090 30388+ | 40 | |
| | 30 | 44 09659 35620 | 89 80109 | 8804 28074 84922 | 2 26910 86045 | 30 | |
| | 40 | 49 01049 15729 | 4 91395 35146+ | 8442 01163 98877 | 1 96769 25227+ | 20 | |
| | 50 | 53 92444 50875+ | 4 91400 90424+ | 8080 04394 73649+ | 1 66665 41615+ | 10 | |
| **39** | 0 | 58 83845 41300 | 06 45943 | 7718 37729 32034 | 1 36599 28900 | 0 | **21** |
| | 10 | 63 75251 87243+ | 12 01702 | 7357 01130 03134 | 1 06570 80785+ | 50 | |
| | 20 | 68 66663 88945+ | 17 57701+ | 6995 94559 22348+ | 0 76579 90990+ | 40 | |
| | 30 | 73 58081 46647 | 23 13941+ | 6635 17979 31358 | 0 46626 53245 | 30 | |
| | 40 | 78 49504 60588+ | 28 70421+ | 6274 71352 78113 | 360 16710 61294 | 20 | |
| | 50 | 83 40933 31010 | | 5914 54642 16819 | 359 86832 08894 | 10 | |
| **40** | 0 | 0,11688 32367 58152+ | 4 91434 27142+ | 8,55554 67810 07925+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

# 6°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,11688 32367 58152+ | 4 91439 84104 | 8,55554 67810 07925+ | 359 56990 89814+ | 0 | **20** |
| | 10 | 93 23807 42256+ | 45 41305+ | 5195 10819 18110+ | 9 27186 97840 | 50 | |
| | 20 | 0,11698 15252 83562 | 50 98748 | 4835 83632 20270+ | 8 97420 26765 | 40 | |
| | 30 | 0,11703 06703 82309+ | 56 56430+ | 4476 86211 93505+ | 8 67690 70399 | 30 | |
| | 40 | 07 98160 38740 | 62 14354 | 4118 18521 23106+ | 8 37998 22563+ | 20 | |
| | 50 | 12 89622 53094 | 67 72517+ | 3759 80523 00543 | 8 08342 77093+ | 10 | |
| **41** | 0 | 17 81090 25612 | 73 30922 | 3401 72180 23449+ | 7 78724 27836 | 0 | **19** |
| | 10 | 22 72563 56534 | 78 89567 | 3043 93455 95614 | 7 49142 68651 | 50 | |
| | 20 | 27 64042 46101 | 84 48452+ | 2686 44313 26963 | 7 19597 93411+ | 40 | |
| | 30 | 32 55526 94553+ | 90 07578+ | 2329 24715 33551+ | 6 90089 96003 | 30 | |
| | 40 | 37 47017 02132 | 4 91495 66945+ | 1972 34625 37548+ | 6 60618 70324 | 20 | |
| | 50 | 42 38512 69077+ | 4 91501 26552+ | 1615 74006 67224+ | 6 31184 10285+ | 10 | |
| **42** | 0 | 47 30013 95630 | 06 86400+ | 1259 42822 56939 | 6 01786 09811 | 0 | **18** |
| | 10 | 52 21520 82030+ | 12 46489 | 0903 41036 47128 | 5 72424 62836 | 50 | |
| | 20 | 57 13033 28519 | 18 06818 | 0547 68611 84292 | 5 43099 63310 | 40 | |
| | 30 | 62 04551 35337+ | 23 67388 | 8,50192 25512 20981+ | 5 13811 05194 | 30 | |
| | 40 | 66 96075 02725 | 29 28198+ | 8,49837 11701 15787+ | 4 84558 82461+ | 20 | |
| | 50 | 71 87604 30923+ | 34 89249+ | 9482 27142 33326 | 4 55342 89098+ | 10 | |
| **43** | 0 | 76 79139 20173 | 40 50541 | 9127 71799 44227+ | 4 26163 19104+ | 0 | **17** |
| | 10 | 81 70679 70714 | 46 12073+ | 8773 45636 25123 | 3 97019 66489 | 50 | |
| | 20 | 86 62225 82787+ | 51 73847 | 8419 48616 58634 | 3 67912 25276+ | 40 | |
| | 30 | 91 53777 56634+ | 57 35860+ | 8065 80704 33357+ | 3 38840 89502+ | 30 | |
| | 40 | 0,11796 45334 92495 | 62 98115 | 7712 41863 43855 | 3 09805 53214+ | 20 | |
| | 50 | 0,11801 36897 90610+ | 68 60610+ | 7359 32057 90640 | 2 80806 10473+ | 10 | |
| **44** | 0 | 06 28466 51221 | 74 23346+ | 7006 51251 80166+ | 2 51842 55351+ | 0 | **16** |
| | 10 | 11 20040 74567+ | 79 86323+ | 6653 99409 24815 | 2 22914 81933+ | 50 | |
| | 20 | 16 11620 60891 | 85 49541 | 6301 76494 42881+ | 1 94022 84316+ | 40 | |
| | 30 | 21 03206 10432 | 91 12999+ | 5949 82471 58565+ | 1 65166 56609 | 30 | |
| | 40 | 25 94797 23431 | 4 91596 76698+ | 5598 17305 01956+ | 1 36345 92933 | 20 | |
| | 50 | 30 86394 00129+ | 4 91602 40638+ | 5246 80959 09023+ | 1 07560 87421 | 10 | |
| **45** | 0 | 35 77996 40768 | 08 04819 | 4895 73398 21602 | 0 78811 34219+ | 0 | **15** |
| | 10 | 40 69604 45587 | 13 69240+ | 4544 94586 87383 | 0 50097 27484+ | 50 | |
| | 20 | 45 61218 14827+ | 19 33903 | 4194 44489 59898+ | 350 21418 61386+ | 40 | |
| | 30 | 50 52837 48730+ | 24 98806 | 3844 23070 98512 | 349 92775 30106+ | 30 | |
| | 40 | 55 44462 47536+ | 30 63950 | 3494 30295 68405 | 9 64167 27838 | 20 | |
| | 50 | 60 36093 11486+ | 36 29335 | 3144 66128 40567 | 9 35594 48786 | 10 | |
| **46** | 0 | 65 27729 40821+ | 41 94961 | 2795 30533 91781 | 9 07056 87168 | 0 | **14** |
| | 10 | 70 19371 35782+ | 47 60827+ | 2446 23477 04613 | 8 78554 37212+ | 50 | |
| | 20 | 75 11018 96610 | 53 26935 | 2097 44922 67400+ | 8 50086 93161 | 40 | |
| | 30 | 80 02672 23545 | 58 93283+ | 1748 94835 74240 | 8 21654 49265+ | 30 | |
| | 40 | 84 94331 16828+ | 64 59873 | 1400 73181 24974+ | 7 93256 99790+ | 20 | |
| | 50 | 89 85995 76701+ | 70 26703 | 1052 79924 25183+ | 7 64894 39013 | 10 | |
| **47** | 0 | 94 77666 03404+ | 75 93774+ | 0705 15029 86170+ | 7 36566 61220 | 0 | **13** |
| | 10 | 0,11899 69341 97179 | 81 61086+ | 0357 78463 24951 | 7 08273 60711 | 50 | |
| | 20 | 0,11904 61023 58265+ | 87 28639+ | 8,40010 70189 64240 | 6 80015 31797+ | 40 | |
| | 30 | 09 52710 86905 | 92 96433+ | 8,39663 90174 32442+ | 6 51791 68802+ | 30 | |
| | 40 | 14 44403 83338+ | 4 91698 64469 | 9317 38382 63639+ | 6 23602 66060+ | 20 | |
| | 50 | 19 36102 47807+ | 4 91704 32745 | 8971 14779 97579 | 5 95448 17917 | 10 | |
| **48** | 0 | 24 27806 80552+ | 10 01262 | 8625 19331 79662 | 5 67328 18730+ | 0 | **12** |
| | 10 | 29 19516 81814 | 15 70020 | 8279 52003 60931+ | 5 39242 62869 | 50 | |
| | 20 | 34 11232 51834 | 21 39019 | 7934 12760 98062+ | 5 11191 44713+ | 40 | |
| | 30 | 39 02953 90853 | 27 08259 | 7589 01569 53349+ | 4 83174 58656 | 30 | |
| | 40 | 43 94680 99112+ | 32 77740+ | 7244 18394 94693+ | 4 55191 99100 | 20 | |
| | 50 | 48 86413 76852+ | 38 47462+ | 6899 63202 95593+ | 4 27243 60460+ | 10 | |
| **49** | 0 | 53 78152 24315+ | 44 17426 | 6555 35959 35133 | 3 99329 37163+ | 0 | **11** |
| | 10 | 58 69896 41741 | 49 87630 | 6211 36629 97969+ | 3 71449 23646+ | 50 | |
| | 20 | 63 61646 29371+ | 55 58075+ | 5867 65180 74323 | 3 43603 14359 | 40 | |
| | 30 | 68 53401 87447 | 61 28762 | 5524 21577 59964 | 3 15791 03760+ | 30 | |
| | 40 | 73 45163 16209 | 66 99690 | 5181 05786 56204 | 2 88012 86322+ | 20 | |
| | 50 | 78 36930 15899 | 4 91772 70858+ | 4838 17773 69881+ | 342 60268 56528 | 10 | |
| **50** | 0 | 0,11983 28702 86758 | | 8,34495 57505 13353+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

# 6°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,11983 28702 86758 | 4 91778 42268+ | 8,34495 57505 13353+ | 342 32558 08871 | 0 | **10** |
| | 10 | 88 20481 29026+ | 84 13919+ | 4153 24947 04482+ | 2 04881 37856 | 50 | |
| | 20 | 93 12265 42946 | 89 85812 | 3811 20065 66626+ | 1 77238 38000 | 40 | |
| | 30 | 0,11998 04055 28758 | 4 91795 57945 | 3469 42827 28626+ | 1 49629 03829+ | 30 | |
| | 40 | 0,12002 95850 86703 | 4 91801 30320 | 3127 93198 24797 | 1 22053 29884 | 20 | |
| | 50 | 07 87652 17023 | 07 02935+ | 2786 71144 94913 | 0 94511 10712 | 10 | |
| **51** | 0 | 12 79459 19958+ | 12 75792+ | 2445 76633 84200+ | 0 67002 40875 | 0 | **9** |
| | 10 | 17 71271 95751 | 18 48890+ | 2105 09631 43325+ | 0 39527 14944 | 50 | |
| | 20 | 22 63090 44641+ | 24 22230 | 1764 70104 28381+ | 340 12085 27502 | 40 | |
| | 30 | 27 54914 66871+ | 29 95810+ | 1424 58019 00879+ | 339 84676 73142 | 30 | |
| | 40 | 32 46744 62682 | 35 69632+ | 1084 73342 27738 | 9 57301 46469 | 20 | |
| | 50 | 37 38580 32314+ | 41 43695+ | 0745 16040 81269 | 9 29959 42098 | 10 | |
| **52** | 0 | 42 30421 76009+ | 47 18000 | 0405 86081 39171 | 9 02650 54656 | 0 | **8** |
| | 10 | 47 22268 94009+ | 52 92545+ | 8,30066 83430 84515+ | 8 75374 78779+ | 50 | |
| | 20 | 52 14121 86555 | 58 67332+ | 8,29728 08056 05736 | 8 48132 09116+ | 40 | |
| | 30 | 57 05980 53887+ | 64 42360+ | 9389 59923 96619+ | 8 20922 40326+ | 30 | |
| | 40 | 61 97844 96248 | 70 17630 | 9051 39001 56293 | 7 93745 67078 | 20 | |
| | 50 | 66 89715 13878 | 75 93141 | 8713 45255 89215 | 7 66601 84052+ | 10 | |
| **53** | 0 | 71 81591 07019 | 81 68893 | 8375 78654 05162+ | 7 39490 85940+ | 0 | **7** |
| | 10 | 76 73472 75912 | 87 44886+ | 8038 39163 19222 | 7 12412 67443+ | 50 | |
| | 20 | 81 65360 20798+ | 93 21121+ | 7701 26750 51778 | 6 85367 23275 | 40 | |
| | 30 | 86 57253 41920 | 4 91898 97597+ | 7364 41383 28503+ | 6 58354 48156+ | 30 | |
| | 40 | 91 49152 39518 | 4 91904 74315+ | 7027 83028 80347 | 6 31374 36823 | 20 | |
| | 50 | 0,12096 41057 13833 | 10 51274+ | 6691 51654 43523+ | 6 04426 84018+ | 10 | |
| **54** | 0 | 0,12101 32967 65107+ | 16 28474+ | 6355 47227 59505 | 5 77511 84498 | 0 | **6** |
| | 10 | 06 24883 93582 | 22 05916+ | 6019 69715 75007 | 5 50629 33026+ | 50 | |
| | 20 | 11 16805 99498+ | 27 83599+ | 5684 19086 41980 | 5 23779 24380+ | 40 | |
| | 30 | 16 08733 83098 | 33 61524+ | 5348 95307 17599+ | 4 96961 53346+ | 30 | |
| | 40 | 21 00667 44622+ | 39 39690+ | 5013 98345 64253 | 4 70176 14721 | 20 | |
| | 50 | 25 92606 84312+ | 45 18098 | 4679 28169 49532 | 4 43423 03311+ | 10 | |
| **55** | 0 | 30 84552 02410+ | 50 96747 | 4344 84746 46220+ | 4 16702 13936 | 0 | **5** |
| | 10 | 35 76502 99157+ | 56 75637+ | 4010 68044 32284+ | 3 90013 41423 | 50 | |
| | 20 | 40 68459 74794+ | 62 54769+ | 3676 78030 90861+ | 3 63356 80610+ | 40 | |
| | 30 | 45 60422 29564 | 68 34142+ | 3343 14674 10251 | 3 36732 26347+ | 30 | |
| | 40 | 50 52390 63706+ | 74 13757+ | 3009 77941 83903+ | 3 10139 73493+ | 20 | |
| | 50 | 55 44364 77464+ | 79 93614 | 2676 67802 10410 | 2 83579 16918+ | 10 | |
| **56** | 0 | 60 36344 71078+ | 85 73712 | 2343 84222 93491+ | 2 57050 51501+ | 0 | **4** |
| | 10 | 65 28330 44790+ | 91 54051+ | 2011 27172 41990 | 2 30553 72133 | 50 | |
| | 20 | 70 20321 98842+ | 4 91997 34633 | 1678 96618 69856+ | 2 04088 73713+ | 40 | |
| | 30 | 75 12319 33475 | 4 92003 15455+ | 1346 92529 96143+ | 1 77655 51153 | 30 | |
| | 40 | 80 04322 48930+ | 08 96519+ | 1015 14874 44990 | 1 51253 99372+ | 20 | |
| | 50 | 84 96331 45450 | 14 77825+ | 0683 63620 45617+ | 1 24884 13303 | 10 | |
| **57** | 0 | 89 88346 23275+ | 20 59373 | 0352 38736 32315 | 0 98545 87885 | 0 | **3** |
| | 10 | 94 80366 82648+ | 26 41162 | 8,20021 40190 44430 | 0 72239 18069+ | 50 | |
| | 20 | 0,12199 72393 23810+ | 32 23192+ | 8,19690 67951 26360 | 0 45963 98818+ | 40 | |
| | 30 | 0,12204 64425 47003 | 38 05465 | 9360 21987 27541+ | 330 19720 25102+ | 30 | |
| | 40 | 09 56463 52468 | 43 87979 | 9030 02267 02439 | 329 93507 91902+ | 20 | |
| | 50 | 14 48507 40447 | 49 70734+ | 8700 08759 10536+ | 9 67326 94210+ | 10 | |
| **58** | 0 | 19 40557 11181 | 55 53731+ | 8370 41432 16326 | 9 41177 27027 | 0 | **2** |
| | 10 | 24 32612 64913 | 61 36970+ | 8041 00254 89298+ | 9 15058 85364 | 50 | |
| | 20 | 29 24674 01883 | 67 20451 | 7711 85196 03935 | 8 88971 64241+ | 40 | |
| | 30 | 34 16741 22334+ | 73 04173+ | 7382 96224 39693+ | 8 62915 58691 | 30 | |
| | 40 | 39 08814 26507+ | 78 88137+ | 7054 33308 81002 | 8 36890 63754 | 20 | |
| | 50 | 44 00893 14645 | 84 72343 | 6725 96418 17248+ | 8 10896 74480 | 10 | |
| **59** | 0 | 48 92977 86988 | 90 56790+ | 6397 85521 42768 | 7 84933 85931 | 0 | **1** |
| | 10 | 53 85068 43778+ | 4 92096 41479+ | 6070 00587 56837 | 7 59001 93176+ | 50 | |
| | 20 | 58 77164 85258+ | 4 92102 26410+ | 5742 41585 63661 | 7 33100 91297 | 40 | |
| | 30 | 63 69267 11669 | 08 11583+ | 5415 08484 72364 | 7 07230 75382 | 30 | |
| | 40 | 68 61375 23252+ | 13 96998 | 5088 01253 96982 | 6 81391 40532 | 20 | |
| | 50 | 73 53489 20250+ | 4 92119 82654 | 4761 19862 56450 | 326 55582 81856 | 10 | |
| **60** | 0 | 0,12278 45609 02904+ | | 8,14434 64279 74594 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 83°

# 7°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,12278 45609 02904+ | 4 92125 68552 | 8,14434 64279 74594 | 326 29804 94473+ | 0 | **60** |
| | 10 | 83 37734 71457 | 31 54692 | 4108 34474 80120+ | 6 04057 73512+ | 50 | |
| | 20 | 88 29866 26149 | 37 41074 | 3782 30417 06608 | 5 78341 14112+ | 40 | |
| | 30 | 93 22003 67223 | 43 27697+ | 3456 52075 92495+ | 5 52655 11421 | 30 | |
| | 40 | 0,12298 14146 94920 | 49 14563 | 3130 99420 81074+ | 5 26999 60596 | 20 | |
| | 50 | 0,12303 06296 09483 | 55 01670 | 2805 72421 20479 | 5 01374 56804+ | 10 | |
| **1** | 0 | 07 98451 11153 | 60 89019 | 2480 71046 63674+ | 4 75779 95223+ | 0 | **59** |
| | 10 | 12 90612 00172 | 66 76610 | 2155 95266 68451 | 4 50215 71039 | 50 | |
| | 20 | 17 82778 76782 | 72 64443 | 1831 45050 97412 | 4 24681 79448 | 40 | |
| | 30 | 22 74951 41225 | 78 52517+ | 1507 20369 17964 | 3 99178 15655 | 30 | |
| | 40 | 27 67129 93743 | 84 40834+ | 1183 21191 02309 | 3 73704 74875 | 20 | |
| | 50 | 32 59314 34577 | 90 29393 | 0859 47486 27434 | 3 48261 52332+ | 10 | |
| **2** | 0 | 37 51504 63970+ | 4 92196 18193+ | 0535 99224 75101+ | 3 22848 43261+ | 0 | **58** |
| | 10 | 42 43700 82164 | 4 92202 07236 | 8,10212 76376 31840 | 2 97465 42904+ | 50 | |
| | 20 | 47 35902 89400 | 07 96520+ | 8,09889 78910 88935+ | 2 72112 46514+ | 40 | |
| | 30 | 52 28110 85920+ | 13 86047 | 9567 06798 42420+ | 2 46789 49353+ | 30 | |
| | 40 | 57 20324 71967+ | 19 75815+ | 9244 60008 93067 | 2 21496 46692+ | 20 | |
| | 50 | 62 12544 47782+ | 25 65825+ | 8922 38512 46374+ | 1 96233 33812 | 10 | |
| **3** | 0 | 67 04770 13608+ | 31 56078 | 8600 42279 12562+ | 1 71000 06002+ | 0 | **57** |
| | 10 | 71 97001 69686+ | 37 46572+ | 8278 71279 06560 | 1 45796 58562 | 50 | |
| | 20 | 76 89239 16259 | 43 37309 | 7957 25482 47998 | 1 20622 86799+ | 40 | |
| | 30 | 81 81482 53567+ | 49 28287+ | 7636 04859 61198+ | 0 95478 86033 | 30 | |
| | 40 | 86 73731 81855 | 55 19508 | 7315 09380 75165+ | 0 70364 51589 | 20 | |
| | 50 | 91 65987 01363 | 61 10970+ | 6994 39016 23576+ | 0 45279 78803 | 10 | |
| **4** | 0 | 0,12396 58248 12333+ | 67 02675 | 6673 93736 44773+ | 320 20224 63020+ | 0 | **56** |
| | 10 | 0,12401 50515 15008+ | 72 94622 | 6353 73511 81753 | 319 95198 99596 | 50 | |
| | 20 | 06 42788 09630+ | 78 86810+ | 6033 78312 82157 | 9 70202 83893 | 40 | |
| | 30 | 11 35066 96441 | 84 79241+ | 5714 08109 98264 | 9 45236 11283+ | 30 | |
| | 40 | 16 27351 75682+ | 90 71914+ | 5394 62873 86980+ | 9 20298 77149+ | 20 | |
| | 50 | 21 19642 47597 | 4 92296 64829+ | 5075 42575 09830+ | 8 95390 76881+ | 10 | |
| **5** | 0 | 26 11939 12426+ | 4 92302 57987 | 4756 47184 32949 | 8 70512 05879+ | 0 | **55** |
| | 10 | 31 04241 70413+ | 08 51386+ | 4437 76672 27069+ | 8 45662 59551+ | 50 | |
| | 20 | 35 96550 21800 | 14 45028 | 4119 31009 67518 | 8 20842 33316 | 40 | |
| | 30 | 40 88864 66828 | 20 38912 | 3801 10167 34201+ | 7 96051 22599 | 30 | |
| | 40 | 45 81185 05740 | 26 33038 | 3483 14116 11602+ | 7 71289 22836+ | 20 | |
| | 50 | 50 73511 38778 | 32 27406 | 3165 42826 88766 | 7 46556 29473 | 10 | |
| **6** | 0 | 55 65843 66184 | 38 22016+ | 2847 96270 59292+ | 7 21852 37962 | 0 | **54** |
| | 10 | 60 58181 88200+ | 44 16869 | 2530 74418 21330+ | 6 97177 43765+ | 50 | |
| | 20 | 65 50526 05069+ | 50 11964 | 2213 77240 77565 | 6 72531 42355 | 40 | |
| | 30 | 70 42876 17033 | 56 07301 | 1897 04709 35210 | 6 47914 29210+ | 30 | |
| | 40 | 75 35232 24334 | 62 02880 | 1580 56795 05999+ | 6 23325 99821 | 20 | |
| | 50 | 80 27594 27214 | 67 98702 | 1264 33469 06178+ | 5 98766 49683+ | 10 | |
| **7** | 0 | 85 19962 25916 | 73 94765+ | 0948 34702 56495 | 5 74235 74305+ | 0 | **53** |
| | 10 | 90 12336 20681+ | 79 91072 | 0632 60466 82189+ | 5 49733 69201+ | 50 | |
| | 20 | 95 04716 11753+ | 85 87620 | 0317 10733 12988+ | 5 25260 29895+ | 40 | |
| | 30 | 0,12499 97101 99373+ | 91 84411 | 8,00001 85472 83093 | 5 00815 51920+ | 30 | |
| | 40 | 0,12504 89493 83784+ | 4 92397 81444 | 7,99686 84657 31172+ | 4 76399 30817+ | 20 | |
| | 50 | 09 81891 65228+ | 4 92403 78719+ | 9372 08258 00355 | 4 52011 62137 | 10 | |
| **8** | 0 | 14 74295 43948 | 09 76237 | 9057 56246 38218+ | 4 27652 41437+ | 0 | **52** |
| | 10 | 19 66705 20185+ | 15 73997+ | 8743 28593 96781 | 4 03321 64286 | 50 | |
| | 20 | 24 59120 94182+ | 21 72000 | 8429 25272 32494+ | 3 79019 26259+ | 40 | |
| | 30 | 29 51542 66182+ | 27 70244+ | 8115 46253 06235+ | 3 54745 22941+ | 30 | |
| | 40 | 34 43970 36427 | 33 68732 | 7801 91507 83293+ | 3 30499 49926 | 20 | |
| | 50 | 39 36404 05159 | 39 67461+ | 7488 61008 33367+ | 3 06282 02814 | 10 | |
| **9** | 0 | 44 28843 72620+ | 45 66433+ | 7175 54726 30553+ | 2 82092 77216+ | 0 | **51** |
| | 10 | 49 21289 39054+ | 51 65648 | 6862 72633 53337 | 2 57931 68752 | 50 | |
| | 20 | 54 13741 04702+ | 57 65105 | 6550 14701 84585 | 2 33798 73047+ | 40 | |
| | 30 | 59 06198 69807+ | 63 64804+ | 6237 80903 11538 | 2 09693 85738+ | 30 | |
| | 40 | 63 98662 34612 | 69 64746+ | 5925 71209 25799 | 1 85617 02470+ | 20 | |
| | 50 | 68 91131 99358 | | 5613 85592 23329 | | 10 | |
| **10** | 0 | 0,12573 83607 64289 | 4 92475 64930+ | 7,95302 24024 04433+ | 311 61568 18895 | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

# 7°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,12573 83607 64289 | 4 92481 65357+ | 7,95302 24024 04433+ | 311 37547 30673+ | 0 | **50** |
| | 10 | 78 76089 29646+ | 87 66026+ | 4990 86476 73760 | 1 13554 33475+ | 50 | |
| | 20 | 83 68576 95673 | 93 66938+ | 4679 72922 40284+ | 0 89589 22979 | 40 | |
| | 30 | 88 61070 62611+ | 4 92499 68093 | 4368 83333 17305 | 0 65651 94870+ | 30 | |
| | 40 | 93 53570 30704+ | 4 92505 69489+ | 4058 17681 22435 | 0 41742 44843+ | 20 | |
| | 50 | 0,12598 46076 00194 | 11 71129 | 3747 75938 77591 | 310 17860 68602 | 10 | |
| **11** | 0 | 0,12603 38587 71323 | 17 73011 | 3437 58078 08989 | 309 94006 61857 | 0 | **49** |
| | 10 | 08 31105 44334 | 23 75135+ | 3127 64071 47132+ | 9 70180 20327+ | 50 | |
| | 20 | 13 23629 19469+ | 29 77502+ | 2817 93891 26805 | 9 46381 39741+ | 40 | |
| | 30 | 18 16158 96972 | 35 80112 | 2508 47509 87063 | 9 22610 15835+ | 30 | |
| | 40 | 23 08694 77084+ | 41 82964+ | 2199 24899 71227+ | 8 98866 44353+ | 20 | |
| | 50 | 28 01236 60049 | 47 86059+ | 1890 26033 26874+ | 8 75150 21047+ | 10 | |
| **12** | 0 | 32 93784 46108 | 53 89397 | 1581 50883 05827 | 8 51461 41678+ | 0 | **48** |
| | 10 | 37 86338 35505 | 59 92977 | 1272 99421 64148+ | 8 27800 02015+ | 50 | |
| | 20 | 42 78898 28482 | 65 96800 | 0964 71621 62133 | 8 04165 97835 | 40 | |
| | 30 | 47 71464 25282 | 72 00865 | 0656 67455 64298 | 7 80559 24922+ | 30 | |
| | 40 | 52 64036 26147 | 78 05173+ | 0348 86896 39375 | 7 56979 79071+ | 20 | |
| | 50 | 57 56614 31320+ | 84 09724 | 7,90041 29916 60304 | 7 33427 56082+ | 10 | |
| **13** | 0 | 62 49198 41044+ | 90 14517+ | 7,89733 96489 04221+ | 7 09902 51765 | 0 | **47** |
| | 10 | 67 41788 55562 | 4 92596 19554 | 9426 86586 52456+ | 6 86404 61937+ | 50 | |
| | 20 | 72 34384 75116 | 4 92602 24832+ | 9120 00181 90519 | 6 62933 82424 | 40 | |
| | 30 | 77 26986 99948+ | 08 30354+ | 8813 37248 08095 | 6 39490 09059+ | 30 | |
| | 40 | 82 19595 30303 | 14 36118+ | 8506 97757 99035+ | 6 16073 37684 | 20 | |
| | 50 | 87 12209 66421+ | 20 42126 | 8200 81684 61351+ | 5 92683 64148+ | 10 | |
| **14** | 0 | 92 04830 08547+ | 26 48375+ | 7894 89000 97203 | 5 69320 84309+ | 0 | **46** |
| | 10 | 0,12696 97456 56923 | 32 54868+ | 7589 19680 12893+ | 5 45984 94032+ | 50 | |
| | 20 | 0,12701 90089 11791+ | 38 61603+ | 7283 73695 18861 | 5 22675 89191 | 40 | |
| | 30 | 06 82727 73395 | 44 68582 | 6978 51019 29670 | 4 99393 65666+ | 30 | |
| | 40 | 11 75372 41977 | 50 75803 | 6673 51625 64003+ | 4 76138 19348 | 20 | |
| | 50 | 16 68023 17780 | 56 83267 | 6368 75487 44655+ | 4 52909 46132 | 10 | |
| **15** | 0 | 21 60680 01047 | 62 90973+ | 6064 22577 98523 | 4 29707 41924+ | 0 | **45** |
| | 10 | 26 53342 92020+ | 68 98923 | 5759 92870 56599 | 4 06532 02637 | 50 | |
| | 20 | 31 46011 90943+ | 75 07115+ | 5455 86338 53962 | 3 83383 24191 | 40 | |
| | 30 | 36 38686 98059 | 81 15551 | 5152 02955 29771 | 3 60261 02514 | 30 | |
| | 40 | 41 31368 13610 | 87 24229 | 4848 42694 27257 | 3 37165 33543 | 20 | |
| | 50 | 46 24055 37839 | 93 33150 | 4545 05528 93714+ | 3 14096 13221 | 10 | |
| **16** | 0 | 51 16748 70988+ | 4 92699 42314 | 4241 91432 80493 | 2 91053 37500+ | 0 | **44** |
| | 10 | 56 09448 13302+ | 4 92705 51720+ | 3939 00379 42993 | 2 68037 02340+ | 50 | |
| | 20 | 61 02153 65023+ | 11 61370+ | 3636 32342 40652+ | 2 45047 03708 | 40 | |
| | 30 | 65 94865 26394 | 17 71263 | 3333 87295 36944+ | 2 22083 37578 | 30 | |
| | 40 | 70 87582 97657 | 23 81399 | 3031 65211 99366+ | 1 99145 99932+ | 20 | |
| | 50 | 75 80306 79056 | 29 91777+ | 2729 66065 99434 | 1 76234 86762+ | 10 | |
| **17** | 0 | 80 73036 70833+ | 36 02399 | 2427 89831 12672 | 1 53349 94065 | 0 | **43** |
| | 10 | 85 65772 73232+ | 42 13263+ | 2126 36481 18607 | 1 30491 17845+ | 50 | |
| | 20 | 90 58514 86496 | 48 24371 | 1825 05990 00761+ | 1 07658 54117+ | 40 | |
| | 30 | 0,12795 51263 10867+ | 54 35722 | 1523 98331 46644 | 0 84851 98901 | 30 | |
| | 40 | 0,12800 44017 46589 | 60 47315+ | 1223 13479 47743 | 0 62071 48224+ | 20 | |
| | 50 | 05 36777 93904+ | 66 59152 | 0922 51407 99518+ | 0 39316 98124 | 10 | |
| **18** | 0 | 10 29544 53056+ | 72 71231+ | 0622 12091 01395 | 300 16588 44642 | 0 | **42** |
| | 10 | 15 22317 24288+ | 78 83554+ | 0321 95502 56753 | 299 93885 83830 | 50 | |
| | 20 | 20 15096 07843 | 84 96120+ | 7,80022 01616 72923 | 9 71209 11746 | 40 | |
| | 30 | 25 07881 03963 | 91 08929 | 7,79722 30407 61177 | 9 48558 24456 | 30 | |
| | 40 | 30 00672 12892 | 4 92797 21981 | 9422 81849 36721 | 9 25933 18033 | 20 | |
| | 50 | 34 93469 34873+ | 4 92803 35276 | 9123 55916 18688+ | 9 03333 88557+ | 10 | |
| **19** | 0 | 39 86272 70149+ | 09 48814+ | 8824 52582 30131 | 8 80760 32118 | 0 | **41** |
| | 10 | 44 79082 18964 | 15 62595+ | 8525 71821 98012+ | 8 58212 44810+ | 50 | |
| | 20 | 49 71897 81559+ | 21 76620 | 8227 13609 53202+ | 8 35690 22737 | 40 | |
| | 30 | 54 64719 58180 | 27 90888 | 7928 77919 30465 | 8 13193 62008+ | 30 | |
| | 40 | 59 57547 49067+ | 34 05398+ | 7630 64725 68456+ | 7 90722 58742+ | 20 | |
| | 50 | 64 50381 54466 | 4 92840 20152+ | 7332 74003 09714 | 297 68277 09064+ | 10 | |
| **20** | 0 | 0,12869 43221 74618+ | | 7,77035 05726 00649+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,12869 43221 74618+ | 4 92846 35149+ | 7,77035 05726 00649+ | 297 45857 09106 | 0 | **40** |
| | 10 | 74 36068 09768 | 52 50390 | 6737 59868 91543+ | 7 23462 55008 | 50 | |
| | 20 | 79 28920 60158 | 58 65873+ | 6440 36406 36535+ | 7 01093 42916+ | 40 | |
| | 30 | 84 21779 26031+ | 64 81600 | 6143 35312 93619 | 6 78749 68986 | 30 | |
| | 40 | 89 14644 07632 | 70 97570 | 5846 56563 24633 | 6 56431 29378+ | 20 | |
| | 50 | 94 07515 05202 | 77 13783+ | 5550 00131 95255 | 6 34138 20262+ | 10 | |
| **21** | 0 | 0,12899 00392 18985+ | 83 30240 | 5253 65993 74992+ | 6 11870 37814 | 0 | **39** |
| | 10 | 0,12903 93275 49225+ | 89 46939+ | 4957 54123 37178 | 5 89627 78217 | 50 | |
| | 20 | 08 86164 96165 | 4 92895 63882+ | 4661 64495 58961+ | 5 67410 37661 | 40 | |
| | 30 | 13 79060 60047+ | 4 92901 81069 | 4365 97085 21300+ | 5 45218 12344+ | 30 | |
| | 40 | 18 71962 41116+ | 07 98498+ | 4070 51867 08956 | 5 23050 98472 | 20 | |
| | 50 | 23 64870 39615+ | 14 16171+ | 3775 28816 10483+ | 5 00908 92255+ | 10 | |
| **22** | 0 | 28 57784 55787 | 20 34088 | 3480 27907 18228 | 4 78791 89914+ | 0 | **38** |
| | 10 | 33 50704 89875 | 26 52247+ | 3185 49115 28313+ | 4 56699 87675 | 50 | |
| | 20 | 38 43631 42122+ | 32 70650+ | 2890 92415 40638+ | 4 34632 81770+ | 40 | |
| | 30 | 43 36564 12773 | 38 89297 | 2596 57782 58868+ | 4 12590 68441 | 30 | |
| | 40 | 48 29503 02069+ | 45 08186+ | 2302 45191 90427 | 3 90573 43935 | 20 | |
| | 50 | 53 22448 10256 | 51 27319+ | 2008 54618 46492+ | 3 68581 04506 | 10 | |
| **23** | 0 | 58 15399 37576 | 57 46696 | 1714 86037 41986 | 3 46613 46417 | 0 | **37** |
| | 10 | 63 08356 84272 | 63 66316 | 1421 39423 95569+ | 3 24670 65935+ | 50 | |
| | 20 | 68 01320 50588 | 69 86179+ | 1128 14753 29634 | 3 02752 59337+ | 40 | |
| | 30 | 72 94290 36767+ | 76 06286 | 0835 12000 70296+ | 2 80859 22906 | 30 | |
| | 40 | 77 87266 43053+ | 82 26636+ | 0542 31141 47390+ | 2 58990 52930+ | 20 | |
| | 50 | 82 80248 69690 | 88 47230 | 7,70249 72150 94460 | 2 37146 45707+ | 10 | |
| **24** | 0 | 87 73237 16920 | 4 92994 68067 | 7,69957 35004 48752 | 2 15326 97541 | 0 | **36** |
| | 10 | 92 66231 84987 | 4 93000 89148 | 9665 19677 51211 | 1 93532 04741 | 50 | |
| | 20 | 0,12997 59232 74134+ | 07 10472 | 9373 26145 46470 | 1 71761 63625+ | 40 | |
| | 30 | 0,13002 52239 84606+ | 13 32039+ | 9081 54383 82844+ | 1 50015 70518+ | 30 | |
| | 40 | 07 45253 16646 | 19 53850+ | 8790 04368 12326 | 1 28294 21751 | 20 | |
| | 50 | 12 38272 70497 | 25 75905+ | 8498 76073 90575 | 1 06597 13661 | 10 | |
| **25** | 0 | 17 31298 46402 | 31 98203+ | 8207 69476 76914 | 0 84924 42594+ | 0 | **35** |
| | 10 | 22 24330 44606 | 38 20745+ | 7916 84552 34319+ | 0 63276 04902 | 50 | |
| | 20 | 27 17368 65351 | 44 43530+ | 7626 21276 29417+ | 0 41651 96943 | 40 | |
| | 30 | 32 10413 08882 | 50 66559+ | 7335 79624 32475 | 290 20052 15082 | 30 | |
| | 40 | 37 03463 75441+ | 56 89832 | 7045 59572 17392+ | 289 98476 55692+ | 20 | |
| | 50 | 41 96520 65273+ | 63 13348+ | 6755 61095 61700+ | 9 76925 15152+ | 10 | |
| **26** | 0 | 46 89583 78622 | 69 37108 | 6465 84170 46548 | 9 55397 89848 | 0 | **34** |
| | 10 | 51 82653 15730 | 75 61111+ | 6176 28772 56700 | 9 33894 76171+ | 50 | |
| | 20 | 56 75728 76841+ | 81 85358+ | 5886 94877 80528+ | 9 12415 70522+ | 40 | |
| | 30 | 61 68810 62199+ | 88 09849 | 5597 82462 10006 | 8 90960 69306+ | 30 | |
| | 40 | 66 61898 72048+ | 4 93094 34583+ | 5308 91501 40700 | 8 69529 68936+ | 20 | |
| | 50 | 71 54993 06632 | 4 93100 59561+ | 5020 21971 71763+ | 8 48122 65831+ | 10 | |
| **27** | 0 | 76 48093 66193+ | 06 84783 | 4731 73849 05932 | 8 26739 56418 | 0 | **33** |
| | 10 | 81 41200 50976+ | 13 10248+ | 4443 47109 49514+ | 8 05380 37128 | 50 | |
| | 20 | 86 34313 61224+ | 19 35957+ | 4155 41729 12386 | 7 84045 04401+ | 40 | |
| | 30 | 91 27432 97182 | 25 61910+ | 3867 57684 07984+ | 7 62733 54684+ | 30 | |
| | 40 | 0,13096 20558 59092+ | 31 88107 | 3579 94950 53300 | 7 41445 84429 | 20 | |
| | 50 | 0,13101 13690 47199+ | 38 14547 | 3292 53504 68871 | 7 20181 90094+ | 10 | |
| **28** | 0 | 06 06828 61746+ | 44 41231 | 3005 33322 78777 | 6 98941 68146+ | 0 | **32** |
| | 10 | 10 99973 02977+ | 50 68159 | 2718 34381 10630+ | 6 77725 15057 | 50 | |
| | 20 | 15 93123 71136+ | 56 95330+ | 2431 56655 95573+ | 6 56532 27306 | 40 | |
| | 30 | 20 86280 66467 | 63 22746 | 2145 00123 68267+ | 6 35363 01378 | 30 | |
| | 40 | 25 79443 89213+ | 69 50405+ | 1858 64760 66889+ | 6 14217 33765 | 20 | |
| | 50 | 30 72613 39618+ | 75 78308+ | 1572 50543 33124+ | 5 93095 20966 | 10 | |
| **29** | 0 | 35 65789 17927 | 82 06455 | 1286 57448 12158+ | 5 71996 59485 | 0 | **31** |
| | 10 | 40 58971 24382 | 88 34846 | 1000 85451 52673+ | 5 50921 45834 | 50 | |
| | 20 | 45 52159 59228 | 4 93194 63480+ | 0715 34530 06839+ | 5 29869 76531 | 40 | |
| | 30 | 50 45354 22708+ | 4 93200 92359 | 0430 04660 30308 | 5 08841 48100+ | 30 | |
| | 40 | 55 38555 15067 | 07 21481 | 7,60144 95818 82208 | 4 87836 57072+ | 20 | |
| | 50 | 60 31762 36548+ | 4 93213 50847+ | 7,59860 07982 25135+ | 284 66854 99985 | 10 | |
| **30** | 0 | 0,13165 24975 87396 | | 7,59575 41127 25150+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

# 7°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,13165 24975 87396 | 4 93219 80457+ | 7,59575 41127 25150+ | 284 45896 73381 | 0 | **30** |
| | 10 | 70 18195 67853+ | 26 10311+ | 9290 95230 51769+ | 4 24961 73811 | 50 | |
| | 20 | 75 11421 78165 | 32 40409+ | 9006 70268 77959 | 4 04049 97831 | 40 | |
| | 30 | 80 04654 18574+ | 38 70751+ | 8722 66218 80128 | 3 83161 42004 | 30 | |
| | 40 | 84 97892 89326 | 45 01337+ | 8438 83057 38124 | 3 62296 02899 | 20 | |
| | 50 | 89 91137 90663+ | 51 32167 | 8155 20761 35225+ | 3 41453 77091+ | 10 | |
| **31** | 0 | 94 84389 22830+ | 57 63241 | 7871 79307 58134 | 3 20634 61163 | 0 | **29** |
| | 10 | 0,13199 77646 86071+ | 63 94559 | 7588 58672 96971 | 2 99838 51702 | 50 | |
| | 20 | 0,13204 70910 80630 | 70 26120+ | 7305 58834 45269 | 2 79065 45303 | 40 | |
| | 30 | 09 64181 06751 | 76 57926+ | 7022 79768 99966 | 2 58315 38566+ | 30 | |
| | 40 | 14 57457 64677 | 82 89976 | 6740 21453 61399+ | 2 37588 28099 | 20 | |
| | 50 | 19 50740 54653+ | 89 22270 | 6457 83865 33300 | 2 16884 10514+ | 10 | |
| **32** | 0 | 24 44029 76923+ | 4 93295 54808 | 6175 66981 22786 | 1 96202 82431+ | 0 | **28** |
| | 10 | 29 37325 31731+ | 4 93301 87590 | 5893 70778 40354 | 1 75544 40476+ | 50 | |
| | 20 | 34 30627 19321+ | 08 20616 | 5611 95233 99877+ | 1 54908 81281 | 40 | |
| | 30 | 39 23935 39937+ | 14 53886+ | 5330 40325 18596+ | 1 34296 01483 | 30 | |
| | 40 | 44 17249 93824 | 20 87400+ | 5049 06029 17113+ | 1 13705 97727 | 20 | |
| | 50 | 49 10570 81224+ | 27 21159 | 4767 92323 19386+ | 0 93138 66663 | 10 | |
| **33** | 0 | 54 03898 02383+ | 33 55161+ | 4486 99184 52723+ | 0 72594 04948+ | 0 | **27** |
| | 10 | 58 97231 57544+ | 39 89408 | 4206 26590 47775 | 0 52072 09245 | 50 | |
| | 20 | 63 90571 46952+ | 46 23899 | 3925 74518 38530 | 0 31572 76222+ | 40 | |
| | 30 | 68 83917 70851+ | 52 58634 | 3645 42945 62307+ | 280 11096 02555+ | 30 | |
| | 40 | 73 77270 29485+ | 58 93613 | 3365 31849 59751+ | 279 90641 84925 | 20 | |
| | 50 | 78 70629 23098 | 65 28836 | 3085 41207 74826+ | 9 70210 20018+ | 10 | |
| **34** | 0 | 83 63994 51934+ | 71 64303+ | 2805 70997 54808 | 9 49801 04529 | 0 | **26** |
| | 10 | 88 57366 16238 | 78 00015+ | 2526 21196 50279 | 9 29414 35156 | 50 | |
| | 20 | 93 50744 16253+ | 84 35971+ | 2246 91782 15123 | 9 09050 08605 | 40 | |
| | 30 | 0,13298 44128 52224+ | 90 72171+ | 1967 82732 06518 | 8 88708 21587 | 30 | |
| | 40 | 0,13303 37519 24396 | 4 93397 08616 | 1688 94023 84931+ | 8 68388 70819+ | 20 | |
| | 50 | 08 30916 33012 | 4 93403 45304+ | 1410 25635 14111+ | 8 48091 53026+ | 10 | |
| **35** | 0 | 13 24319 78316+ | 09 82237+ | 1131 77543 61085 | 8 27816 64937 | 0 | **25** |
| | 10 | 18 17729 60554+ | 16 19415 | 0853 49726 96148 | 8 07564 03287 | 50 | |
| | 20 | 23 11145 79969 | 22 56836+ | 0575 42162 92861 | 7 87333 64817 | 40 | |
| | 30 | 28 04568 36805+ | 28 94502 | 0297 54829 28044 | 7 67125 46275 | 30 | |
| | 40 | 32 97997 31307+ | 35 32412+ | 7,50019 87703 81768+ | 7 46939 44414+ | 20 | |
| | 50 | 37 91432 63720 | 41 70567 | 7,49742 40764 37354 | 7 26775 55994+ | 10 | |
| **36** | 0 | 42 84874 34286+ | 48 08965+ | 9465 13988 81359+ | 7 06633 77780 | 0 | **24** |
| | 10 | 47 78322 43252 | 54 47609 | 9188 07355 03579+ | 6 86514 06542 | 50 | |
| | 20 | 52 71776 90861 | 60 86496+ | 8911 20840 97037+ | 6 66416 39058 | 40 | |
| | 30 | 57 65237 77357+ | 67 25628+ | 8634 54424 57979+ | 6 46340 72110+ | 30 | |
| | 40 | 62 58705 02986 | 73 65004+ | 8358 08083 85868+ | 6 26287 02488+ | 20 | |
| | 50 | 67 52178 67990+ | 80 04625+ | 8081 81796 83380 | 6 06255 26986+ | 10 | |
| **37** | 0 | 72 45658 72616 | 86 44490+ | 7805 75541 56393+ | 5 86245 42404+ | 0 | **23** |
| | 10 | 77 39145 17106+ | 92 84600 | 7529 89296 13989 | 5 66257 45549+ | 50 | |
| | 20 | 82 32638 01707 | 4 93499 24954+ | 7254 23038 68439+ | 5 46291 33233 | 40 | |
| | 30 | 87 26137 26661 | 4 93505 65553 | 6978 76747 35206+ | 5 26347 02273 | 30 | |
| | 40 | 92 19642 92214 | 12 06395+ | 6703 50400 32933+ | 5 06424 49493+ | 20 | |
| | 50 | 0,13397 13154 98609+ | 18 47483 | 6428 43975 83440+ | 4 86523 71723+ | 10 | |
| **38** | 0 | 0,13402 06673 46093 | 24 88815 | 6153 57452 11717 | 4 66644 65798+ | 0 | **22** |
| | 10 | 07 00198 34908 | 31 30391+ | 5878 90807 45918+ | 4 46787 28559 | 50 | |
| | 20 | 11 93729 65299+ | 37 72212+ | 5604 44020 17359+ | 4 26951 56852+ | 40 | |
| | 30 | 16 87267 37512 | 44 14278 | 5330 17068 60506+ | 4 07137 47531 | 30 | |
| | 40 | 21 80811 51790 | 50 56588 | 5056 09931 12975+ | 3 87344 97453 | 20 | |
| | 50 | 26 74362 08378+ | 56 99142+ | 4782 22586 15522+ | 3 67574 03482 | 10 | |
| **39** | 0 | 31 67919 07521 | 63 41942 | 4508 55012 12040+ | 3 47824 62487+ | 0 | **21** |
| | 10 | 36 61482 49463 | 69 84985+ | 4235 07187 49553 | 3 28096 71345 | 50 | |
| | 20 | 41 55052 34448+ | 76 28274 | 3961 79090 78208+ | 3 08390 26935 | 40 | |
| | 30 | 46 48628 62722+ | 82 71807 | 3688 70700 51273 | 2 88705 26144+ | 30 | |
| | 40 | 51 42211 34529+ | 89 15584+ | 3415 81995 25128+ | 2 69041 65866 | 20 | |
| | 50 | 56 35800 50114 | 4 93595 59606+ | 3143 12953 59263 | 272 49399 42996+ | 10 | |
| **40** | 0 | 0,13461 29396 09721 | | 7,42870 63554 16266+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

# 7°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,13461 29396 09721 | 4 93602 03873+ | 7,42870 63554 16266+ | 272 29778 54439+ | 0 | **20** |
| | 10 | 66 22998 13594+ | 08 48385 | 2598 33775 61826+ | 2 10178 97105 | 50 | |
| | 20 | 71 16606 61979+ | 14 93141 | 2326 23596 64722 | 1 90600 67907 | 40 | |
| | 30 | 76 10221 55121 | 21 38142 | 2054 32995 96815 | 1 71043 63765+ | 30 | |
| | 40 | 81 03842 93263 | 27 83387+ | 1782 61952 33049+ | 1 51507 81606+ | 20 | |
| | 50 | 85 97470 76650+ | 34 28878 | 1511 10444 51443 | 1 31993 18361+ | 10 | |
| **41** | 0 | 90 91105 05528+ | 40 74613 | 1239 78451 33081+ | 1 12499 70967+ | 0 | **19** |
| | 10 | 0,13495 84745 80141+ | 47 20592+ | 0968 65951 62114 | 0 93027 36366+ | 50 | |
| | 20 | 0,13500 78393 00734 | 53 66817 | 0697 72924 25747+ | 0 73576 11507 | 40 | |
| | 30 | 05 72046 67551 | 60 13286 | 0426 99348 14240 | 0 54145 93342 | 30 | |
| | 40 | 10 65706 80837 | 66 60000 | 7,40156 45202 20898 | 0 34736 78831 | 20 | |
| | 50 | 15 59373 40837 | 73 06959 | 7,39886 10465 42067 | 270 15348 64938 | 10 | |
| **42** | 0 | 20 53046 47796 | 79 54162+ | 9615 95116 77129 | 269 95981 48632+ | 0 | **18** |
| | 10 | 25 46726 01958+ | 86 01610+ | 9345 99135 28496+ | 9 76635 26891 | 50 | |
| | 20 | 30 40412 03569 | 92 49304 | 9076 22500 01605+ | 9 57309 96693+ | 40 | |
| | 30 | 35 34104 52873 | 4 93698 97242 | 8806 65190 04912 | 9 38005 55026+ | 30 | |
| | 40 | 40 27803 50115 | 4 93705 45424+ | 8537 27184 49885+ | 9 18721 98881+ | 20 | |
| | 50 | 45 21508 95539+ | 11 93852+ | 8268 08462 51004 | 8 99459 25256 | 10 | |
| **43** | 0 | 50 15220 89392 | 18 42525 | 7999 09003 25748 | 8 80217 31152+ | 0 | **17** |
| | 10 | 55 08939 31916+ | 24 91442+ | 7730 28785 94595+ | 8 60996 13578+ | 50 | |
| | 20 | 60 02664 23359 | 31 40604+ | 7461 67789 81017 | 8 41795 69547+ | 40 | |
| | 30 | 64 96395 63963+ | 37 90012 | 7193 25994 11469+ | 8 22615 96078+ | 30 | |
| | 40 | 69 90133 53975+ | 44 39664 | 6925 03378 15391 | 8 03456 90194+ | 20 | |
| | 50 | 74 83877 93639+ | 50 89561 | 6656 99921 25196+ | 7 84318 48926 | 10 | |
| **44** | 0 | 79 77628 83200+ | 57 39703 | 6389 15602 76270 | 7 65200 69307+ | 0 | **16** |
| | 10 | 84 71386 22904 | 63 90090 | 6121 50402 06963 | 7 46103 48378 | 50 | |
| | 20 | 89 65150 12994 | 70 40722 | 5854 04298 58585 | 7 27026 83184 | 40 | |
| | 30 | 94 58920 53716 | 76 91599 | 5586 77271 75401 | 7 07970 70775+ | 30 | |
| | 40 | 0,13599 52697 45315 | 83 42721 | 5319 69301 04625+ | 6 88935 08208+ | 20 | |
| | 50 | 0,13604 46480 88036 | 89 94088 | 5052 80365 96416+ | 6 69919 92544+ | 10 | |
| **45** | 0 | 09 40270 82123+ | 4 93796 45699+ | 4786 10446 03872 | 6 50925 20849+ | 0 | **15** |
| | 10 | 14 34067 27823+ | 4 93802 97556+ | 4519 59520 83022+ | 6 31950 90195+ | 50 | |
| | 20 | 19 27870 25380 | 09 49658+ | 4253 27569 92827 | 6 12996 97659+ | 40 | |
| | 30 | 24 21679 75038+ | 16 02006 | 3987 14572 95168 | 5 94063 40323 | 30 | |
| | 40 | 29 15495 77044+ | 22 54598 | 3721 20509 54845 | 5 75150 15274 | 20 | |
| | 50 | 34 09318 31642+ | 29 07435 | 3455 45359 39570+ | 5 56257 19605+ | 10 | |
| **46** | 0 | 39 03147 39077+ | 35 60517+ | 3189 89102 19965 | 5 37384 50414+ | 0 | **14** |
| | 10 | 43 96982 99595 | 42 13845 | 2924 51717 69551 | 5 18532 04804 | 50 | |
| | 20 | 48 90825 13439+ | 48 67417+ | 2659 33185 64747 | 4 99699 79882+ | 40 | |
| | 30 | 53 84673 80857 | 55 21235 | 2394 33485 84864 | 4 80887 72763+ | 30 | |
| | 40 | 58 78529 02092 | 61 75298 | 2129 52598 12100+ | 4 62095 80565+ | 20 | |
| | 50 | 63 72390 77390 | 68 29606 | 1864 90502 31535 | 4 43324 00411+ | 10 | |
| **47** | 0 | 68 66259 06996 | 74 84159 | 1600 47178 31123+ | 4 24572 29430+ | 0 | **13** |
| | 10 | 73 60133 91155 | 81 38957+ | 1336 22606 01693 | 4 05840 64756+ | 50 | |
| | 20 | 78 54015 30112 | 87 94001 | 1072 16765 36936+ | 3 87129 03529 | 40 | |
| | 30 | 83 47903 24113 | 4 93894 49289+ | 0808 29636 33407+ | 3 68437 42891 | 30 | |
| | 40 | 88 41797 73402+ | 4 93901 04823+ | 0544 61198 90517 | 3 49765 79992 | 20 | |
| | 50 | 93 35698 78226 | 07 60602+ | 0281 11433 10524+ | 3 31114 11987 | 10 | |
| **48** | 0 | 0,13698 29606 38829 | 14 16627 | 7,30017 80318 98537+ | 3 12482 36034+ | 0 | **12** |
| | 10 | 0,13703 23520 55456 | 20 72897 | 7,29754 67836 62503 | 2 93870 49299 | 50 | |
| | 20 | 08 17441 28352+ | 27 29411+ | 9491 73966 13204 | 2 75278 48950 | 40 | |
| | 30 | 13 11368 57764+ | 33 86172 | 9228 98687 64253+ | 2 56706 32162+ | 30 | |
| | 40 | 18 05302 43936+ | 40 43177+ | 8966 41981 32091+ | 2 38153 96114+ | 20 | |
| | 50 | 22 99242 87114 | 47 00428+ | 8704 03827 35976+ | 2 19621 37992 | 10 | |
| **49** | 0 | 27 93189 87542+ | 53 57924+ | 8441 84205 97984+ | 2 01108 54983+ | 0 | **11** |
| | 10 | 32 87143 45467 | 60 15666 | 8179 83097 43001 | 1 82615 44284 | 50 | |
| | 20 | 37 81103 61133 | 66 73653 | 7918 00481 98716+ | 1 64142 03093 | 40 | |
| | 30 | 42 75070 34786 | 73 31885 | 7656 36339 95624 | 1 45688 28614+ | 30 | |
| | 40 | 47 69043 66671 | 79 90362+ | 7394 90651 67009+ | 1 27254 18058 | 20 | |
| | 50 | 52 63023 57033+ | 4 93986 49085+ | 7133 63397 48951+ | 261 08839 68637+ | 10 | |
| **50** | 0 | 0,13757 57010 06119 | | 7,26872 54557 80314 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

# 7°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,13757 57010 06119 | 4 93993 08054 | 7,26872 54557 80314 | 260 90444 77573 | 0 | **10** |
| | 10 | 62 51003 14173 | 4 93999 67268 | 6611 64113 02741+ | 0 72069 42088 | 50 | |
| | 20 | 67 45002 81441 | 4 94006 26727 | 6350 92043 60653 | 0 53713 59412 | 40 | |
| | 30 | 72 39009 08168 | 12 86431+ | 6090 38330 01241 | 0 35377 26779 | 30 | |
| | 40 | 77 33021 94599+ | 19 46381+ | 5830 02952 74462 | 260 17060 41427+ | 20 | |
| | 50 | 82 27041 40981+ | 26 06577+ | 5569 85892 33034+ | 259 98763 00602 | 10 | |
| **51** | 0 | 87 21067 47558+ | 32 67018+ | 5309 87129 32432+ | 9 80485 01550+ | 0 | **9** |
| | 10 | 92 15100 14577 | 39 27705 | 5050 06644 30882+ | 9 62226 41526+ | 50 | |
| | 20 | 0,13797 09139 42281+ | 45 88637 | 4790 44417 89355+ | 9 43987 17789 | 40 | |
| | 30 | 0,13802 03185 30918+ | 52 49814+ | 4531 00430 71566+ | 9 25767 27600+ | 30 | |
| | 40 | 06 97237 80733 | 59 11237+ | 4271 74663 43966 | 9 07566 68230 | 20 | |
| | 50 | 11 91296 91970 | 65 72906 | 4012 67096 75736 | 8 89385 36949 | 10 | |
| **52** | 0 | 16 85362 64876 | 72 34820 | 3753 77711 38787 | 8 71223 31036+ | 0 | **8** |
| | 10 | 21 79434 99696 | 78 96980 | 3495 06488 07750+ | 8 53080 47774+ | 50 | |
| | 20 | 26 73513 96676 | 85 59385 | 3236 53407 59976 | 8 34956 84450 | 40 | |
| | 30 | 31 67599 56061 | 92 22036 | 2978 18450 75526 | 8 16852 38355+ | 30 | |
| | 40 | 36 61691 78097 | 4 94098 84932+ | 2720 01598 37170+ | 7 98767 06787+ | 20 | |
| | 50 | 41 55790 63029+ | 4 94105 48074+ | 2462 02831 30382+ | 7 80700 87048 | 10 | |
| **53** | 0 | 46 49896 11104 | 12 11462 | 2204 22130 43334+ | 7 62653 76443 | 0 | **7** |
| | 10 | 51 44008 22566+ | 18 75095+ | 1946 59476 66891+ | 7 44625 72284 | 50 | |
| | 20 | 56 38126 97662 | 25 38974+ | 1689 14850 94608 | 7 26616 71886 | 40 | |
| | 30 | 61 32252 36636+ | 32 03099+ | 1431 88234 22721+ | 7 08626 72570+ | 30 | |
| | 40 | 66 26384 39736 | 38 67469+ | 1174 79607 50151 | 6 90655 71662+ | 20 | |
| | 50 | 71 20523 07205+ | 45 32085+ | 0917 88951 78488+ | 6 72703 66491+ | 10 | |
| **54** | 0 | 76 14668 39291 | 51 96947+ | 0661 16248 11997 | 6 54770 54393 | 0 | **6** |
| | 10 | 81 08820 36238+ | 58 62055 | 0404 61477 57604 | 6 36856 32705+ | 50 | |
| | 20 | 86 02978 98293+ | 65 27408 | 7,20148 24621 24898+ | 6 18960 98773+ | 40 | |
| | 30 | 90 97144 25701+ | 71 93007 | 7,19892 05660 26125+ | 6 01084 49945+ | 30 | |
| | 40 | 0,13895 91316 18709 | 78 58852 | 9636 04575 76180 | 5 83226 83575 | 20 | |
| | 50 | 0,13900 85494 77560+ | 85 24942+ | 9380 21348 92605 | 5 65387 97019+ | 10 | |
| **55** | 0 | 05 79680 02503 | 91 91278+ | 9124 55960 95585+ | 5 47567 87642+ | 0 | **5** |
| | 10 | 10 73871 93781+ | 4 94198 57860+ | 8869 08393 07943 | 5 29766 52810+ | 50 | |
| | 20 | 15 68070 51642 | 4 94205 24688+ | 8613 78626 55132+ | 5 11983 89895+ | 40 | |
| | 30 | 20 62275 76330+ | 11 91762 | 8358 66642 65237 | 4 94219 96274 | 30 | |
| | 40 | 25 56487 68092+ | 18 59081+ | 8103 72422 68963 | 4 76474 69327 | 20 | |
| | 50 | 30 50706 27174+ | 25 26647 | 7848 95947 99636 | 4 58748 06440+ | 10 | |
| **56** | 0 | 35 44931 53821+ | 31 94458+ | 7594 37199 93195+ | 4 41040 05004 | 0 | **4** |
| | 10 | 40 39163 48280 | 38 62515+ | 7339 96159 88191 | 4 23350 62413 | 50 | |
| | 20 | 45 33402 10795 | 45 30818+ | 7085 72809 25778 | 4 05679 76066+ | 40 | |
| | 30 | 50 27647 41613+ | 51 99367+ | 6831 67129 49711+ | 3 88027 43368+ | 30 | |
| | 40 | 55 21899 40981 | 58 68162 | 6577 79102 06343 | 3 70393 61727 | 20 | |
| | 50 | 60 16158 09143 | 65 37203 | 6324 08708 44616 | 3 52778 28555 | 10 | |
| **57** | 0 | 65 10423 46345+ | 72 06489+ | 6070 55930 16061 | 3 35181 41270+ | 0 | **3** |
| | 10 | 70 04695 52835 | 78 76022 | 5817 20748 74790+ | 3 17602 97295+ | 50 | |
| | 20 | 74 98974 28857 | 85 45800+ | 5564 03145 77495 | 3 00042 94055+ | 40 | |
| | 30 | 79 93259 74658 | 92 15825 | 5311 03102 83439+ | 2 82501 28982+ | 30 | |
| | 40 | 84 87551 90483 | 4 94298 86095+ | 5058 20601 54457 | 2 64977 99511+ | 20 | |
| | 50 | 89 81850 76578+ | 4 94305 56612+ | 4805 55623 54945+ | 2 47473 03082 | 10 | |
| **58** | 0 | 94 76156 33191 | 12 27375 | 4553 08150 51863+ | 2 29986 37139 | 0 | **2** |
| | 10 | 0,13999 70468 60566 | 18 98383+ | 4300 78164 14724+ | 2 12517 99131+ | 50 | |
| | 20 | 0,14004 64787 58949 | 25 69638 | 4048 65646 15593 | 1 95067 86512 | 40 | |
| | 30 | 09 59113 28587+ | 32 41138+ | 3796 70578 29081 | 1 77635 96738+ | 30 | |
| | 40 | 14 53445 69726 | 39 12885+ | 3544 92942 32342+ | 1 60222 27273+ | 20 | |
| | 50 | 19 47784 82611+ | 45 84878+ | 3293 32720 05069 | 1 42826 75583 | 10 | |
| **59** | 0 | 24 42130 67490 | 52 57117+ | 3041 89893 29486 | 1 25449 39138+ | 0 | **1** |
| | 10 | 29 36483 24607 | 59 29602+ | 2790 64443 90347+ | 1 08090 15414+ | 50 | |
| | 20 | 34 30842 54209+ | 66 02333+ | 2539 56353 74933 | 0 90749 01891+ | 40 | |
| | 30 | 39 25208 56543 | 72 75310+ | 2288 65604 73041 | 0 73425 96053+ | 30 | |
| | 40 | 44 19581 31853+ | 79 48534 | 2037 92178 76987+ | 0 56120 95389 | 20 | |
| | 50 | 49 13960 80387+ | 4 94386 22003+ | 1787 36057 81599 | 250 38833 97390 | 10 | |
| **60** | 0 | 0,14054 08347 02391+ | | 7,11536 97223 84208+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 82°

# 8°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,14054 08347 02391+ | 4 94392 95719+ | 7,11536 97223 84208+ | 250 21564 99555 | 0 | **60** |
| | 10 | 59 02739 98111 | 4 94399 69681+ | 1286 75658 84654 | 250 04313 99384+ | 50 | |
| | 20 | 63 97139 67792+ | 4 94406 43889+ | 1036 71344 85269+ | 249 87080 94385 | 40 | |
| | 30 | 68 91546 11682 | 13 18344 | 0786 84263 90884+ | 9 69865 82066 | 30 | |
| | 40 | 73 85959 30026 | 19 93044+ | 0537 14398 08818 | 9 52668 59943 | 20 | |
| | 50 | 78 80379 23070+ | 26 67991+ | 0287 61729 48875 | 9 35489 25534 | 10 | |
| **1** | 0 | 83 74805 91062 | 33 43184+ | 7,10038 26240 23341 | 9 18327 76362+ | 0 | **59** |
| | 10 | 88 69239 34246 | 40 18623+ | 7,09789 07912 46979 | 9 01184 09955+ | 50 | |
| | 20 | 93 63679 52870 | 46 94309+ | 9540 06728 37023+ | 8 84058 23845 | 40 | |
| | 30 | 0,14098 58126 47179+ | 53 70241 | 9291 22670 13178+ | 8 66950 15567 | 30 | |
| | 40 | 0,14103 52580 17420+ | 60 46419+ | 9042 55719 97611+ | 8 49859 82661+ | 20 | |
| | 50 | 08 47040 63840 | 67 22844 | 8794 05860 14950 | 8 32787 22673 | 10 | |
| **2** | 0 | 13 41507 86684 | 73 99515 | 8545 73072 92277+ | 8 15732 33150 | 0 | **58** |
| | 10 | 18 35981 86199 | 80 76432 | 8297 57340 59127+ | 7 98695 11646 | 50 | |
| | 20 | 23 30462 62630+ | 87 53595+ | 8049 58645 47481+ | 7 81675 55717+ | 40 | |
| | 30 | 28 24950 16226 | 4 94494 31005+ | 7801 76969 91764 | 7 64673 62926+ | 30 | |
| | 40 | 33 19444 47231+ | 4 94501 08661+ | 7554 12296 28837+ | 7 47689 30838 | 20 | |
| | 50 | 38 13945 55893+ | 07 86564+ | 7306 64606 97999+ | 7 30722 57022+ | 10 | |
| **3** | 0 | 43 08453 42457+ | 14 64713+ | 7059 33884 40977 | 7 13773 39053+ | 0 | **57** |
| | 10 | 48 02968 07171 | 21 43109 | 6812 20111 01923+ | 6 96841 74509 | 50 | |
| | 20 | 52 97489 50280 | 28 21751 | 6565 23269 27414+ | 6 79927 60971+ | 40 | |
| | 30 | 57 92017 72031 | 35 00639+ | 6318 43341 66443 | 6 63030 96028 | 30 | |
| | 40 | 62 86552 72670+ | 41 79774 | 6071 80310 70415 | 6 46151 77268+ | 20 | |
| | 50 | 67 81094 52444+ | 48 59155+ | 5825 34158 93147 | 6 29290 02288 | 10 | |
| **4** | 0 | 72 75643 11600 | 55 38783+ | 5579 04868 90859 | 6 12445 68685+ | 0 | **56** |
| | 10 | 77 70198 50383+ | 62 18657+ | 5332 92423 22173+ | 5 95618 74064 | 50 | |
| | 20 | 82 64760 69041 | 68 98778+ | 5086 96804 48109+ | 5 78809 16031 | 40 | |
| | 30 | 87 59329 67819+ | 75 79146 | 4841 17995 32079 | 5 62016 92197+ | 30 | |
| | 40 | 92 53905 46965 | 82 59759+ | 4595 55978 39881+ | 5 45242 00179 | 20 | |
| | 50 | 0,14197 48488 06724+ | 89 40620 | 4350 10736 39702+ | 5 28484 37595 | 10 | |
| **5** | 0 | 0,14202 43077 47345 | 4 94596 21727 | 4104 82252 02108 | 5 11744 02069 | 0 | **55** |
| | 10 | 07 37673 69072 | 4 94603 03080+ | 3859 70508 00039 | 4 95020 91229 | 50 | |
| | 20 | 12 32276 72152+ | 09 84681 | 3614 75487 08810 | 4 78315 02706+ | 40 | |
| | 30 | 17 26886 56833+ | 16 66527+ | 3369 97172 06103 | 4 61626 34137+ | 30 | |
| | 40 | 22 21503 23361 | 23 48621 | 3125 35545 71965+ | 4 44954 83162 | 20 | |
| | 50 | 27 16126 71982 | 30 30961 | 2880 90590 88803+ | 4 28300 47423+ | 10 | |
| **6** | 0 | 32 10757 02943 | 37 13547+ | 2636 62290 41380 | 4 11663 24570 | 0 | **54** |
| | 10 | 37 05394 16490+ | 43 96381 | 2392 50627 16810 | 3 95043 12254 | 50 | |
| | 20 | 42 00038 12871+ | 50 79461 | 2148 55584 04556 | 3 78440 08131 | 40 | |
| | 30 | 46 94688 92332+ | 57 62787+ | 1904 77143 96424+ | 3 61854 09861+ | 30 | |
| | 40 | 51 89346 55120+ | 64 46361 | 1661 15289 86563 | 3 45285 15109 | 20 | |
| | 50 | 56 84011 01481+ | 71 30181 | 1417 70004 71454 | 3 28733 21542 | 10 | |
| **7** | 0 | 61 78682 31662+ | 78 14248 | 1174 41271 49911+ | 3 12198 26832+ | 0 | **53** |
| | 10 | 66 73360 45910+ | 84 98561+ | 0931 29073 23079 | 2 95680 28656 | 50 | |
| | 20 | 71 68045 44472 | 91 83122 | 0688 33392 94423+ | 2 79179 24693 | 40 | |
| | 30 | 76 62737 27594 | 4 94698 67929 | 0445 54213 69730+ | 2 62695 12627 | 30 | |
| | 40 | 81 57435 95523 | 4 94705 52982+ | 7,00202 91518 57103+ | 2 46227 90146 | 20 | |
| | 50 | 86 52141 48505+ | 12 38283+ | 6,99960 45290 66957 | 2 29777 54942+ | 10 | |
| **8** | 0 | 91 46853 86789 | 19 23831 | 9718 15513 12014+ | 2 13344 04711+ | 0 | **52** |
| | 10 | 0,14296 41573 10619+ | 26 09625 | 9476 02169 07303 | 1 96927 37153 | 50 | |
| | 20 | 0,14301 36299 20244+ | 32 95666 | 9234 05241 70150 | 1 80527 49970+ | 40 | |
| | 30 | 06 31032 15911 | 39 81954 | 8992 24714 20179+ | 1 64144 40872 | 30 | |
| | 40 | 11 25771 97865 | 46 68489 | 8750 60569 79307+ | 1 47778 07568+ | 20 | |
| | 50 | 16 20518 66354 | 53 55270+ | 8509 12791 71739 | 1 31428 47775+ | 10 | |
| **9** | 0 | 21 15272 21624+ | 60 42299 | 8267 81363 23963+ | 1 15095 59212 | 0 | **51** |
| | 10 | 26 10032 63923+ | 67 29574+ | 8026 66267 64751+ | 0 98779 39602 | 50 | |
| | 20 | 31 04799 93498 | 74 17097 | 7785 67488 25149+ | 0 82479 86671+ | 40 | |
| | 30 | 35 99574 10594+ | 81 04866 | 7544 85008 38478 | 0 66196 98152 | 30 | |
| | 40 | 40 94355 15460+ | 87 92882+ | 7304 18811 40326 | 0 49930 71778 | 20 | |
| | 50 | 45 89143 08343 | | 7063 68880 68548 | 240 33681 05288 | 10 | |
| **10** | 0 | 0,14350 83937 89488+ | 4 94794 81145+ | 6,96823 35199 63260 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,14350 83937 89488+ | 4 94801 69655+ | 6,96823 35199 63260 | 240 17447 96425 | 0 | **50** |
| | 10 | 55 78739 59144 | 08 58412+ | 6583 17751 66835 | 240 01231 42934+ | 50 | |
| | 20 | 60 73548 17556+ | 15 47416+ | 6343 16520 23900+ | 239 85031 42567+ | 40 | |
| | 30 | 65 68363 64973 | 22 36668 | 6103 31488 81333 | 9 68847 93077 | 30 | |
| | 40 | 70 63186 01641 | 29 26166 | 5863 62640 88256 | 9 52680 92221 | 20 | |
| | 50 | 75 58015 27807 | 36 15911 | 5624 09959 96035 | 9 36530 37761+ | 10 | |
| **11** | 0 | 80 52851 43718 | 43 05903 | 5384 73429 58273+ | 9 20396 27463+ | 0 | **49** |
| | 10 | 85 47694 49621 | 49 96142+ | 5145 53033 30810 | 9 04278 59096+ | 50 | |
| | 20 | 90 42544 45763+ | 56 86628+ | 4906 48754 71713+ | 8 88177 30433 | 40 | |
| | 30 | 0,14395 37401 32392+ | 63 77362 | 4667 60577 41280+ | 8 72092 39249+ | 30 | |
| | 40 | 0,14400 32265 09754+ | 70 68342+ | 4428 88485 02031 | 8 56023 83327 | 20 | |
| | 50 | 05 27135 78097 | 77 59570 | 4190 32461 18704 | 8 39971 60449+ | 10 | |
| **12** | 0 | 10 22013 37667+ | 84 51045 | 3951 92489 58255 | 8 23935 68405 | 0 | **48** |
| | 10 | 15 16897 88712 | 91 42767 | 3713 68553 89850 | 8 07916 04985 | 50 | |
| | 20 | 20 11789 31479 | 4 94898 34736 | 3475 60637 84865 | 7 91912 67985+ | 40 | |
| | 30 | 25 06687 66214+ | 4 94905 26952 | 3237 68725 16879+ | 7 75925 55205 | 30 | |
| | 40 | 30 01592 93166+ | 12 19415+ | 2999 92799 61674+ | 7 59954 64446+ | 20 | |
| | 50 | 34 96505 12582 | 19 12126 | 2762 32844 97228 | 7 43999 93517+ | 10 | |
| **13** | 0 | 39 91424 24708 | 26 05083+ | 2524 88845 03710+ | 7 28061 40227+ | 0 | **47** |
| | 10 | 44 86350 29791+ | 32 98288+ | 2287 60783 63483 | 7 12139 02390+ | 50 | |
| | 20 | 49 81283 28080 | 39 91740+ | 2050 48644 61093 | 6 96232 77824 | 40 | |
| | 30 | 54 76223 19820+ | 46 85440 | 1813 52411 83268+ | 6 80342 64350+ | 30 | |
| | 40 | 59 71170 05260+ | 53 79387 | 1576 72069 18918 | 6 64468 59794 | 20 | |
| | 50 | 64 66123 84647+ | 60 73581 | 1340 07600 59124 | 6 48610 61984 | 10 | |
| **14** | 0 | 69 61084 58228+ | 67 68022 | 1103 58989 97140 | 6 32768 68752 | 0 | **46** |
| | 10 | 74 56052 26250+ | 74 62710+ | 0867 26221 28388 | 6 16942 77935 | 50 | |
| | 20 | 79 51026 88961 | 81 57646+ | 0631 09278 50453 | 6 01132 87372 | 40 | |
| | 30 | 84 46008 46607+ | 88 52829+ | 0395 08145 63081 | 5 85338 94907 | 30 | |
| | 40 | 89 40996 99437 | 4 94995 48260 | 6,90159 22806 68174+ | 5 69560 98386 | 20 | |
| | 50 | 94 35992 47697+ | 4 95002 43938 | 6,89923 53245 69788 | 5 53798 95660+ | 10 | |
| **15** | 0 | 0,14499 30994 91635+ | 09 39863+ | 9687 99446 74127+ | 5 38052 84584+ | 0 | **45** |
| | 10 | 0,14504 26004 31498+ | 16 36036 | 9452 61393 89542+ | 5 22322 63016 | 50 | |
| | 20 | 09 21020 67534+ | 23 32456 | 9217 39071 26526+ | 5 06608 28816 | 40 | |
| | 30 | 14 16043 99990+ | 30 29123+ | 8982 32462 97711 | 4 90909 79849+ | 30 | |
| | 40 | 19 11074 29113+ | 37 26038 | 8747 41553 17861+ | 4 75227 13985+ | 20 | |
| | 50 | 24 06111 55152 | 44 23200+ | 8512 66326 03876 | 4 59560 29096 | 10 | |
| **16** | 0 | 29 01155 78352+ | 51 20610 | 8278 06765 74780 | 4 43909 23056+ | 0 | **44** |
| | 10 | 33 96206 98962+ | 58 18267+ | 8043 62856 51723+ | 4 28273 93747 | 50 | |
| | 20 | 38 91265 17230 | 65 16172 | 7809 34582 57976 | 4 12654 39050 | 40 | |
| | 30 | 43 86330 33402 | 72 14324 | 7575 21928 18926 | 3 97050 56852 | 30 | |
| | 40 | 48 81402 47726 | 79 12724 | 7341 24877 62074+ | 3 81462 45042+ | 20 | |
| | 50 | 53 76481 60450 | 86 11371 | 7107 43415 17031+ | 3 65890 01516 | 10 | |
| **17** | 0 | 58 71567 71820+ | 4 95093 10265+ | 6873 77525 15515+ | 3 50333 24169 | 0 | **43** |
| | 10 | 63 66660 82086+ | 4 95100 09408 | 6640 27191 91347 | 3 34792 10902 | 50 | |
| | 20 | 68 61760 91494 | 07 08797+ | 6406 92399 80445 | 3 19266 59619 | 40 | |
| | 30 | 73 56868 00292 | 14 08435 | 6173 73133 20826 | 3 03756 68228 | 30 | |
| | 40 | 78 51982 08727 | 21 08320 | 5940 69376 52598 | 2 88262 34640 | 20 | |
| | 50 | 83 47103 17047 | 28 08452+ | 5707 81114 17957+ | 2 72783 56770 | 10 | |
| **18** | 0 | 88 42231 25499 | 35 08832+ | 5475 08330 61188 | 2 57320 32535 | 0 | **42** |
| | 10 | 93 37366 34332 | 42 09460+ | 5242 51010 28653 | 2 41872 59857+ | 50 | |
| | 20 | 0,14598 32508 43792 | 49 10336 | 5010 09137 68795+ | 2 26440 36662+ | 40 | |
| | 30 | 0,14603 27657 54128 | 56 11459 | 4777 82697 32133 | 2 11023 60878 | 30 | |
| | 40 | 08 22813 65586+ | 63 12829+ | 4545 71673 71255 | 1 95622 30436+ | 20 | |
| | 50 | 13 17976 78416 | 70 14448 | 4313 76051 40818+ | 1 80236 43273 | 10 | |
| **19** | 0 | 18 13146 92864 | 77 16314 | 4081 95814 97545+ | 1 64865 97327 | 0 | **41** |
| | 10 | 23 08324 09178 | 84 18428 | 3850 30949 00219 | 1 49510 90540 | 50 | |
| | 20 | 28 03508 27606 | 91 20789+ | 3618 81438 09679 | 1 34171 20858+ | 40 | |
| | 30 | 32 98699 48395 | 4 95198 23398+ | 3387 47266 88820+ | 1 18846 86231 | 30 | |
| | 40 | 37 93897 71793+ | 4 95205 26255+ | 3156 28420 02589+ | 1 03537 84611 | 20 | |
| | 50 | 42 89102 98049 | 4 95212 29360+ | 2925 24882 17978+ | 230 88244 13953+ | 10 | |
| **20** | 0 | 0,14647 84315 27409+ | | 6,82694 36638 04025 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

# 8°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,14647 84315 27409+ | 4 95219 32713 | 6,82694 36638 04025 | 230 72965 72218+ | 0 | **40** |
| | 10 | 52 79534 60122+ | 26 36313 | 2463 63672 31806+ | 0 57702 57369 | 50 | |
| | 20 | 57 74760 96435+ | 33 40161 | 2233 05969 74437+ | 0 42454 67370+ | 40 | |
| | 30 | 62 69994 36596+ | 40 44257 | 2002 63515 07066+ | 0 27222 00193+ | 30 | |
| | 40 | 67 65234 80853+ | 47 48601 | 1772 36293 06873+ | 230 12004 53810 | 20 | |
| | 50 | 72 60482 29454+ | 54 53192+ | 1542 24288 53063 | 229 96802 26197 | 10 | |
| **21** | 0 | 77 55736 82647 | 61 58032 | 1312 27486 26866 | 9 81615 15334+ | 0 | **39** |
| | 10 | 82 50998 40678+ | 68 63119 | 1082 45871 11531+ | 9 66443 19204+ | 50 | |
| | 20 | 87 46267 03798 | 75 68454+ | 0852 79427 92327 | 9 51286 35794 | 40 | |
| | 30 | 92 41542 72252 | 82 74037+ | 0623 28141 56533 | 9 36144 63093 | 30 | |
| | 40 | 0,14697 36825 46289+ | 89 79868+ | 0393 91996 93440 | 9 21017 99094+ | 20 | |
| | 50 | 0,14702 32115 26158 | 4 95296 85947+ | 6,80164 70978 94345 | 9 05906 41794+ | 10 | |
| **22** | 0 | 07 27412 12105+ | 4 95303 92274 | 6,79935 65072 52550+ | 8 90809 89193+ | 0 | **38** |
| | 10 | 12 22716 04379+ | 10 98849 | 9706 74262 63357 | 8 75728 39294 | 50 | |
| | 20 | 17 18027 03229 | 18 05672 | 9477 98534 24063 | 8 60661 90102+ | 40 | |
| | 30 | 22 13345 08900+ | 25 12742+ | 9249 37872 33961 | 8 45610 39628+ | 30 | |
| | 40 | 27 08670 21643 | 32 20061+ | 9020 92261 94332+ | 8 30573 85885+ | 20 | |
| | 50 | 32 04002 41704+ | 39 27628 | 8792 61688 08447 | 8 15552 26889 | 10 | |
| **23** | 0 | 36 99341 69332+ | 46 35443 | 8564 46135 81558 | 8 00545 60659+ | 0 | **37** |
| | 10 | 41 94688 04775+ | 53 43505+ | 8336 45590 20898 | 7 85553 85219+ | 50 | |
| | 20 | 46 90041 48281 | 60 51816+ | 8108 60036 35678+ | 7 70576 98595 | 40 | |
| | 30 | 51 85402 00097+ | 67 60375+ | 7880 89459 37084 | 7 55614 98815 | 30 | |
| | 40 | 56 80769 60473 | 74 69182+ | 7653 33844 38268+ | 7 40667 83913 | 20 | |
| | 50 | 61 76144 29655 | 81 78237+ | 7425 93176 54355+ | 7 25735 51924+ | 10 | |
| **24** | 0 | 66 71526 07892+ | 88 87540+ | 7198 67441 02431+ | 7 10818 00888 | 0 | **36** |
| | 10 | 71 66914 95433+ | 4 95395 97092 | 6971 56623 01543+ | 6 95915 28847 | 50 | |
| | 20 | 76 62310 92525 | 4 95403 06891+ | 6744 60707 72696 | 6 81027 33846+ | 40 | |
| | 30 | 81 57713 99416+ | 10 16939 | 6517 79680 38849+ | 6 66154 13935+ | 30 | |
| | 40 | 86 53124 16355+ | 17 27234+ | 6291 13526 24914+ | 6 51295 67166 | 20 | |
| | 50 | 91 48541 43590 | 24 37778+ | 6064 62230 57748+ | 6 36451 91593 | 10 | |
| **25** | 0 | 0,14796 43965 81368+ | 31 48570+ | 5838 25778 66155+ | 6 21622 85275+ | 0 | **35** |
| | 10 | 0,14801 39397 29939 | 38 59611 | 5612 04155 80880 | 6 06808 46275 | 50 | |
| | 20 | 06 34835 89550 | 45 70899+ | 5385 97347 34605 | 5 92008 72656+ | 40 | |
| | 30 | 11 30281 60449+ | 52 82436 | 5160 05338 61948+ | 5 77223 62487+ | 30 | |
| | 40 | 16 25734 42885+ | 59 94221 | 4934 28114 99461 | 5 62453 13840 | 20 | |
| | 50 | 21 21194 37106+ | 67 06254 | 4708 65661 85621 | 5 47697 24788 | 10 | |
| **26** | 0 | 26 16661 43360+ | 74 18535+ | 4483 17964 60833 | 5 32955 93409 | 0 | **34** |
| | 10 | 31 12135 61896+ | 81 31065+ | 4257 85008 67424 | 5 18229 17784+ | 50 | |
| | 20 | 36 07616 92962 | 88 43843+ | 4032 66779 49639+ | 5 03516 95997+ | 40 | |
| | 30 | 41 03105 36805+ | 4 95495 56870 | 3807 63262 53642 | 4 88819 26135+ | 30 | |
| | 40 | 45 98600 93675+ | 4 95502 70144+ | 3582 74443 27506+ | 4 74136 06289 | 20 | |
| | 50 | 50 94103 63820 | 09 83667+ | 3358 00307 21217+ | 4 59467 34551 | 10 | |
| **27** | 0 | 55 89613 47487+ | 16 97439 | 3133 40839 86666+ | 4 44813 09017+ | 0 | **33** |
| | 10 | 60 85130 44926+ | 24 11458+ | 2908 96026 77649 | 4 30173 27789+ | 50 | |
| | 20 | 65 80654 56385 | 31 25727 | 2684 65853 49859+ | 4 15547 88968+ | 40 | |
| | 30 | 70 76185 82112 | 38 40243+ | 2460 50305 60891+ | 4 00936 90660+ | 30 | |
| | 40 | 75 71724 22355 | 45 55008 | 2236 49368 70231 | 3 86340 30975 | 20 | |
| | 50 | 80 67269 77363+ | 52 70021+ | 2012 63028 39255+ | 3 71758 08024 | 10 | |
| **28** | 0 | 85 62822 47385 | 59 85283+ | 1788 91270 31232 | 3 57190 19922 | 0 | **32** |
| | 10 | 90 58382 32668+ | 67 00793+ | 1565 34080 11309+ | 3 42636 64788 | 50 | |
| | 20 | 0,14895 53949 33462 | 74 16552 | 1341 91443 46521+ | 3 28097 40743 | 40 | |
| | 30 | 0,14900 49523 50014 | 81 32559+ | 1118 63346 05778+ | 3 13572 45911+ | 30 | |
| | 40 | 05 45104 82573+ | 88 48815 | 0895 49773 59866+ | 2 99061 78421 | 20 | |
| | 50 | 10 40693 31388+ | 4 95595 65319 | 0672 50711 81445+ | 2 84565 36402 | 10 | |
| **29** | 0 | 15 36288 96707+ | 4 95602 82072 | 0449 66146 45043+ | 2 70083 17988 | 0 | **31** |
| | 10 | 20 31891 78779+ | 09 99073 | 0226 96063 27055+ | 2 55615 21316 | 50 | |
| | 20 | 25 27501 77852+ | 17 16323 | 6,70004 40448 05739+ | 2 41161 44525 | 40 | |
| | 30 | 30 23118 94175+ | 24 33821 | 6,69781 99286 61214+ | 2 26721 85758+ | 30 | |
| | 40 | 35 18743 27996+ | 31 51568 | 9559 72564 75456 | 2 12296 43162 | 20 | |
| | 50 | 40 14374 79564+ | 4 95638 69563+ | 9337 60268 32294 | 221 97885 14884+ | 10 | |
| **30** | 0 | 0,14945 10013 49128 | | 6,69115 62383 17409+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,14945 10013 49128 | 4 95645 87807+ | 6,69115 62383 17409+ | 221 83487 99077+ | 0 | **30** |
| | 10 | 50 05659 36935+ | 53 06300 | 8893 78895 18332 | 1 69104 93896 | 50 | |
| | 20 | 55 01312 43235+ | 60 25041+ | 8672 09790 24436 | 1 54735 97498 | 40 | |
| | 30 | 59 96972 68277 | 67 44031+ | 8450 55054 26938+ | 1 40381 08044 | 30 | |
| | 40 | 64 92640 12308+ | 74 63270 | 8229 14673 18894 | 1 26040 23698+ | 20 | |
| | 50 | 69 88314 75578+ | 81 82757+ | 8007 88632 95195+ | 1 11713 42628 | 10 | |
| **31** | 0 | 74 83996 58335+ | 89 02493 | 7786 76919 52568 | 0 97400 63002 | 0 | **29** |
| | 10 | 79 79685 60829 | 4 95696 22478 | 7565 79518 89565+ | 0 83101 82994+ | 50 | |
| | 20 | 84 75381 83306+ | 4 95703 42711+ | 7344 96417 06571+ | 0 68817 00780 | 40 | |
| | 30 | 89 71085 26018 | 10 63193+ | 7124 27600 05791+ | 0 54546 14538 | 30 | |
| | 40 | 94 66795 89211+ | 17 83924 | 6903 73053 91253+ | 0 40289 22450 | 20 | |
| | 50 | 0,14999 62513 73135+ | 25 04904 | 6683 32764 68803+ | 0 26046 22701 | 10 | |
| **32** | 0 | 0,15004 58238 78039+ | 32 26132 | 6463 06718 46103 | 220 11817 13478 | 0 | **28** |
| | 10 | 09 53971 04171+ | 39 47609+ | 6242 94901 32625 | 219 97601 92972+ | 50 | |
| | 20 | 14 49710 51781 | 46 69335+ | 6022 97299 39652 | 9 83400 59378 | 40 | |
| | 30 | 19 45457 21116 | 53 91310 | 5803 13898 80274+ | 9 69213 10890 | 30 | |
| | 40 | 24 41211 12426+ | 61 13533+ | 5583 44685 69384+ | 9 55039 45709 | 20 | |
| | 50 | 29 36972 25960 | 68 36006 | 5363 89646 23675+ | 9 40879 62037 | 10 | |
| **33** | 0 | 34 32740 61966 | 75 58727+ | 5144 48766 61638+ | 9 26733 58079 | 0 | **27** |
| | 10 | 39 28516 20693+ | 82 81697+ | 4925 22033 03560 | 9 12601 32043 | 50 | |
| | 20 | 44 24299 02390+ | 90 04916+ | 4706 09431 71516+ | 8 98482 82141 | 40 | |
| | 30 | 49 20089 07307 | 4 95797 28384+ | 4487 10948 89375+ | 8 84378 06586+ | 30 | |
| | 40 | 54 15886 35691+ | 4 95804 52101 | 4268 26570 82789 | 8 70287 03596+ | 20 | |
| | 50 | 59 11690 87793 | 11 76067 | 4049 56283 79193 | 8 56209 71390 | 10 | |
| **34** | 0 | 64 07502 63860 | 19 00281+ | 3831 00074 07802+ | 8 42146 08191 | 0 | **26** |
| | 10 | 69 03321 64141+ | 26 24745+ | 3612 57927 99612 | 8 28096 12224 | 50 | |
| | 20 | 73 99147 88886+ | 33 49458 | 3394 29831 87388 | 8 14059 81718 | 40 | |
| | 30 | 78 94981 38344+ | 40 74419+ | 3176 15772 05670 | 8 00037 14903+ | 30 | |
| | 40 | 83 90822 12764 | 47 99630 | 2958 15734 90766+ | 7 86028 10016 | 20 | |
| | 50 | 88 86670 12394 | 55 25089+ | 2740 29706 80750+ | 7 72032 65291 | 10 | |
| **35** | 0 | 93 82525 37484 | 62 50798+ | 2522 57674 15459 | 7 58050 78969+ | 0 | **25** |
| | 10 | 0,15098 78387 88282 | 69 76756 | 2304 99623 36489+ | 7 44082 49294 | 50 | |
| | 20 | 0,15103 74257 65038 | 77 02962+ | 2087 55540 87195+ | 7 30127 74509+ | 40 | |
| | 30 | 08 70134 68000+ | 84 29418+ | 1870 25413 12686 | 7 16186 52865 | 30 | |
| | 40 | 13 66018 97419 | 91 56123 | 1653 09226 59821 | 7 02258 82611 | 20 | |
| | 50 | 18 61910 53542 | 4 95898 83077 | 1436 06967 77209+ | 6 88344 62002+ | 10 | |
| **36** | 0 | 23 57809 36619+ | 4 95906 10280 | 1219 18623 15207 | 6 74443 89295+ | 0 | **24** |
| | 10 | 28 53715 46899+ | 13 37732+ | 1002 44179 25911+ | 6 60556 62750 | 50 | |
| | 20 | 33 49628 84632 | 20 65433+ | 0785 83622 63161+ | 6 46682 80629 | 40 | |
| | 30 | 38 45549 50065+ | 27 93384 | 0569 36939 82532+ | 6 32822 41196+ | 30 | |
| | 40 | 43 41477 43449+ | 35 21583+ | 0353 04117 41336 | 6 18975 42722 | 20 | |
| | 50 | 48 37412 65033+ | 42 50032+ | 6,60136 85141 98614 | 6 05141 83475 | 10 | |
| **37** | 0 | 53 33355 15065+ | 49 78730+ | 6,59920 80000 15139 | 5 91321 61730+ | 0 | **23** |
| | 10 | 58 29304 93796 | 57 07677+ | 9704 88678 53408+ | 5 77514 75764 | 50 | |
| | 20 | 63 25262 01474 | 64 36874 | 9489 11163 77644+ | 5 63721 23855 | 40 | |
| | 30 | 68 21226 38348 | 71 66319+ | 9273 47442 53789 | 5 49941 04285+ | 30 | |
| | 40 | 73 17198 04667+ | 78 96014+ | 9057 97501 49503+ | 5 36174 15340+ | 20 | |
| | 50 | 78 13177 00682 | 86 25958+ | 8842 61327 34163 | 5 22420 55307 | 10 | |
| **38** | 0 | 83 09163 26640+ | 4 95993 56152 | 8627 38906 78856 | 5 08680 22475+ | 0 | **22** |
| | 10 | 88 05156 82793 | 4 96000 86595 | 8412 30226 56380+ | 4 94953 15139 | 50 | |
| | 20 | 93 01157 69387+ | 08 17287 | 8197 35273 41241+ | 4 81239 31593+ | 40 | |
| | 30 | 0,15197 97165 86674+ | 15 48228 | 7982 54034 09648+ | 4 67538 70137 | 30 | |
| | 40 | 0,15202 93181 34903 | 22 79419 | 7767 86495 39511+ | 4 53851 29071 | 20 | |
| | 50 | 07 89204 14321+ | 30 10859 | 7553 32644 10440+ | 4 40177 06699+ | 10 | |
| **39** | 0 | 12 85234 25180+ | 37 42548+ | 7338 92467 03741+ | 4 26516 01329 | 0 | **21** |
| | 10 | 17 81271 67729 | 44 74487 | 7124 65951 02412+ | 4 12868 11269 | 50 | |
| | 20 | 22 77316 42216 | 52 06675 | 6910 53082 91144 | 3 99233 34831+ | 40 | |
| | 30 | 27 73368 48891 | 59 39113 | 6696 53849 56312+ | 3 85611 70331+ | 30 | |
| | 40 | 32 69427 88004 | 66 71799+ | 6482 68237 85981 | 3 72003 16086 | 20 | |
| | 50 | 37 65494 59803+ | 4 96074 04736 | 6268 96234 69895 | 213 58407 70416 | 10 | |
| **40** | 0 | 0,15242 61568 64539+ | | 6,56055 37826 99479 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,15242 61568 64539+ | 4 96081 37922 | 6,56055 37826 99479 | 213 44825 31644 | 0 | **20** |
| | 10 | 47 57650 02461+ | 88 71357+ | 5841 93001 67834+ | 3 31255 98095+ | 50 | |
| | 20 | 52 53738 73819 | 4 96096 05042 | 5628 61745 69739 | 3 17699 68099 | 40 | |
| | 30 | 57 49834 78861 | 4 96103 38976+ | 5415 44046 01639+ | 3 04156 39985+ | 30 | |
| | 40 | 62 45938 17837+ | 10 73160 | 5202 39889 61654+ | 2 90626 12088 | 20 | |
| | 50 | 67 42048 90997+ | 18 07593+ | 4989 49263 49566+ | 2 77108 82743+ | 10 | |
| **41** | 0 | 72 38166 98591 | 25 42276+ | 4776 72154 66823 | 2 63604 50290 | 0 | **19** |
| | 10 | 77 34292 40867+ | 32 77208+ | 4564 08550 16532+ | 2 50113 13070+ | 50 | |
| | 20 | 82 30425 18076+ | 40 12390+ | 4351 58437 03462+ | 2 36634 69428 | 40 | |
| | 30 | 87 26565 30467 | 47 47822 | 4139 21802 34034+ | 2 23169 17710 | 30 | |
| | 40 | 92 22712 78289 | 54 83503+ | 3926 98633 16324+ | 2 09716 56265+ | 20 | |
| | 50 | 0,15297 18867 61792+ | 62 19434 | 3714 88916 60059 | 1 96276 83447+ | 10 | |
| **42** | 0 | 0,15302 15029 81226+ | 69 55614+ | 3502 92639 76611+ | 1 82849 97610 | 0 | **18** |
| | 10 | 07 11199 36841 | 76 92044+ | 3291 09789 79002 | 1 69435 97110+ | 50 | |
| | 20 | 12 07376 28885+ | 84 28724 | 3079 40353 81891 | 1 56034 80310 | 40 | |
| | 30 | 17 03560 57609+ | 91 65653+ | 2867 84319 01581 | 1 42646 45570 | 30 | |
| | 40 | 21 99752 23262+ | 4 96199 02832+ | 2656 41672 56011+ | 1 29270 91256 | 20 | |
| | 50 | 26 95951 26095 | 4 96206 40261 | 2445 12401 64755+ | 1 15908 15736 | 10 | |
| **43** | 0 | 31 92157 66356 | 13 77939+ | 2233 96493 49019+ | 1 02558 17381 | 0 | **17** |
| | 10 | 36 88371 44295 | 21 15867+ | 2022 93935 31638+ | 0 89220 94563 | 50 | |
| | 20 | 41 84592 60162+ | 28 54045 | 1812 04714 37075+ | 0 75896 45658+ | 40 | |
| | 30 | 46 80821 14207+ | 35 92472+ | 1601 28817 91417+ | 0 62584 69045+ | 30 | |
| | 40 | 51 77057 06680+ | 43 31150 | 1390 66233 22372 | 0 49285 63104+ | 20 | |
| | 50 | 56 73300 37830+ | 50 70077 | 1180 16947 59267+ | 0 35999 26219 | 10 | |
| **44** | 0 | 61 69551 07907+ | 58 09254 | 0969 80948 33048+ | 0 22725 56775+ | 0 | **16** |
| | 10 | 66 65809 17161+ | 65 48681 | 0759 58222 76273 | 210 09464 53162 | 50 | |
| | 20 | 71 62074 65842+ | 72 88357+ | 0549 48758 23111 | 209 96216 13769+ | 40 | |
| | 30 | 76 58347 54199+ | 80 28283+ | 0339 52542 09341+ | 9 82980 36992 | 30 | |
| | 40 | 81 54627 82483+ | 87 68460 | 6,50129 69561 72349 | 9 69757 21226 | 20 | |
| | 50 | 86 50915 50943 | 4 96295 08886 | 6,49919 99804 51123 | 9 56546 64869 | 10 | |
| **45** | 0 | 91 47210 59829 | 4 96302 49562 | 9710 43257 86254 | 9 43348 66323+ | 0 | **15** |
| | 10 | 0,15396 43513 09391 | 09 90487+ | 9500 99909 19930+ | 9 30163 23993 | 50 | |
| | 20 | 0,15401 39822 99878+ | 17 31663+ | 9291 69745 95938 | 9 16990 36283+ | 40 | |
| | 30 | 06 36140 31542 | 24 73089 | 9082 52755 59654+ | 9 03830 01604 | 30 | |
| | 40 | 11 32465 04631 | 32 14764+ | 8873 48925 58050+ | 8 90682 18366 | 20 | |
| | 50 | 16 28797 19396 | 39 56690+ | 8664 58243 39685 | 8 77546 84983 | 10 | |
| **46** | 0 | 21 25136 76086 | 46 98866 | 8455 80696 54701+ | 8 64423 99872+ | 0 | **14** |
| | 10 | 26 21483 74952 | 54 41291+ | 8247 16272 54829+ | 8 51313 61452+ | 50 | |
| | 20 | 31 17838 16243 | 61 83967 | 8038 64958 93377 | 8 38215 68144+ | 40 | |
| | 30 | 36 14200 00210 | 69 26892+ | 7830 26743 25232+ | 8 25130 18372+ | 30 | |
| | 40 | 41 10569 27102 | 76 70068 | 7622 01613 06860 | 8 12057 10563+ | 20 | |
| | 50 | 46 06945 97170 | 84 13493+ | 7413 89555 96296+ | 7 98996 43145+ | 10 | |
| **47** | 0 | 51 03330 10663 | 91 57169 | 7205 90559 53151+ | 7 85948 14550+ | 0 | **13** |
| | 10 | 55 99721 67832 | 4 96399 01094+ | 6998 04611 38601 | 7 72912 23212 | 50 | |
| | 20 | 60 96120 68927 | 4 96406 45270+ | 6790 31699 15389 | 7 59888 67566+ | 40 | |
| | 30 | 65 92527 14197 | 13 89696 | 6582 71810 47822+ | 7 46877 46053 | 30 | |
| | 40 | 70 88941 03893+ | 21 34372 | 6375 24933 01769+ | 7 33878 57112+ | 20 | |
| | 50 | 75 85362 38265+ | 28 79298+ | 6167 91054 44657 | 7 20891 99189 | 10 | |
| **48** | 0 | 80 81791 17564 | 36 24474+ | 5960 70162 45468 | 7 07917 70728+ | 0 | **12** |
| | 10 | 85 78227 42038 | 43 69901 | 5753 62244 74739+ | 6 94955 70180 | 50 | |
| | 20 | 90 74671 11939 | 51 15577+ | 5546 67289 04559+ | 6 82005 95994 | 40 | |
| | 30 | 0,15495 71122 27516+ | 58 61504 | 5339 85283 08566 | 6 69068 46624+ | 30 | |
| | 40 | 0,15500 67580 89020+ | 66 07681 | 5133 16214 61941+ | 6 56143 20527 | 20 | |
| | 50 | 05 64046 96701+ | 73 54108 | 4926 60071 41414+ | 6 43230 16160+ | 10 | |
| **49** | 0 | 10 60520 50810 | 81 00785+ | 4720 16841 25254 | 6 30329 31985+ | 0 | **11** |
| | 10 | 15 57001 51595+ | 88 47713 | 4513 86511 93269 | 6 17440 66465 | 50 | |
| | 20 | 20 53489 99308+ | 4 96495 94891 | 4307 69071 26804 | 6 04564 18065+ | 40 | |
| | 30 | 25 49985 94199+ | 4 96503 42319 | 4101 64507 08738+ | 5 91699 85254 | 30 | |
| | 40 | 30 46489 36518+ | 10 89997+ | 3895 72807 23484+ | 5 78847 66502 | 20 | |
| | 50 | 35 43000 26516 | 4 96518 37926 | 3689 93959 56982+ | 205 66007 60282 | 10 | |
| **50** | 0 | 0,15540 39518 64442 | | 6,43484 27951 96700+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

# 8°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,15540 39518 64442 | 4 96525 86105 | 6,43484 27951 96700+ | 205 53179 65069 | 0 | **10** |
| | 10 | 45 36044 50547+ | 33 34534+ | 3278 74772 31631+ | 5 40363 79341 | 50 | |
| | 20 | 50 32577 85082 | 40 83214 | 3073 34408 52291 | 5 27560 01578 | 40 | |
| | 30 | 55 29118 68296 | 48 32144+ | 2868 06848 50713 | 5 14768 30262+ | 30 | |
| | 40 | 60 25667 00440+ | 55 81324+ | 2662 92080 20450+ | 5 01988 63879+ | 20 | |
| | 50 | 65 22222 81765 | 63 30755+ | 2457 90091 56571 | 4 89221 00916 | 10 | |
| **51** | 0 | 70 18786 12520+ | 70 80436+ | 2253 00870 55654+ | 4 76465 39862 | 0 | **9** |
| | 10 | 75 15356 92957 | 78 30368+ | 2048 24405 15792+ | 4 63721 79209 | 50 | |
| | 20 | 80 11935 23325+ | 85 80550+ | 1843 60683 36583+ | 4 50990 17451+ | 40 | |
| | 30 | 85 08521 03875+ | 4 96593 30983 | 1639 09693 19132 | 4 38270 53086+ | 30 | |
| | 40 | 90 05114 34858+ | 4 96600 81666 | 1434 71422 66046 | 4 25562 84612+ | 20 | |
| | 50 | 95 01715 16524+ | 08 32599 | 1230 45859 81433+ | 4 12867 10531+ | 10 | |
| **52** | 0 | 0,15599 98323 49123+ | 15 83783 | 1026 32992 70902 | 4 00183 29346+ | 0 | **8** |
| | 10 | 0,15604 94939 32906+ | 23 35217+ | 0822 32809 41555+ | 3 87511 39564+ | 50 | |
| | 20 | 09 91562 68124 | 30 86902+ | 0618 45298 01991 | 3 74851 39693+ | 40 | |
| | 30 | 14 88193 55026+ | 38 38838 | 0414 70446 62297+ | 3 62203 28244 | 30 | |
| | 40 | 19 84831 93864+ | 45 91024 | 0211 08243 34053+ | 3 49567 03729+ | 20 | |
| | 50 | 24 81477 84888+ | 53 43460+ | 6,40007 58676 30324 | 3 36942 64665+ | 10 | |
| **53** | 0 | 29 78131 28349 | 60 96147+ | 6,39804 21733 65658+ | 3 24330 09569+ | 0 | **7** |
| | 10 | 34 74792 24496+ | 68 49085+ | 9600 97403 56089+ | 3 11729 36961 | 50 | |
| | 20 | 39 71460 73581+ | 76 02273+ | 9397 85674 19128 | 2 99140 45363+ | 40 | |
| | 30 | 44 68136 75855+ | 83 55712+ | 9194 86533 73764+ | 2 86563 33301+ | 30 | |
| | 40 | 49 64820 31568 | 91 09402 | 8991 99970 40463 | 2 73997 99301 | 20 | |
| | 50 | 54 61511 40970+ | 4 96698 63342+ | 8789 25972 41162 | 2 61444 41892 | 10 | |
| **54** | 0 | 59 58210 04312+ | 4 96706 17533+ | 8586 64527 99270 | 2 48902 59606 | 0 | **6** |
| | 10 | 64 54916 21846 | 13 71975 | 8384 15625 39664 | 2 36372 50977 | 50 | |
| | 20 | 69 51629 93821 | 21 26667+ | 8181 79252 88686+ | 2 23854 14541 | 40 | |
| | 30 | 74 48351 20488+ | 28 81610+ | 7979 55398 74145+ | 2 11347 48836+ | 30 | |
| | 40 | 79 45080 02098+ | 36 36804 | 7777 44051 25309 | 1 98852 52404 | 20 | |
| | 50 | 84 41816 38902+ | 43 92248+ | 7575 45198 72905 | 1 86369 23787 | 10 | |
| **55** | 0 | 89 38560 31151 | 51 47943+ | 7373 58829 49118 | 1 73897 61530 | 0 | **5** |
| | 10 | 94 35311 79094+ | 59 03889+ | 7171 84931 87588+ | 1 61437 64180+ | 50 | |
| | 20 | 0,15699 32070 82984 | 66 60086+ | 6970 23494 23407+ | 1 48989 30289+ | 40 | |
| | 30 | 0,15704 28837 43070+ | 74 16534 | 6768 74504 93118 | 1 36552 58407+ | 30 | |
| | 40 | 09 25611 59604+ | 81 73232 | 6567 37952 34710+ | 1 24127 47090 | 20 | |
| | 50 | 14 22393 32836+ | 89 30181+ | 6366 13824 87620+ | 1 11713 94893 | 10 | |
| **56** | 0 | 19 19182 63018 | 4 96796 87381+ | 6165 02110 92727+ | 0 99312 00375 | 0 | **4** |
| | 10 | 24 15979 50399+ | 4 96804 44832+ | 5964 02798 92353 | 0 86921 62097+ | 50 | |
| | 20 | 29 12783 95232 | 12 02534 | 5763 15877 30255+ | 0 74542 78623+ | 40 | |
| | 30 | 34 09595 97766 | 19 60486+ | 5562 41334 51632 | 0 62175 48518+ | 30 | |
| | 40 | 39 06415 58253 | 27 18690+ | 5361 79159 03114 | 0 49819 70350 | 20 | |
| | 50 | 44 03242 76943 | 34 77144+ | 5161 29339 32763+ | 0 37475 42688+ | 10 | |
| **57** | 0 | 49 00077 54088 | 42 35850 | 4960 91863 90075 | 0 25142 64106 | 0 | **3** |
| | 10 | 53 96919 89938 | 49 94806+ | 4760 66721 25969+ | 0 12821 33176+ | 50 | |
| | 20 | 58 93769 84744+ | 57 54013+ | 4560 53899 92793 | 200 00511 48476+ | 40 | |
| | 30 | 63 90627 38758 | 65 13472 | 4360 53388 44316+ | 199 88213 08585+ | 30 | |
| | 40 | 68 87492 52230 | 72 73181 | 4160 65175 35731 | 9 75926 12083+ | 20 | |
| | 50 | 73 84365 25411+ | 80 33141+ | 3960 89249 23647+ | 9 63650 57554+ | 10 | |
| **58** | 0 | 78 81245 58553 | 87 93353 | 3761 25598 66093 | 9 51386 43583+ | 0 | **2** |
| | 10 | 83 78133 51905+ | 4 96895 53815 | 3561 74212 22509+ | 9 39133 68758+ | 50 | |
| | 20 | 88 75029 05720+ | 4 96903 14528+ | 3362 35078 53751 | 9 26892 31668+ | 40 | |
| | 30 | 93 71932 20249 | 10 75493 | 3163 08186 22082+ | 9 14662 30906 | 30 | |
| | 40 | 0,15798 68842 95742 | 18 36708+ | 2963 93523 91176+ | 9 02443 65065 | 20 | |
| | 50 | 0,15803 65761 32450+ | 25 98175 | 2764 91080 26111+ | 8 90236 32741+ | 10 | |
| **59** | 0 | 08 62687 30625+ | 33 59892+ | 2566 00843 93370 | 8 78040 32534 | 0 | **1** |
| | 10 | 13 59620 90518 | 41 21861+ | 2367 22803 60836 | 8 65855 63044 | 50 | |
| | 20 | 18 56562 12379+ | 48 84081+ | 2168 56947 97792 | 8 53682 22873 | 40 | |
| | 30 | 23 53510 96461 | 56 46552+ | 1970 03265 74919 | 8 41520 10626+ | 30 | |
| | 40 | 28 50467 43013+ | 64 09275 | 1771 61745 64292+ | 8 29369 24911+ | 20 | |
| | 50 | 33 47431 52288 | 4 96971 72248 | 1573 32376 39381 | 198 17229 64337+ | 10 | |
| **60** | 0 | 0,15838 44403 24536+ | | 6,31375 15146 75043 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 81°

# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,15838 44403 24536+ | 4 96979 35473 | 6,31375 15146 75043 | 198 05101 27516 | 0 | **60** |
| | 10 | 43 41382 60009 | 86 98949 | 1177 10045 47527 | 7 92984 13060 | 50 | |
| | 20 | 48 38369 58958 | 4 96994 62676 | 0979 17061 34467 | 7 80878 19585+ | 40 | |
| | 30 | 53 35364 21634 | 4 97002 26654 | 0781 36183 14881+ | 7 68783 45710 | 30 | |
| | 40 | 58 32366 48288 | 09 90884 | 0583 67399 69171+ | 7 56699 90053+ | 20 | |
| | 50 | 63 29376 39172 | 17 55364+ | 0386 10699 79118 | 7 44627 51238+ | 10 | |
| **1** | 0 | 68 26393 94536+ | 25 20097 | 6,30188 66072 27879+ | 7 32566 27889 | 0 | **59** |
| | 10 | 73 23419 14633 | 32 85080 | 6,29991 33505 99990+ | 7 20516 18631 | 50 | |
| | 20 | 78 20451 99713+ | 40 50315 | 9794 12989 81359+ | 7 08477 22093 | 40 | |
| | 30 | 83 17492 50028+ | 48 15801 | 9597 04512 59266+ | 6 96449 36905+ | 30 | |
| | 40 | 88 14540 65829+ | 55 81538+ | 9400 08063 22361 | 6 84432 61701+ | 20 | |
| | 50 | 93 11596 47368 | 63 47527+ | 9203 23630 60660 | 6 72426 95115 | 10 | |
| **2** | 0 | 0,15898 08659 94895+ | 71 13767+ | 9006 51203 65545 | 6 60432 35783+ | 0 | **58** |
| | 10 | 0,15903 05731 08663 | 78 80259 | 8809 90771 29761+ | 6 48448 82345+ | 50 | |
| | 20 | 08 02809 88922 | 86 47002 | 8613 42322 47416 | 6 36476 33442+ | 40 | |
| | 30 | 12 99896 35924 | 4 97094 13996+ | 8417 05846 13973+ | 6 24514 87717 | 30 | |
| | 40 | 17 96990 49920+ | 4 97101 81242+ | 8220 81331 26256+ | 6 12564 43814+ | 20 | |
| | 50 | 22 94092 31162+ | 09 48739+ | 8024 68766 82442 | 6 00625 00382+ | 10 | |
| **3** | 0 | 27 91201 79902+ | 17 16488+ | 7828 68141 82059+ | 5 88696 56070 | 0 | **57** |
| | 10 | 32 88318 96390+ | 24 84488+ | 7632 79445 25989+ | 5 76779 09528 | 50 | |
| | 20 | 37 85443 80879 | 32 52740+ | 7437 02666 16461+ | 5 64872 59411 | 40 | |
| | 30 | 42 82576 33619+ | 40 21243+ | 7241 37793 57050+ | 5 52977 04373+ | 30 | |
| | 40 | 47 79716 54863 | 47 89998+ | 7045 84816 52676+ | 5 41092 43074 | 20 | |
| | 50 | 52 76864 44861 | 55 59004+ | 6850 43724 09602+ | 5 29218 74171+ | 10 | |
| **4** | 0 | 57 74020 03865+ | 63 28262+ | 6655 14505 35431 | 5 17355 96328 | 0 | **56** |
| | 10 | 62 71183 32128 | 70 97772 | 6459 97149 39103 | 5 05504 08207 | 50 | |
| | 20 | 67 68354 29900 | 78 67533 | 6264 91645 30896 | 4 93663 08475 | 40 | |
| | 30 | 72 65532 97433 | 86 37545+ | 6069 97982 22421 | 4 81832 95799 | 30 | |
| | 40 | 77 62719 34978 | 4 97194 07809+ | 5875 16149 26622 | 4 70013 68849 | 20 | |
| | 50 | 82 59913 42788 | 4 97201 78325+ | 5680 46135 57773 | 4 58205 26297+ | 10 | |
| **5** | 0 | 87 57115 21113+ | 09 49093 | 5485 87930 31475+ | 4 46407 66818 | 0 | **55** |
| | 10 | 92 54324 70206+ | 17 20112 | 5291 41522 64657+ | 4 34620 89086+ | 50 | |
| | 20 | 0,15997 51541 90318+ | 24 91383 | 5097 06901 75571 | 4 22844 91781 | 40 | |
| | 30 | 0,16002 48766 81702 | 32 62905+ | 4902 84056 83790+ | 4 11079 73581+ | 30 | |
| | 40 | 07 45999 44607+ | 40 34680 | 4708 72977 10209 | 3 99325 33170 | 20 | |
| | 50 | 12 43239 79287 | 48 06706 | 4514 73651 77039 | 3 87581 69231 | 10 | |
| **6** | 0 | 17 40487 85993 | 55 78983+ | 4320 86070 07808 | 3 75848 80449+ | 0 | **54** |
| | 10 | 22 37743 64976+ | 63 51513 | 4127 10221 27358+ | 3 64126 65515 | 50 | |
| | 20 | 27 35007 16489+ | 71 24294 | 3933 46094 61843+ | 3 52415 23116 | 40 | |
| | 30 | 32 32278 40783+ | 78 97327 | 3739 93679 38727+ | 3 40714 51946 | 30 | |
| | 40 | 37 29557 38110+ | 86 70612 | 3546 52964 86781+ | 3 29024 50698 | 20 | |
| | 50 | 42 26844 08722+ | 4 97294 44148+ | 3353 23940 36083+ | 3 17345 18068+ | 10 | |
| **7** | 0 | 47 24138 52871 | 4 97302 17937 | 3160 06595 18015 | 3 05676 52755 | 0 | **53** |
| | 10 | 52 21440 70808 | 09 91977 | 2967 00918 65260 | 2 94018 53458+ | 50 | |
| | 20 | 57 18750 62785+ | 17 66269+ | 2774 06900 11801+ | 2 82371 18880 | 40 | |
| | 30 | 62 16068 29055 | 25 40813+ | 2581 24528 92921+ | 2 70734 47724 | 30 | |
| | 40 | 67 13393 69868 | 33 15609+ | 2388 53794 45197+ | 2 59108 38696 | 20 | |
| | 50 | 72 10726 85477+ | 40 90657 | 2195 94686 06501+ | 2 47492 90504+ | 10 | |
| **8** | 0 | 77 08067 76134+ | 48 65957 | 2003 47193 15997 | 2 35888 01859 | 0 | **52** |
| | 10 | 82 05416 42091 | 56 41508+ | 1811 11305 14138 | 2 24293 71471 | 50 | |
| | 20 | 87 02772 83599+ | 64 17312 | 1618 87011 42667 | 2 12709 98054+ | 40 | |
| | 30 | 92 00137 00911+ | 71 93367+ | 1426 74301 44612+ | 2 01136 80326 | 30 | |
| | 40 | 0,16096 97508 94279 | 79 69675 | 1234 73164 64286+ | 1 89574 17002 | 20 | |
| | 50 | 0,16101 94888 63954+ | 87 46234+ | 1042 83590 47284+ | 1 78022 06802+ | 10 | |
| **9** | 0 | 06 92276 10189 | 4 97395 23046 | 0851 05568 40482 | 1 66480 48449+ | 0 | **51** |
| | 10 | 11 89671 33235 | 4 97403 00109+ | 0659 39087 92032+ | 1 54949 40666 | 50 | |
| | 20 | 16 87074 33344+ | 10 77425+ | 0467 84138 51366+ | 1 43428 82178 | 40 | |
| | 30 | 21 84485 10770 | 18 54993 | 0276 40709 69188+ | 1 31918 71712 | 30 | |
| | 40 | 26 81903 65763 | 26 32812+ | 6,20085 08790 97476+ | 1 20419 07998 | 20 | |
| | 50 | 31 79329 98575+ | | 6,19893 88371 89478+ | | 10 | |
| **10** | 0 | 0,16136 76764 09460 | 4 97434 10884+ | 6,19702 79441 99711 | 191 08929 89767+ | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 80°

# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,16136 76764 09460 | 4 97441 89208+ | 6,19702 79441 99711 | 190 97451 15752+ | 0 | **50** |
| | 10 | 41 74205 98668+ | 49 67784+ | 9511 81990 83958+ | 0 85982 84689+ | 50 | |
| | 20 | 46 71655 66452+ | 57 46612+ | 9320 96007 99269 | 0 74524 95314 | 40 | |
| | 30 | 51 69113 13065 | 65 25693 | 9130 21483 03955 | 0 63077 46366 | 30 | |
| | 40 | 56 66578 38758 | 73 05025+ | 8939 58405 57589 | 0 51640 36586 | 20 | |
| | 50 | 61 64051 43783+ | 80 84610 | 8749 06765 21003 | 0 40213 64716+ | 10 | |
| **11** | 0 | 66 61532 28393 | 88 64446+ | 8558 66551 56286 | 0 28797 29502+ | 0 | **49** |
| | 10 | 71 59020 92840 | 4 97496 44535+ | 8368 37754 26783+ | 0 17391 29690 | 50 | |
| | 20 | 76 56517 37375+ | 4 97504 24877 | 8178 20362 97093+ | 190 05995 64028 | 40 | |
| | 30 | 81 54021 62252+ | 12 05470+ | 7988 14367 33065+ | 189 94610 31266+ | 30 | |
| | 40 | 86 51533 67723 | 19 86316 | 7798 19757 01799 | 9 83235 30157+ | 20 | |
| | 50 | 91 49053 54039 | 27 67414 | 7608 36521 71641+ | 9 71870 59455 | 10 | |
| **12** | 0 | 0,16196 46581 21453+ | 35 48764+ | 7418 64651 12186+ | 9 60516 17915+ | 0 | **48** |
| | 10 | 0,16201 44116 70218 | 43 30367 | 7229 04134 94271+ | 9 49172 04296 | 50 | |
| | 20 | 06 41660 00585 | 51 12222 | 7039 54962 89975 | 9 37838 17357 | 40 | |
| | 30 | 11 39211 12807 | 58 94329 | 6850 17124 72618 | 9 26514 55859+ | 30 | |
| | 40 | 16 36770 07136 | 66 76688+ | 6660 90610 16758+ | 9 15201 18567+ | 20 | |
| | 50 | 21 34336 83825 | 74 59300+ | 6471 75408 98191 | 9 03898 04245+ | 10 | |
| **13** | 0 | 26 31911 43125+ | 82 42165 | 6282 71510 93945+ | 8 92605 11661+ | 0 | **47** |
| | 10 | 31 29493 85290+ | 90 25281+ | 6093 78905 82284 | 8 81322 39584 | 50 | |
| | 20 | 36 27084 10572 | 4 97598 08650+ | 5904 97583 42700 | 8 70049 86784 | 40 | |
| | 30 | 41 24682 19223 | 4 97605 92272+ | 5716 27533 55916 | 8 58787 52034 | 30 | |
| | 40 | 46 22288 11495 | 13 76146 | 5527 68746 03882 | 8 47535 34109 | 20 | |
| | 50 | 51 19901 87641+ | 21 60272+ | 5339 21210 69773+ | 8 36293 31785 | 10 | |
| **14** | 0 | 56 17523 47914 | 29 44651+ | 5150 84917 37988+ | 8 25061 43840 | 0 | **46** |
| | 10 | 61 15152 92565+ | 37 29283 | 4962 59855 94148+ | 8 13839 69055 | 50 | |
| | 20 | 66 12790 21848 | 45 14166+ | 4774 46016 25093 | 8 02628 06211+ | 40 | |
| | 30 | 71 10435 36015 | 52 99303 | 4586 43388 18882 | 7 91426 54092+ | 30 | |
| | 40 | 76 08088 35318 | 60 84692 | 4398 51961 64789 | 7 80235 11484+ | 20 | |
| | 50 | 81 05749 20009+ | 68 70333+ | 4210 71726 53304+ | 7 69053 77175 | 10 | |
| **15** | 0 | 86 03417 90343 | 76 56227+ | 4023 02672 76129+ | 7 57882 49952+ | 0 | **45** |
| | 10 | 91 01094 46570+ | 84 42374 | 3835 44790 26177 | 7 46721 28608 | 50 | |
| | 20 | 0,16295 98778 88944 | 4 97692 28773 | 3647 98068 97569 | 7 35570 11935 | 40 | |
| | 30 | 0,16300 96471 17717+ | 4 97700 15425 | 3460 62498 85634 | 7 24428 98728 | 30 | |
| | 40 | 05 94171 33142 | 08 02329 | 3273 38069 86906 | 7 13297 87783 | 20 | |
| | 50 | 10 91879 35471 | 15 89486 | 3086 24771 99123 | 7 02176 77898+ | 10 | |
| **16** | 0 | 15 89595 24957+ | 23 76896 | 2899 22595 21224+ | 6 91065 67875 | 0 | **44** |
| | 10 | 20 87319 01853 | 31 64558 | 2712 31529 53349+ | 6 79964 56513+ | 50 | |
| | 20 | 25 85050 66411 | 39 52473 | 2525 51564 96835+ | 6 68873 42618+ | 40 | |
| | 30 | 30 82790 18884+ | 47 40641 | 2338 82691 54217 | 6 57792 24995 | 30 | |
| | 40 | 35 80537 59525 | 55 29061 | 2152 24899 29222 | 6 46721 02450+ | 20 | |
| | 50 | 40 78292 88586+ | 63 17734+ | 1965 78178 26771+ | 6 35659 73793+ | 10 | |
| **17** | 0 | 45 76056 06320+ | 71 06660 | 1779 42518 52978 | 6 24608 37835+ | 0 | **43** |
| | 10 | 50 73827 12981 | 78 95839 | 1593 17910 15142 | 6 13566 93388+ | 50 | |
| | 20 | 55 71606 08820 | 86 85270+ | 1407 04343 21753+ | 6 02535 39267+ | 40 | |
| | 30 | 60 69392 94090 | 4 97794 74954+ | 1221 01807 82486 | 5 91513 74287+ | 30 | |
| | 40 | 65 67187 69044+ | 4 97802 64891+ | 1035 10294 08198+ | 5 80501 97268 | 20 | |
| | 50 | 70 64990 33936 | 10 55081+ | 0849 29792 10930+ | 5 69500 07027 | 10 | |
| **18** | 0 | 75 62800 89017+ | 18 45524 | 0663 60292 03903+ | 5 58508 02387 | 0 | **42** |
| | 10 | 80 60619 34541+ | 26 36219+ | 0478 01784 01516+ | 5 47525 82171 | 50 | |
| | 20 | 85 58445 70761 | 34 27168 | 0292 54258 19346 | 5 36553 45203+ | 40 | |
| | 30 | 90 56279 97929 | 42 18369 | 6,10107 17704 74142 | 5 25590 90312 | 30 | |
| | 40 | 0,16395 54122 16298 | 50 09823+ | 6,09921 92113 83830+ | 5 14638 16324 | 20 | |
| | 50 | 0,16400 51972 26121+ | 58 01530+ | 9736 77475 67506+ | 5 03695 22070 | 10 | |
| **19** | 0 | 05 49830 27651+ | 65 93490+ | 9551 73780 45436+ | 4 92762 06382+ | 0 | **41** |
| | 10 | 10 47696 21142 | 73 85703+ | 9366 81018 39053+ | 4 81838 68094+ | 50 | |
| | 20 | 15 45570 06845+ | 81 78169 | 9181 99179 70959 | 4 70925 06042 | 40 | |
| | 30 | 20 43451 85014+ | 89 70888 | 8997 28254 64917 | 4 60021 19061+ | 30 | |
| | 40 | 25 41341 55902+ | 4 97897 63860 | 8812 68233 45856 | 4 49127 05992 | 20 | |
| | 50 | 30 39239 19762+ | 4 97905 57085 | 8628 19106 39864 | 184 38242 65674+ | 10 | |
| **20** | 0 | 0,16435 37144 76847+ | | 6,08443 80863 74189+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 80°

# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,16435 37144 76847+ | 4 97913 50562+ | 6,08443 80863 74189+ | 184 27367 96951 | 0 | **40** |
| | 10 | 40 35058 27410+ | 21 44293+ | 8259 53495 77238+ | 4 16502 98665+ | 50 | |
| | 20 | 45 32979 71704 | 29 38277+ | 8075 36992 78572+ | 4 05647 69664 | 40 | |
| | 30 | 50 30909 09981+ | 37 32514+ | 7891 31345 08908+ | 3 94802 08794 | 30 | |
| | 40 | 55 28846 42496+ | 45 27005 | 7707 36543 00114 | 3 83966 14904+ | 20 | |
| | 50 | 60 26791 69501 | 53 21748 | 7523 52576 85209+ | 3 73139 86846+ | 10 | |
| **21** | 0 | 65 24744 91249 | 61 16744+ | 7339 79436 98363 | 3 62323 23473 | 0 | **39** |
| | 10 | 70 22706 07993+ | 69 11994 | 7156 17113 74890 | 3 51516 23637 | 50 | |
| | 20 | 75 20675 19987+ | 77 07496+ | 6972 65597 51253 | 3 40718 86196 | 40 | |
| | 30 | 80 18652 27484 | 85 03252+ | 6789 24878 65056+ | 3 29931 10007 | 30 | |
| | 40 | 85 16637 30736+ | 4 97992 99261+ | 6605 94947 55049+ | 3 19152 93929+ | 20 | |
| | 50 | 90 14630 29997+ | 4 98000 95523+ | 6422 75794 61120 | 3 08384 36825 | 10 | |
| **22** | 0 | 0,16495 12631 25521 | 08 92039 | 6239 67410 24295 | 2 97625 37555+ | 0 | **38** |
| | 10 | 0,16500 10640 17560 | 16 88807+ | 6056 69784 86739+ | 2 86875 94986 | 50 | |
| | 20 | 05 08657 06367+ | 24 85829 | 5873 82908 91753+ | 2 76136 07982+ | 40 | |
| | 30 | 10 06681 92196+ | 32 83104+ | 5691 06772 83771 | 2 65405 75413 | 30 | |
| | 40 | 15 04714 75301 | 40 80632+ | 5508 41367 08358+ | 2 54684 96146+ | 20 | |
| | 50 | 20 02755 55933+ | 48 78414+ | 5325 86682 12212 | 2 43973 69055 | 10 | |
| **23** | 0 | 25 00804 34347+ | 56 76449 | 5143 42708 43157 | 2 33271 93010+ | 0 | **37** |
| | 10 | 29 98861 10797 | 64 74737+ | 4961 09436 50146+ | 2 22579 66888 | 50 | |
| | 20 | 34 96925 85534+ | 72 73279 | 4778 86856 83258+ | 2 11896 89564 | 40 | |
| | 30 | 39 94998 58813+ | 80 72074 | 4596 74959 93694+ | 2 01223 59915+ | 30 | |
| | 40 | 44 93079 30887+ | 88 71122+ | 4414 73736 33779 | 1 90559 76822+ | 20 | |
| | 50 | 49 91168 02010 | 4 98096 70424 | 4232 83176 56956 | 1 79905 39166+ | 10 | |
| **24** | 0 | 54 89264 72434 | 4 98104 69979 | 4051 03271 17789+ | 1 69260 45829+ | 0 | **36** |
| | 10 | 59 87369 42413 | 12 69787+ | 3869 34010 71960 | 1 58624 95696+ | 50 | |
| | 20 | 64 85482 12200+ | 20 69849+ | 3687 75385 76263 | 1 47998 87654 | 40 | |
| | 30 | 69 83602 82050 | 28 70165 | 3506 27386 88609+ | 1 37382 20588+ | 30 | |
| | 40 | 74 81731 52214+ | 36 70733+ | 3324 90004 68021 | 1 26774 93390+ | 20 | |
| | 50 | 79 79868 22948+ | 44 71556 | 3143 63229 74630+ | 1 16177 04950+ | 10 | |
| **25** | 0 | 84 78012 94504+ | 52 72631+ | 2962 47052 69679+ | 1 05588 54161+ | 0 | **35** |
| | 10 | 89 76165 67136 | 60 73961 | 2781 41464 15518 | 0 95009 39917+ | 50 | |
| | 20 | 94 74326 41097 | 68 75544 | 2600 46454 75600+ | 0 84439 61115 | 40 | |
| | 30 | 0,16599 72495 16641 | 76 77380 | 2419 62015 14485+ | 0 73879 16650+ | 30 | |
| | 40 | 0,16604 70671 94021 | 84 79470 | 2238 88135 97835 | 0 63328 05424 | 20 | |
| | 50 | 09 68856 73491 | 4 98192 81813+ | 2058 24807 92411 | 0 52786 26336+ | 10 | |
| **26** | 0 | 14 67049 55304+ | 4 98200 84410+ | 1877 72021 66074+ | 0 42253 78289+ | 0 | **34** |
| | 10 | 19 65250 39715 | 08 87261 | 1697 29767 87785 | 0 31730 60187+ | 50 | |
| | 20 | 24 63459 26976 | 16 90365+ | 1516 98037 27597+ | 0 21216 70936+ | 40 | |
| | 30 | 29 61676 17341+ | 24 93723+ | 1336 76820 56661 | 0 10712 09443+ | 30 | |
| | 40 | 34 59901 11065 | 32 97335 | 1156 66108 47217+ | 180 00216 74617 | 20 | |
| | 50 | 39 58134 08400 | 41 01200 | 0976 65891 72600+ | 179 89730 65368 | 10 | |
| **27** | 0 | 44 56375 09600 | 49 05319 | 0796 76161 07233 | 9 79253 80608 | 0 | **33** |
| | 10 | 49 54624 14919 | 57 09691+ | 0616 96907 26624+ | 9 68786 19251 | 50 | |
| | 20 | 54 52881 24610+ | 65 14318 | 0437 28121 07373+ | 9 58327 80212+ | 40 | |
| | 30 | 59 51146 38928 | 73 19198 | 0257 69793 27161 | 9 47878 62409 | 30 | |
| | 40 | 64 49419 58126 | 81 24331+ | 6,00078 21914 64751+ | 9 37438 64759+ | 20 | |
| | 50 | 69 47700 82457+ | 89 29719 | 5,99898 84475 99992+ | 9 27007 86183 | 10 | |
| **28** | 0 | 74 45990 12176+ | 4 98297 35360+ | 9719 57468 13809+ | 9 16586 25601+ | 0 | **32** |
| | 10 | 79 44287 47537 | 4 98305 41255+ | 9540 40881 88208 | 9 06173 81939 | 50 | |
| | 20 | 84 42592 88792+ | 13 47404+ | 9361 34708 06269 | 8 95770 54119 | 40 | |
| | 30 | 89 40906 36196+ | 21 53807 | 9182 38937 52150 | 8 85376 41069 | 30 | |
| | 40 | 94 39227 90003+ | 29 60463+ | 9003 53561 11081 | 8 74991 41716 | 20 | |
| | 50 | 0,16699 37557 50467 | 37 67374 | 8824 78569 69365 | 8 64615 54990 | 10 | |
| **29** | 0 | 0,16704 35895 17841 | 45 74538 | 8646 13954 14375 | 8 54248 79822 | 0 | **31** |
| | 10 | 09 34240 92379 | 53 81956 | 8467 59705 34553 | 8 43891 15144+ | 50 | |
| | 20 | 14 32594 74335 | 61 89628 | 8289 15814 19408+ | 8 33542 59892 | 40 | |
| | 30 | 19 30956 63963+ | 69 97554 | 8110 82271 59517 | 8 23203 12999+ | 30 | |
| | 40 | 24 29326 61517+ | 78 05734 | 7932 59068 46517+ | 8 12872 73405 | 20 | |
| | 50 | 29 27704 67251+ | 4 98386 14168 | 7754 46195 73112+ | 178 02551 40047 | 10 | |
| **30** | 0 | 0,16734 26090 81419+ | | 5,97576 43644 33065 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 80°

# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,16734 26090 81419+ | 4 98394 22855+ | 5,97576 43644 33065 | 177 92239 11866+ | 0 | **30** |
| | 10 | 39 24485 04275 | 4 98402 31797+ | 7398 51405 21199 | 7 81935 87804+ | 50 | |
| | 20 | 44 22887 36072+ | 10 40993 | 7220 69469 33394 | 7 71641 66805 | 40 | |
| | 30 | 49 21297 77066 | 18 50443 | 7042 97827 66589 | 7 61356 47813+ | 30 | |
| | 40 | 54 19716 27508+ | 26 60146+ | 6865 36471 18775+ | 7 51080 29775+ | 20 | |
| | 50 | 59 18142 87655+ | 34 70104+ | 6687 85390 89000 | 7 40813 11640 | 10 | |
| **31** | 0 | 64 16577 57760 | 42 80316+ | 6510 44577 77359+ | 7 30554 92356+ | 0 | **29** |
| | 10 | 69 15020 38076+ | 50 90782+ | 6333 14022 85003 | 7 20305 70876 | 50 | |
| | 20 | 74 13471 28858+ | 59 01502+ | 6155 93717 14127 | 7 10065 46151 | 40 | |
| | 30 | 79 11930 30361 | 67 12476+ | 5978 83651 67976 | 6 99834 17136+ | 30 | |
| | 40 | 84 10397 42837+ | 75 23705 | 5801 83817 50839+ | 6 89611 82787 | 20 | |
| | 50 | 89 08872 66542+ | 83 35187+ | 5624 94205 68052+ | 6 79398 42061 | 10 | |
| **32** | 0 | 94 07356 01730 | 91 46924 | 5448 14807 25991 | 6 69193 93917 | 0 | **28** |
| | 10 | 0,16799 05847 48653+ | 4 98499 58914+ | 5271 45613 32074 | 6 58998 37315 | 50 | |
| | 20 | 0,16804 04347 07568 | 4 98507 71159+ | 5094 86614 94759 | 6 48811 71217 | 40 | |
| | 30 | 09 02854 78727+ | 15 83658+ | 4918 37803 23542 | 6 38633 94586+ | 30 | |
| | 40 | 14 01370 62386 | 23 96412 | 4741 99169 28955+ | 6 28465 06388 | 20 | |
| | 50 | 18 99894 58798 | 32 09419+ | 4565 70704 22567+ | 6 18305 05588 | 10 | |
| **33** | 0 | 23 98426 68217+ | 40 22681+ | 4389 52399 16979+ | 6 08153 91154+ | 0 | **27** |
| | 10 | 28 96966 90899 | 48 36197+ | 4213 44245 25825 | 5 98011 62057 | 50 | |
| | 20 | 33 95515 27096+ | 56 49967+ | 4037 46233 63768 | 5 87878 17266 | 40 | |
| | 30 | 38 94071 77064 | 64 63992+ | 3861 58355 46502 | 5 77753 55754 | 30 | |
| | 40 | 43 92636 41056+ | 72 78271+ | 3685 80601 90748+ | 5 67637 76494+ | 20 | |
| | 50 | 48 91209 19327+ | 80 92804+ | 3510 12964 14254 | 5 57530 78463+ | 10 | |
| **34** | 0 | 53 89790 12132+ | 89 07592+ | 3334 55433 35790+ | 5 47432 60637+ | 0 | **26** |
| | 10 | 58 88379 19724+ | 4 98597 22634+ | 3159 08000 75153 | 5 37343 21994+ | 50 | |
| | 20 | 63 86976 42359 | 4 98605 37930+ | 2983 70657 53158+ | 5 27262 61514+ | 40 | |
| | 30 | 68 85581 80289+ | 13 53481+ | 2808 43394 91644 | 5 17190 78179+ | 30 | |
| | 40 | 73 84195 33771 | 21 69286+ | 2633 26204 13464+ | 5 07127 70971 | 20 | |
| | 50 | 78 82817 03057+ | 29 85346 | 2458 19076 42493+ | 4 97073 38874 | 10 | |
| **35** | 0 | 83 81446 88404 | 38 01660 | 2283 22003 03619+ | 4 87027 80874 | 0 | **25** |
| | 10 | 88 80084 90064 | 46 18228+ | 2108 34975 22745+ | 4 76990 95958 | 50 | |
| | 20 | 93 78731 08293 | 54 35051+ | 1933 57984 26787+ | 4 66962 83115 | 40 | |
| | 30 | 0,16898 77385 43344+ | 62 52129 | 1758 91021 43672 | 4 56943 41335 | 30 | |
| | 40 | 0,16903 76047 95473+ | 70 69461 | 1584 34078 02337 | 4 46932 69609 | 20 | |
| | 50 | 08 74718 64935 | 78 87047+ | 1409 87145 32728 | 4 36930 66931 | 10 | |
| **36** | 0 | 13 73397 51982+ | 87 04888+ | 1235 50214 65797 | 4 26937 32294+ | 0 | **24** |
| | 10 | 18 72084 56871 | 4 98695 22984 | 1061 23277 33502+ | 4 16952 64696 | 50 | |
| | 20 | 23 70779 79855 | 4 98703 41334+ | 0887 06324 68806+ | 4 06976 63132+ | 40 | |
| | 30 | 28 69483 21189+ | 11 59939 | 0712 99348 05674 | 3 97009 26603 | 30 | |
| | 40 | 33 68194 81128+ | 19 78798+ | 0539 02338 79071 | 3 87050 54108 | 20 | |
| | 50 | 38 66914 59927 | 27 97912+ | 0365 15288 24963 | 3 77100 44649 | 10 | |
| **37** | 0 | 43 65642 57839 | 36 17281 | 0191 38187 80313+ | 3 67158 97229 | 0 | **23** |
| | 10 | 48 64378 75120 | 44 36904 | 5,90017 71028 83084+ | 3 57226 10853 | 50 | |
| | 20 | 53 63123 12024 | 52 56782 | 5,89844 13802 72231+ | 3 47301 84526+ | 40 | |
| | 30 | 58 61875 68806 | 60 76914+ | 9670 66500 87705 | 3 37386 17257+ | 30 | |
| | 40 | 63 60636 45720+ | 68 97302 | 9497 29114 70447+ | 3 27479 08054+ | 20 | |
| | 50 | 68 59405 43022+ | 77 17944 | 9324 01635 62393 | 3 17580 55928 | 10 | |
| **38** | 0 | 73 58182 60966 | 85 38840+ | 9150 84055 06465 | 3 07690 59889+ | 0 | **22** |
| | 10 | 78 56967 99806+ | 4 98793 59992 | 8977 76364 46575+ | 2 97809 18952+ | 50 | |
| | 20 | 83 55761 59798+ | 4 98801 81398 | 8804 78555 27623 | 2 87936 32131+ | 40 | |
| | 30 | 88 54563 41196+ | 10 03059 | 8631 90618 95491 | 2 78071 98442+ | 30 | |
| | 40 | 93 53373 44255+ | 18 24975 | 8459 12546 97048+ | 2 68216 16903 | 20 | |
| | 50 | 0,16998 52191 69230+ | 26 47145+ | 8286 44330 80145+ | 2 58368 86531+ | 10 | |
| **39** | 0 | 0,17003 51018 16376 | 34 69571 | 8113 85961 93614 | 2 48530 06348+ | 0 | **21** |
| | 10 | 08 49852 85947 | 42 92251 | 7941 37431 87265+ | 2 38699 75376 | 50 | |
| | 20 | 13 48695 78198 | 51 15186 | 7768 98732 11889+ | 2 28877 92636+ | 40 | |
| | 30 | 18 47546 93384 | 59 38376 | 7596 69854 19252+ | 2 19064 57155 | 30 | |
| | 40 | 23 46406 31760+ | 67 61821 | 7424 50789 62097+ | 2 09259 67957 | 20 | |
| | 50 | 28 45273 93581+ | 4 98875 85521 | 7252 41529 94141 | 171 99463 24069+ | 10 | |
| **40** | 0 | 0,17033 44149 79102+ | | 5,87080 42066 70071 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,17033 44149 79102+ | 4 98884 09475+ | 5,87080 42066 70071 | 171 89675 24522 | 0 | **20** |
| | 10 | 38 43033 88578 | 4 98892 33685 | 6908 52391 45549 | 1 79895 68344 | 50 | |
| | 20 | 43 41926 22263 | 4 98900 58150 | 6736 72495 77205 | 1 70124 54567 | 40 | |
| | 30 | 48 40826 80413 | 08 82869+ | 6565 02371 22637+ | 1 60361 82224+ | 30 | |
| | 40 | 53 39735 63282+ | 17 07844 | 6393 42009 40413+ | 1 50607 50349+ | 20 | |
| | 50 | 58 38652 71126+ | 25 33073+ | 6221 91401 90064 | 1 40861 57978+ | 10 | |
| **41** | 0 | 63 37578 04200 | 33 58558 | 6050 50540 32085+ | 1 31124 04148+ | 0 | **19** |
| | 10 | 68 36511 62758 | 41 84297+ | 5879 19416 27937 | 1 21394 87897+ | 50 | |
| | 20 | 73 35453 47055+ | 50 10292+ | 5707 98021 40039+ | 1 11674 08265+ | 40 | |
| | 30 | 78 34403 57348 | 58 36542 | 5536 86347 31773+ | 1 01961 64294 | 30 | |
| | 40 | 83 33361 93890 | 66 63047 | 5365 84385 67480 | 0 92257 55024+ | 20 | |
| | 50 | 88 32328 56937 | 74 89807 | 5194 92128 12455+ | 0 82561 79502 | 10 | |
| **42** | 0 | 93 31303 46744 | 83 16822 | 5024 09566 32953+ | 0 72874 36771 | 0 | **18** |
| | 10 | 0,17098 30286 63565+ | 91 44092 | 4853 36691 96182+ | 0 63195 25878+ | 50 | |
| | 20 | 0,17103 29278 07658 | 4 98999 71617+ | 4682 73496 70303+ | 0 53524 45872+ | 40 | |
| | 30 | 08 28277 79275 | 4 99007 99398 | 4512 19972 24431 | 0 43861 95802 | 30 | |
| | 40 | 13 27285 78673 | 16 27433+ | 4341 76110 28629 | 0 34207 74718 | 20 | |
| | 50 | 18 26302 06106+ | 24 55724+ | 4171 41902 53911 | 0 24561 81673 | 10 | |
| **43** | 0 | 23 25326 61831 | 32 84270+ | 4001 17340 72238 | 0 14924 15719+ | 0 | **17** |
| | 10 | 28 24359 46101+ | 41 13072 | 3831 02416 56518+ | 170 05294 75912+ | 50 | |
| | 20 | 33 23400 59173 | 49 42128+ | 3660 97121 80606 | 169 95673 61308+ | 40 | |
| | 30 | 38 22450 01301+ | 57 71440 | 3491 01448 19297+ | 9 86060 70965 | 30 | |
| | 40 | 43 21507 72741+ | 66 01007 | 3321 15387 48333 | 9 76456 03940 | 20 | |
| | 50 | 48 20573 73749 | 74 30829+ | 3151 38931 44392+ | 9 66859 59295 | 10 | |
| **44** | 0 | 53 19648 04578+ | 82 60907+ | 2981 72071 85098 | 9 57271 36090 | 0 | **16** |
| | 10 | 58 18730 65486 | 90 91240+ | 2812 14800 49007+ | 9 47691 33389 | 50 | |
| | 20 | 63 17821 56726 | 4 99099 21829 | 2642 67109 15618+ | 9 38119 50256 | 40 | |
| | 30 | 68 16920 78555 | 4 99107 52672+ | 2473 28989 65362+ | 9 28555 85756 | 30 | |
| | 40 | 73 16028 31227+ | 15 83771+ | 2304 00433 79607 | 9 19000 38956 | 20 | |
| | 50 | 78 15144 14999 | 24 15126 | 2134 81433 40651 | 9 09453 08924 | 10 | |
| **45** | 0 | 83 14268 30125 | 32 46736 | 1965 71980 31727 | 8 99913 94730 | 0 | **15** |
| | 10 | 88 13400 76861 | 40 78601+ | 1796 72066 36996+ | 8 90382 95445 | 50 | |
| | 20 | 93 12541 55462+ | 49 10722 | 1627 81683 41552 | 8 80860 10140 | 40 | |
| | 30 | 0,17198 11690 66185 | 57 43098+ | 1459 00823 31411+ | 8 71345 37889+ | 30 | |
| | 40 | 0,17203 10848 09283+ | 65 75730 | 1290 29477 93522 | 8 61838 77768 | 20 | |
| | 50 | 08 10013 85013+ | 74 08617+ | 1121 67639 15754 | 8 52340 28851+ | 10 | |
| **46** | 0 | 13 09187 93631 | 82 41760 | 0953 15298 86902 | 8 42849 90217+ | 0 | **14** |
| | 10 | 18 08370 35391 | 90 75158+ | 0784 72448 96684+ | 8 33367 60944+ | 50 | |
| | 20 | 23 07561 10549 | 4 99199 08812 | 0616 39081 35740 | 8 23893 40113 | 40 | |
| | 30 | 28 06760 19361+ | 4 99207 42721+ | 0448 15187 95626+ | 8 14427 26804 | 30 | |
| | 40 | 33 05967 62083 | 15 76886+ | 0280 00760 68823 | 8 04969 20100 | 20 | |
| | 50 | 38 05183 38969+ | 24 11307 | 5,80111 95791 48723 | 7 95519 19085 | 10 | |
| **47** | 0 | 43 04407 50276 | 32 45983 | 5,79944 00272 29637+ | 7 86077 22844+ | 0 | **13** |
| | 10 | 48 03639 96259 | 40 80915 | 9776 14195 06793 | 7 76643 30465 | 50 | |
| | 20 | 53 02880 77174 | 49 16102 | 9608 37551 76328 | 7 67217 41034 | 40 | |
| | 30 | 58 02129 93276 | 57 51545 | 9440 70334 35294 | 7 57799 53641 | 30 | |
| | 40 | 63 01387 44821 | 65 87244 | 9273 12534 81653 | 7 48389 67376+ | 20 | |
| | 50 | 68 00653 32065 | 74 23198+ | 9105 64145 14276+ | 7 38987 81331+ | 10 | |
| **48** | 0 | 72 99927 55263+ | 82 59408+ | 8938 25157 32944+ | 7 29593 94600 | 0 | **12** |
| | 10 | 77 99210 14671+ | 90 95874 | 8770 95563 38344+ | 7 20208 06275+ | 50 | |
| | 20 | 82 98501 10546 | 4 99299 32595+ | 8603 75355 32069+ | 7 10830 15454 | 40 | |
| | 30 | 87 97800 43141+ | 4 99307 69573 | 8436 64525 16615+ | 7 01460 21232 | 30 | |
| | 40 | 92 97108 12714+ | 16 06806 | 8269 63064 95383+ | 6 92098 22707+ | 20 | |
| | 50 | 0,17297 96424 19521 | 24 44295 | 8102 70966 72676 | 6 82744 18980+ | 10 | |
| **49** | 0 | 0,17302 95748 63816 | 32 82039+ | 7935 88222 53695+ | 6 73398 09151+ | 0 | **11** |
| | 10 | 07 95081 45855+ | 41 20040 | 7769 14824 44544 | 6 64059 92322 | 50 | |
| | 20 | 12 94422 65895+ | 49 58296+ | 7602 50764 52221+ | 6 54729 67596 | 40 | |
| | 30 | 17 93772 24192 | 57 96808+ | 7435 96034 84626 | 6 45407 34077 | 30 | |
| | 40 | 22 93130 21000+ | 66 35576+ | 7269 50627 50548+ | 6 36092 90871+ | 20 | |
| | 50 | 27 92496 56577+ | 4 99374 74600+ | 7103 14534 59677 | 166 26786 37086+ | 10 | |
| **50** | 0 | 0,17332 91871 31178 | | 5,76936 87748 22591 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 80°

# 9°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,17332 91871 31178 | 4 99383 13880+ | 5,76936 87748 22591 | 166 17487 71829+ | 0 | **10** |
| | 10 | 37 91254 45058+ | 91 53416 | 6770 70260 50761+ | 6 08196 94211 | 50 | |
| | 20 | 42 90645 98474+ | 4 99399 93208 | 6604 62063 56550+ | 5 98914 03341 | 40 | |
| | 30 | 47 90045 91682+ | 4 99408 33255+ | 6438 63149 53209+ | 5 89638 98332 | 30 | |
| | 40 | 52 89454 24938 | 16 73559 | 6272 73510 54877+ | 5 80371 78297 | 20 | |
| | 50 | 57 88870 98497+ | 25 14118+ | 6106 93138 76580+ | 5 71112 42351 | 10 | |
| **51** | 0 | 62 88296 12616 | 33 54934+ | 5941 22026 34229+ | 5 61860 89609+ | 0 | **9** |
| | 10 | 67 87729 67550+ | 41 96006 | 5775 60165 44620 | 5 52617 19189+ | 50 | |
| | 20 | 72 87171 63556+ | 50 37333+ | 5610 07548 25430+ | 5 43381 30209 | 40 | |
| | 30 | 77 86622 00890 | 58 78917+ | 5444 64166 95221+ | 5 34153 21788 | 30 | |
| | 40 | 82 86080 79807 | 67 20757 | 5279 30013 73433 | 5 24932 93047+ | 20 | |
| | 50 | 87 85548 00564 | 75 62853 | 5114 05080 80386 | 5 15720 43108+ | 10 | |
| **52** | 0 | 92 85023 63417 | 84 05205 | 4948 89360 37277 | 5 06515 71095+ | 0 | **8** |
| | 10 | 0,17397 84507 68622 | 4 99492 47813 | 4783 82844 66181+ | 4 97318 76132 | 50 | |
| | 20 | 0,17402 84000 16435 | 4 99500 90677 | 4618 85525 90050 | 4 88129 57344 | 40 | |
| | 30 | 07 83501 07112 | 09 33797+ | 4453 97396 32706 | 4 78948 13858 | 30 | |
| | 40 | 12 83010 40909+ | 17 77174 | 4289 18448 18848 | 4 69774 44803 | 20 | |
| | 50 | 17 82528 18083+ | 26 20806+ | 4124 48673 74045 | 4 60608 49308 | 10 | |
| **53** | 0 | 22 82054 38890 | 34 64695+ | 3959 88065 24736+ | 4 51450 26503+ | 0 | **7** |
| | 10 | 27 81589 03585+ | 43 08840+ | 3795 36614 98233 | 4 42299 75521+ | 50 | |
| | 20 | 32 81132 12426+ | 51 53242 | 3630 94315 22711+ | 4 33156 95495 | 40 | |
| | 30 | 37 80683 65668+ | 59 97899+ | 3466 61158 27216+ | 4 24021 85558 | 30 | |
| | 40 | 42 80243 63568 | 68 42813+ | 3302 37136 41658 | 4 14894 44846+ | 20 | |
| | 50 | 47 79812 06381+ | 76 87983+ | 3138 22241 96811+ | 4 05774 72496+ | 10 | |
| **54** | 0 | 52 79388 94365 | 85 33410 | 2974 16467 24315 | 3 96662 67646+ | 0 | **6** |
| | 10 | 57 78974 27775 | 4 99593 79093 | 2810 19804 56668 | 3 87558 29435+ | 50 | |
| | 20 | 62 78568 06868 | 4 99602 25032 | 2646 32246 27232+ | 3 78461 57003+ | 40 | |
| | 30 | 67 78170 31900 | 10 71227+ | 2482 53784 70229 | 3 69372 49492+ | 30 | |
| | 40 | 72 77781 03127+ | 19 17679 | 2318 84412 20736+ | 3 60291 06044+ | 20 | |
| | 50 | 77 77400 20806+ | 27 64387+ | 2155 24121 14692 | 3 51217 25804+ | 10 | |
| **55** | 0 | 82 77027 85194 | 36 11352 | 1991 72903 88887+ | 3 42151 07916+ | 0 | **5** |
| | 10 | 87 76663 96546 | 44 58573 | 1828 30752 80971 | 3 33092 51527+ | 50 | |
| | 20 | 92 76308 55119 | 53 06050+ | 1664 97660 29443+ | 3 24041 55785 | 40 | |
| | 30 | 0,17497 75961 61169+ | 61 53784+ | 1501 73618 73658+ | 3 14998 19837 | 30 | |
| | 40 | 0,17502 75623 14953+ | 70 01774+ | 1338 58620 53821+ | 3 05962 42834+ | 20 | |
| | 50 | 07 75293 16728 | 78 50021+ | 1175 52658 10987+ | 2 96934 23927+ | 10 | |
| **56** | 0 | 12 74971 66749+ | 86 98525 | 1012 55723 87059+ | 2 87913 62269 | 0 | **4** |
| | 10 | 17 74658 65274+ | 4 99695 47284+ | 0849 67810 24790+ | 2 78900 57012+ | 50 | |
| | 20 | 22 74354 12559+ | 4 99703 96301 | 0686 88909 67778 | 2 69895 07312+ | 40 | |
| | 30 | 27 74058 08860+ | 12 45574 | 0524 19014 60465+ | 2 60897 12324+ | 30 | |
| | 40 | 32 73770 54434+ | 20 95103+ | 0361 58117 48141 | 2 51906 71205+ | 20 | |
| | 50 | 37 73491 49538 | 29 44889+ | 0199 06210 76936 | 2 42923 83114 | 10 | |
| **57** | 0 | 42 73220 94427+ | 37 94932+ | 5,70036 63286 93822 | 2 33948 47209+ | 0 | **3** |
| | 10 | 47 72958 89359+ | 46 45231+ | 5,69874 29338 46612+ | 2 24980 62652 | 50 | |
| | 20 | 52 72705 34591+ | 54 95787+ | 9712 04357 83960+ | 2 16020 28603+ | 40 | |
| | 30 | 57 72460 30379 | 63 46600 | 9549 88337 55357+ | 2 07067 44226+ | 30 | |
| | 40 | 62 72223 76979 | 71 97669+ | 9387 81270 11130+ | 1 98122 08686 | 20 | |
| | 50 | 67 71995 74648+ | 80 48995+ | 9225 83148 02444+ | 1 89184 21146 | 10 | |
| **58** | 0 | 72 71776 23643+ | 89 00578 | 9063 93963 81298+ | 1 80253 80774 | 0 | **2** |
| | 10 | 77 71565 24221+ | 4 99797 52417+ | 8902 13710 00525 | 1 71330 86736+ | 50 | |
| | 20 | 82 71362 76638+ | 4 99806 04513+ | 8740 42379 13788+ | 1 62415 38202+ | 40 | |
| | 30 | 87 71168 81152 | 14 56866 | 8578 79963 75586 | 1 53507 34342 | 30 | |
| | 40 | 92 70983 38018 | 23 09476 | 8417 26456 41244 | 1 44606 74326 | 20 | |
| | 50 | 0,17597 70806 47494 | 31 62342 | 8255 81849 66917+ | 1 35713 57327 | 10 | |
| **59** | 0 | 0,17602 70638 09836 | 40 15465+ | 8094 46136 09591 | 1 26827 82517 | 0 | **1** |
| | 10 | 07 70478 25301+ | 48 68845+ | 7933 19308 27073+ | 1 17949 49072 | 50 | |
| | 20 | 12 70326 94146+ | 57 22482 | 7772 01358 78001+ | 1 09078 56166+ | 40 | |
| | 30 | 17 70184 16629 | 65 76376 | 7610 92280 21835 | 1 00215 02978 | 30 | |
| | 40 | 22 70049 93004+ | 74 30526+ | 7449 92065 18857 | 0 91358 88684 | 20 | |
| | 50 | 27 69924 23531 | 4 99882 84934 | 7289 00706 30173 | 160 82510 12463+ | 10 | |
| **60** | 0 | 0,17632 69807 08465 | | 5,67128 18196 17709+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 80°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,17632 69807 08465 | 4 99891 39598 | 5,67128 18196 17709+ | 160 73668 73496+ | 0 | **60** |
| | 10 | 37 69698 48063 | 899 94519+ | 6967 44527 44213 | 0 64834 70964+ | 50 | |
| | 20 | 42 69598 42582+ | 908 49697+ | 6806 79692 73248+ | 0 56008 04050 | 40 | |
| | 30 | 47 69506 92280 | 917 05133 | 6646 23684 69198 | 0 47188 71937 | 30 | |
| | 40 | 52 69423 97413 | 925 60825 | 6485 76495 97261+ | 0 38376 73809 | 20 | |
| | 50 | 57 69349 58238 | 934 16774 | 6325 38119 23452+ | 0 29572 08853 | 10 | |
| **1** | 0 | 62 69283 75012 | 942 72980 | 6165 08547 14599 | 0 20774 76255+ | 0 | **59** |
| | 10 | 67 69226 47992 | 951 29443 | 6004 87772 38343+ | 0 11984 75204+ | 50 | |
| | 20 | 72 69177 77435 | 959 86163+ | 5844 75787 63139 | 160 03202 04889+ | 40 | |
| | 30 | 77 69137 63598+ | 968 43140+ | 5684 72585 58249+ | 159 94426 64500+ | 30 | |
| | 40 | 82 69106 06739 | 977 00375 | 5524 78158 93749 | 9 85658 53229 | 20 | |
| | 50 | 87 69083 07114 | 985 57866 | 5364 92500 40520 | 9 76897 70268 | 10 | |
| **2** | 0 | 92 69068 64980 | 4 99994 15614+ | 5205 15602 70252 | 9 68144 14811 | 0 | **58** |
| | 10 | 0,17697 69062 80594+ | 5 00002 73620+ | 5045 47458 55441 | 9 59397 86052+ | 50 | |
| | 20 | 0,17702 69065 54215 | 011 31883 | 4885 88060 69388+ | 9 50658 83188+ | 40 | |
| | 30 | 07 69076 86098 | 019 90403 | 4726 37401 86200 | 9 41927 05416+ | 30 | |
| | 40 | 12 69096 76501 | 028 49180 | 4566 95474 80783+ | 9 33202 51934 | 20 | |
| | 50 | 17 69125 25680+ | 037 08214 | 4407 62272 28849+ | 9 24485 21941 | 10 | |
| **3** | 0 | 22 69162 33895 | 045 67505+ | 4248 37787 06909 | 9 15775 14637 | 0 | **57** |
| | 10 | 27 69208 01400+ | 054 27054+ | 4089 22011 92272 | 9 07072 29224 | 50 | |
| | 20 | 32 69262 28454+ | 062 86860 | 3930 14939 63048 | 8 98376 64904+ | 40 | |
| | 30 | 37 69325 15315 | 071 46923+ | 3771 16562 98143+ | 8 89688 20882 | 30 | |
| | 40 | 42 69396 62238 | 080 07244 | 3612 26874 77261 | 8 81006 96362 | 20 | |
| | 50 | 47 69476 69482 | 088 67821+ | 3453 45867 80899 | 8 72332 90549 | 10 | |
| **4** | 0 | 52 69565 37303+ | 097 28656+ | 3294 73534 90350 | 8 63666 02651+ | 0 | **56** |
| | 10 | 57 69662 65960 | 105 89749 | 3136 09868 87698+ | 8 55006 31876 | 50 | |
| | 20 | 62 69768 55709 | 114 51098+ | 2977 54862 55822+ | 8 46353 77433 | 40 | |
| | 30 | 67 69883 06807+ | 123 12705+ | 2819 08508 78389+ | 8 37708 38532 | 30 | |
| | 40 | 72 70006 19513 | 131 74570 | 2660 70800 39857 | 8 29070 14384+ | 20 | |
| | 50 | 77 70137 94083 | 140 36692 | 2502 41730 25472+ | 8 20439 04203 | 10 | |
| **5** | 0 | 82 70278 30775 | 148 99071 | 2344 21291 21269+ | 8 11815 07201 | 0 | **55** |
| | 10 | 87 70427 29846 | 157 61707+ | 2186 09476 14068+ | 8 03198 22592+ | 50 | |
| | 20 | 92 70584 91553+ | 166 24602 | 2028 06277 91476 | 7 94588 49594 | 40 | |
| | 30 | 0,17797 70751 16155+ | 174 87753+ | 1870 11689 41882 | 7 85985 87422 | 30 | |
| | 40 | 0,17802 70926 03909 | 183 51162+ | 1712 25703 54460 | 7 77390 35294 | 20 | |
| | 50 | 07 71109 55071 | 192 14829 | 1554 48313 19166+ | 7 68801 92429 | 10 | |
| **6** | 0 | 12 71301 69900 | 200 78753 | 1396 79511 26737+ | 7 60220 58047 | 0 | **54** |
| | 10 | 17 71502 48653 | 209 42934+ | 1239 19290 68690 | 7 51646 31369+ | 50 | |
| | 20 | 22 71711 91587+ | 218 07373+ | 1081 67644 37321 | 7 43079 11617+ | 40 | |
| | 30 | 27 71929 98961 | 226 72070+ | 0924 24565 25703+ | 7 34518 98015+ | 30 | |
| | 40 | 32 72156 71031+ | 235 37024+ | 0766 90046 27688 | 7 25965 89787 | 20 | |
| | 50 | 37 72392 08056 | 244 02236+ | 0609 64080 37901 | 7 17419 86157 | 10 | |
| **7** | 0 | 42 72636 10292+ | 252 67706 | 0452 46660 51744 | 7 08880 86352+ | 0 | **53** |
| | 10 | 47 72888 77998 | 261 33433 | 0295 37779 65391 | 7 00348 89601 | 50 | |
| | 20 | 52 73150 11431 | 269 99417+ | 5,60138 37430 75790 | 6 91823 95130+ | 40 | |
| | 30 | 57 73420 10848+ | 278 65660 | 5,59981 45606 80659+ | 6 83306 02170+ | 30 | |
| | 40 | 62 73698 76508+ | 287 32160 | 9824 62300 78489 | 6 74795 09952+ | 20 | |
| | 50 | 67 73986 08668+ | 295 98918 | 9667 87505 68536+ | 6 66291 17707 | 10 | |
| **8** | 0 | 72 74282 07586+ | 304 65933+ | 9511 21214 50829+ | 6 57794 24667+ | 0 | **52** |
| | 10 | 77 74586 73520 | 313 33206+ | 9354 63420 26162 | 6 49304 30067+ | 50 | |
| | 20 | 82 74900 06726+ | 322 00737+ | 9198 14115 96095 | 6 40821 33141+ | 40 | |
| | 30 | 87 75222 07464 | 330 68526 | 9041 73294 62953+ | 6 32345 33126 | 30 | |
| | 40 | 92 75552 75990 | 339 36572+ | 8885 40949 29827+ | 6 23876 29257+ | 20 | |
| | 50 | 0,17897 75892 12563 | 348 04877 | 8729 17073 00570 | 6 15414 20774 | 10 | |
| **9** | 0 | 0,17902 76240 17440 | 356 73439 | 8573 01658 79796 | 6 06959 06914+ | 0 | **51** |
| | 10 | 07 76596 90879 | 365 42259 | 8416 94699 72881+ | 5 98510 86919 | 50 | |
| | 20 | 12 76962 33138 | 374 11337 | 8260 96188 85962+ | 5 90069 60029 | 40 | |
| | 30 | 17 77336 44475 | 382 80672+ | 8105 06119 25934 | 5 81635 25486 | 30 | |
| | 40 | 22 77719 25148 | 391 50266 | 7949 24484 00448 | 5 73207 82533 | 20 | |
| | 50 | 27 78110 75414 | 5 00400 20117+ | 7793 51276 17915 | 155 64787 30415 | 10 | |
| **10** | 0 | 0,17932 78510 95531+ | | 5,57637 86488 87499+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,17932 78510 95531+ | 5 00408 90227 | 5,57637 86488 87499+ | 155 56373 68377 | 0 | **50** |
| | 10 | 37 78919 85759 | 417 60594+ | 7482 30115 19123 | 47966 95665 | 50 | |
| | 20 | 42 79337 46353+ | 426 31219+ | 7326 82148 23458 | 39567 11526 | 40 | |
| | 30 | 47 79763 77573 | 435 02103 | 7171 42581 11932 | 31174 15208+ | 30 | |
| | 40 | 52 80198 79676 | 443 73244 | 7016 11406 96723+ | 22788 05962+ | 20 | |
| | 50 | 57 80642 52920 | 452 44643+ | 6860 88618 90761 | 14408 83037+ | 10 | |
| **11** | 0 | 62 81094 97563+ | 461 16301 | 6705 74210 07724 | 155 06036 45685 | 0 | **49** |
| | 10 | 67 81556 13864+ | 469 88216 | 6550 68173 62039 | 154 97670 93157+ | 50 | |
| | 20 | 72 82026 02080+ | 478 60389+ | 6395 70502 68881+ | 89312 24708+ | 40 | |
| | 30 | 77 82504 62470 | 487 32821 | 6240 81190 44173 | 80960 39592+ | 30 | |
| | 40 | 82 82991 95291 | 496 05510+ | 6086 00230 04580+ | 72615 37065 | 20 | |
| | 50 | 87 83488 00801+ | 504 78458 | 5931 27614 67515+ | 64277 16382 | 10 | |
| **12** | 0 | 92 83992 79259+ | 513 51664 | 5776 63337 51133+ | 55945 76801+ | 0 | **48** |
| | 10 | 0,17997 84506 30923+ | 522 25128 | 5622 07391 74332 | 47621 17581+ | 50 | |
| | 20 | 0,18002 85028 56051 | 530 98850 | 5467 59770 56750+ | 39303 37982 | 40 | |
| | 30 | 07 85559 54901 | 539 72830 | 5313 20467 18768+ | 30992 37263 | 30 | |
| | 40 | 12 86099 27731 | 548 47068+ | 5158 89474 81505+ | 22688 14686 | 20 | |
| | 50 | 17 86647 74800 | 557 21565+ | 5004 66786 66819+ | 14390 69514 | 10 | |
| **13** | 0 | 22 87204 96365 | 565 96320 | 4850 52395 97305+ | 154 06100 01010+ | 0 | **47** |
| | 10 | 27 87770 92685+ | 574 71333+ | 4696 46295 96295 | 153 97816 08439+ | 50 | |
| | 20 | 32 88345 64018+ | 583 46604+ | 4542 48479 87856 | 89538 91066+ | 40 | |
| | 30 | 37 88929 10623+ | 592 22134+ | 4388 58940 96789+ | 81268 48158+ | 30 | |
| | 40 | 42 89521 32757+ | 600 97922+ | 4234 77672 48631 | 73004 78982+ | 20 | |
| | 50 | 47 90122 30680 | 609 73968+ | 4081 04667 69648+ | 64747 82807+ | 10 | |
| **14** | 0 | 52 90732 04649 | 618 50273+ | 3927 39919 86841 | 56497 58903 | 0 | **46** |
| | 10 | 57 91350 54922 | 627 26836+ | 3773 83422 27938 | 48254 06538+ | 50 | |
| | 20 | 62 91977 81758+ | 636 03657+ | 3620 35168 21399+ | 40017 24987 | 40 | |
| | 30 | 67 92613 85416+ | 644 80737+ | 3466 95150 96412+ | 31787 13519+ | 30 | |
| | 40 | 72 93258 66154 | 653 58075+ | 3313 63363 82893 | 23563 71410+ | 20 | |
| | 50 | 77 93912 24229+ | 662 35672 | 3160 39800 11482+ | 15346 97933+ | 10 | |
| **15** | 0 | 82 94574 59901+ | 671 13527 | 3007 24453 13549 | 153 07136 92365 | 0 | **45** |
| | 10 | 87 95245 73428+ | 679 91640+ | 2854 17316 21184+ | 152 98933 53980+ | 50 | |
| | 20 | 92 95925 65069+ | 688 70012+ | 2701 18382 67204 | 90736 82057+ | 40 | |
| | 30 | 0,18097 96614 35082 | 697 48643 | 2548 27645 85146+ | 82546 75875 | 30 | |
| | 40 | 0,18102 97311 83725 | 706 27532 | 2395 45099 09271+ | 74363 34711+ | 20 | |
| | 50 | 07 98018 11257 | 715 06679+ | 2242 70735 74560 | 66186 57847+ | 10 | |
| **16** | 0 | 12 98733 17936 | 723 86085+ | 2090 04549 16712+ | 58016 44564+ | 0 | **44** |
| | 10 | 17 99457 04021+ | 732 65750 | 1937 46532 72148 | 49852 94145 | 50 | |
| | 20 | 23 00189 69771+ | 741 45673 | 1784 96679 78003 | 41696 05871+ | 40 | |
| | 30 | 28 00931 15444+ | 750 25854+ | 1632 54983 72131+ | 33545 79029 | 30 | |
| | 40 | 33 01681 41299 | 759 06295 | 1480 21437 93102+ | 25402 12902 | 20 | |
| | 50 | 38 02440 47594 | 767 86994 | 1327 96035 80200+ | 17265 06776+ | 10 | |
| **17** | 0 | 43 03208 34588 | 776 67951+ | 1175 78770 73424 | 09134 59940 | 0 | **43** |
| | 10 | 48 03985 02540 | 785 49168 | 1023 69636 13484 | 152 01010 71681 | 50 | |
| | 20 | 53 04770 51707+ | 794 30643 | 0871 68625 41803 | 151 92893 41287+ | 40 | |
| | 30 | 58 05564 82350+ | 803 12376+ | 0719 75732 00516 | 84782 68050 | 30 | |
| | 40 | 63 06367 94727 | 811 94369 | 0567 90949 32466 | 76678 51259 | 20 | |
| | 50 | 68 07179 89096 | 820 76620 | 0416 14270 81207 | 68580 90207 | 10 | |
| **18** | 0 | 73 08000 65716 | 829 59130 | 0264 45689 90999+ | 60489 84186+ | 0 | **42** |
| | 10 | 78 08830 24845+ | 838 41898+ | 5,50112 85200 06813 | 52405 32491+ | 50 | |
| | 20 | 83 09668 66744 | 847 24926 | 5,49961 32794 74321+ | 44327 34416+ | 40 | |
| | 30 | 88 10515 91669+ | 856 08212 | 9809 88467 39905 | 36255 89257 | 30 | |
| | 40 | 93 11371 99881+ | 864 91757 | 9658 52211 50648 | 28190 96310 | 20 | |
| | 50 | 0,18198 12236 91638+ | 873 75561 | 9507 24020 54338 | 20132 54873 | 10 | |
| **19** | 0 | 0,18203 13110 67199+ | 882 59623+ | 9356 03887 99464+ | 12080 64244+ | 0 | **41** |
| | 10 | 08 13993 26823 | 891 43945 | 9204 91807 35220 | 151 04035 23724 | 50 | |
| | 20 | 13 14884 70768 | 900 28525+ | 9053 87772 11496 | 150 95996 32612 | 40 | |
| | 30 | 18 15784 99293+ | 909 13365 | 8902 91775 78884 | 87963 90209+ | 30 | |
| | 40 | 23 16694 12658+ | 917 98463 | 8752 03811 88674+ | 79937 95819 | 20 | |
| | 50 | 28 17612 11121+ | 5 00926 83820+ | 8601 23873 92855+ | 150 71918 48743+ | 10 | |
| **20** | 0 | 0,18233 18538 94942 | | 5,48450 51955 44112 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,18233 18538 94942 | 5 00935 69436+ | 5,48450 51955 44112 | 150 63905 48288 | 0 | **40** |
| | 10 | 38 19474 64379 | 944 55312 | 8299 88049 95824 | 55898 93756+ | 50 | |
| | 20 | 43 20419 19690+ | 953 41446 | 8149 32151 02067+ | 47898 84456 | 40 | |
| | 30 | 48 21372 61136+ | 962 27839 | 7998 84252 17611+ | 39905 19692+ | 30 | |
| | 40 | 53 22334 88976 | 971 14491+ | 7848 44346 97919 | 31917 98774+ | 20 | |
| | 50 | 58 23306 03467 | 980 01402+ | 7698 12428 99144+ | 23937 21011 | 10 | |
| **21** | 0 | 63 24286 04870 | 988 88573 | 7547 88491 78133+ | 15962 85711+ | 0 | **39** |
| | 10 | 68 25274 93442+ | 5 00997 76002+ | 7397 72528 92422 | 07994 92186+ | 50 | |
| | 20 | 73 26272 69445 | 5 01006 63691 | 7247 64534 00236 | 150 00033 39747+ | 40 | |
| | 30 | 78 27279 33136 | 015 51638+ | 7097 64500 60488 | 149 92078 27707+ | 30 | |
| | 40 | 83 28294 84774+ | 024 39845 | 6947 72422 32780+ | 84129 55380 | 20 | |
| | 50 | 88 29319 24619+ | 033 28311 | 6797 88292 77400+ | 76187 22079 | 10 | |
| **22** | 0 | 93 30352 52930+ | 042 17036 | 6648 12105 55321+ | 68251 27119+ | 0 | **38** |
| | 10 | 0,18298 31394 69967 | 051 06020+ | 6498 43854 28202 | 60321 69818+ | 50 | |
| | 20 | 0,18303 32445 75987+ | 059 95264 | 6348 83532 58383+ | 52398 49492+ | 40 | |
| | 30 | 08 33505 71251 | 068 84766+ | 6199 31134 08891 | 44481 65460 | 30 | |
| | 40 | 13 34574 56018 | 077 74528+ | 6049 86652 43431+ | 36571 17039 | 20 | |
| | 50 | 18 35652 30546+ | 086 64549+ | 5900 50081 26392 | 28667 03550+ | 10 | |
| **23** | 0 | 23 36738 95096 | 095 54830 | 5751 21414 22841+ | 20769 24315 | 0 | **37** |
| | 10 | 28 37834 49926 | 104 45370 | 5602 00644 98526+ | 12877 78654 | 50 | |
| | 20 | 33 38938 95296 | 113 36169 | 5452 87767 19872+ | 149 04992 65889+ | 40 | |
| | 30 | 38 40052 31465 | 122 27227+ | 5303 82774 53983 | 148 97113 85346 | 30 | |
| | 40 | 43 41174 58692+ | 131 18545 | 5154 85660 68637 | 89241 36347 | 20 | |
| | 50 | 48 42305 77237+ | 140 10122 | 5005 96419 32290 | 81375 18218+ | 10 | |
| **24** | 0 | 53 43445 87359+ | 149 01958+ | 4857 15044 14071+ | 73515 30286+ | 0 | **36** |
| | 10 | 58 44594 89318 | 157 94054+ | 4708 41528 83785 | 65661 71877+ | 50 | |
| | 20 | 63 45752 83372+ | 166 86410 | 4559 75867 11907+ | 57814 42320+ | 40 | |
| | 30 | 68 46919 69782+ | 175 79024+ | 4411 18052 69587 | 49973 40943+ | 30 | |
| | 40 | 73 48095 48807 | 184 71898+ | 4262 68079 28643+ | 42138 67077 | 20 | |
| | 50 | 78 49280 20705+ | 193 65032+ | 4114 25940 61566+ | 34310 20051 | 10 | |
| **25** | 0 | 83 50473 85738 | 202 58425+ | 3965 91630 41515+ | 26487 99197+ | 0 | **35** |
| | 10 | 88 51676 44163+ | 211 52078 | 3817 65142 42318 | 18672 03849 | 50 | |
| | 20 | 93 52887 96241+ | 220 45990 | 3669 46470 38469 | 10862 33338 | 40 | |
| | 30 | 0,18398 54108 42231+ | 229 40162 | 3521 35608 05131 | 148 03058 87000 | 30 | |
| | 40 | 0,18403 55337 82393+ | 238 34593 | 3373 32549 18131 | 147 95261 64169+ | 20 | |
| | 50 | 08 56576 16986+ | 247 29284 | 3225 37287 53961+ | 87470 64182+ | 10 | |
| **26** | 0 | 13 57823 46270+ | 256 24234+ | 3077 49816 89779 | 79685 86376 | 0 | **34** |
| | 10 | 18 59079 70505 | 265 19444+ | 2929 70131 03403 | 71907 30087+ | 50 | |
| | 20 | 23 60344 89949 | 274 14914 | 2781 98223 73316 | 64134 94655+ | 40 | |
| | 30 | 28 61619 04863 | 283 10643+ | 2634 34088 78660 | 56368 79420+ | 30 | |
| | 40 | 33 62902 15506+ | 292 06632+ | 2486 77719 99239+ | 48608 83722 | 20 | |
| | 50 | 38 64194 22139 | 301 02881 | 2339 29111 15517+ | 40855 06901+ | 10 | |
| **27** | 0 | 43 65495 25019+ | 309 99389 | 2191 88256 08616 | 33107 48301+ | 0 | **33** |
| | 10 | 48 66805 24409 | 318 96157+ | 2044 55148 60314+ | 25366 07264+ | 50 | |
| | 20 | 53 68124 20566 | 327 93185 | 1897 29782 53050 | 17630 83135 | 40 | |
| | 30 | 58 69452 13751+ | 336 90472+ | 1750 12151 69915 | 09901 75257 | 30 | |
| | 40 | 63 70789 04224 | 345 88020 | 1603 02249 94658 | 147 02178 82977 | 20 | |
| | 50 | 68 72134 92244 | 354 85827 | 1456 00071 11681+ | 146 94462 05641 | 10 | |
| **28** | 0 | 73 73489 78071 | 363 83894 | 1309 05609 06040+ | 86751 42596 | 0 | **32** |
| | 10 | 78 74853 61964+ | 372 82220+ | 1162 18857 63444+ | 79046 93191+ | 50 | |
| | 20 | 83 76226 44185+ | 381 80807 | 1015 39810 70253 | 71348 56775+ | 40 | |
| | 30 | 88 77608 24992+ | 390 79653+ | 0868 68462 13477+ | 63656 32698 | 30 | |
| | 40 | 93 78999 04646 | 399 78760 | 0722 04805 80779+ | 55970 20311 | 20 | |
| | 50 | 0,18498 80398 83406 | 408 78126 | 0575 48835 60468+ | 48290 18964+ | 10 | |
| **29** | 0 | 0,18503 81807 61532 | 417 77752 | 0429 00545 41504 | 40616 28012+ | 0 | **31** |
| | 10 | 08 83225 39284 | 426 77638 | 0282 59929 13491+ | 32948 46807+ | 50 | |
| | 20 | 13 84652 16922 | 435 77784 | 5,40136 26980 66683+ | 25286 74704+ | 40 | |
| | 30 | 18 86087 94706+ | 444 78190 | 5,39990 01693 91979+ | 17631 11058 | 30 | |
| | 40 | 23 87532 72896+ | 453 78856 | 9843 84062 80921+ | 09981 55224 | 20 | |
| | 50 | 28 88986 51752+ | 5 01462 79782 | 9697 74081 25697+ | 146 02338 06560 | 10 | |
| **30** | 0 | 0,18533 90449 31534+ | | 5,39551 71743 19137+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,18533 90449 31534+ | 5 01471 80968 | 5,39551 71743 19137+ | 145 94700 64423 | 0 | **30** |
| | 10 | 38 91921 12502 | 480 82414 | 9405 77042 54714+ | 87069 28171+ | 50 | |
| | 20 | 43 93401 94916 | 489 84120 | 9259 89973 26543 | 79443 97165+ | 40 | |
| | 30 | 48 94891 79036 | 498 86086 | 9114 10529 29378 | 71824 70764+ | 30 | |
| | 40 | 53 96390 65122 | 507 88312 | 8968 38704 58613+ | 64211 48330 | 20 | |
| | 50 | 58 97898 53434 | 516 90798+ | 8822 74493 10283+ | 56604 29224 | 10 | |
| **31** | 0 | 63 99415 44232+ | 525 93545 | 8677 17888 81059+ | 49003 12809 | 0 | **29** |
| | 10 | 69 00941 37777 | 534 96551+ | 8531 68885 68250+ | 41407 98448+ | 50 | |
| | 20 | 74 02476 34328+ | 543 99818 | 8386 27477 69802 | 33818 85507 | 40 | |
| | 30 | 79 04020 34146+ | 553 03345 | 8240 93658 84295 | 26235 73350+ | 30 | |
| | 40 | 84 05573 37492 | 562 07132 | 8095 67423 10944+ | 18658 61344 | 20 | |
| | 50 | 89 07135 44624 | 571 11179+ | 7950 48764 49600+ | 11087 48855 | 10 | |
| **32** | 0 | 94 08706 55803+ | 580 15487 | 7805 37677 00745+ | 145 03522 35251+ | 0 | **28** |
| | 10 | 0,18599 10286 71290+ | 589 20055 | 7660 34154 65494 | 144 95963 19901+ | 50 | |
| | 20 | 0,18604 11875 91345 | 598 24883 | 7515 38191 45593 | 88410 02175 | 40 | |
| | 30 | 09 13474 16228 | 607 29971 | 7370 49781 43418 | 80862 81441+ | 30 | |
| | 40 | 14 15081 46199 | 616 35320 | 7225 68918 61976+ | 73321 57073+ | 20 | |
| | 50 | 19 16697 81519 | 625 40929 | 7080 95597 04903 | 65786 28441+ | 10 | |
| **33** | 0 | 24 18323 22447+ | 634 46798 | 6936 29810 76461+ | 58256 94919 | 0 | **27** |
| | 10 | 29 19957 69246 | 643 52928 | 6791 71553 81542+ | 50733 55879+ | 50 | |
| | 20 | 34 21601 22173+ | 652 59318 | 6647 20820 25662+ | 43216 10697+ | 40 | |
| | 30 | 39 23253 81491+ | 661 65968+ | 6502 77604 14965+ | 35704 58748 | 30 | |
| | 40 | 44 24915 47459+ | 670 72879 | 6358 41899 56217+ | 28198 99407 | 20 | |
| | 50 | 49 26586 20338+ | 679 80050+ | 6214 13700 56810+ | 20699 32051+ | 10 | |
| **34** | 0 | 54 28266 00389 | 688 87482 | 6069 93001 24759 | 13205 56059+ | 0 | **26** |
| | 10 | 59 29954 87871 | 697 95174+ | 5925 79795 68699+ | 144 05717 70809 | 50 | |
| | 20 | 64 31652 83045+ | 707 03127 | 5781 74077 97890+ | 143 98235 75679+ | 40 | |
| | 30 | 69 33359 86172+ | 716 11340 | 5637 75842 22211 | 90759 70051 | 30 | |
| | 40 | 74 35075 97512+ | 725 19814 | 5493 85082 52160 | 83289 53305 | 20 | |
| | 50 | 79 36801 17326+ | 734 28548 | 5350 01792 98855 | 75825 24823 | 10 | |
| **35** | 0 | 84 38535 45874+ | 743 37543 | 5206 25967 74032 | 68366 83987 | 0 | **25** |
| | 10 | 89 40278 83417+ | 752 46798 | 5062 57600 90045 | 60914 30181+ | 50 | |
| | 20 | 94 42031 30215+ | 761 56314 | 4918 96686 59863+ | 53467 62789+ | 40 | |
| | 30 | 0,18699 43792 86529+ | 770 66090+ | 4775 43218 97074 | 46026 81197 | 30 | |
| | 40 | 0,18704 45563 52620+ | 779 76128 | 4631 97192 15877 | 38591 84789 | 20 | |
| | 50 | 09 47343 28748+ | 788 86425+ | 4488 58600 31088 | 31162 72953 | 10 | |
| **36** | 0 | 14 49132 15174 | 797 96984 | 4345 27437 58135 | 23739 45075+ | 0 | **24** |
| | 10 | 19 50930 12158+ | 807 07803+ | 4202 03698 13059+ | 16322 00545 | 50 | |
| | 20 | 24 52737 19961+ | 816 18883+ | 4058 87376 12514+ | 08910 38751 | 40 | |
| | 30 | 29 54553 38845 | 825 30224 | 3915 78465 73763+ | 143 01504 59083 | 30 | |
| | 40 | 34 56378 69069 | 834 41825 | 3772 76961 14680 | 142 94104 60931+ | 20 | |
| | 50 | 39 58213 10894 | 843 53687+ | 3629 82856 53748+ | 86710 43688 | 10 | |
| **37** | 0 | 44 60056 64581+ | 852 65810 | 3486 96146 10060+ | 79322 06745 | 0 | **23** |
| | 10 | 49 61909 30391+ | 861 78194 | 3344 16824 03315+ | 71939 49495 | 50 | |
| | 20 | 54 63771 08585 | 870 90838 | 3201 44884 53820+ | 64562 71332 | 40 | |
| | 30 | 59 65641 99423+ | 880 03743+ | 3058 80321 82488+ | 57191 71651 | 30 | |
| | 40 | 64 67522 03167 | 889 16909+ | 2916 23130 10837+ | 49826 49846+ | 20 | |
| | 50 | 69 69411 20076+ | 898 30336+ | 2773 73303 60991 | 42467 05315+ | 10 | |
| **38** | 0 | 74 71309 50413 | 907 44024+ | 2631 30836 55675 | 35113 37454+ | 0 | **22** |
| | 10 | 79 73216 94437+ | 916 57973 | 2488 95723 18220+ | 27765 45662 | 50 | |
| | 20 | 84 75133 52410+ | 925 72183 | 2346 67957 72558+ | 20423 29335+ | 40 | |
| | 30 | 89 77059 24593+ | 934 86653+ | 2204 47534 43223+ | 13086 87874+ | 30 | |
| | 40 | 94 78994 11247 | 944 01385 | 2062 34447 55349 | 142 05756 20679+ | 20 | |
| | 50 | 0,18799 80938 12632 | 953 16377+ | 1920 28691 34669 | 141 98431 27151+ | 10 | |
| **39** | 0 | 0,18804 82891 29009+ | 962 31631 | 1778 30260 07517+ | 91112 06692 | 0 | **21** |
| | 10 | 09 84853 60640+ | 971 47145+ | 1636 39148 00825+ | 83798 58703 | 50 | |
| | 20 | 14 86825 07786 | 980 62921 | 1494 55349 42122+ | 76490 82588+ | 40 | |
| | 30 | 19 88805 70707 | 989 78957+ | 1352 78858 59533+ | 69188 77752 | 30 | |
| | 40 | 24 90795 49665 | 5 01998 95255+ | 1211 09669 81782 | 61892 43598+ | 20 | |
| | 50 | 29 92794 44920 | 5 02008 11814 | 1069 47777 38183+ | 141 54601 79533 | 10 | |
| **40** | 0 | 0,18834 94802 56734 | | 5,30927 93175 58650+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,18834 94802 56734 | 5 02017 28634 | 5,30927 93175 58650+ | 141 47316 84962+ | 0 | **20** |
| | 10 | 39 96819 85368 | 026 45715 | 0786 45858 73688 | 40037 59294 | 50 | |
| | 20 | 44 98846 31083 | 035 63057 | 0645 05821 14394 | 32764 01935 | 40 | |
| | 30 | 50 00881 94140 | 044 80660 | 0503 73057 12458+ | 25496 12295 | 30 | |
| | 40 | 55 02926 74800 | 053 98524+ | 0362 47561 00164 | 18233 89782 | 20 | |
| | 50 | 60 04980 73324+ | 063 16650 | 0221 29327 10381+ | 10977 33807+ | 10 | |
| **41** | 0 | 65 07043 89974+ | 072 35037 | 5,30080 18349 76574+ | 141 03726 43782 | 0 | **19** |
| | 10 | 70 09116 25011+ | 081 53685 | 5,29939 14623 32792+ | 140 96481 19116+ | 50 | |
| | 20 | 75 11197 78696+ | 090 72594 | 9798 18142 13676 | 89241 59224+ | 40 | |
| | 30 | 80 13288 51290+ | 099 91764+ | 9657 28900 54451 | 82007 63519 | 30 | |
| | 40 | 85 15388 43055 | 109 11196+ | 9516 46892 90932 | 74779 31414 | 20 | |
| | 50 | 90 17497 54251+ | 118 30889+ | 9375 72113 59518 | 67556 62324 | 10 | |
| **42** | 0 | 0,18895 19615 85141 | 127 50844 | 9235 04556 97194 | 60339 55664+ | 0 | **18** |
| | 10 | 0,18900 21743 35985 | 136 71059+ | 9094 44217 41530 | 53128 10852 | 50 | |
| | 20 | 05 23880 07044+ | 145 91537 | 8953 91089 30678 | 45922 27303 | 40 | |
| | 30 | 10 26025 98581+ | 155 12275 | 8813 45167 03375 | 38722 04436+ | 30 | |
| | 40 | 15 28181 10856+ | 164 33275 | 8673 06444 98938+ | 31527 41670 | 20 | |
| | 50 | 20 30345 44132 | 173 54536+ | 8532 74917 57268+ | 24338 38423 | 10 | |
| **43** | 0 | 25 32518 98668 | 182 76059 | 8392 50579 18845+ | 17154 94115+ | 0 | **17** |
| | 10 | 30 34701 74727 | 191 97843 | 8252 33424 24730 | 09977 08169 | 50 | |
| | 20 | 35 36893 72570+ | 201 19888+ | 8112 23447 16561 | 02804 80004 | 40 | |
| | 30 | 40 39094 92459 | 210 42196 | 7972 20642 36557 | 139 95638 09043+ | 30 | |
| | 40 | 45 41305 34655 | 219 64764+ | 7832 25004 27513+ | 88476 94710+ | 20 | |
| | 50 | 50 43524 99419 | 228 87594+ | 7692 36527 32803 | 81321 36428+ | 10 | |
| **44** | 0 | 55 45753 87013+ | 238 10686 | 7552 55205 96375 | 74171 33622 | 0 | **16** |
| | 10 | 60 47991 97699+ | 247 34039 | 7412 81034 62752+ | 67026 85717 | 50 | |
| | 20 | 65 50239 31739 | 256 57654 | 7273 14007 77035+ | 59887 92138+ | 40 | |
| | 30 | 70 52495 89393 | 265 81530+ | 7133 54119 84897 | 52754 52314+ | 30 | |
| | 40 | 75 54761 70923 | 275 05668 | 6994 01365 32583 | 45626 65671 | 20 | |
| | 50 | 80 57036 76591+ | 284 30068 | 6854 55738 66911+ | 38504 31637+ | 10 | |
| **45** | 0 | 85 59321 06659 | 293 54729 | 6715 17234 35274 | 31387 49642+ | 0 | **15** |
| | 10 | 90 61614 61388 | 302 79652 | 6575 85846 85631+ | 24276 19116 | 50 | |
| | 20 | 0,18995 63917 41040 | 312 04836+ | 6436 61570 66515+ | 17170 39488 | 40 | |
| | 30 | 0,19000 66229 45876+ | 321 30282+ | 6297 44400 27027+ | 10070 10190 | 30 | |
| | 40 | 05 68550 76159 | 330 55990+ | 6158 34330 16838 | 139 02975 30653+ | 20 | |
| | 50 | 10 70881 32149+ | 339 81960+ | 6019 31354 86184 | 138 95886 00312 | 10 | |
| **46** | 0 | 15 73221 14110 | 349 08191+ | 5880 35468 85872 | 88802 18598+ | 0 | **14** |
| | 10 | 20 75570 22301+ | 358 34685 | 5741 46666 67273+ | 81723 84947 | 50 | |
| | 20 | 25 77928 56986+ | 367 61440 | 5602 64942 82326+ | 74650 98792+ | 40 | |
| | 30 | 30 80296 18426+ | 376 88457 | 5463 90291 83534 | 67583 59570 | 30 | |
| | 40 | 35 82673 06883+ | 386 15735+ | 5325 22708 23964 | 60521 66717 | 20 | |
| | 50 | 40 85059 22619 | 395 43276 | 5186 62186 57247 | 53465 19669+ | 10 | |
| **47** | 0 | 45 87454 65895 | 404 71078+ | 5048 08721 37577+ | 46414 17866 | 0 | **13** |
| | 10 | 50 89859 36973 | 413 99142+ | 4909 62307 19711+ | 39368 60744 | 50 | |
| | 20 | 55 92273 36115+ | 423 27468+ | 4771 22938 58967+ | 32328 47744 | 40 | |
| | 30 | 60 94696 63584+ | 432 56057 | 4632 90610 11223+ | 25293 78305 | 30 | |
| | 40 | 65 97129 19641 | 441 84907 | 4494 65316 32918+ | 18264 51868 | 20 | |
| | 50 | 70 99571 04548 | 451 14019 | 4356 47051 81051 | 11240 67874 | 10 | |
| **48** | 0 | 76 02022 18566+ | 460 43392+ | 4218 35811 13176+ | 138 04222 25765+ | 0 | **12** |
| | 10 | 81 04482 61959+ | 469 73028+ | 4080 31588 87411 | 137 97209 24985+ | 50 | |
| | 20 | 86 06952 34988 | 479 02926+ | 3942 34379 62425+ | 90201 64977 | 40 | |
| | 30 | 91 09431 37914+ | 488 33086+ | 3804 44177 97448+ | 83199 45184+ | 30 | |
| | 40 | 0,19096 11919 71001 | 497 63508+ | 3666 60978 52264 | 76202 65053 | 20 | |
| | 50 | 0,19101 14417 34510 | 506 94192+ | 3528 84775 87211+ | 69211 24028 | 10 | |
| **49** | 0 | 06 16924 28702+ | 516 25139 | 3391 15564 63183+ | 62225 21556 | 0 | **11** |
| | 10 | 11 19440 53841+ | 525 56347 | 3253 53339 41627+ | 55244 57084 | 50 | |
| | 20 | 16 21966 10188+ | 534 87817+ | 3115 98094 84544 | 48269 30059+ | 40 | |
| | 30 | 21 24500 98006 | 544 19550 | 2978 49825 54484+ | 41299 39931+ | 30 | |
| | 40 | 26 27045 17556 | 553 51545 | 2841 08526 14552+ | 34334 86149+ | 20 | |
| | 50 | 31 29598 69100+ | 5 02562 83801+ | 2703 74191 28403 | 137 27375 68162+ | 10 | |
| **50** | 0 | 0,19136 32161 52902+ | | 5,22566 46815 60240+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 10°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,19136 32161 52902+ | 5 02572 16320+ | 5,22566 46815 60240+ | 137 20421 85422 | 0 | **10** |
| | 10 | 41 34733 69223 | 581 49102 | 2429 26393 74818+ | 13473 37378+ | 50 | |
| | 20 | 46 37315 18325 | 590 82145+ | 2292 12920 37440 | 137 06530 23485 | 40 | |
| | 30 | 51 39906 00470+ | 600 15451+ | 2155 06390 13955+ | 136 99592 43193 | 30 | |
| | 40 | 56 42506 15922 | 609 49019+ | 2018 06797 70762 | 92659 95957 | 20 | |
| | 50 | 61 45115 64941+ | 618 82849+ | 1881 14137 74805 | 85732 81231 | 10 | |
| **51** | 0 | 66 47734 47791 | 628 16942+ | 1744 28404 93574+ | 78810 98469 | 0 | **9** |
| | 10 | 71 50362 64733+ | 637 51297+ | 1607 49593 95105 | 71894 47127+ | 50 | |
| | 20 | 76 53000 16030+ | 646 85914+ | 1470 77699 47977+ | 64983 26662+ | 40 | |
| | 30 | 81 55647 01945+ | 656 20794+ | 1334 12716 21315+ | 58077 36530+ | 30 | |
| | 40 | 86 58303 22739+ | 665 55936+ | 1197 54638 84785 | 51176 76189 | 20 | |
| | 50 | 91 60968 78676 | 674 91341 | 1061 03462 08596 | 44281 45097 | 10 | |
| **52** | 0 | 0,19196 63643 70016+ | 684 27007+ | 0924 59180 63499 | 37391 42713+ | 0 | **8** |
| | 10 | 0,19201 66327 97024+ | 693 62937 | 0788 21789 20785+ | 30506 68497+ | 50 | |
| | 20 | 06 69021 59961+ | 702 99129 | 0651 91282 52287+ | 23627 21910 | 40 | |
| | 30 | 11 71724 59090+ | 712 35583 | 0515 67655 30378 | 16753 02411+ | 30 | |
| | 40 | 16 74436 94673+ | 721 72300 | 0379 50902 27966 | 09884 09464+ | 20 | |
| | 50 | 21 77158 66973 | 731 09279 | 0243 41018 18502 | 136 03020 42530+ | 10 | |
| **53** | 0 | 26 79889 76252 | 740 46521 | 5,20107 37997 75971 | 135 96162 01073+ | 0 | **7** |
| | 10 | 31 82630 22773 | 749 84025 | 5,19971 41835 74897+ | 89308 84557 | 50 | |
| | 20 | 36 85380 06798 | 759 21792 | 9835 52526 90340+ | 82460 92445+ | 40 | |
| | 30 | 41 88139 28590 | 768 59821+ | 9699 70065 97895 | 75618 24204 | 30 | |
| | 40 | 46 90907 88411+ | 777 98113+ | 9563 94447 73691 | 68780 79298+ | 20 | |
| | 50 | 51 93685 86525 | 787 36668+ | 9428 25666 94392+ | 61948 57195+ | 10 | |
| **54** | 0 | 56 96473 23193+ | 796 75485+ | 9292 63718 37196+ | 55121 57362+ | 0 | **6** |
| | 10 | 61 99269 98679 | 806 14565+ | 9157 08596 79834 | 48299 79267 | 50 | |
| | 20 | 67 02076 13245 | 815 53908+ | 9021 60297 00566+ | 41483 22378 | 40 | |
| | 30 | 72 04891 67153+ | 824 93514 | 8886 18813 78188+ | 34671 86164+ | 30 | |
| | 40 | 77 07716 60667 | 834 33382 | 8750 84141 92024 | 27865 70096+ | 20 | |
| | 50 | 82 10550 94049 | 843 73512+ | 8615 56276 21928 | 21064 73644+ | 10 | |
| **55** | 0 | 87 13394 67561+ | 853 13906+ | 8480 35211 48283+ | 14268 96279+ | 0 | **5** |
| | 10 | 92 16247 81468 | 862 54562+ | 8345 20942 52004 | 07478 37474 | 50 | |
| | 20 | 0,19297 19110 36031 | 871 95482 | 8210 13464 14530 | 135 00692 96700+ | 40 | |
| | 30 | 0,19302 21982 31512+ | 881 36664 | 8075 12771 17829+ | 134 93912 73432 | 30 | |
| | 40 | 07 24863 68176+ | 890 78108+ | 7940 18858 44397 | 87137 67143 | 20 | |
| | 50 | 12 27754 46285 | 900 19816+ | 7805 31720 77254 | 80367 77307+ | 10 | |
| **56** | 0 | 17 30654 66101+ | 909 61787 | 7670 51352 99946+ | 73603 03401+ | 0 | **4** |
| | 10 | 22 33564 27888 | 919 04020 | 7535 77749 96545 | 66843 44900+ | 50 | |
| | 20 | 27 36483 31908+ | 928 46516+ | 7401 10906 51644+ | 60089 01281 | 40 | |
| | 30 | 32 39411 78425 | 937 89275+ | 7266 50817 50364 | 53339 72020+ | 30 | |
| | 40 | 37 42349 67700+ | 947 32298 | 7131 97477 78343+ | 46595 56597 | 20 | |
| | 50 | 42 45296 99998+ | 956 75583 | 6997 50882 21747 | 39856 54489 | 10 | |
| **57** | 0 | 47 48253 75581+ | 966 19131 | 6863 11025 67258 | 33122 65175+ | 0 | **3** |
| | 10 | 52 51219 94712+ | 975 62942 | 6728 77903 02082+ | 26393 88137+ | 50 | |
| | 20 | 57 54195 57655 | 985 07016+ | 6594 51509 13945 | 19670 22854+ | 40 | |
| | 30 | 62 57180 64671+ | 5 02994 51353+ | 6460 31838 91091 | 12951 68808 | 30 | |
| | 40 | 67 60175 16025 | 5 03003 95953+ | 6326 18887 22283 | 134 06238 25480 | 20 | |
| | 50 | 72 63179 11978+ | 013 40817 | 6192 12648 96802+ | 133 99529 92353+ | 10 | |
| **58** | 0 | 77 66192 52795+ | 022 85943+ | 6058 13119 04449 | 92826 68911+ | 0 | **2** |
| | 10 | 82 69215 38739 | 032 31333 | 5924 20292 35538 | 86128 54637+ | 50 | |
| | 20 | 87 72247 70071+ | 041 76985+ | 5790 34163 80900+ | 79435 49016 | 40 | |
| | 30 | 92 75289 47057 | 051 22901 | 5656 54728 31884+ | 72747 51532+ | 30 | |
| | 40 | 0,19397 78340 69958 | 060 69080 | 5522 81980 80352 | 66064 61673 | 20 | |
| | 50 | 0,19402 81401 39038+ | 070 15522 | 5389 15916 18679 | 59386 78924 | 10 | |
| **59** | 0 | 07 84471 54560+ | 079 62227+ | 5255 56529 39755 | 52714 02772 | 0 | **1** |
| | 10 | 12 87551 16788 | 089 09196 | 5122 03815 36983 | 46046 32705+ | 50 | |
| | 20 | 17 90640 25984 | 098 56428 | 4988 57769 04277+ | 39383 68212+ | 40 | |
| | 30 | 22 93738 82412 | 108 03923 | 4855 18385 36065+ | 32726 08782 | 30 | |
| | 40 | 27 96846 86334+ | 117 51681 | 4721 85659 27283+ | 26073 53904 | 20 | |
| | 50 | 32 99964 38015+ | 5 03126 99702+ | 4588 59585 73379 | 133 19426 03069 | 10 | |
| **60** | 0 | 0,19438 03091 37718+ | | 5,14455 40159 70310 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 79°

# 11°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,19438 03091 37718+ | 5 03136 47987+ | 5,14455 40159 70310 | 133 12783 55767+ | 0 | **60** |
| | 10 | 43 06227 85706 | 145 96536 | 4322 27376 14542+ | 133 06146 11492 | 50 | |
| | 20 | 48 09373 82242 | 155 45347+ | 4189 21230 03050+ | 132 99513 69734 | 40 | |
| | 30 | 53 12529 27589+ | 164 94422+ | 4056 21716 33316+ | 92886 29986+ | 30 | |
| | 40 | 58 15694 22012 | 174 43761 | 3923 28830 03330 | 86263 91743+ | 20 | |
| | 50 | 63 18868 65773 | 183 93362+ | 3790 42566 11587 | 79646 54498+ | 10 | |
| **1** | 0 | 68 22052 59135+ | 193 43228 | 3657 62919 57088 | 73034 17747+ | 0 | **59** |
| | 10 | 73 25246 02363+ | 202 93356+ | 3524 89885 39340+ | 66426 80985 | 50 | |
| | 20 | 78 28448 95720 | 212 43748+ | 3392 23458 58356 | 59824 43707+ | 40 | |
| | 30 | 83 31661 39469 | 221 94404+ | 3259 63634 14648+ | 53227 05411+ | 30 | |
| | 40 | 88 34883 33873 | 231 45323+ | 3127 10407 09237 | 46634 65594+ | 20 | |
| | 50 | 93 38114 79196+ | 240 96506 | 2994 63772 43642+ | 40047 23755 | 10 | |
| **2** | 0 | 0,19498 41355 75702+ | 250 47952+ | 2862 23725 19887+ | 33464 79391 | 0 | **58** |
| | 10 | 0,19503 44606 23655 | 259 99662 | 2729 90260 40496+ | 26887 32002 | 50 | |
| | 20 | 08 47866 23317 | 269 51635+ | 2597 63373 08494 | 20314 81088 | 40 | |
| | 30 | 13 51135 74952+ | 279 03872+ | 2465 43058 27406 | 13747 26150 | 30 | |
| | 40 | 18 54414 78825 | 288 56373 | 2333 29311 01256 | 07184 66688 | 20 | |
| | 50 | 23 57703 35197+ | 298 09137 | 2201 22126 34568 | 132 00627 02205 | 10 | |
| **3** | 0 | 28 61001 44334+ | 307 62165 | 2069 21499 32363+ | 131 94074 32202+ | 0 | **57** |
| | 10 | 33 64309 06499+ | 317 15456+ | 1937 27425 00161 | 87526 56184 | 50 | |
| | 20 | 38 67626 21956 | 326 69011+ | 1805 39898 43977 | 80983 73653 | 40 | |
| | 30 | 43 70952 90967+ | 336 22830+ | 1673 58914 70324 | 74445 84114+ | 30 | |
| | 40 | 48 74289 13798 | 345 76913 | 1541 84468 86209+ | 67912 87072+ | 20 | |
| | 50 | 53 77634 90711+ | 355 31259+ | 1410 16555 99137+ | 61384 82032+ | 10 | |
| **4** | 0 | 58 80990 21971 | 364 85870 | 1278 55171 17104+ | 54861 68501+ | 0 | **56** |
| | 10 | 63 84355 07841 | 374 40744 | 1147 00309 48603 | 48343 45986 | 50 | |
| | 20 | 68 87729 48584+ | 383 95881+ | 1015 51966 02617+ | 41830 13993 | 40 | |
| | 30 | 73 91113 44466+ | 393 51283 | 0884 10135 88624+ | 35321 72030+ | 30 | |
| | 40 | 78 94506 95749+ | 403 06948+ | 0752 74814 16594 | 28818 19607+ | 20 | |
| | 50 | 83 97910 02698 | 412 62878 | 0621 45995 96986+ | 22319 56233+ | 10 | |
| **5** | 0 | 89 01322 65576 | 422 19071 | 0490 23676 40753 | 15825 81417+ | 0 | **55** |
| | 10 | 94 04744 84647+ | 431 75528+ | 0359 07850 59335+ | 09336 94670+ | 50 | |
| | 20 | 0,19599 08176 60175+ | 441 32249+ | 0227 98513 64665 | 131 02852 95504 | 40 | |
| | 30 | 0,19604 11617 92425 | 450 89234+ | 5,10096 95660 69161 | 130 96373 83429 | 30 | |
| | 40 | 09 15068 81659 | 460 46483 | 5,09965 99286 85732 | 89899 57958 | 20 | |
| | 50 | 14 18529 28142+ | 470 03996 | 9835 09387 27774 | 83430 18604 | 10 | |
| **6** | 0 | 19 21999 32138+ | 479 61773 | 9704 25957 09170 | 76965 64881 | 0 | **54** |
| | 10 | 24 25478 93911+ | 489 19814 | 9573 48991 44289 | 70505 96302 | 50 | |
| | 20 | 29 28968 13725+ | 498 78119 | 9442 78485 47987 | 64051 12383 | 40 | |
| | 30 | 34 32466 91844+ | 508 36688 | 9312 14434 35604 | 57601 12638+ | 30 | |
| | 40 | 39 35975 28532+ | 517 95521 | 9181 56833 22965+ | 51155 96585 | 20 | |
| | 50 | 44 39493 24053+ | 527 54618 | 9051 05677 26381 | 44715 63738+ | 10 | |
| **7** | 0 | 49 43020 78671+ | 537 13979+ | 8920 60961 62642+ | 38280 13616+ | 0 | **53** |
| | 10 | 54 46557 92651+ | 546 73605 | 8790 22681 49026 | 31849 45737 | 50 | |
| | 20 | 59 50104 66256 | 556 33494+ | 8659 90832 03289 | 25423 59618 | 40 | |
| | 30 | 64 53660 99751 | 565 93648+ | 8529 65408 43671+ | 19002 54778+ | 30 | |
| | 40 | 69 57226 93399 | 575 54066 | 8399 46405 88892+ | 12586 30738+ | 20 | |
| | 50 | 74 60802 47465+ | 585 14748+ | 8269 33819 58154+ | 130 06174 87017+ | 10 | |
| **8** | 0 | 79 64387 62213+ | 594 75695 | 8139 27644 71137 | 129 99768 23137 | 0 | **52** |
| | 10 | 84 67982 37908+ | 604 36905+ | 8009 27876 48000 | 93366 38618 | 50 | |
| | 20 | 89 71586 74814 | 613 98380+ | 7879 34510 09382 | 86969 32982 | 40 | |
| | 30 | 94 75200 73194 | 623 60119+ | 7749 47540 76400 | 80577 05752+ | 30 | |
| | 40 | 0,19699 78824 33313+ | 633 22123 | 7619 66963 70647+ | 74189 56452 | 20 | |
| | 50 | 0,19704 82457 55436+ | 642 84390+ | 7489 92774 14195+ | 67806 84604+ | 10 | |
| **9** | 0 | 09 86100 39827+ | 652 46923 | 7360 24967 29591 | 61428 89734+ | 0 | **51** |
| | 10 | 14 89752 86750 | 662 09719+ | 7230 63538 39856 | 55055 71366+ | 50 | |
| | 20 | 19 93414 96469+ | 671 72780+ | 7101 08482 68489+ | 48687 29026+ | 40 | |
| | 30 | 24 97086 69250 | 681 36105+ | 6971 59795 39463 | 42323 62240+ | 30 | |
| | 40 | 30 00768 05355+ | 690 99695+ | 6842 17471 77222+ | 35964 70535 | 20 | |
| | 50 | 35 04459 05051 | 5 03700 63549+ | 6712 81507 06687+ | 129 29610 53437 | 10 | |
| **10** | 0 | 0,19740 08159 68600 | | 5,06583 51896 53250 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

# 11°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,19740 08159 68600 | 5 03710 27668 | 5,06583 51896 53250 | 129 23261 10475+ | 0 | **50** |
| | 10 | 45 11869 96268 | 719 92051 | 6454 28635 42775 | 16916 41178 | 50 | |
| | 20 | 50 15589 88319+ | 729 56698+ | 6325 11719 01597 | 10576 45073+ | 40 | |
| | 30 | 55 19319 45018 | 739 21611 | 6196 01142 56523+ | 129 04241 21692+ | 30 | |
| | 40 | 60 23058 66628+ | 748 86787+ | 6066 96901 34831+ | 128 97910 70564 | 20 | |
| | 50 | 65 26807 53416 | 758 52228+ | 5937 98990 64267 | 91584 91220 | 10 | |
| **11** | 0 | 70 30566 05644+ | 768 17934+ | 5809 07405 73047 | 85263 83191+ | 0 | **49** |
| | 10 | 75 34334 23579 | 777 83904+ | 5680 22141 89855+ | 78947 46010 | 50 | |
| | 20 | 80 38112 07483+ | 787 50139+ | 5551 43194 43845+ | 72635 79209 | 40 | |
| | 30 | 85 41899 57623 | 797 16639 | 5422 70558 64636+ | 66328 82320+ | 30 | |
| | 40 | 90 45696 74262+ | 806 83403+ | 5294 04229 82315+ | 60026 54879+ | 20 | |
| | 50 | 0,19795 49503 57665+ | 816 50432+ | 5165 44203 27436+ | 53728 96419 | 10 | |
| **12** | 0 | 0,19800 53320 08098 | 826 17726 | 5036 90474 31017+ | 47436 06474+ | 0 | **48** |
| | 10 | 05 57146 25824 | 835 85284 | 4908 43038 24543 | 41147 84581+ | 50 | |
| | 20 | 10 60982 11108 | 845 53107 | 4780 01890 39961+ | 34864 30276 | 40 | |
| | 30 | 15 64827 64215 | 855 21195 | 4651 67026 09685 | 28585 43094+ | 30 | |
| | 40 | 20 68682 85410 | 864 89547+ | 4523 38440 66590+ | 22311 22574+ | 20 | |
| | 50 | 25 72547 74957+ | 874 58165 | 4395 16129 44016 | 16041 68253 | 10 | |
| **13** | 0 | 30 76422 33122+ | 884 27047 | 4267 00087 75763 | 09776 79669 | 0 | **47** |
| | 10 | 35 80306 60169+ | 893 96194 | 4138 90310 96094 | 03516 56361+ | 50 | |
| | 20 | 40 84200 56363 | 903 65605+ | 4010 86794 39732+ | 127 97260 97869 | 40 | |
| | 30 | 45 88104 21968+ | 913 35282+ | 3882 89533 41863+ | 91010 03732+ | 30 | |
| | 40 | 50 92017 57251 | 923 05224 | 3754 98523 38131 | 84763 73492 | 20 | |
| | 50 | 55 95940 62475 | 932 75430 | 3627 13759 64639 | 78522 06689+ | 10 | |
| **14** | 0 | 60 99873 37905 | 942 45901+ | 3499 35237 57949+ | 72285 02865+ | 0 | **46** |
| | 10 | 66 03815 83806+ | 952 16638 | 3371 62952 55084 | 66052 61563+ | 50 | |
| | 20 | 71 07768 00444+ | 961 87639 | 3243 96899 93520+ | 59824 82325+ | 40 | |
| | 30 | 76 11729 88083+ | 971 58905+ | 3116 37075 11195 | 53601 64695+ | 30 | |
| | 40 | 81 15701 46989 | 981 30436+ | 2988 83473 46499+ | 47383 08217 | 20 | |
| | 50 | 86 19682 77425+ | 5 03991 02232+ | 2861 36090 38283 | 41169 12434+ | 10 | |
| **15** | 0 | 91 23673 79658 | 5 04000 74294 | 2733 94921 25848 | 34959 76894 | 0 | **45** |
| | 10 | 0,19896 27674 53952 | 010 46620+ | 2606 59961 48954 | 28755 01140+ | 50 | |
| | 20 | 0,19901 31685 00572+ | 020 19211+ | 2479 31206 47813+ | 22554 84720 | 40 | |
| | 30 | 06 35705 19784 | 029 92068 | 2352 08651 63093+ | 16359 27180 | 30 | |
| | 40 | 11 39735 11852+ | 039 65190 | 2224 92292 35913 | 10168 28067+ | 20 | |
| | 50 | 16 43774 77042 | 049 38576+ | 2097 82124 07845+ | 127 03981 86930+ | 10 | |
| **16** | 0 | 21 47824 15618+ | 059 12228+ | 1970 78142 20915 | 126 97800 03317 | 0 | **44** |
| | 10 | 26 51883 27847 | 068 86145+ | 1843 80342 17598 | 91622 76777 | 50 | |
| | 20 | 31 55952 13992+ | 078 60327+ | 1716 88719 40821 | 85450 06859 | 40 | |
| | 30 | 36 60030 74320 | 088 34775 | 1590 03269 33962 | 79281 93114 | 30 | |
| | 40 | 41 64119 09095+ | 098 09488 | 1463 23987 40848 | 73118 35092 | 20 | |
| | 50 | 46 68217 18583 | 107 84466 | 1336 50869 05756 | 66959 32345 | 10 | |
| **17** | 0 | 51 72325 03049 | 117 59709 | 1209 83909 73411 | 60804 84424+ | 0 | **43** |
| | 10 | 56 76442 62758 | 127 35217+ | 1083 23104 88986+ | 54654 90882 | 50 | |
| | 20 | 61 80569 97975+ | 137 10991+ | 0956 68449 98104+ | 48509 51272 | 40 | |
| | 30 | 66 84707 08967 | 146 87030+ | 0830 19940 46832+ | 42368 65146+ | 30 | |
| | 40 | 71 88853 95997 | 156 63335 | 0703 77571 81686 | 36232 32060+ | 20 | |
| | 50 | 76 93010 59332 | 166 39904+ | 0577 41339 49625 | 30100 51568 | 10 | |
| **18** | 0 | 81 97176 99237 | 176 16740 | 0451 11238 98057 | 23973 23224+ | 0 | **42** |
| | 10 | 87 01353 15976+ | 185 93840+ | 0324 87265 74832+ | 17850 46585 | 50 | |
| | 20 | 92 05539 09817+ | 195 71206+ | 0198 69415 28247+ | 11732 21206+ | 40 | |
| | 30 | 0,19997 09734 81024 | 205 48838 | 5,00072 57683 07041 | 126 05618 46645 | 30 | |
| | 40 | 0,20002 13940 29862 | 215 26735 | 4,99946 52064 60396 | 125 99509 22458+ | 20 | |
| | 50 | 07 18155 56597 | 225 04897+ | 9820 52555 37938 | 93404 48204 | 10 | |
| **19** | 0 | 12 22380 61494+ | 234 83325+ | 9694 59150 89734 | 87304 23440+ | 0 | **41** |
| | 10 | 17 26615 44820 | 244 62019 | 9568 71846 66293+ | 81208 47726+ | 50 | |
| | 20 | 22 30860 06838+ | 254 40978 | 9442 90638 18567 | 75117 20622 | 40 | |
| | 30 | 27 35114 47816+ | 264 20202+ | 9317 15520 97945 | 69030 41686+ | 30 | |
| | 40 | 32 39378 68019 | 273 99692+ | 9191 46490 56259 | 62948 10480+ | 20 | |
| | 50 | 37 43652 67711+ | 5 04283 79448+ | 9065 83542 45778+ | 125 56870 26565 | 10 | |
| **20** | 0 | 0,20042 47936 47160 | | 4,98940 26672 19213+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,20042 47936 47160 | 5 04293 59469+ | 4,98940 26672 19213+ | 125 50796 89502+ | 0 | **40** |
| | 10 | 47 52230 06629+ | 303 39756+ | 8814 75875 29711 | 44727 98854 | 50 | |
| | 20 | 52 56533 46386 | 313 20309+ | 8689 31147 30857 | 38663 54182+ | 40 | |
| | 30 | 57 60846 66695+ | 323 01127+ | 8563 92483 76674+ | 32603 55052 | 30 | |
| | 40 | 62 65169 67823 | 332 82211+ | 8438 59880 21622+ | 26548 01025 | 20 | |
| | 50 | 67 69502 50035 | 342 63561+ | 8313 33332 20597+ | 20496 91666+ | 10 | |
| **21** | 0 | 72 73845 13596 | 352 45177 | 8188 12835 28931 | 14450 26541+ | 0 | **39** |
| | 10 | 77 78197 58773 | 362 27058 | 8062 98385 02389+ | 08408 05214+ | 50 | |
| | 20 | 82 82559 85831 | 372 09205 | 7937 89976 97175 | 125 02370 27252+ | 40 | |
| | 30 | 87 86931 95036+ | 381 91618 | 7812 87606 69922+ | 124 96336 92221 | 30 | |
| | 40 | 92 91313 86654+ | 391 74296+ | 7687 91269 77701+ | 90307 99687+ | 20 | |
| | 50 | 0,20097 95705 60951 | 401 57241 | 7563 00961 78014 | 84283 49219 | 10 | |
| **22** | 0 | 0,20103 00107 18192 | 411 40451+ | 7438 16678 28795+ | 78263 40383+ | 0 | **38** |
| | 10 | 08 04518 58643 | 421 23927+ | 7313 38414 88412 | 72247 72750 | 50 | |
| | 20 | 13 08939 82570+ | 431 07669+ | 7188 66167 15661+ | 66236 45887+ | 40 | |
| | 30 | 18 13370 90240+ | 440 91677+ | 7063 99930 69774+ | 60229 59365 | 30 | |
| | 40 | 23 17811 81918 | 450 75951+ | 6939 39701 10409 | 54227 12753 | 20 | |
| | 50 | 28 22262 57869+ | 460 60491+ | 6814 85473 97656 | 48229 05622+ | 10 | |
| **23** | 0 | 33 26723 18360+ | 470 45297 | 6690 37244 92033+ | 42235 37544 | 0 | **37** |
| | 10 | 38 31193 63658 | 480 30369 | 6565 95009 54489+ | 36246 08089+ | 50 | |
| | 20 | 43 35673 94027 | 490 15707 | 6441 58763 46400+ | 30261 16831 | 40 | |
| | 30 | 48 40164 09734 | 500 01311 | 6317 28502 29569+ | 24280 63341 | 30 | |
| | 40 | 53 44664 11044+ | 509 87180+ | 6193 04221 66228+ | 18304 47193+ | 20 | |
| | 50 | 58 49173 98225+ | 519 73316+ | 6068 85917 19035 | 12332 67962 | 10 | |
| **24** | 0 | 63 53693 71542 | 529 59719 | 5944 73584 51073 | 06365 25220 | 0 | **36** |
| | 10 | 68 58223 31260+ | 539 46387 | 5820 67219 25853 | 124 00402 18543+ | 50 | |
| | 20 | 73 62762 77647+ | 549 33321+ | 5696 66817 07309+ | 123 94443 47506+ | 40 | |
| | 30 | 78 67312 10969 | 559 20521+ | 5572 72373 59803 | 88489 11686 | 30 | |
| | 40 | 83 71871 31490+ | 569 07988+ | 5448 83884 48117 | 82539 10658 | 20 | |
| | 50 | 88 76440 39479 | 578 95721 | 5325 01345 37459 | 76593 43999 | 10 | |
| **25** | 0 | 93 81019 35200 | 588 83720 | 5201 24751 93460 | 70652 11286+ | 0 | **35** |
| | 10 | 0,20198 85608 18920+ | 598 71985+ | 5077 54099 82173+ | 64715 12098+ | 50 | |
| | 20 | 0,20203 90206 90906 | 608 60517 | 4953 89384 70075 | 58782 46013+ | 40 | |
| | 30 | 08 94815 51423 | 618 49315 | 4830 30602 24061+ | 52854 12610+ | 30 | |
| | 40 | 13 99434 00737+ | 628 38379 | 4706 77748 11450+ | 46930 11468+ | 20 | |
| | 50 | 19 04062 39116+ | 638 27709 | 4583 30817 99982 | 41010 42168 | 10 | |
| **26** | 0 | 24 08700 66825+ | 648 17306 | 4459 89807 57814 | 35095 04289 | 0 | **34** |
| | 10 | 29 13348 84131+ | 658 07169 | 4336 54712 53525+ | 29183 97412 | 50 | |
| | 20 | 34 18006 91300+ | 667 97298+ | 4213 25528 56113 | 23277 21119+ | 40 | |
| | 30 | 39 22674 88599 | 677 87694 | 4090 02251 34993+ | 17374 74993 | 30 | |
| | 40 | 44 27352 76293 | 687 78356+ | 3966 84876 60000 | 11476 58615+ | 20 | |
| | 50 | 49 32040 54649+ | 697 69285 | 3843 73400 01385 | 123 05582 71568+ | 10 | |
| **27** | 0 | 54 36738 23934 | 707 60480 | 3720 67817 29816 | 122 99693 13437 | 0 | **33** |
| | 10 | 59 41445 84414 | 717 51941+ | 3597 68124 16379 | 93807 83804+ | 50 | |
| | 20 | 64 46163 36356 | 727 43669+ | 3474 74316 32574+ | 87926 82255+ | 40 | |
| | 30 | 69 50890 80025+ | 737 35664 | 3351 86389 50319 | 82050 08375 | 30 | |
| | 40 | 74 55628 15689+ | 747 27925 | 3229 04339 41944 | 76177 61748+ | 20 | |
| | 50 | 79 60375 43614+ | 757 20452+ | 3106 28161 80195+ | 70309 41961+ | 10 | |
| **28** | 0 | 84 65132 64067 | 767 13247 | 2983 57852 38234 | 64445 48601+ | 0 | **32** |
| | 10 | 89 69899 77314 | 777 06307+ | 2860 93406 89632 | 58585 81255 | 50 | |
| | 20 | 94 74676 83621+ | 786 99635 | 2738 34821 08377+ | 52730 39509+ | 40 | |
| | 30 | 0,20299 79463 83256+ | 796 93229 | 2615 82090 68868 | 46879 22953 | 30 | |
| | 40 | 0,20304 84260 76485 | 806 87089+ | 2493 35211 45915 | 41032 31174 | 20 | |
| | 50 | 09 89067 63574+ | 816 81216+ | 2370 94179 14741 | 35189 63761+ | 10 | |
| **29** | 0 | 14 93884 44791 | 826 75610+ | 2248 58989 50979+ | 29351 20305 | 0 | **31** |
| | 10 | 19 98711 20402 | 836 70271+ | 2126 29638 30674+ | 23517 00395 | 50 | |
| | 20 | 25 03547 90673 | 846 65198+ | 2004 06121 30280 | 17687 03621 | 40 | |
| | 30 | 30 08394 55872 | 856 60392+ | 1881 88434 26659 | 11861 29575 | 30 | |
| | 40 | 35 13251 16264+ | 866 55853+ | 1759 76572 97084 | 06039 77847+ | 20 | |
| | 50 | 40 18117 72118 | 5 04876 51581+ | 1637 70533 19236+ | 122 00222 48031+ | 10 | |
| **30** | 0 | 0,20345 22994 23699+ | | 4,91515 70310 71205 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

# 11°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,20345 22994 23699+ | 5 04886 47575+ | 4,91515 70310 71205 | 121 94409 39719 | 0 | **30** |
| | 10 | 50 27880 71275 | 896 43837 | 1393 75901 31486+ | 88600 52502+ | 50 | |
| | 20 | 55 32777 15112 | 906 40365 | 1271 87300 78984 | 82795 85976 | 40 | |
| | 30 | 60 37683 55477 | 916 37160 | 1150 04504 93007+ | 76995 39733+ | 30 | |
| | 40 | 65 42599 92637 | 926 34222 | 1028 27509 53274 | 71199 13369+ | 20 | |
| | 50 | 70 47526 26859 | 936 31550+ | 0906 56310 39904+ | 65407 06478+ | 10 | |
| **31** | 0 | 75 52462 58410 | 946 29146+ | 0784 90903 33426+ | 59619 18656 | 0 | **29** |
| | 10 | 80 57408 87556 | 956 27009 | 0663 31284 14770+ | 53835 49498 | 50 | |
| | 20 | 85 62365 14565 | 966 25138+ | 0541 77448 65272+ | 48055 98601 | 40 | |
| | 30 | 90 67331 39704 | 976 23535 | 0420 29392 66671+ | 42280 65561+ | 30 | |
| | 40 | 0,20395 72307 63239 | 986 22198+ | 0298 87112 01110 | 36509 49977+ | 20 | |
| | 50 | 0,20400 77293 85437+ | 5 04996 21129+ | 0177 50602 51132+ | 30742 51446+ | 10 | |
| **32** | 0 | 05 82290 06567 | 5 05006 20327 | 4,90056 19859 99686 | 24979 69566+ | 0 | **28** |
| | 10 | 10 87296 26894 | 016 19791+ | 4,89934 94880 30119+ | 19221 03936+ | 50 | |
| | 20 | 15 92312 46685+ | 026 19523+ | 9813 75659 26183 | 13466 54156+ | 40 | |
| | 30 | 20 97338 66208+ | 036 19522 | 9692 62192 72026+ | 07716 19825 | 30 | |
| | 40 | 26 02374 85731 | 046 19788 | 9571 54476 52201+ | 121 01970 00543+ | 20 | |
| | 50 | 31 07421 05519 | 056 20321+ | 9450 52506 51658+ | 120 96227 95911+ | 10 | |
| **33** | 0 | 36 12477 25840+ | 066 21121+ | 9329 56278 55746+ | 90490 05531+ | 0 | **27** |
| | 10 | 41 17543 46962 | 076 22189 | 9208 65788 50215 | 84756 29004+ | 50 | |
| | 20 | 46 22619 69151 | 086 23523+ | 9087 81032 21211 | 79026 65932+ | 40 | |
| | 30 | 51 27705 92675 | 096 25125+ | 8967 02005 55278+ | 73301 15918+ | 30 | |
| | 40 | 56 32802 17800+ | 106 26995 | 8846 28704 39360 | 67579 78565+ | 20 | |
| | 50 | 61 37908 44795 | 116 29131 | 8725 61124 60794+ | 61862 53477 | 10 | |
| **34** | 0 | 66 43024 73926+ | 126 31535 | 8604 99262 07317+ | 56149 40257+ | 0 | **26** |
| | 10 | 71 48151 05461 | 136 34206 | 8484 43112 67060 | 50440 38511+ | 50 | |
| | 20 | 76 53287 39667 | 146 37144 | 8363 92672 28548+ | 44735 47843+ | 40 | |
| | 30 | 81 58433 76811 | 156 40349+ | 8243 47936 80705 | 39034 67859+ | 30 | |
| | 40 | 86 63590 17160+ | 166 43822+ | 8123 08902 12846 | 33337 98165 | 20 | |
| | 50 | 91 68756 60983+ | 176 47563 | 8002 75564 14681 | 27645 38367 | 10 | |
| **35** | 0 | 0,20496 73933 08546+ | 186 51571 | 7882 47918 76314 | 21956 88072 | 0 | **25** |
| | 10 | 0,20501 79119 60117+ | 196 55846 | 7762 25961 88242 | 16272 46887+ | 50 | |
| | 20 | 06 84316 15963+ | 206 60388+ | 7642 09689 41354+ | 10592 14422 | 40 | |
| | 30 | 11 89522 76352 | 216 65199 | 7521 99097 26932+ | 120 04915 90283 | 30 | |
| | 40 | 16 94739 41551 | 226 70276+ | 7401 94181 36649+ | 119 99243 74079+ | 20 | |
| | 50 | 21 99966 11827 | 236 75621+ | 7281 94937 62570 | 93575 65420+ | 10 | |
| **36** | 0 | 27 05202 87448+ | 246 81234 | 7162 01361 97149+ | 87911 63916+ | 0 | **24** |
| | 10 | 32 10449 68682+ | 256 87114 | 7042 13450 33232+ | 82251 69177+ | 50 | |
| | 20 | 37 15706 55797 | 266 93262 | 6922 31198 64055 | 76595 80814 | 40 | |
| | 30 | 42 20973 49058+ | 276 99677 | 6802 54602 83241+ | 70943 98436+ | 30 | |
| | 40 | 47 26250 48736 | 287 06360 | 6682 83658 84805 | 65296 21657+ | 20 | |
| | 50 | 52 31537 55096 | 297 13310+ | 6563 18362 63147 | 59652 50089 | 10 | |
| **37** | 0 | 57 36834 68406+ | 307 20528+ | 6443 58710 13058 | 54012 83343+ | 0 | **23** |
| | 10 | 62 42141 88935 | 317 28014+ | 6324 04697 29714+ | 48377 21033+ | 50 | |
| | 20 | 67 47459 16949+ | 327 35768 | 6204 56320 08681+ | 42745 62772+ | 40 | |
| | 30 | 72 52786 52717+ | 337 43789 | 6085 13574 45908+ | 37118 08175 | 30 | |
| | 40 | 77 58123 96507 | 347 52078 | 5965 76456 37733+ | 31494 56855 | 20 | |
| | 50 | 82 63471 48585 | 357 60635 | 5846 44961 80878+ | 25875 08427+ | 10 | |
| **38** | 0 | 87 68829 09219+ | 367 69459 | 5727 19086 72450+ | 20259 62508 | 0 | **22** |
| | 10 | 92 74196 78679 | 377 78551+ | 5607 98827 09943 | 14648 18711+ | 50 | |
| | 20 | 0,20597 79574 57230+ | 387 87911+ | 5488 84178 91231 | 09040 76655 | 40 | |
| | 30 | 0,20602 84962 45141+ | 397 97539+ | 5369 75138 14576 | 119 03437 35954+ | 30 | |
| | 40 | 07 90360 42681 | 408 07435 | 5250 71700 78621+ | 118 97837 96228 | 20 | |
| | 50 | 12 95768 50116 | 418 17598+ | 5131 73862 82393+ | 92242 57092+ | 10 | |
| **39** | 0 | 18 01186 67714+ | 428 28030 | 5012 81620 25301 | 86651 18166 | 0 | **21** |
| | 10 | 23 06614 95744+ | 438 38729 | 4893 94969 07135+ | 81063 79067 | 50 | |
| | 20 | 28 12053 34473+ | 448 49696+ | 4775 13905 28068+ | 75480 39414+ | 40 | |
| | 30 | 33 17501 84170 | 458 60931+ | 4656 38424 88653+ | 69900 98828+ | 30 | |
| | 40 | 38 22960 45101+ | 468 72435 | 4537 68523 89825+ | 64325 56928 | 20 | |
| | 50 | 43 28429 17536+ | 5 05478 84206 | 4419 04198 32897+ | 118 58754 13334 | 10 | |
| **40** | 0 | 0,20648 33908 01742+ | | 4,84300 45444 19563+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

# 11°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,20648 33908 01742+ | 5 05488 96245 | 4,84300 45444 19563+ | 118 53186 67666+ | 0 | **20** |
| | 10 | 53 39396 97987+ | 499 08552+ | 4181 92257 51897 | 47623 19547+ | 50 | |
| | 20 | 58 44896 06540 | 509 21127+ | 4063 44634 32349+ | 42063 68598 | 40 | |
| | 30 | 63 50405 27667+ | 519 33971 | 3945 02570 63751+ | 36508 14441 | 30 | |
| | 40 | 68 55924 61638+ | 529 47082 | 3826 66062 49311 | 30956 56698 | 20 | |
| | 50 | 73 61454 08721 | 539 60461+ | 3708 35105 92613 | 25408 94992+ | 10 | |
| **41** | 0 | 78 66993 69182+ | 549 74109+ | 3590 09696 97620 | 19865 28948+ | 0 | **19** |
| | 10 | 83 72543 43292 | 559 88025 | 3471 89831 68671+ | 14325 58189 | 50 | |
| | 20 | 88 78103 31317 | 570 02209 | 3353 75506 10482+ | 08789 82339 | 40 | |
| | 30 | 93 83673 33526 | 580 16661 | 3235 66716 28143+ | 118 03258 01023 | 30 | |
| | 40 | 0,20698 89253 50187 | 590 31381+ | 3117 63458 27121 | 117 97730 13866 | 20 | |
| | 50 | 0,20703 94843 81568+ | 600 46370 | 2999 65728 13254+ | 92206 20494+ | 10 | |
| **42** | 0 | 09 00444 27938+ | 610 61627 | 2881 73521 92760 | 86686 20534 | 0 | **18** |
| | 10 | 14 06054 89565+ | 620 77152 | 2763 86835 72226 | 81170 13611 | 50 | |
| | 20 | 19 11675 66717+ | 630 92945+ | 2646 05665 58614+ | 75657 99353 | 40 | |
| | 30 | 24 17306 59662+ | 641 09007 | 2528 30007 59261+ | 70149 77387+ | 30 | |
| | 40 | 29 22947 68669+ | 651 25337 | 2410 59857 81874 | 64645 47342 | 20 | |
| | 50 | 34 28598 94006+ | 661 41935+ | 2292 95212 34532 | 59145 08844+ | 10 | |
| **43** | 0 | 39 34260 35942 | 671 58802 | 2175 36067 25687+ | 53648 61525 | 0 | **17** |
| | 10 | 44 39931 94744 | 681 75937 | 2057 82418 64162+ | 48156 05011+ | 50 | |
| | 20 | 49 45613 70681 | 691 93340+ | 1940 34262 59151 | 42667 38934+ | 40 | |
| | 30 | 54 51305 64021+ | 702 11012+ | 1822 91595 20217 | 37182 62923+ | 30 | |
| | 40 | 59 57007 75034+ | 712 28953 | 1705 54412 57293+ | 31701 76609+ | 20 | |
| | 50 | 64 62720 03987+ | 722 47162 | 1588 22710 80684 | 26224 79623+ | 10 | |
| **44** | 0 | 69 68442 51149 | 732 65639+ | 1470 96486 01060+ | 20751 71596+ | 0 | **16** |
| | 10 | 74 74175 16788+ | 742 84385 | 1353 75734 29464 | 15282 52160+ | 50 | |
| | 20 | 79 79918 01173+ | 753 03399+ | 1236 60451 77303+ | 09817 20948 | 40 | |
| | 30 | 84 85671 04573+ | 763 22682+ | 1119 50634 56355+ | 117 04355 77592 | 30 | |
| | 40 | 89 91434 27256 | 773 42234 | 1002 46278 78763+ | 116 98898 21725 | 20 | |
| | 50 | 0,20794 97207 69490 | 783 62054+ | 0885 47380 57039 | 93444 52980+ | 10 | |
| **45** | 0 | 0,20800 02991 31544 | 793 82143 | 0768 53936 04058 | 87994 70993+ | 0 | **15** |
| | 10 | 05 08785 13687 | 804 02500+ | 0651 65941 33065 | 82548 75397+ | 50 | |
| | 20 | 10 14589 16187+ | 814 23126+ | 0534 83392 57667 | 77106 65828 | 40 | |
| | 30 | 15 20403 39314 | 824 44021 | 0418 06285 91839 | 71668 41920 | 30 | |
| | 40 | 20 26227 83335+ | 834 65184+ | 0301 34617 49919 | 66234 03309+ | 20 | |
| | 50 | 25 32062 48520 | 844 86617 | 0184 68383 46610 | 60803 49632 | 10 | |
| **46** | 0 | 30 37907 35136+ | 855 08317+ | 4,80068 07579 96977+ | 55376 80525 | 0 | **14** |
| | 10 | 35 43762 43454+ | 865 30287+ | 4,79951 52203 16452+ | 49953 95625+ | 50 | |
| | 20 | 40 49627 73741+ | 875 52525+ | 9835 02249 20827 | 44534 94570 | 40 | |
| | 30 | 45 55503 26267+ | 885 75033 | 9718 57714 26256+ | 39119 76997+ | 30 | |
| | 40 | 50 61389 01300+ | 895 97809 | 9602 18594 49259 | 33708 42546 | 20 | |
| | 50 | 55 67284 99109+ | 906 20854 | 9485 84886 06713 | 28300 90853+ | 10 | |
| **47** | 0 | 60 73191 19963 | 916 44167+ | 9369 56585 15859+ | 22897 21560+ | 0 | **13** |
| | 10 | 65 79107 64131 | 926 67750 | 9253 33687 94299 | 17497 34305+ | 50 | |
| | 20 | 70 85034 31881 | 936 91602 | 9137 16190 59993+ | 12101 28729 | 40 | |
| | 30 | 75 90971 23483 | 947 15722 | 9021 04089 31264+ | 06709 04471+ | 30 | |
| | 40 | 80 96918 39205 | 957 40111+ | 8904 97380 26793+ | 116 01320 61173+ | 20 | |
| | 50 | 86 02875 79316+ | 967 64770 | 8788 96059 65620 | 115 95935 98476+ | 10 | |
| **48** | 0 | 91 08843 44086+ | 977 89697+ | 8673 00123 67143 | 90555 16022+ | 0 | **12** |
| | 10 | 0,20896 14821 33784 | 988 14893+ | 8557 09568 51120+ | 85178 13453+ | 50 | |
| | 20 | 0,20901 20809 48677+ | 5 05998 40359 | 8441 24390 37667 | 79804 90411+ | 40 | |
| | 30 | 06 26807 89036+ | 5 06008 66093+ | 8325 44585 47255+ | 74435 46540+ | 30 | |
| | 40 | 11 32816 55130 | 018 92097 | 8209 70150 00715 | 69069 81483 | 20 | |
| | 50 | 16 38835 47226+ | 029 18369+ | 8094 01080 19232 | 63707 94883+ | 10 | |
| **49** | 0 | 21 44864 65596 | 039 44911 | 7978 37372 24348+ | 58349 86385+ | 0 | **11** |
| | 10 | 26 50904 10507+ | 049 71722 | 7862 79022 37963 | 52995 55634 | 50 | |
| | 20 | 31 56953 82229 | 059 98802 | 7747 26026 82329 | 47645 02274+ | 40 | |
| | 30 | 36 63013 81031 | 070 26151 | 7631 78381 80054 | 42298 25952 | 30 | |
| | 40 | 41 69084 07182 | 080 53769+ | 7516 36083 54102 | 36955 26312+ | 20 | |
| | 50 | 46 75164 60951+ | 5 06090 81657 | 7400 99128 27789+ | 115 31616 03002+ | 10 | |
| **50** | 0 | 0,20951 81255 42608 | | 4,77285 67512 24787 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

# 11°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,20951 81255 42608 | 5 06101 09813+ | 4,77285 67512 24787 | 115 26280 55668+ | 0 | **10** |
| | 10 | 56 87356 52422 | 111 38239+ | 7170 41231 69118+ | 20948 83957+ | 50 | |
| | 20 | 61 93467 90661+ | 121 66935 | 7055 20282 85161 | 15620 87517+ | 40 | |
| | 30 | 66 99589 57596 | 131 95899+ | 6940 04661 97643 | 10296 65996+ | 30 | |
| | 40 | 72 05721 53495+ | 142 25133+ | 6824 94365 31647 | 115 04976 19042+ | 20 | |
| | 50 | 77 11863 78629 | 152 54636+ | 6709 89389 12604+ | 114 99659 46304+ | 10 | |
| **51** | 0 | 82 18016 33265+ | 162 84409 | 6594 89729 66300 | 94346 47431+ | 0 | **9** |
| | 10 | 87 24179 17674+ | 173 14451 | 6479 95383 18868+ | 89037 22073+ | 50 | |
| | 20 | 92 30352 32125+ | 183 44762+ | 6365 06345 96795 | 83731 69880+ | 40 | |
| | 30 | 0,20997 36535 76888 | 193 75343 | 6250 22614 26914+ | 78429 90502+ | 30 | |
| | 40 | 0,21002 42729 52231 | 204 06193+ | 6135 44184 36412 | 73131 83591 | 20 | |
| | 50 | 07 48933 58424+ | 214 37313 | 6020 71052 52821+ | 67837 48796+ | 10 | |
| **52** | 0 | 12 55147 95737 | 224 68702 | 5906 03215 04025 | 62546 85771+ | 0 | **8** |
| | 10 | 17 61372 64439+ | 235 00360+ | 5791 40668 18253+ | 57259 94167+ | 50 | |
| | 20 | 22 67607 64800 | 245 32289 | 5676 83408 24086 | 51976 73637 | 40 | |
| | 30 | 27 73852 97089 | 255 64486+ | 5562 31431 50449+ | 46697 23833 | 30 | |
| | 40 | 32 80108 61575+ | 265 96954 | 5447 84734 26616 | 41421 44409 | 20 | |
| | 50 | 37 86374 58529+ | 276 29690+ | 5333 43312 82207 | 36149 35019 | 10 | |
| **53** | 0 | 42 92650 88220 | 286 62697 | 5219 07163 47188 | 30880 95316 | 0 | **7** |
| | 10 | 47 98937 50917 | 296 95973 | 5104 76282 51872 | 25616 24955+ | 50 | |
| | 20 | 53 05234 46890 | 307 29519 | 4990 50666 26916+ | 20355 23592 | 40 | |
| | 30 | 58 11541 76409 | 317 63334 | 4876 30311 03324 | 15097 90881 | 30 | |
| | 40 | 63 17859 39743 | 327 97419 | 4762 15213 12443 | 09844 26478+ | 20 | |
| | 50 | 68 24187 37162+ | 338 31774 | 4648 05368 85964+ | 114 04594 30039+ | 10 | |
| **54** | 0 | 73 30525 68936+ | 348 66398+ | 4534 00774 55925 | 113 99348 01222 | 0 | **6** |
| | 10 | 78 36874 35335 | 359 01292+ | 4420 01426 54703+ | 94105 39681+ | 50 | |
| | 20 | 83 43233 36627+ | 369 36456+ | 4306 07321 15021+ | 88866 45076+ | 40 | |
| | 30 | 88 49602 73084+ | 379 71890+ | 4192 18454 69945 | 83631 17064 | 30 | |
| | 40 | 93 55982 44975 | 390 07594 | 4078 34823 52881 | 78399 55302+ | 20 | |
| | 50 | 0,21098 62372 52569 | 400 43567+ | 3964 56423 97578 | 73171 59450+ | 10 | |
| **55** | 0 | 0,21103 68772 96136+ | 410 79811 | 3850 83252 38127+ | 67947 29167 | 0 | **5** |
| | 10 | 08 75183 75947+ | 421 16324 | 3737 15305 08960+ | 62726 64111 | 50 | |
| | 20 | 13 81604 92271+ | 431 53107 | 3623 52578 44849+ | 57509 63942 | 40 | |
| | 30 | 18 88036 45378+ | 441 90160 | 3509 95068 80907+ | 52296 28321 | 30 | |
| | 40 | 23 94478 35538+ | 452 27483 | 3396 42772 52586+ | 47086 56907+ | 20 | |
| | 50 | 29 00930 63021+ | 462 65076 | 3282 95685 95679 | 41880 49363 | 10 | |
| **56** | 0 | 34 07393 28097 | 473 02938+ | 3169 53805 46316 | 36678 05349 | 0 | **4** |
| | 10 | 39 13866 31035+ | 483 41071+ | 3056 17127 40967 | 31479 24526+ | 50 | |
| | 20 | 44 20349 72107 | 493 79474+ | 2942 85648 16440+ | 26284 06558 | 40 | |
| | 30 | 49 26843 51581+ | 504 18147 | 2829 59364 09882+ | 21092 51106 | 30 | |
| | 40 | 54 33347 69728+ | 514 57090 | 2716 38271 58776+ | 15904 57833+ | 20 | |
| | 50 | 59 39862 26818+ | 524 96303 | 2603 22367 00943 | 10720 26403 | 10 | |
| **57** | 0 | 64 46387 23121+ | 535 35786 | 2490 11646 74540 | 05539 56479 | 0 | **3** |
| | 10 | 69 52922 58908 | 545 75539+ | 2377 06107 18060+ | 113 00362 47725+ | 50 | |
| | 20 | 74 59468 34447+ | 556 15563 | 2264 05744 70335 | 112 95188 99806+ | 40 | |
| | 30 | 79 66024 50010+ | 566 55856+ | 2151 10555 70528+ | 90019 12387 | 30 | |
| | 40 | 84 72591 05867 | 576 96420 | 2038 20536 58142 | 84852 85132 | 20 | |
| | 50 | 89 79168 02287 | 587 37254 | 1925 35683 73009+ | 79690 17707+ | 10 | |
| **58** | 0 | 94 85755 39541 | 597 78358+ | 1812 55993 55302 | 74531 09779+ | 0 | **2** |
| | 10 | 0,21199 92353 17899+ | 608 19732+ | 1699 81462 45523 | 69375 61014 | 50 | |
| | 20 | 0,21204 98961 37632 | 618 61377+ | 1587 12086 84509 | 64223 71077+ | 40 | |
| | 30 | 10 05579 99009+ | 629 03292+ | 1474 47863 13431 | 59075 39638 | 30 | |
| | 40 | 15 12209 02302 | 639 45477+ | 1361 88787 73793 | 53930 66363 | 20 | |
| | 50 | 20 18848 47779+ | 649 87933+ | 1249 34857 07430 | 48789 50919+ | 10 | |
| **59** | 0 | 25 25498 35713 | 660 30659+ | 1136 86067 56510+ | 43651 92976+ | 0 | **1** |
| | 10 | 30 32158 66372+ | 670 73655+ | 1024 42415 63534 | 38517 92202+ | 50 | |
| | 20 | 35 38829 40028 | 681 16922+ | 0912 03897 71331+ | 33387 48266+ | 40 | |
| | 30 | 40 45510 56950+ | 691 60459+ | 0799 70510 23064+ | 28260 60838+ | 30 | |
| | 40 | 45 52202 17410 | 702 04267 | 0687 42249 62226+ | 23137 29587+ | 20 | |
| | 50 | 50 58904 21677 | | 0575 19112 32638+ | 112 18017 54184+ | 10 | |
| **60** | 0 | 0,21255 65616 70022 | 5 06712 48345 | 4,70463 01094 78454 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 78°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,21255 65616 70022 | 5 06722 92693+ | 4,70463 01094 78454 | 112 12901 34299+ | 0 | **60** |
| | 10 | 60 72339 62716 | 733 37312+ | 0350 88193 44155 | 07788 69603+ | 50 | |
| | 20 | 65 79073 00028+ | 743 82202+ | 0238 80404 74551 | 112 02679 59768+ | 40 | |
| | 30 | 70 85816 82231 | 754 27362+ | 0126 77725 14783 | 111 97574 04465+ | 30 | |
| | 40 | 75 92571 09593 | 764 72793 | 4,70014 80151 10317+ | 92472 03367 | 20 | |
| | 50 | 80 99335 82386 | 775 18494 | 4,69902 87679 06950 | 87373 56145+ | 10 | |
| **1** | 0 | 86 06111 00880+ | 785 64466 | 9791 00305 50804+ | 82278 62474 | 0 | **59** |
| | 10 | 91 12896 65346+ | 796 10708+ | 9679 18026 88330+ | 77187 22025+ | 50 | |
| | 20 | 0,21296 19692 76055 | 806 57221+ | 9567 40839 66305+ | 72099 34473+ | 40 | |
| | 30 | 0,21301 26499 33276+ | 817 04005+ | 9455 68740 31831+ | 67014 99492+ | 30 | |
| | 40 | 06 33316 37282 | 827 51060 | 9344 01725 32339+ | 61934 16756+ | 20 | |
| | 50 | 11 40143 88342 | 837 98385 | 9232 39791 15583 | 56856 85940+ | 10 | |
| **2** | 0 | 16 46981 86727 | 848 45981 | 9120 82934 29642+ | 51783 06719+ | 0 | **58** |
| | 10 | 21 53830 32708 | 858 93847+ | 9009 31151 22923 | 46712 78769 | 50 | |
| | 20 | 26 60689 26555+ | 869 41985 | 8897 84438 44154 | 41646 01765 | 40 | |
| | 30 | 31 67558 68540+ | 879 90393 | 8786 42792 42389+ | 36582 75383+ | 30 | |
| | 40 | 36 74438 58933+ | 890 39072 | 8675 06209 67006 | 31522 99301+ | 20 | |
| | 50 | 41 81328 98006 | 900 88022 | 8563 74686 67704 | 26466 73196 | 10 | |
| **3** | 0 | 46 88229 86028 | 911 37243 | 8452 48219 94508+ | 21413 96744 | 0 | **57** |
| | 10 | 51 95141 23271 | 921 86734+ | 8341 26805 97764+ | 16364 69623+ | 50 | |
| | 20 | 57 02063 10005 | 932 36497 | 8230 10441 28141 | 11318 91512+ | 40 | |
| | 30 | 62 08995 46502 | 942 86530+ | 8118 99122 36628 | 06276 62090 | 30 | |
| | 40 | 67 15938 33032+ | 953 36834+ | 8007 92845 74538 | 111 01237 81034+ | 20 | |
| | 50 | 72 22891 69867 | 963 87410 | 7896 91607 93504 | 110 96202 48024+ | 10 | |
| **4** | 0 | 77 29855 57277 | 974 38256+ | 7785 95405 45479 | 91170 62741 | 0 | **56** |
| | 10 | 82 36829 95533+ | 984 89373+ | 7675 04234 82738 | 86142 24863 | 50 | |
| | 20 | 87 43814 84907 | 5 06995 40762 | 7564 18092 57875 | 81117 34071+ | 40 | |
| | 30 | 92 50810 25669 | 5 07005 92421+ | 7453 36975 23803+ | 76095 90046+ | 30 | |
| | 40 | 0,21397 57816 18090+ | 016 44352 | 7342 60879 33757+ | 71077 92469 | 20 | |
| | 50 | 0,21402 64832 62442 | 026 96553+ | 7231 89801 41288 | 66063 41021+ | 10 | |
| **5** | 0 | 07 71859 58995+ | 037 49026 | 7121 23738 00266+ | 61052 35385 | 0 | **55** |
| | 10 | 12 78897 08021+ | 048 01769+ | 7010 62685 64881+ | 56044 75241+ | 50 | |
| | 20 | 17 85945 09791 | 058 54784+ | 6900 06640 89640 | 51040 60274+ | 40 | |
| | 30 | 22 93003 64575+ | 069 08070+ | 6789 55600 29365+ | 46039 90166 | 30 | |
| | 40 | 28 00072 72646+ | 079 61628 | 6679 09560 39200 | 41042 64599 | 20 | |
| | 50 | 33 07152 34274+ | 090 15456+ | 6568 68517 74600+ | 36048 83258+ | 10 | |
| **6** | 0 | 38 14242 49731 | 100 69556+ | 6458 32468 91342 | 31058 45827 | 0 | **54** |
| | 10 | 43 21343 19287 | 111 23927+ | 6348 01410 45515 | 26071 51990 | 50 | |
| | 20 | 48 28454 43214+ | 121 78569+ | 6237 75338 93525 | 21088 01431+ | 40 | |
| | 30 | 53 35576 21784 | 132 33483 | 6127 54250 92093+ | 16107 93837 | 30 | |
| | 40 | 58 42708 55267 | 142 88668 | 6017 38142 98256+ | 11131 28891+ | 20 | |
| | 50 | 63 49851 43935 | 153 44124+ | 5907 27011 69365 | 06158 06281+ | 10 | |
| **7** | 0 | 68 57004 88059+ | 163 99852 | 5797 20853 63083+ | 110 01188 25692 | 0 | **53** |
| | 10 | 73 64168 87911 | 174 55851 | 5687 19665 37391+ | 109 96221 86811 | 50 | |
| | 20 | 78 71343 43762 | 185 12121+ | 5577 23443 50580+ | 91258 89324+ | 40 | |
| | 30 | 83 78528 55883+ | 195 68663 | 5467 32184 61256 | 86299 32919+ | 30 | |
| | 40 | 88 85724 24546+ | 206 25476+ | 5357 45885 28337 | 81343 17284 | 20 | |
| | 50 | 93 92930 50022+ | 216 82561 | 5247 64542 11052+ | 76390 42106 | 10 | |
| **8** | 0 | 0,21499 00147 32584 | 227 39917+ | 5137 88151 68946+ | 71441 07074 | 0 | **52** |
| | 10 | 0,21504 07374 72501 | 237 97545 | 5028 16710 61872+ | 66495 11876 | 50 | |
| | 20 | 09 14612 70046 | 248 55444+ | 4918 50215 49996+ | 61552 56202 | 40 | |
| | 30 | 14 21861 25490+ | 259 13615 | 4808 88662 93794+ | 56613 39740+ | 30 | |
| | 40 | 19 29120 39106 | 269 72057+ | 4699 32049 54054 | 51677 62181+ | 20 | |
| | 50 | 24 36390 11163+ | 280 30771+ | 4589 80371 91873 | 46745 23215 | 10 | |
| **9** | 0 | 29 43670 41935 | 290 89757 | 4480 33626 68658 | 41816 22531+ | 0 | **51** |
| | 10 | 34 50961 31692+ | 301 49014+ | 4370 91810 46126+ | 36890 59822 | 50 | |
| | 20 | 39 58262 80707 | 312 08543+ | 4261 54919 86304+ | 31968 34777+ | 40 | |
| | 30 | 44 65574 89250 | 322 68344 | 4152 22951 51526+ | 27049 47090 | 30 | |
| | 40 | 49 72897 57594+ | 333 28416+ | 4042 95902 04436+ | 22133 96450+ | 20 | |
| | 50 | 54 80230 86010+ | 5 07343 88760+ | 3933 73768 07986+ | 109 17221 82551+ | 10 | |
| **10** | 0 | 0,21559 87574 74771 | | 4,63824 56546 25435 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,21559 87574 74771 | 5 07354 49376 | 4,63824 56546 25435 | 109 12313 05085+ | 0 | **50** |
| | 10 | 64 94929 24147+ | 365 10264 | 3715 44233 20349 | 07407 63746 | 50 | |
| | 20 | 70 02294 34411 | 375 71423 | 3606 36825 56603 | 109 02505 58225+ | 40 | |
| | 30 | 75 09670 05834 | 386 32854+ | 3497 34319 98377+ | 108 97606 88218+ | 30 | |
| | 40 | 80 17056 38688+ | 396 94557+ | 3388 36713 10159 | 92711 53418 | 20 | |
| | 50 | 85 24453 33245+ | 407 56532 | 3279 44001 56741+ | 87819 53518+ | 10 | |
| **11** | 0 | 90 31860 89778 | 418 18779 | 3170 56182 03223 | 82930 88215 | 0 | **49** |
| | 10 | 0,21595 39279 08556+ | 428 81297+ | 3061 73251 15008 | 78045 57202+ | 50 | |
| | 20 | 0,21600 46707 89854 | 439 44088 | 2952 95205 57805+ | 73163 60176 | 40 | |
| | 30 | 05 54147 33942 | 450 07150+ | 2844 22041 97629+ | 68284 96831+ | 30 | |
| | 40 | 10 61597 41092+ | 460 70485 | 2735 53757 00798 | 63409 66865 | 20 | |
| | 50 | 15 69058 11577+ | 471 34091+ | 2626 90347 33933 | 58537 69973 | 10 | |
| **12** | 0 | 20 76529 45668+ | 481 97969+ | 2518 31809 63960 | 53669 05852 | 0 | **48** |
| | 10 | 25 84011 43638+ | 492 62120 | 2409 78140 58108 | 48803 74199 | 50 | |
| | 20 | 30 91504 05758+ | 503 26542+ | 2301 29336 83909+ | 43941 74711+ | 40 | |
| | 30 | 35 99007 32301 | 513 91237 | 2192 85395 09197+ | 39083 07088 | 30 | |
| | 40 | 41 06521 23538+ | 524 56204 | 2084 46312 02110 | 34227 71025+ | 20 | |
| | 50 | 46 14045 79742+ | 535 21442+ | 1976 12084 31084+ | 29375 66223 | 10 | |
| **13** | 0 | 51 21581 01185 | 545 86953+ | 1867 82708 64861+ | 24526 92379 | 0 | **47** |
| | 10 | 56 29126 88138+ | 556 52736+ | 1759 58181 72482+ | 19681 49193+ | 50 | |
| | 20 | 61 36683 40875 | 567 18791+ | 1651 38500 23289+ | 14839 36365 | 40 | |
| | 30 | 66 44250 59666+ | 577 85119 | 1543 23660 86924+ | 10000 53593+ | 30 | |
| | 40 | 71 51828 44785+ | 588 51719 | 1435 13660 33331 | 05165 00579+ | 20 | |
| | 50 | 76 59416 96504+ | 599 18590+ | 1327 08495 32751+ | 108 00332 77023+ | 10 | |
| **14** | 0 | 81 67016 15095 | 609 85735 | 1219 08162 55727+ | 107 95503 82626+ | 0 | **46** |
| | 10 | 86 74626 00830 | 620 53151 | 1111 12658 73101+ | 90678 17089 | 50 | |
| | 20 | 91 82246 53981 | 631 20840 | 1003 21980 56012+ | 85855 80113 | 40 | |
| | 30 | 0,21696 89877 74821 | 641 88801 | 0895 36124 75899+ | 81036 71400+ | 30 | |
| | 40 | 0,21701 97519 63622 | 652 57034+ | 0787 55088 04499+ | 76220 90653 | 20 | |
| | 50 | 07 05172 20656 | 663 25540 | 0679 78867 13846 | 71408 37574 | 10 | |
| **15** | 0 | 12 12835 46196 | 673 94318 | 0572 07458 76272 | 66599 11866 | 0 | **45** |
| | 10 | 17 20509 40514+ | 684 63368+ | 0464 40859 64406+ | 61793 13232 | 50 | |
| | 20 | 22 28194 03883 | 695 32691+ | 0356 79066 51174+ | 56990 41375+ | 40 | |
| | 30 | 27 35889 36575 | 706 02287 | 0249 22076 09799 | 52190 96000+ | 30 | |
| | 40 | 32 43595 38862 | 716 72155 | 0141 69885 13798+ | 47394 76811+ | 20 | |
| | 50 | 37 51312 11017 | 727 42295+ | 4,60034 22490 36987 | 42601 83513 | 10 | |
| **16** | 0 | 42 59039 53312+ | 738 12708+ | 4,59926 79888 53474 | 37812 15809+ | 0 | **44** |
| | 10 | 47 66777 66021 | 748 83394 | 9819 42076 37664+ | 33025 73406+ | 50 | |
| | 20 | 52 74526 49414+ | 759 54352 | 9712 09050 64258 | 28242 56009+ | 40 | |
| | 30 | 57 82286 03766+ | 770 25582+ | 9604 80808 08248+ | 23462 63324+ | 30 | |
| | 40 | 62 90056 29349 | 780 97085+ | 9497 57345 44923+ | 18685 95058 | 20 | |
| | 50 | 67 97837 26435 | 791 68861+ | 9390 38659 49866 | 13912 50915+ | 10 | |
| **17** | 0 | 73 05628 95296+ | 802 40910 | 9283 24746 98950+ | 09142 30605 | 0 | **43** |
| | 10 | 78 13431 36206+ | 813 13231 | 9176 15604 68345+ | 107 04375 33833 | 50 | |
| | 20 | 83 21244 49438 | 823 85825 | 9069 11229 34512 | 106 99611 60308 | 40 | |
| | 30 | 88 29068 35263 | 834 58691+ | 8962 11617 74204+ | 94851 09736+ | 30 | |
| | 40 | 93 36902 93954+ | 845 31831 | 8855 16766 64468 | 90093 81828 | 20 | |
| | 50 | 0,21798 44748 25785+ | 856 05243 | 8748 26672 82640 | 85339 76290 | 10 | |
| **18** | 0 | 0,21803 52604 31028+ | 866 78928 | 8641 41333 06350 | 80588 92832 | 0 | **42** |
| | 10 | 08 60471 09956+ | 877 52885+ | 8534 60744 13517+ | 75841 31163+ | 50 | |
| | 20 | 13 68348 62842 | 888 27116 | 8427 84902 82354+ | 71096 90993 | 40 | |
| | 30 | 18 76236 89958 | 899 01619 | 8321 13805 91361+ | 66355 72031 | 30 | |
| | 40 | 23 84135 91577 | 909 76395+ | 8214 47450 19330 | 61617 73988 | 20 | |
| | 50 | 28 92045 67972+ | 920 51444+ | 8107 85832 45342+ | 56882 96574 | 10 | |
| **19** | 0 | 33 99966 19417 | 931 26766+ | 8001 28949 48768+ | 52151 39499+ | 0 | **41** |
| | 10 | 39 07897 46183+ | 942 02361+ | 7894 76798 09269 | 47423 02476+ | 50 | |
| | 20 | 44 15839 48544+ | 952 78229 | 7788 29375 06792+ | 42697 85216 | 40 | |
| | 30 | 49 23792 26773+ | 963 54370 | 7681 86677 21576 | 37975 87430 | 30 | |
| | 40 | 54 31755 81143+ | 974 30783+ | 7575 48701 34146 | 33257 08830+ | 20 | |
| | 50 | 59 39730 11927+ | 5 07985 07470+ | 7469 15444 25315+ | 106 28541 49130 | 10 | |
| **20** | 0 | 0,21864 47715 19398 | | 4,57362 86902 76185+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,21864 47715 19398 | 5 07995 84430+ | 4,57362 86902 76185+ | 106 23829 08041+ | 0 | **40** |
| | 10 | 69 55711 03828+ | 5 08006 61663+ | 7256 63073 68144 | 19119 85277+ | 50 | |
| | 20 | 74 63717 65491+ | 017 39169+ | 7150 43953 82866+ | 14413 80552 | 40 | |
| | 30 | 79 71735 04661 | 028 16948+ | 7044 29540 02314+ | 09710 93578+ | 30 | |
| | 40 | 84 79763 21609+ | 038 95000+ | 6938 19829 08736 | 05011 24071+ | 20 | |
| | 50 | 89 87802 16610 | 049 73326 | 6832 14817 84664+ | 106 00314 71744+ | 10 | |
| **21** | 0 | 0,21894 95851 89936 | 060 51924+ | 6726 14503 12920 | 105 95621 36313 | 0 | **39** |
| | 10 | 0,21900 03912 41860+ | 071 30796+ | 6620 18881 76607 | 90931 17492 | 50 | |
| | 20 | 05 11983 72657 | 082 09941 | 6514 27950 59115 | 86244 14996+ | 40 | |
| | 30 | 10 20065 82598 | 092 89359+ | 6408 41706 44118+ | 81560 28542 | 30 | |
| | 40 | 15 28158 71957+ | 103 69051 | 6302 60146 15576+ | 76879 57845+ | 20 | |
| | 50 | 20 36262 41008+ | 114 49015+ | 6196 83266 57731 | 72202 02622 | 10 | |
| **22** | 0 | 25 44376 90024 | 125 29253+ | 6091 11064 55109 | 67527 62589 | 0 | **38** |
| | 10 | 30 52502 19277+ | 136 09765 | 5985 43536 92520 | 62856 37463+ | 50 | |
| | 20 | 35 60638 29042+ | 146 90549+ | 5879 80680 55057 | 58188 26962 | 40 | |
| | 30 | 40 68785 19592 | 157 71607+ | 5774 22492 28095 | 53523 30803 | 30 | |
| | 40 | 45 76942 91199+ | 168 52939 | 5668 68968 97292 | 48861 48703+ | 20 | |
| | 50 | 50 85111 44138+ | 179 34544 | 5563 20107 48588 | 44202 80382+ | 10 | |
| **23** | 0 | 55 93290 78682 | 190 16422 | 5457 75904 68205+ | 39547 25558+ | 0 | **37** |
| | 10 | 61 01480 95104 | 200 98573+ | 5352 36357 42647 | 34894 83950 | 50 | |
| | 20 | 66 09681 93678 | 211 80999 | 5247 01462 58697 | 30245 55276 | 40 | |
| | 30 | 71 17893 74677 | 222 63697+ | 5141 71217 03421 | 25599 39256+ | 30 | |
| | 40 | 76 26116 38374+ | 233 46670 | 5036 45617 64165 | 20956 35610+ | 20 | |
| | 50 | 81 34349 85044 | 244 29915+ | 4931 24661 28554 | 16316 44059 | 10 | |
| **24** | 0 | 86 42594 14959+ | 255 13435 | 4826 08344 84495 | 11679 64322+ | 0 | **36** |
| | 10 | 91 50849 28394+ | 265 97227+ | 4720 96665 20172+ | 07045 96121 | 50 | |
| | 20 | 0,21996 59115 25622 | 276 81294 | 4615 89619 24052 | 105 02415 39175+ | 40 | |
| | 30 | 0,22001 67392 06916 | 287 65634 | 4510 87203 84876+ | 104 97787 93208 | 30 | |
| | 40 | 06 75679 72550+ | 298 50248 | 4405 89415 91668+ | 93163 57940 | 20 | |
| | 50 | 11 83978 22798+ | 309 35135+ | 4300 96252 33728+ | 88542 33093 | 10 | |
| **25** | 0 | 16 92287 57933+ | 320 20296+ | 4196 07710 00635+ | 83924 18390 | 0 | **35** |
| | 10 | 22 00607 78230 | 331 05731+ | 4091 23785 82245+ | 79309 13553 | 50 | |
| | 20 | 27 08938 83961+ | 341 91440 | 3986 44476 68692 | 74697 18305+ | 40 | |
| | 30 | 32 17280 75401+ | 352 77422 | 3881 69779 50386+ | 70088 32370+ | 30 | |
| | 40 | 37 25633 52823+ | 363 63678 | 3776 99691 18016 | 65482 55471 | 20 | |
| | 50 | 42 33997 16502 | 374 50208 | 3672 34208 62545 | 60879 87331+ | 10 | |
| **26** | 0 | 47 42371 66710 | 385 37012 | 3567 73328 75213+ | 56280 27676 | 0 | **34** |
| | 10 | 52 50757 03721+ | 396 24089+ | 3463 17048 47537+ | 51683 76229 | 50 | |
| | 20 | 57 59153 27811 | 407 11441 | 3358 65364 71309 | 47090 32715 | 40 | |
| | 30 | 62 67560 39252 | 417 99066 | 3254 18274 38594 | 42499 96859 | 30 | |
| | 40 | 67 75978 38318 | 428 86965+ | 3149 75774 41735 | 37912 68387 | 20 | |
| | 50 | 72 84407 25283+ | 439 75138+ | 3045 37861 73348 | 33328 47024 | 10 | |
| **27** | 0 | 77 92847 00422 | 450 63585+ | 2941 04533 26324 | 28747 32496+ | 0 | **33** |
| | 10 | 83 01297 64007+ | 461 52306+ | 2836 75785 93827 | 24169 24530+ | 50 | |
| | 20 | 88 09759 16314+ | 472 41302 | 2732 51616 69296+ | 19594 22853 | 40 | |
| | 30 | 93 18231 57616 | 483 30571 | 2628 32022 46443+ | 15022 27190+ | 30 | |
| | 40 | 0,22098 26714 88187 | 494 20114 | 2524 17000 19253+ | 10453 37270 | 20 | |
| | 50 | 0,22103 35209 08301 | 505 09931+ | 2420 06546 81983 | 05887 52819+ | 10 | |
| **28** | 0 | 08 43714 18232+ | 516 00022+ | 2316 00659 29163+ | 104 01324 73567 | 0 | **32** |
| | 10 | 13 52230 18255 | 526 90388 | 2211 99334 55597 | 103 96764 99240 | 50 | |
| | 20 | 18 60757 08643 | 537 81027+ | 2108 02569 56357 | 92208 29567 | 40 | |
| | 30 | 23 69294 89670+ | 548 71941 | 2004 10361 26790 | 87654 64277 | 30 | |
| | 40 | 28 77843 61612 | 559 63129 | 1900 22706 62512+ | 83104 03099+ | 20 | |
| | 50 | 33 86403 24741 | 570 54591 | 1796 39602 59413+ | 78556 45763 | 10 | |
| **29** | 0 | 38 94973 79332 | 581 46327+ | 1692 61046 13650+ | 74011 91997 | 0 | **31** |
| | 10 | 44 03555 25659+ | 592 38338 | 1588 87034 21653+ | 69470 41532+ | 50 | |
| | 20 | 49 12147 63997+ | 603 30622+ | 1485 17563 80121 | 64931 94098+ | 40 | |
| | 30 | 54 20750 94620 | 614 23182 | 1381 52631 86022 | 60396 49426+ | 30 | |
| | 40 | 59 29365 17802 | 625 16015 | 1277 92235 36595+ | 55864 07247 | 20 | |
| | 50 | 64 37990 33817 | 5 08636 09123 | 1174 36371 29348+ | 103 51334 67291 | 10 | |
| **30** | 0 | 0,22169 46626 42940 | | 4,51070 85036 62057 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,22169 46626 42940 | 5 08647 02505 | 4,51070 85036 62057 | 103 46808 29290+ | 0 | **30** |
| | 10 | 74 55273 45445 | 657 96161+ | 0967 38228 32767 | 42284 92976 | 50 | |
| | 20 | 79 63931 41606 | 668 90092 | 0863 95943 39790+ | 37764 58081 | 40 | |
| | 30 | 84 72600 31698+ | 679 84297+ | 0760 58178 81710 | 33247 24336+ | 30 | |
| | 40 | 89 81280 15996 | 690 78777 | 0657 24931 57373+ | 28732 91476 | 20 | |
| | 50 | 94 89970 94773 | 701 73531 | 0553 96198 65897+ | 24221 59232 | 10 | |
| **31** | 0 | 0,22199 98672 68304 | 712 68560 | 0450 71977 06665 | 19713 27338 | 0 | **29** |
| | 10 | 0,22205 07385 36864 | 723 63863 | 0347 52263 79327 | 15207 95527+ | 50 | |
| | 20 | 10 16109 00727 | 734 59440+ | 0244 37055 83799+ | 10705 63534 | 40 | |
| | 30 | 15 24843 60167+ | 745 55293 | 0141 26350 20265+ | 06206 31092 | 30 | |
| | 40 | 20 33589 15460+ | 756 51419+ | 4,50038 20143 89173+ | 103 01709 97935+ | 20 | |
| | 50 | 25 42345 66880 | 767 47821 | 4,49935 18433 91238 | 102 97216 63799+ | 10 | |
| **32** | 0 | 30 51113 14701 | 778 44497 | 9832 21217 27438+ | 92726 28418+ | 0 | **28** |
| | 10 | 35 59891 59198 | 789 41447+ | 9729 28490 99020 | 88238 91528+ | 50 | |
| | 20 | 40 68681 00645+ | 800 38673 | 9626 40252 07491 | 83754 52864+ | 40 | |
| | 30 | 45 77481 39318+ | 811 36173 | 9523 56497 54626+ | 79273 12163 | 30 | |
| | 40 | 50 86292 75491 | 822 33947+ | 9420 77224 42463+ | 74794 69159+ | 20 | |
| | 50 | 55 95115 09439 | 833 31997 | 9318 02429 73304+ | 70319 23590+ | 10 | |
| **33** | 0 | 61 03948 41435+ | 844 30321 | 9215 32110 49714 | 65846 75193 | 0 | **27** |
| | 10 | 66 12792 71757 | 855 28920 | 9112 66263 74521 | 61377 23704 | 50 | |
| | 20 | 71 21648 00676+ | 866 27793+ | 9010 04886 50817+ | 56910 68860+ | 40 | |
| | 30 | 76 30514 28470+ | 877 26942 | 8907 47975 81957 | 52447 10400+ | 30 | |
| | 40 | 81 39391 55412+ | 888 26365+ | 8804 95528 71556 | 47986 48062 | 20 | |
| | 50 | 86 48279 81778+ | 899 26064 | 8702 47542 23494+ | 43528 81582+ | 10 | |
| **34** | 0 | 91 57179 07842 | 910 26037 | 8600 04013 41911+ | 39074 10701+ | 0 | **26** |
| | 10 | 0,22296 66089 33879 | 921 26285 | 8497 64939 31210 | 34622 35157 | 50 | |
| | 20 | 0,22301 75010 60164 | 932 26808 | 8395 30316 96053 | 30173 54688+ | 40 | |
| | 30 | 06 83942 86972 | 943 27606 | 8293 00143 41365 | 25727 69034+ | 30 | |
| | 40 | 11 92886 14577+ | 954 28678+ | 8190 74415 72330 | 21284 77936 | 20 | |
| | 50 | 17 01840 43256+ | 965 30026+ | 8088 53130 94394 | 16844 81131+ | 10 | |
| **35** | 0 | 22 10805 73283 | 976 31649+ | 7986 36286 13262+ | 12407 78362+ | 0 | **25** |
| | 10 | 27 19782 04932 | 987 33547+ | 7884 23878 34900 | 07973 69368+ | 50 | |
| | 20 | 32 28769 38479+ | 5 08998 35720 | 7782 15904 65531+ | 102 03542 53891 | 40 | |
| | 30 | 37 37767 74199+ | 5 09009 38168+ | 7680 12362 11640+ | 101 99114 31670+ | 30 | |
| | 40 | 42 46777 12368 | 020 40891+ | 7578 13247 79970 | 94689 02448+ | 20 | |
| | 50 | 47 55797 53259+ | 031 43889+ | 7476 18558 77521+ | 90266 65967 | 10 | |
| **36** | 0 | 52 64828 97149 | 042 47163 | 7374 28292 11554+ | 85847 21967+ | 0 | **24** |
| | 10 | 57 73871 44312+ | 053 50712 | 7272 42444 89587 | 81430 70192+ | 50 | |
| | 20 | 62 82924 95024 | 064 54535+ | 7170 61014 19395 | 77017 10384 | 40 | |
| | 30 | 67 91989 49559+ | 075 58634+ | 7068 83997 09011 | 72606 42285+ | 30 | |
| | 40 | 73 01065 08194 | 086 63009 | 6967 11390 66725+ | 68198 65639+ | 20 | |
| | 50 | 78 10151 71203 | 097 67658+ | 6865 43192 01086 | 63793 80189+ | 10 | |
| **37** | 0 | 83 19249 38861+ | 108 72583 | 6763 79398 20896+ | 59391 85679 | 0 | **23** |
| | 10 | 88 28358 11444+ | 119 77783 | 6662 20006 35217+ | 54992 81852+ | 50 | |
| | 20 | 93 37477 89227+ | 130 83258+ | 6560 65013 53365 | 50596 68453+ | 40 | |
| | 30 | 0,22398 46608 72486+ | 141 89009+ | 6459 14416 84911+ | 46203 45226+ | 30 | |
| | 40 | 0,22403 55750 61496 | 152 95035+ | 6357 68213 39685 | 41813 11917 | 20 | |
| | 50 | 08 64903 56531+ | 164 01337 | 6256 26400 27768 | 37425 68269 | 10 | |
| **38** | 0 | 13 74067 57868+ | 175 07914 | 6154 88974 59499 | 33041 14028+ | 0 | **22** |
| | 10 | 18 83242 65782+ | 186 14766+ | 6053 55933 45471 | 28659 48940+ | 50 | |
| | 20 | 23 92428 80549+ | 197 21894+ | 5952 27273 96530 | 24280 72752 | 40 | |
| | 30 | 29 01626 02443+ | 208 29298 | 5851 02993 23778+ | 19904 85208 | 30 | |
| | 40 | 34 10834 31741+ | 219 36976+ | 5749 83088 38570+ | 15531 86055 | 20 | |
| | 50 | 39 20053 68718 | 230 44931 | 5648 67556 52515+ | 11161 75040+ | 10 | |
| **39** | 0 | 44 29284 13649 | 241 53161 | 5547 56394 77475 | 06794 51911 | 0 | **21** |
| | 10 | 49 38525 66810 | 252 61666+ | 5446 49600 25564 | 101 02430 16413+ | 50 | |
| | 20 | 54 47778 28476+ | 263 70447+ | 5345 47170 09150+ | 100 98068 68296 | 40 | |
| | 30 | 59 57041 98924 | 274 79504+ | 5244 49101 40854 | 93710 07306+ | 30 | |
| | 40 | 64 66316 78428+ | 285 88836+ | 5143 55391 33548 | 89354 33192 | 20 | |
| | 50 | 69 75602 67265 | 5 09296 98444+ | 5042 66037 00355+ | 100 85001 45702 | 10 | |
| **40** | 0 | 0,22474 84899 65709+ | | 4,44941 81035 54653+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,22474 84899 65709+ | 5 09308 08328+ | 4,44941 81035 54653+ | 100 80651 44585 | 0 | **20** |
| | 10 | 79 94207 74038 | 319 18488 | 4841 00384 10068+ | 76304 29589+ | 50 | |
| | 20 | 85 03526 92526 | 330 28923 | 4740 24079 80479 | 71960 00464+ | 40 | |
| | 30 | 90 12857 21449 | 341 39634 | 4639 52119 80014+ | 67618 56960+ | 30 | |
| | 40 | 0,22495 22198 61083 | 352 50620+ | 4538 84501 23054 | 63279 98826 | 20 | |
| | 50 | 0,22500 31551 11703+ | 363 61883 | 4438 21221 24228 | 58944 25812 | 10 | |
| **41** | 0 | 05 40914 73586+ | 374 73421+ | 4337 62276 98416+ | 54611 37668 | 0 | **19** |
| | 10 | 10 50289 47008 | 385 85235+ | 4237 07665 60748+ | 50281 34145 | 50 | |
| | 20 | 15 59675 32243+ | 396 97325+ | 4136 57384 26603+ | 45954 14994 | 40 | |
| | 30 | 20 69072 29569+ | 408 09691+ | 4036 11430 11609 | 41629 79966 | 30 | |
| | 40 | 25 78480 39261 | 419 22333+ | 3935 69800 31643+ | 37308 28812 | 20 | |
| | 50 | 30 87899 61594 | 430 35251 | 3835 32492 02831 | 32989 61284 | 10 | |
| **42** | 0 | 35 97329 96845+ | 441 48445 | 3734 99502 41547 | 28673 77134 | 0 | **18** |
| | 10 | 41 06771 45290 | 452 61914+ | 3634 70828 64413 | 24360 76114 | 50 | |
| | 20 | 46 16224 07204+ | 463 75660 | 3534 46467 88299 | 20050 57976+ | 40 | |
| | 30 | 51 25687 82865 | 474 89682 | 3434 26417 30322+ | 15743 22474+ | 30 | |
| | 40 | 56 35162 72547 | 486 03979+ | 3334 10674 07848 | 11438 69360+ | 20 | |
| | 50 | 61 44648 76526+ | 497 18553+ | 3233 99235 38487 | 07136 98388+ | 10 | |
| **43** | 0 | 66 54145 95080 | 508 33403+ | 3133 92098 40099 | 100 02838 09311 | 0 | **17** |
| | 10 | 71 63654 28483+ | 519 48529+ | 3033 89260 30788 | 99 98542 01883 | 50 | |
| | 20 | 76 73173 77013 | 530 63931+ | 2933 90718 28905 | 94248 75857+ | 40 | |
| | 30 | 81 82704 40944+ | 541 79610 | 2833 96469 53047+ | 89958 30989+ | 30 | |
| | 40 | 86 92246 20554+ | 552 95564+ | 2734 06511 22057+ | 85670 67034 | 20 | |
| | 50 | 92 01799 16119 | 564 11795 | 2634 20840 55024 | 81385 83745 | 10 | |
| **44** | 0 | 0,22597 11363 27914 | 575 28302 | 2534 39454 71279 | 77103 80878 | 0 | **16** |
| | 10 | 0,22602 20938 56216+ | 586 45085+ | 2434 62350 90401 | 72824 58188+ | 50 | |
| | 20 | 07 30525 01301+ | 597 62145 | 2334 89526 32212+ | 68548 15432 | 40 | |
| | 30 | 12 40122 63446+ | 608 79480+ | 2235 20978 16780+ | 64274 52365 | 30 | |
| | 40 | 17 49731 42927 | 619 97092+ | 2135 56703 64415+ | 60003 68743 | 20 | |
| | 50 | 22 59351 40019+ | 631 14981 | 2035 96699 95672+ | 55735 64323 | 10 | |
| **45** | 0 | 27 68982 55001 | 642 33146 | 1936 40964 31349+ | 51470 38861+ | 0 | **15** |
| | 10 | 32 78624 88146+ | 653 51587 | 1836 89493 92488 | 47207 92115+ | 50 | |
| | 20 | 37 88278 39733+ | 664 70304+ | 1737 42286 00372+ | 42948 23842+ | 40 | |
| | 30 | 42 97943 10038 | 675 89298+ | 1637 99337 76530 | 38691 33800 | 30 | |
| | 40 | 48 07618 99337 | 687 08569 | 1538 60646 42729+ | 34437 21746 | 20 | |
| | 50 | 53 17306 07906 | 698 28116 | 1439 26209 20984 | 30185 87438 | 10 | |
| **46** | 0 | 58 27004 36022 | 709 47939+ | 1339 96023 33546 | 25937 30634+ | 0 | **14** |
| | 10 | 63 36713 83961+ | 720 68039+ | 1240 70086 02911+ | 21691 51094+ | 50 | |
| | 20 | 68 46434 52000+ | 731 88416 | 1141 48394 51817 | 17448 48576+ | 40 | |
| | 30 | 73 56166 40416+ | 743 09069 | 1042 30946 03240 | 13208 22840 | 30 | |
| | 40 | 78 65909 49485+ | 754 29998+ | 0943 17737 80400+ | 08970 73644 | 20 | |
| | 50 | 83 75663 79484 | 765 51205 | 0844 08767 06756+ | 04736 00748 | 10 | |
| **47** | 0 | 88 85429 30689 | 776 72688 | 0745 04031 06008+ | 99 00504 03912+ | 0 | **13** |
| | 10 | 93 95206 03376+ | 787 94447+ | 0646 03527 02096 | 98 96274 82897+ | 50 | |
| | 20 | 0,22699 04993 97824 | 799 16483+ | 0547 07252 19198+ | 92048 37463 | 40 | |
| | 30 | 0,22704 14793 14307+ | 810 38796+ | 0448 15203 81735+ | 87824 67370 | 30 | |
| | 40 | 09 24603 53104 | 821 61386 | 0349 27379 14366 | 83603 72379+ | 20 | |
| | 50 | 14 34425 14490+ | 832 84252+ | 0250 43775 41986+ | 79385 52252+ | 10 | |
| **48** | 0 | 19 44257 98743 | 844 07396 | 0151 64389 89734 | 75170 06751 | 0 | **12** |
| | 10 | 24 54102 06138+ | 855 30815+ | 4,40052 89219 82983 | 70957 35636 | 50 | |
| | 20 | 29 63957 36954+ | 866 54512+ | 4,39954 18262 47347 | 66747 38670 | 40 | |
| | 30 | 34 73823 91467 | 877 78486 | 9855 51515 08677+ | 62540 15615 | 30 | |
| | 40 | 39 83701 69953 | 889 02736+ | 9756 88974 93062+ | 58335 66233+ | 20 | |
| | 50 | 44 93590 72690 | 900 27264 | 9658 30639 26829 | 54133 90288+ | 10 | |
| **49** | 0 | 50 03490 99954 | 911 52068+ | 9559 76505 36541 | 49934 87542+ | 0 | **11** |
| | 10 | 55 13402 52022 | 922 77149+ | 9461 26570 48998+ | 45738 57759+ | 50 | |
| | 20 | 60 23325 29172 | 934 02508 | 9362 80831 91239 | 41545 00702+ | 40 | |
| | 30 | 65 33259 31679+ | 945 28143 | 9264 39286 90536+ | 37354 16135+ | 30 | |
| | 40 | 70 43204 59822+ | 956 54055 | 9166 01932 74401+ | 33166 03822+ | 20 | |
| | 50 | 75 53161 13877+ | 5 09967 80244 | 9067 68766 70579 | 28980 63527+ | 10 | |
| **50** | 0 | 0,22780 63128 94121+ | | 4,38969 39786 07051+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 12°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,22780 63128 94121+ | 5 09979 06710+ | 4,38969 39786 07051+ | 98 24797 95015+ | 0 | **10** |
| | 10 | 85 73108 00832 | 5 09990 33453+ | 8871 14988 12036 | 20617 98051 | 50 | |
| | 20 | 90 83098 34286 | 5 10001 60474 | 8772 94370 13985 | 16440 72399+ | 40 | |
| | 30 | 0,22795 93099 94760 | 012 87771+ | 8674 77929 41585+ | 12266 17826 | 30 | |
| | 40 | 0,22801 03112 82531+ | 024 15346 | 8576 65663 23759+ | 08094 34096 | 20 | |
| | 50 | 06 13136 97878 | 035 43198 | 8478 57568 89663+ | 98 03925 20975 | 10 | |
| **51** | 0 | 11 23172 41076 | 046 71327 | 8380 53643 68688+ | 97 99758 78230 | 0 | **9** |
| | 10 | 16 33219 12402+ | 057 99733 | 8282 53884 90458+ | 95595 05626+ | 50 | |
| | 20 | 21 43277 12136 | 069 28416+ | 8184 58289 84832 | 91434 02931+ | 40 | |
| | 30 | 26 53346 40552+ | 080 57377 | 8086 66855 81900+ | 87275 69911+ | 30 | |
| | 40 | 31 63426 97929+ | 091 86615 | 7988 79580 11989 | 83120 06334 | 20 | |
| | 50 | 36 73518 84544+ | 103 16130+ | 7890 96460 05654+ | 78967 11966+ | 10 | |
| **52** | 0 | 41 83622 00675 | 114 45923 | 7793 17492 93688+ | 74816 86575+ | 0 | **8** |
| | 10 | 46 93736 46597+ | 125 75992+ | 7695 42676 07113 | 70669 29930 | 50 | |
| | 20 | 52 03862 22590+ | 137 06340 | 7597 72006 77183 | 66524 41797+ | 40 | |
| | 30 | 57 13999 28930+ | 148 36964+ | 7500 05482 35385+ | 62382 21946+ | 30 | |
| | 40 | 62 24147 65895 | 159 67866+ | 7402 43100 13439 | 58242 70145+ | 20 | |
| | 50 | 67 34307 33761+ | 170 99046 | 7304 84857 43293+ | 54105 86163+ | 10 | |
| **53** | 0 | 72 44478 32807+ | 182 30503 | 7207 30751 57130 | 49971 69769+ | 0 | **7** |
| | 10 | 77 54660 63310+ | 193 62237+ | 7109 80779 87360+ | 45840 20732+ | 50 | |
| | 20 | 82 64854 25548 | 204 94249+ | 7012 34939 66627+ | 41711 38823 | 40 | |
| | 30 | 87 75059 19797+ | 216 26539 | 6914 93228 27805 | 37585 23810 | 30 | |
| | 40 | 92 85275 46336 | 227 59106 | 6817 55643 03995 | 33461 75463+ | 20 | |
| | 50 | 0,22897 95503 05442 | 238 91950+ | 6720 22181 28531+ | 29340 93554+ | 10 | |
| **54** | 0 | 0,22903 05741 97392+ | 250 25072+ | 6622 92840 34977 | 25222 77853 | 0 | **6** |
| | 10 | 08 15992 22465 | 261 58472 | 6525 67617 57124 | 21107 28130 | 50 | |
| | 20 | 13 26253 80937 | 272 92149+ | 6428 46510 28994 | 16994 44157 | 40 | |
| | 30 | 18 36526 73086+ | 284 26104+ | 6331 29515 84837+ | 12884 25704+ | 30 | |
| | 40 | 23 46810 99191+ | 295 60337+ | 6234 16631 59133 | 08776 72544+ | 20 | |
| | 50 | 28 57106 59529 | 306 94848 | 6137 07854 86588+ | 04671 84449 | 10 | |
| **55** | 0 | 33 67413 54377 | 318 29636 | 6040 03183 02139+ | 97 00569 61189+ | 0 | **5** |
| | 10 | 38 77731 84013 | 329 64702 | 5943 02613 40950 | 96 96470 02539 | 50 | |
| | 20 | 43 88061 48715 | 341 00046 | 5846 06143 38411 | 92373 08269+ | 40 | |
| | 30 | 48 98402 48761 | 352 35667+ | 5749 13770 30141 | 88278 78154 | 30 | |
| | 40 | 54 08754 84428 | 363 71566+ | 5652 25491 51987 | 84187 11965+ | 20 | |
| | 50 | 59 19118 55995 | 375 07744 | 5555 41304 40021+ | 80098 09477+ | 10 | |
| **56** | 0 | 64 29493 63739 | 386 44199 | 5458 61206 30544 | 76011 70463 | 0 | **4** |
| | 10 | 69 39880 07938 | 397 80932 | 5361 85194 60081+ | 71927 94696 | 50 | |
| | 20 | 74 50277 88870 | 409 17943 | 5265 13266 65385+ | 67846 81950+ | 40 | |
| | 30 | 79 60687 06812+ | 420 55231+ | 5168 45419 83435 | 63768 32001 | 30 | |
| | 40 | 84 71107 62044+ | 431 92798+ | 5071 81651 51434 | 59692 44621+ | 20 | |
| | 50 | 89 81539 54843 | 443 30643 | 4975 21959 06813 | 55619 19587 | 10 | |
| **57** | 0 | 0,22994 91982 85486 | 454 68766 | 4878 66339 87225+ | 51548 56672+ | 0 | **3** |
| | 10 | 0,23000 02437 54252 | 466 07167 | 4782 14791 30553 | 47480 55653+ | 50 | |
| | 20 | 05 12903 61419 | 477 45845+ | 4685 67310 74899+ | 43415 16305 | 40 | |
| | 30 | 10 23381 07264+ | 488 84802+ | 4589 23895 58595 | 39352 38402+ | 30 | |
| | 40 | 15 33869 92067+ | 500 24037+ | 4492 84543 20192+ | 35292 21722+ | 20 | |
| | 50 | 20 44370 16105 | 511 63551 | 4396 49250 98470 | 31234 66041 | 10 | |
| **58** | 0 | 25 54881 79656 | 523 03342 | 4300 18016 32429 | 27179 71134 | 0 | **2** |
| | 10 | 30 65404 82998 | 534 43411+ | 4203 90836 61295 | 23127 36779 | 50 | |
| | 20 | 35 75939 26410 | 545 83759+ | 4107 67709 24516 | 19077 62752 | 40 | |
| | 30 | 40 86485 10169 | 557 24385+ | 4011 48631 61764 | 15030 48830+ | 30 | |
| | 40 | 45 97042 34554+ | 568 65289+ | 3915 33601 12933+ | 10985 94792 | 20 | |
| | 50 | 51 07610 99844 | 580 06472 | 3819 22615 18141+ | 06944 00414 | 10 | |
| **59** | 0 | 56 18191 06316 | 591 47932+ | 3723 15671 17727+ | 96 02904 65474+ | 0 | **1** |
| | 10 | 61 28782 54248+ | 602 89671+ | 3627 12766 52253 | 95 98867 89751 | 50 | |
| | 20 | 66 39385 43920 | 614 31689 | 3531 13898 62502 | 94833 73022+ | 40 | |
| | 30 | 71 49999 75609 | 625 73984+ | 3435 19064 89479+ | 90802 15067+ | 30 | |
| | 40 | 76 60625 49593+ | 637 16558+ | 3339 28262 74412 | 86773 15664 | 20 | |
| | 50 | 81 71262 66152 | 5 10648 59411 | 3243 41489 58747+ | 95 82746 74592 | 10 | |
| **60** | 0 | 0,23086 81911 25563 | | 4,33147 58742 84155+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 77°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,23086 81911 25563 | 5 10660 02542 | 4,33147 58742 84155+ | 95 78722 91630+ | 0 | **60** |
| | 10 | 91 92571 28105 | 671 45951+ | 3051 80019 92525 | 74701 66559 | 50 | |
| | 20 | 0,23097 03242 74056+ | 682 89639 | 2956 05318 25966 | 70682 99156+ | 40 | |
| | 30 | 0,23102 13925 63695+ | 694 33605+ | 2860 34635 26809+ | 66666 89204 | 30 | |
| | 40 | 07 24619 97301 | 705 77850+ | 2764 67968 37605+ | 62653 36481+ | 20 | |
| | 50 | 12 35325 75151+ | 717 22373+ | 2669 05315 01124+ | 58642 40768+ | 10 | |
| **1** | 0 | 17 46042 97525+ | 728 67175+ | 2573 46672 60355+ | 54634 01847 | 0 | **59** |
| | 10 | 22 56771 64701 | 740 12256 | 2477 92038 58508+ | 50628 19497+ | 50 | |
| | 20 | 27 67511 76957 | 751 57615+ | 2382 41410 39011+ | 46624 93500+ | 40 | |
| | 30 | 32 78263 34572+ | 763 03253 | 2286 94785 45511 | 42624 23638 | 30 | |
| | 40 | 37 89026 37825+ | 774 49169+ | 2191 52161 21873 | 38626 09691+ | 20 | |
| | 50 | 42 99800 86995 | 785 95364+ | 2096 13535 12181+ | 34630 51442+ | 10 | |
| **2** | 0 | 48 10586 82360 | 797 41838+ | 2000 78904 60739 | 30637 48673+ | 0 | **58** |
| | 10 | 53 21384 24198+ | 808 88591 | 1905 48267 12065+ | 26647 01167 | 50 | |
| | 20 | 58 32193 12789+ | 820 35622+ | 1810 21620 10898+ | 22659 08705 | 40 | |
| | 30 | 63 43013 48412 | 831 82932+ | 1714 98961 02193+ | 18673 71070+ | 30 | |
| | 40 | 68 53845 31344 | 843 30521+ | 1619 80287 31123 | 14690 88046+ | 20 | |
| | 50 | 73 64688 61865+ | 854 78389 | 1524 65596 43077 | 10710 59416 | 10 | |
| **3** | 0 | 78 75543 40254+ | 866 26535+ | 1429 54885 83661 | 06732 84962+ | 0 | **57** |
| | 10 | 83 86409 66790 | 877 74961 | 1334 48152 98698+ | 95 02757 64470+ | 50 | |
| | 20 | 88 97287 41751 | 889 23665 | 1239 45395 34228 | 94 98784 97723 | 40 | |
| | 30 | 94 08176 65416 | 900 72648+ | 1144 46610 36505 | 94814 84504 | 30 | |
| | 40 | 0,23199 19077 38064+ | 912 21910+ | 1049 51795 52001 | 90847 24599 | 20 | |
| | 50 | 0,23204 29989 59975 | 923 71451+ | 0954 60948 27402 | 86882 17791+ | 10 | |
| **4** | 0 | 09 40913 31427 | 935 21272 | 0859 74066 09610+ | 82919 63867 | 0 | **56** |
| | 10 | 14 51848 52698+ | 946 71371 | 0764 91146 45743 | 78959 62610+ | 50 | |
| | 20 | 19 62795 24069+ | 958 21749 | 0670 12186 83133 | 75002 13807 | 40 | |
| | 30 | 24 73753 45818+ | 969 72406 | 0575 37184 69326 | 71047 17242 | 30 | |
| | 40 | 29 84723 18225 | 981 23342+ | 0480 66137 52084+ | 67094 72701+ | 20 | |
| | 50 | 34 95704 41567+ | 5 10992 74558 | 0385 99042 79383 | 63144 79971+ | 10 | |
| **5** | 0 | 40 06697 16125+ | 5 11004 26052+ | 0291 35897 99411+ | 59197 38838 | 0 | **55** |
| | 10 | 45 17701 42177+ | 015 77826 | 0196 76700 60574 | 55252 49087+ | 50 | |
| | 20 | 50 28717 20003+ | 027 29879 | 0102 21448 11486+ | 51310 10506+ | 40 | |
| | 30 | 55 39744 49882+ | 038 82211 | 4,30007 70138 00980 | 47370 22882+ | 30 | |
| | 40 | 60 50783 32093+ | 050 34822 | 4,29913 22767 78097+ | 43432 86002 | 20 | |
| | 50 | 65 61833 66915+ | 061 87712+ | 9818 79334 92095+ | 39497 99652+ | 10 | |
| **6** | 0 | 70 72895 54628 | 073 40882+ | 9724 39836 92443 | 35565 63622 | 0 | **54** |
| | 10 | 75 83968 95510 | 084 94331+ | 9630 04271 28821 | 31635 77697+ | 50 | |
| | 20 | 80 95053 89841+ | 096 48059+ | 9535 72635 51123+ | 27708 41667+ | 40 | |
| | 30 | 86 06150 37901 | 108 02067+ | 9441 44927 09456 | 23783 55320 | 30 | |
| | 40 | 91 17258 39968+ | 119 56354+ | 9347 21143 54136 | 19861 18444 | 20 | |
| | 50 | 0,23296 28377 96322+ | 131 10921 | 9253 01282 35692+ | 15941 30827+ | 10 | |
| **7** | 0 | 0,23301 39509 07243+ | 142 65766+ | 9158 85341 04865 | 12023 92259+ | 0 | **53** |
| | 10 | 06 50651 73010 | 154 20892 | 9064 73317 12605 | 08109 02530 | 50 | |
| | 20 | 11 61805 93902 | 165 76296+ | 8970 65208 10075 | 04196 61427 | 40 | |
| | 30 | 16 72971 70198+ | 177 31980+ | 8876 61011 48648 | 94 00286 68741+ | 30 | |
| | 40 | 21 84149 02179 | 188 87944+ | 8782 60724 79906+ | 93 96379 24262 | 20 | |
| | 50 | 26 95337 90123+ | 200 44187+ | 8688 64345 55644+ | 92474 27779+ | 10 | |
| **8** | 0 | 32 06538 34311 | 212 00710+ | 8594 71871 27865+ | 88571 79083+ | 0 | **52** |
| | 10 | 37 17750 35021+ | 223 57512+ | 8500 83299 48782 | 84671 77965 | 50 | |
| | 20 | 42 28973 92534 | 235 14594+ | 8406 98627 70817 | 80774 24214+ | 40 | |
| | 30 | 47 40209 07128+ | 246 71956 | 8313 17853 46602 | 76879 17623 | 30 | |
| | 40 | 52 51455 79085 | 258 29597+ | 8219 40974 28979 | 72986 57981+ | 20 | |
| | 50 | 57 62714 08682 | 269 87518 | 8125 67987 70997+ | 69096 45081+ | 10 | |
| **9** | 0 | 62 73983 96200 | 281 45718+ | 8031 98891 25916+ | 65208 78714+ | 0 | **51** |
| | 10 | 67 85265 41919 | 293 04199 | 7938 33682 47202 | 61323 58672 | 50 | |
| | 20 | 72 96558 46118 | 304 62959 | 7844 72358 88530 | 57440 84746+ | 40 | |
| | 30 | 78 07863 09076+ | 316 21998+ | 7751 14918 03783+ | 53560 56730 | 30 | |
| | 40 | 83 19179 31075+ | 327 81318 | 7657 61357 47053 | 49682 74415 | 20 | |
| | 50 | 88 30507 12393+ | 5 11339 40917+ | 7564 11674 72638 | 93 45807 37594 | 10 | |
| **10** | 0 | 0,23393 41846 53311 | | 4,27470 65867 35044 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,23393 41846 53311 | 5 11351 00796+ | 4,27470 65867 35044 | 93 41934 46060+ | 0 | **50** |
| | 10 | 0,23398 53197 54107+ | 362 60955+ | 7377 23932 88983+ | 38063 99606+ | 50 | |
| | 20 | 0,23403 64560 15063 | 374 21394+ | 7283 85868 89377 | 34195 98026+ | 40 | |
| | 30 | 08 75934 36457+ | 385 82113+ | 7190 51672 91350 | 30330 41113+ | 30 | |
| | 40 | 13 87320 18571 | 397 43112 | 7097 21342 50237 | 26467 28661 | 20 | |
| | 50 | 18 98717 61683 | 409 04390+ | 7003 94875 21576 | 22606 60463+ | 10 | |
| **11** | 0 | 24 10126 66073+ | 420 65949+ | 6910 72268 61112+ | 18748 36314+ | 0 | **49** |
| | 10 | 29 21547 32023 | 432 27788 | 6817 53520 24798 | 14892 56009+ | 50 | |
| | 20 | 34 32979 59811 | 443 89906+ | 6724 38627 68788+ | 11039 19342 | 40 | |
| | 30 | 39 44423 49717+ | 455 52305 | 6631 27588 49446+ | 07188 26107+ | 30 | |
| | 40 | 44 55879 02022+ | 467 14984 | 6538 20400 23339 | 93 03339 76101 | 20 | |
| | 50 | 49 67346 17006+ | 478 77943 | 6445 17060 47238 | 92 99493 69117+ | 10 | |
| **12** | 0 | 54 78824 94949+ | 490 41182 | 6352 17566 78120+ | 95650 04953 | 0 | **48** |
| | 10 | 59 90315 36131 | 502 04701 | 6259 21916 73167+ | 91808 83402+ | 50 | |
| | 20 | 65 01817 40832 | 513 68500 | 6166 30107 89765 | 87970 04262+ | 40 | |
| | 30 | 70 13331 09332 | 525 32579+ | 6073 42137 85503 | 84133 67328+ | 30 | |
| | 40 | 75 24856 41912 | 536 96939 | 5980 58004 18174 | 80299 72398 | 20 | |
| | 50 | 80 36393 38851 | 548 61579 | 5887 77704 45776 | 76468 19266+ | 10 | |
| **13** | 0 | 85 47942 00430 | 560 26499 | 5795 01236 26510 | 72639 07731 | 0 | **47** |
| | 10 | 90 59502 26929+ | 571 91699+ | 5702 28597 18779 | 68812 37588+ | 50 | |
| | 20 | 0,23495 71074 18629 | 583 57180+ | 5609 59784 81190 | 64988 08637 | 40 | |
| | 30 | 0,23500 82657 75809+ | 595 22941+ | 5516 94796 72553+ | 61166 20672+ | 30 | |
| | 40 | 05 94252 98751 | 606 88983 | 5424 33630 51881 | 57346 73493+ | 20 | |
| | 50 | 11 05859 87733+ | 618 55304+ | 5331 76283 78387 | 53529 66898 | 10 | |
| **14** | 0 | 16 17478 43038 | 630 21906+ | 5239 22754 11489 | 49715 00684 | 0 | **46** |
| | 10 | 21 29108 64945 | 641 88789+ | 5146 73039 10805 | 45902 74649 | 50 | |
| | 20 | 26 40750 53734+ | 653 55952+ | 5054 27136 36156 | 42092 88592 | 40 | |
| | 30 | 31 52404 09686+ | 665 23396 | 4961 85043 47564 | 38285 42312 | 30 | |
| | 40 | 36 64069 33082+ | 676 91120 | 4869 46758 05252 | 34480 35607+ | 20 | |
| | 50 | 41 75746 24202+ | 688 59124+ | 4777 12277 69644+ | 30677 68278 | 10 | |
| **15** | 0 | 46 87434 83327 | 700 27409+ | 4684 81600 01366+ | 26877 40122 | 0 | **45** |
| | 10 | 51 99135 10736 | 711 95975 | 4592 54722 61244+ | 23079 50940 | 50 | |
| | 20 | 57 10847 06711+ | 723 64821+ | 4500 31643 10304 | 19284 00531 | 40 | |
| | 30 | 62 22570 71532+ | 735 33948 | 4408 12359 09773 | 15490 88695+ | 30 | |
| | 40 | 67 34306 05480+ | 747 03355+ | 4315 96868 21077+ | 11700 15233+ | 20 | |
| | 50 | 72 46053 08836 | 758 73043+ | 4223 85168 05844 | 07911 79945 | 10 | |
| **16** | 0 | 77 57811 81880 | 770 43012+ | 4131 77256 25899 | 04125 82631 | 0 | **44** |
| | 10 | 82 69582 24892 | 782 13262 | 4039 73130 43267+ | 92 00342 23092+ | 50 | |
| | 20 | 87 81364 38154 | 793 83792 | 3947 72788 20175+ | 91 96561 01130 | 40 | |
| | 30 | 92 93158 21946+ | 805 54603 | 3855 76227 19045+ | 92782 16544+ | 30 | |
| | 40 | 0,23598 04963 76549+ | 817 25695 | 3763 83445 02501 | 89005 69138 | 20 | |
| | 50 | 0,23603 16781 02244+ | 828 97067+ | 3671 94439 33363 | 85231 58712 | 10 | |
| **17** | 0 | 08 28609 99312 | 840 68721 | 3580 09207 74651 | 81459 85068 | 0 | **43** |
| | 10 | 13 40450 68033 | 852 40655 | 3488 27747 89582+ | 77690 48008+ | 50 | |
| | 20 | 18 52303 08688 | 864 12870+ | 3396 50057 41574 | 73923 47335+ | 40 | |
| | 30 | 23 64167 21558+ | 875 85366+ | 3304 76133 94238+ | 70158 82851+ | 30 | |
| | 40 | 28 76043 06925 | 887 58143+ | 3213 05975 11387 | 66396 54359 | 20 | |
| | 50 | 33 87930 65068 | 899 31201 | 3121 39578 57028 | 62636 61661 | 10 | |
| **18** | 0 | 38 99829 96269+ | 911 04540 | 3029 76941 95367 | 58879 04560+ | 0 | **42** |
| | 10 | 44 11741 00809+ | 922 78160 | 2938 18062 90806 | 55123 82861 | 50 | |
| | 20 | 49 23663 78969 | 934 52061 | 2846 62939 07945+ | 51370 96365+ | 40 | |
| | 30 | 54 35598 31030 | 946 26242+ | 2755 11568 11579+ | 47620 44878 | 30 | |
| | 40 | 59 47544 57272+ | 958 00705+ | 2663 63947 66701+ | 43872 28202+ | 20 | |
| | 50 | 64 59502 57978+ | 969 75449+ | 2572 20075 38498+ | 40126 46143 | 10 | |
| **19** | 0 | 69 71472 33428 | 981 50475 | 2480 79948 92355+ | 36382 98504 | 0 | **41** |
| | 10 | 74 83453 83903 | 5 11993 25781 | 2389 43565 93851+ | 32641 85089+ | 50 | |
| | 20 | 79 95447 09684+ | 5 12005 01368+ | 2298 10924 08762 | 28903 05704+ | 40 | |
| | 30 | 85 07452 11053 | 016 77237+ | 2206 82021 03058 | 25166 60153+ | 30 | |
| | 40 | 90 19468 88290+ | 028 53387+ | 2115 56854 42904+ | 21432 48242+ | 20 | |
| | 50 | 0,23695 31497 41677+ | 5 12040 29818+ | 2024 35421 94662 | 91 17700 69776 | 10 | |
| **20** | 0 | 0,23700 43537 71496 | | 4,21933 17721 24886+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,23700 43537 71496 | 5 12052 06531 | 4,21933 17721 24886+ | 91 13971 24559+ | 0 | **40** |
| | 10 | 05 55589 78027 | 063 83524+ | 1842 03750 00326+ | 10244 12399+ | 50 | |
| | 20 | 10 67653 61551 | 075 60799+ | 1750 93505 87927 | 06519 33101+ | 40 | |
| | 30 | 15 79729 22350+ | 087 38355+ | 1659 86986 54825+ | 91 02796 86471+ | 30 | |
| | 40 | 20 91816 60706+ | 099 16193+ | 1568 84189 68354+ | 90 99076 72315+ | 20 | |
| | 50 | 26 03915 76899+ | 110 94312+ | 1477 85112 96039 | 95358 90441 | 10 | |
| **21** | 0 | 31 16026 71212 | 122 72712+ | 1386 89754 05598 | 91643 40653+ | 0 | **39** |
| | 10 | 36 28149 43924+ | 134 51394+ | 1295 98110 64944+ | 87930 22761 | 50 | |
| | 20 | 41 40283 95319 | 146 30358 | 1205 10180 42183 | 84219 36570+ | 40 | |
| | 30 | 46 52430 25677 | 158 09602+ | 1114 25961 05613 | 80510 81888+ | 30 | |
| | 40 | 51 64588 35279+ | 169 89129 | 1023 45450 23724+ | 76804 58523 | 20 | |
| | 50 | 56 76758 24408+ | 181 68936+ | 0932 68645 65201 | 73100 66282+ | 10 | |
| **22** | 0 | 61 88939 93345+ | 193 49026 | 0841 95544 98919 | 69399 04973+ | 0 | **38** |
| | 10 | 67 01133 42371+ | 205 29397 | 0751 26145 93945+ | 65699 74405+ | 50 | |
| | 20 | 72 13338 71768 | 217 10049+ | 0660 60446 19540 | 62002 74385+ | 40 | |
| | 30 | 77 25555 81817+ | 228 90983+ | 0569 98443 45154+ | 58308 04723 | 30 | |
| | 40 | 82 37784 72801 | 240 72199+ | 0479 40135 40431 | 54615 65227 | 20 | |
| | 50 | 87 50025 45000+ | 252 53696+ | 0388 85519 75204+ | 50925 55705 | 10 | |
| **23** | 0 | 92 62277 98697 | 264 35476 | 0298 34594 19499 | 47237 75967+ | 0 | **37** |
| | 10 | 0,23797 74542 34173 | 276 17536+ | 0207 87356 43531+ | 43552 25823+ | 50 | |
| | 20 | 0,23802 86818 51709+ | 287 99879 | 0117 43804 17708+ | 39869 05082 | 40 | |
| | 30 | 07 99106 51589 | 299 82503+ | 4,20027 03935 12626+ | 36188 13553 | 30 | |
| | 40 | 13 11406 34092+ | 311 65409+ | 4,19936 67746 99073+ | 32509 51046+ | 20 | |
| | 50 | 18 23717 99502 | 323 48597+ | 9846 35237 48027 | 28833 17372+ | 10 | |
| **24** | 0 | 23 36041 48099+ | 335 32067+ | 9756 06404 30654+ | 25159 12341+ | 0 | **36** |
| | 10 | 28 48376 80167 | 347 15819 | 9665 81245 18313 | 21487 35764 | 50 | |
| | 20 | 33 60723 95986 | 358 99852+ | 9575 59757 82549 | 17817 87450+ | 40 | |
| | 30 | 38 73082 95838+ | 370 84168 | 9485 41939 95098+ | 14150 67212 | 30 | |
| | 40 | 43 85453 80006 | 382 68765 | 9395 27789 27886+ | 10485 74859+ | 20 | |
| | 50 | 48 97836 48771+ | 394 53644+ | 9305 17303 53026+ | 06823 10204+ | 10 | |
| **25** | 0 | 54 10231 02416 | 406 38806 | 9215 10480 42822 | 03162 73058+ | 0 | **35** |
| | 10 | 59 22637 41221+ | 418 24249 | 9125 07317 69764 | 99504 63232+ | 50 | |
| | 20 | 64 35055 65471 | 430 09974+ | 9035 07813 06531 | 95848 80539+ | 40 | |
| | 30 | 69 47485 75445 | 441 95981+ | 8945 11964 25992 | 92195 24790+ | 30 | |
| | 40 | 74 59927 71427 | 453 82271 | 8855 19769 01201+ | 88543 95798+ | 20 | |
| | 50 | 79 72381 53698 | 465 68842+ | 8765 31225 05403 | 84894 93375+ | 10 | |
| **26** | 0 | 84 84847 22541 | 477 55696+ | 8675 46330 12027 | 81248 17334+ | 0 | **34** |
| | 10 | 89 97324 78237 | 489 42832 | 8585 65081 94692+ | 77603 67488 | 50 | |
| | 20 | 0,23895 09814 21069+ | 501 30250 | 8495 87478 27204+ | 73961 43649+ | 40 | |
| | 30 | 0,23900 22315 51319+ | 513 17950+ | 8406 13516 83555 | 70321 45632 | 30 | |
| | 40 | 05 34828 69270 | 525 05933 | 8316 43195 37923 | 66683 73248+ | 20 | |
| | 50 | 10 47353 75202+ | 536 94197+ | 8226 76511 64674+ | 63048 26313 | 10 | |
| **27** | 0 | 15 59890 69400 | 548 82744+ | 8137 13463 38361+ | 59415 04639+ | 0 | **33** |
| | 10 | 20 72439 52144+ | 560 71573+ | 8047 54048 33722 | 55784 08042 | 50 | |
| | 20 | 25 85000 23718 | 572 60685 | 7957 98264 25680 | 52155 36334 | 40 | |
| | 30 | 30 97572 84403 | 584 50079 | 7868 46108 89345+ | 48528 89331 | 30 | |
| | 40 | 36 10157 34482 | 596 39755+ | 7778 97580 00015 | 44904 66846+ | 20 | |
| | 50 | 41 22753 74237+ | 608 29714 | 7689 52675 33168+ | 41282 68695+ | 10 | |
| **28** | 0 | 46 35362 03951+ | 620 19955 | 7600 11392 64473 | 37662 94693+ | 0 | **32** |
| | 10 | 51 47982 23906+ | 632 10478+ | 7510 73729 69779+ | 34045 44655+ | 50 | |
| | 20 | 56 60614 34384+ | 644 01284+ | 7421 39684 25124 | 30430 18396+ | 40 | |
| | 30 | 61 73258 35669 | 655 92373 | 7332 09254 06727+ | 26817 15732 | 30 | |
| | 40 | 66 85914 28042 | 667 83744 | 7242 82436 90995+ | 23206 36478 | 20 | |
| | 50 | 71 98582 11786 | 679 75397+ | 7153 59230 54517 | 19597 80450+ | 10 | |
| **29** | 0 | 77 11261 87183 | 691 67333+ | 7064 39632 74066+ | 15991 47465+ | 0 | **31** |
| | 10 | 82 23953 54516+ | 703 59552 | 6975 23641 26601+ | 12387 37339 | 50 | |
| | 20 | 87 36657 14068+ | 715 52053+ | 6886 11253 89262+ | 08785 49887+ | 40 | |
| | 30 | 92 49372 66122 | 727 44837 | 6797 02468 39375 | 05185 84928 | 30 | |
| | 40 | 0,23997 62100 10959 | 739 37904 | 6707 97282 54447 | 89 01588 42277+ | 20 | |
| | 50 | 0,24002 74839 48863 | 5 12751 31253 | 6618 95694 12169+ | 88 97993 21752+ | 10 | |
| **30** | 0 | 0,24007 87590 80116 | | 4,16529 97700 90417 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,24007 87590 80116 | 5 12763 24885 | 4,16529 97700 90417 | 88 94400 23170+ | 0 | **30** |
| | 10 | 13 00354 05001 | 775 18799+ | 6441 03300 67247 | 90809 46349 | 50 | |
| | 20 | 18 13129 23800+ | 787 12997 | 6352 12491 20898 | 87220 91105 | 40 | |
| | 30 | 23 25916 36798 | 799 07477+ | 6263 25270 29793 | 83634 57257+ | 30 | |
| | 40 | 28 38715 44275 | 811 02240+ | 6174 41635 72535+ | 80050 44623+ | 20 | |
| | 50 | 33 51526 46515+ | 822 97286 | 6085 61585 27912 | 76468 53021+ | 10 | |
| **31** | 0 | 38 64349 43802 | 834 92615 | 5996 85116 74890+ | 72888 82269+ | 0 | **29** |
| | 10 | 43 77184 36416+ | 846 88226+ | 5908 12227 92621 | 69311 32186+ | 50 | |
| | 20 | 48 90031 24643+ | 858 84121 | 5819 42916 60434+ | 65736 02591+ | 40 | |
| | 30 | 54 02890 08764+ | 870 80298+ | 5730 77180 57843 | 62162 93302+ | 30 | |
| | 40 | 59 15760 89063 | 882 76759 | 5642 15017 64540+ | 58592 04139+ | 20 | |
| | 50 | 64 28643 65821+ | 894 73502 | 5553 56425 60401 | 55023 34921 | 10 | |
| **32** | 0 | 69 41538 39324 | 906 70528+ | 5465 01402 25479+ | 51456 85467 | 0 | **28** |
| | 10 | 74 54445 09852+ | 918 67838 | 5376 49945 40012+ | 47892 55597 | 50 | |
| | 20 | 79 67363 77690+ | 930 65430+ | 5288 02052 84415+ | 44330 45131 | 40 | |
| | 30 | 84 80294 43120+ | 942 63306 | 5199 57722 39284 | 40770 53889 | 30 | |
| | 40 | 89 93237 06426+ | 954 61464+ | 5111 16951 85395+ | 37212 81691 | 20 | |
| | 50 | 0,24095 06191 67891 | 966 59906 | 5022 79739 03704+ | 33657 28357 | 10 | |
| **33** | 0 | 0,24100 19158 27797+ | 978 58631 | 4934 46081 75347+ | 30103 93708+ | 0 | **27** |
| | 10 | 05 32136 86428+ | 5 12990 57639 | 4846 15977 81639 | 26552 77566 | 50 | |
| | 20 | 10 45127 44067+ | 5 13002 56930+ | 4757 89425 04073 | 23003 79750 | 40 | |
| | 30 | 15 58130 00998 | 014 56505 | 4669 66421 24323 | 19457 00082 | 30 | |
| | 40 | 20 71144 57503 | 026 56362+ | 4581 46964 24241 | 15912 38383 | 20 | |
| | 50 | 25 84171 13865+ | 038 56503+ | 4493 31051 85858 | 12369 94475 | 10 | |
| **34** | 0 | 30 97209 70369 | 050 56928 | 4405 18681 91383 | 08829 68179+ | 0 | **26** |
| | 10 | 36 10260 27297 | 062 57635+ | 4317 09852 23204 | 05291 59318 | 50 | |
| | 20 | 41 23322 84932+ | 074 58626+ | 4229 04560 63886 | 88 01755 67712+ | 40 | |
| | 30 | 46 36397 43559 | 086 59901 | 4141 02804 96173+ | 87 98221 93186 | 30 | |
| | 40 | 51 49484 03460 | 098 61458+ | 4053 04583 02987+ | 94690 35560+ | 20 | |
| | 50 | 56 62582 64918+ | 110 63299+ | 3965 09892 67427 | 91160 94658 | 10 | |
| **35** | 0 | 61 75693 28218 | 122 65424 | 3877 18731 72768+ | 87633 70302+ | 0 | **25** |
| | 10 | 66 88815 93642 | 134 67832 | 3789 31098 02466+ | 84108 62316 | 50 | |
| | 20 | 72 01950 61474+ | 146 70524 | 3701 46989 40150+ | 80585 70521+ | 40 | |
| | 30 | 77 15097 31998 | 158 73499 | 3613 66403 69629 | 77064 94743 | 30 | |
| | 40 | 82 28256 05497 | 170 76757+ | 3525 89338 74886 | 73546 34804 | 20 | |
| | 50 | 87 41426 82254+ | 182 80299+ | 3438 15792 40082 | 70029 90527+ | 10 | |
| **36** | 0 | 92 54609 62554 | 194 84125+ | 3350 45762 49555 | 66515 61737+ | 0 | **24** |
| | 10 | 0,24197 67804 46679+ | 206 88234+ | 3262 79246 87817 | 63003 48258+ | 50 | |
| | 20 | 0,24202 81011 34914 | 218 92627+ | 3175 16243 39558+ | 59493 49914+ | 40 | |
| | 30 | 07 94230 27541+ | 230 97304+ | 3087 56749 89644 | 55985 66530 | 30 | |
| | 40 | 13 07461 24846 | 243 02264+ | 3000 00764 23114+ | 52479 97929 | 20 | |
| | 50 | 18 20704 27111 | 255 07509 | 2912 48284 25185 | 48976 43937 | 10 | |
| **37** | 0 | 23 33959 34619+ | 267 13036+ | 2824 99307 81248 | 45475 04378+ | 0 | **23** |
| | 10 | 28 47226 47656 | 279 18848 | 2737 53832 76869+ | 41975 79079 | 50 | |
| | 20 | 33 60505 66504+ | 291 24943+ | 2650 11856 97790+ | 38478 67863 | 40 | |
| | 30 | 38 73796 91448 | 303 31322+ | 2562 73378 29927+ | 34983 70557 | 30 | |
| | 40 | 43 87100 22770+ | 315 37985+ | 2475 38394 59370+ | 31490 86986 | 20 | |
| | 50 | 49 00415 60756+ | 327 44932+ | 2388 06903 72384+ | 28000 16975+ | 10 | |
| **38** | 0 | 54 13743 05689 | 339 52163+ | 2300 78903 55409 | 24511 60352+ | 0 | **22** |
| | 10 | 59 27082 57852+ | 351 59678 | 2213 54391 95056+ | 21025 16942 | 50 | |
| | 20 | 64 40434 17530+ | 363 67476+ | 2126 33366 78114 | 17540 86571+ | 40 | |
| | 30 | 69 53797 85007 | 375 75559 | 2039 15825 91542+ | 14058 69067 | 30 | |
| | 40 | 74 67173 60566 | 387 83925+ | 1952 01767 22476 | 10578 64255 | 20 | |
| | 50 | 79 80561 44492 | 399 92576+ | 1864 91188 58221 | 07100 71962+ | 10 | |
| **39** | 0 | 84 93961 37068 | 412 01511 | 1777 84087 86258+ | 03624 92016+ | 0 | **21** |
| | 10 | 90 07373 38579 | 424 10729+ | 1690 80462 94242 | 87 00151 24244+ | 50 | |
| | 20 | 0,24295 20797 49308+ | 436 20232+ | 1603 80311 69997+ | 86 96679 68474 | 40 | |
| | 30 | 0,24300 34233 69541 | 448 30019 | 1516 83632 01523+ | 93210 24532 | 30 | |
| | 40 | 05 47681 99560 | 460 40090 | 1429 90421 76991 | 89742 92247 | 20 | |
| | 50 | 10 61142 39650 | 5 13472 50445 | 1343 00678 84744 | 86 86277 71446+ | 10 | |
| **40** | 0 | 0,24315 74614 90095+ | | 4,11256 14401 13298 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,24315 74614 90095+ | 5 13484 61084+ | 4,11256 14401 13298 | 86 82814 61958+ | 0 | **20** |
| | 10 | 20 88099 51180 | 496 72008 | 1169 31586 51339+ | 79353 63611+ | 50 | |
| | 20 | 26 01596 23188 | 508 83216 | 1082 52232 87728 | 75894 76233+ | 40 | |
| | 30 | 31 15105 06404 | 520 94708 | 0995 76338 11494+ | 72437 99654 | 30 | |
| | 40 | 36 28626 01111+ | 533 06484 | 0909 03900 11840+ | 68983 33701+ | 20 | |
| | 50 | 41 42159 07596 | 545 18545 | 0822 34916 78139 | 65530 78204+ | 10 | |
| **41** | 0 | 46 55704 26140+ | 557 30889+ | 0735 69385 99934+ | 62080 32992+ | 0 | **19** |
| | 10 | 51 69261 57030+ | 569 43519 | 0649 07305 66942 | 58631 97895 | 50 | |
| | 20 | 56 82831 00549+ | 581 56432+ | 0562 48673 69047 | 55185 72741 | 40 | |
| | 30 | 61 96412 56982 | 593 69631 | 0475 93487 96306 | 51741 57361 | 30 | |
| | 40 | 67 10006 26613 | 605 83113+ | 0389 41746 38945 | 48299 51584 | 20 | |
| | 50 | 72 23612 09726+ | 617 96880+ | 0302 93446 87361 | 44859 55240 | 10 | |
| **42** | 0 | 77 37230 06606+ | 630 10932 | 0216 48587 32121 | 41421 68160 | 0 | **18** |
| | 10 | 82 50860 17538+ | 642 25267+ | 0130 07165 63961 | 37985 90174 | 50 | |
| | 20 | 87 64502 42806 | 654 39888 | 4,10043 69179 73787+ | 34552 21112 | 40 | |
| | 30 | 92 78156 82694+ | 666 54793+ | 4,09957 34627 52675+ | 31120 60805+ | 30 | |
| | 40 | 0,24397 91823 37487+ | 678 69983 | 9871 03506 91870 | 27691 09084+ | 20 | |
| | 50 | 0,24403 05502 07470+ | 690 85457 | 9784 75815 82785+ | 24263 65781 | 10 | |
| **43** | 0 | 08 19192 92928 | 703 01216 | 9698 51552 17004 | 20838 30726 | 0 | **17** |
| | 10 | 13 32895 94144 | 715 17259+ | 9612 30713 86278+ | 17415 03750+ | 50 | |
| | 20 | 18 46611 11403+ | 727 33587+ | 9526 13298 82528 | 13993 84686 | 40 | |
| | 30 | 23 60338 44991 | 739 50200+ | 9439 99304 97842 | 10574 73364+ | 30 | |
| | 40 | 28 74077 95191+ | 751 67098+ | 9353 88730 24477+ | 07157 69618 | 20 | |
| | 50 | 33 87829 62290 | 763 84280+ | 9267 81572 54859+ | 03742 73278+ | 10 | |
| **44** | 0 | 39 01593 46570+ | 776 01748 | 9181 77829 81580+ | 86 00329 84178+ | 0 | **16** |
| | 10 | 44 15369 48318+ | 788 19500 | 9095 77499 97402+ | 85 96919 02149+ | 50 | |
| | 20 | 49 29157 67818+ | 800 37536+ | 9009 80580 95253 | 93510 27025 | 40 | |
| | 30 | 54 42958 05355 | 812 55858+ | 8923 87070 68228 | 90103 58637+ | 30 | |
| | 40 | 59 56770 61213+ | 824 74465 | 8837 96967 09590+ | 86698 96819+ | 20 | |
| | 50 | 64 70595 35678 | 836 93356+ | 8752 10268 12771 | 83296 41405 | 10 | |
| **45** | 0 | 69 84432 29034+ | 849 12532+ | 8666 26971 71366 | 79895 92226 | 0 | **15** |
| | 10 | 74 98281 41567 | 861 31994 | 8580 47075 79140 | 76497 49117 | 50 | |
| | 20 | 80 12142 73561 | 873 51740+ | 8494 70578 30022+ | 73101 11911+ | 40 | |
| | 30 | 85 26016 25301+ | 885 71771+ | 8408 97477 18111 | 69706 80442+ | 30 | |
| | 40 | 90 39901 97073 | 897 92088 | 8323 27770 37668+ | 66314 54545 | 20 | |
| | 50 | 0,24495 53799 89161 | 910 12689+ | 8237 61455 83123+ | 62924 34052 | 10 | |
| **46** | 0 | 0,24500 67710 01850 | 922 33576 | 8151 98531 49072 | 59536 18798+ | 0 | **14** |
| | 10 | 05 81632 35426 | 934 54747+ | 8066 38995 30273+ | 56150 08618+ | 50 | |
| | 20 | 10 95566 90173+ | 946 76204 | 7980 82845 21655 | 52766 03347 | 40 | |
| | 30 | 16 09513 66377+ | 958 97946 | 7895 30079 18308 | 49384 02818+ | 30 | |
| | 40 | 21 23472 64323+ | 971 19973 | 7809 80695 15490 | 46004 06868 | 20 | |
| | 50 | 26 37443 84296+ | 983 42285+ | 7724 34691 08622 | 42626 15330+ | 10 | |
| **47** | 0 | 31 51427 26582 | 5 13995 64883 | 7638 92064 93291+ | 39250 28041 | 0 | **13** |
| | 10 | 36 65422 91464+ | 5 14007 87765+ | 7553 52814 65250+ | 35876 44836 | 50 | |
| | 20 | 41 79430 79230+ | 020 10933+ | 7468 16938 20414+ | 32504 65550 | 40 | |
| | 30 | 46 93450 90164 | 032 34387 | 7382 84433 54864+ | 29134 90019 | 30 | |
| | 40 | 52 07483 24550+ | 044 58125+ | 7297 55298 64845 | 25767 18079+ | 20 | |
| | 50 | 57 21527 82676 | 056 82149+ | 7212 29531 46765+ | 22401 49567 | 10 | |
| **48** | 0 | 62 35584 64825+ | 069 06459 | 7127 07129 97199 | 19037 84318 | 0 | **12** |
| | 10 | 67 49653 71284+ | 081 31053+ | 7041 88092 12881 | 15676 22168+ | 50 | |
| | 20 | 72 63735 02338+ | 093 55934 | 6956 72415 90712+ | 12316 62955+ | 40 | |
| | 30 | 77 77828 58272 | 105 81099+ | 6871 60099 27757 | 08959 06516 | 30 | |
| | 40 | 82 91934 39372 | 118 06551 | 6786 51140 21241 | 05603 52686+ | 20 | |
| | 50 | 88 06052 45922+ | 130 32287+ | 6701 45536 68554+ | 85 02250 01304 | 10 | |
| **49** | 0 | 93 20182 78210 | 142 58309+ | 6616 43286 67250+ | 84 98898 52206 | 0 | **11** |
| | 10 | 0,24598 34325 36519+ | 154 84617+ | 6531 44388 15045 | 95549 05229+ | 50 | |
| | 20 | 0,24603 48480 21137 | 167 11210+ | 6446 48839 09815+ | 92201 60212+ | 40 | |
| | 30 | 08 62647 32348 | 179 38089+ | 6361 56637 49602+ | 88856 16993 | 30 | |
| | 40 | 13 76826 70437+ | 191 65254 | 6276 67781 32609+ | 85512 75408 | 20 | |
| | 50 | 18 91018 35691+ | 5 14203 92704+ | 6191 82268 57201+ | 82171 35296+ | 10 | |
| **50** | 0 | 0,24624 05222 28396 | | 4,06107 00097 21905 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 13°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,24624 05222 28396 | 5 14216 20440+ | 4,06107 00097 21905 | 84 78831 96496 | 0 | **10** |
| | 10 | 29 19438 48836+ | 228 48462 | 6022 21265 25409 | 75494 58845+ | 50 | |
| | 20 | 34 33666 97298+ | 240 76769+ | 5937 45770 66563+ | 72159 22183 | 40 | |
| | 30 | 39 47907 74068 | 253 05362+ | 5852 73611 44380+ | 68825 86347 | 30 | |
| | 40 | 44 62160 79430+ | 265 34241+ | 5768 04785 58033+ | 65494 51177+ | 20 | |
| | 50 | 49 76426 13672 | 277 63406 | 5683 39291 06856 | 62165 16512+ | 10 | |
| **51** | 0 | 54 90703 77078 | 289 92856+ | 5598 77125 90343+ | 58837 82191+ | 0 | **9** |
| | 10 | 60 04993 69934+ | 302 22593 | 5514 18288 08152 | 55512 48053+ | 50 | |
| | 20 | 65 19295 92527+ | 314 52615+ | 5429 62775 60098+ | 52189 13939 | 40 | |
| | 30 | 70 33610 45143 | 326 82923+ | 5345 10586 46159+ | 48867 79686+ | 30 | |
| | 40 | 75 47937 28066+ | 339 13517+ | 5260 61718 66473 | 45548 45137 | 20 | |
| | 50 | 80 62276 41584 | 351 44397+ | 5176 16170 21336 | 42231 10129+ | 10 | |
| **52** | 0 | 85 76627 85981+ | 363 75563+ | 5091 73939 11206+ | 38915 74504+ | 0 | **8** |
| | 10 | 90 90991 61545+ | 376 07016 | 5007 35023 36702 | 35602 38102+ | 50 | |
| | 20 | 0,24696 05367 68561 | 388 38754 | 4922 99420 98599+ | 32291 00763+ | 40 | |
| | 30 | 0,24701 19756 07315 | 400 70778 | 4838 67129 97836 | 28981 62329 | 30 | |
| | 40 | 06 34156 78093 | 413 03088+ | 4754 38148 35507 | 25674 22638+ | 20 | |
| | 50 | 11 48569 81181+ | 425 35684+ | 4670 12474 12868+ | 22368 81534+ | 10 | |
| **53** | 0 | 16 62995 16866+ | 437 68567 | 4585 90105 31334 | 19065 38857 | 0 | **7** |
| | 10 | 21 77432 85433+ | 450 01736 | 4501 71039 92477 | 15763 94447+ | 50 | |
| | 20 | 26 91882 87169+ | 462 35191 | 4417 55275 98030 | 12464 48147+ | 40 | |
| | 30 | 32 06345 22360 | 474 68932 | 4333 42811 49882+ | 09166 99798+ | 30 | |
| | 40 | 37 20819 91292 | 487 02959 | 4249 33644 50083+ | 05871 49242+ | 20 | |
| | 50 | 42 35306 94251 | 499 37272+ | 4165 27773 00841 | 84 02577 96321+ | 10 | |
| **54** | 0 | 47 49806 31524 | 511 71872+ | 4081 25195 04519+ | 83 99286 40877 | 0 | **6** |
| | 10 | 52 64318 03396+ | 524 06758+ | 3997 25908 63642+ | 95996 82752 | 50 | |
| | 20 | 57 78842 10155 | 536 41931 | 3913 29911 80890+ | 92709 21788 | 40 | |
| | 30 | 62 93378 52086+ | 548 77390 | 3829 37202 59103 | 89423 57828 | 30 | |
| | 40 | 68 07927 29476+ | 561 13135+ | 3745 47779 01275 | 86139 90714+ | 20 | |
| | 50 | 73 22488 42612 | 573 49167 | 3661 61639 10560 | 82858 20291 | 10 | |
| **55** | 0 | 78 37061 91779 | 585 85485 | 3577 78780 90269 | 79578 46399+ | 0 | **5** |
| | 10 | 83 51647 77264 | 598 22090 | 3493 99202 43869+ | 76300 68884 | 50 | |
| | 20 | 88 66245 99354 | 610 58981 | 3410 22901 74985+ | 73024 87587+ | 40 | |
| | 30 | 93 80856 58334+ | 622 96158+ | 3326 49876 87398 | 69751 02353+ | 30 | |
| | 40 | 0,24798 95479 54493 | 635 33622+ | 3242 80125 85045 | 66479 13025+ | 20 | |
| | 50 | 0,24804 10114 88115+ | 647 71373+ | 3159 13646 72019+ | 63209 19447 | 10 | |
| **56** | 0 | 09 24762 59489 | 660 09410+ | 3075 50437 52572+ | 59941 21463 | 0 | **4** |
| | 10 | 14 39422 68899+ | 672 47734+ | 2991 90496 31109+ | 56675 18916+ | 50 | |
| | 20 | 19 54095 16634 | 684 86345 | 2908 33821 12193 | 53411 11652+ | 40 | |
| | 30 | 24 68780 02979 | 697 25242+ | 2824 80410 00540+ | 50148 99515 | 30 | |
| | 40 | 29 83477 28221 | 709 64426 | 2741 30261 01026 | 46888 82348+ | 20 | |
| | 50 | 34 98186 92647+ | 722 03897 | 2657 83372 18677+ | 43630 59998 | 10 | |
| **57** | 0 | 40 12908 96544 | 734 43654 | 2574 39741 58679+ | 40374 32308 | 0 | **3** |
| | 10 | 45 27643 40198+ | 746 83698+ | 2490 99367 26371+ | 37119 99124 | 50 | |
| | 20 | 50 42390 23897 | 759 24029+ | 2407 62247 27247+ | 33867 60291 | 40 | |
| | 30 | 55 57149 47926 | 771 64647 | 2324 28379 66956 | 30617 15654+ | 30 | |
| | 40 | 60 71921 12573 | 784 05551+ | 2240 97762 51301+ | 27368 65059+ | 20 | |
| | 50 | 65 86705 18125 | 796 46743 | 2157 70393 86242 | 24122 08352 | 10 | |
| **58** | 0 | 71 01501 64868 | 808 88221+ | 2074 46271 77890 | 20877 45378 | 0 | **2** |
| | 10 | 76 16310 53090 | 821 29987 | 1991 25394 32512 | 17634 75983 | 50 | |
| | 20 | 81 31131 83077 | 833 72039 | 1908 07759 56529+ | 14394 00013 | 40 | |
| | 30 | 86 45965 55116 | 846 14378+ | 1824 93365 56516 | 11155 17315 | 30 | |
| | 40 | 91 60811 69494+ | 858 57004+ | 1741 82210 39201 | 07918 27734+ | 20 | |
| | 50 | 0,24896 75670 26499 | 870 99918 | 1658 74292 11466+ | 04683 31119 | 10 | |
| **59** | 0 | 0,24901 90541 26417 | 883 43118+ | 1575 69608 80347+ | 83 01450 27314+ | 0 | **1** |
| | 10 | 07 05424 69535+ | 895 86605+ | 1492 68158 53033 | 82 98219 16168 | 50 | |
| | 20 | 12 20320 56141+ | 908 30380 | 1409 69939 36865 | 94989 97527 | 40 | |
| | 30 | 17 35228 86521+ | 920 74442 | 1326 74949 39338 | 91762 71238 | 30 | |
| | 40 | 22 50149 60963+ | 933 18790+ | 1243 83186 68100 | 88537 37148+ | 20 | |
| | 50 | 27 65082 79754 | 5 14945 63426+ | 1160 94649 30951 | 82 85313 95106+ | 10 | |
| **60** | 0 | 0,24932 80028 43180+ | | 4,01078 09335 35844+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 76°

# 14°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,24932 80028 43180+ | 5 14958 08350 | 4,01078 09335 35844+ | 82 82092 44959 | 0 | **60** |
| | 10 | 37 94986 51530+ | 970 53560 | 4,00995 27242 90886 | 78872 86554 | 50 | |
| | 20 | 43 09957 05090+ | 982 99058 | 912 48370 04332 | 75655 19739+ | 40 | |
| | 30 | 48 24940 04148+ | 5 14995 44843 | 829 72714 84592+ | 72439 44363 | 30 | |
| | 40 | 53 39935 48991+ | 5 15007 90915 | 747 00275 40229+ | 69225 60273+ | 20 | |
| | 50 | 58 54943 39906+ | 020 37274+ | 664 31049 79956 | 66013 67319+ | 10 | |
| **1** | 0 | 63 69963 77181 | 032 83921+ | 581 65036 12636+ | 62803 65349 | 0 | **59** |
| | 10 | 68 84996 61102+ | 045 30856 | 499 02232 47287+ | 59595 54210+ | 50 | |
| | 20 | 74 00041 91958+ | 057 78077+ | 416 42636 93077 | 56389 33753 | 40 | |
| | 30 | 79 15099 70036+ | 070 25587 | 333 86247 59324 | 53185 03826 | 30 | |
| | 40 | 84 30169 95623 | 082 73383+ | 251 33062 55498 | 49982 64278 | 20 | |
| | 50 | 89 45252 69006+ | 095 21467+ | 168 83079 91219+ | 46782 14959 | 10 | |
| **2** | 0 | 94 60347 90474 | 107 69839 | 086 36297 76261 | 43583 55717+ | 0 | **58** |
| | 10 | 0,24999 75455 60313+ | 120 18498+ | 4,00003 92714 20543+ | 40386 86403+ | 50 | |
| | 20 | 0,25004 90575 78812 | 132 67445 | 3,99921 52327 34139+ | 37192 06867 | 40 | |
| | 30 | 10 05708 46257 | 145 16679+ | 839 15135 27272+ | 33999 16957+ | 30 | |
| | 40 | 15 20853 62936+ | 157 66201+ | 756 81136 10315 | 30808 16525 | 20 | |
| | 50 | 20 36011 29138 | 170 16011 | 674 50327 93789+ | 27619 05420 | 10 | |
| **3** | 0 | 25 51181 45149 | 182 66108 | 592 22708 88369+ | 24431 83493 | 0 | **57** |
| | 10 | 30 66364 11257 | 195 16493 | 509 98277 04876+ | 21246 50593+ | 50 | |
| | 20 | 35 81559 27750 | 207 67166 | 427 77030 54283 | 18063 06573 | 40 | |
| | 30 | 40 96766 94916 | 220 18126 | 345 58967 47710 | 14881 51282 | 30 | |
| | 40 | 46 11987 13042+ | 232 69374+ | 263 44085 96428+ | 11701 84571 | 20 | |
| | 50 | 51 27219 82416+ | 245 20910+ | 181 32384 11857+ | 08524 06292 | 10 | |
| **4** | 0 | 56 42465 03327 | 257 72734 | 099 23860 05565+ | 05348 16295 | 0 | **56** |
| | 10 | 61 57722 76061+ | 270 24846 | 3,99017 18511 89270+ | 82 02174 14432+ | 50 | |
| | 20 | 66 72993 00907 | 282 77245+ | 3,98935 16337 74838 | 81 99002 00555 | 40 | |
| | 30 | 71 88275 78152+ | 295 29932+ | 853 17335 74283 | 95831 74515 | 30 | |
| | 40 | 77 03571 08085 | 307 82908 | 771 21503 99767+ | 92663 36164 | 20 | |
| | 50 | 82 18878 90993+ | 320 36171+ | 689 28840 63604 | 89496 85353+ | 10 | |
| **5** | 0 | 87 34199 27164+ | 332 89722+ | 607 39343 78250 | 86332 21936 | 0 | **55** |
| | 10 | 92 49532 16887+ | 345 43562 | 525 53011 56314 | 83169 45764 | 50 | |
| | 20 | 0,25097 64877 60449 | 357 97689 | 443 69842 10550 | 80008 56689+ | 40 | |
| | 30 | 0,25102 80235 58138+ | 370 52104+ | 361 89833 53860+ | 76849 54564+ | 30 | |
| | 40 | 07 95606 10243 | 383 06808 | 280 12983 99296 | 73692 39242+ | 20 | |
| | 50 | 13 10989 17051 | 395 61799+ | 198 39291 60053+ | 70537 10576 | 10 | |
| **6** | 0 | 18 26384 78850+ | 408 17079 | 116 68754 49477 | 67383 68418+ | 0 | **54** |
| | 10 | 23 41792 95929+ | 420 72647 | 3,98035 01370 81059 | 64232 12622 | 50 | |
| | 20 | 28 57213 68576+ | 433 28503 | 3,97953 37138 68437 | 61082 43040+ | 40 | |
| | 30 | 33 72646 97079+ | 445 84647 | 871 76056 25396+ | 57934 59527 | 30 | |
| | 40 | 38 88092 81726+ | 458 41079+ | 790 18121 65869+ | 54788 61935+ | 20 | |
| | 50 | 44 03551 22806 | 470 97800+ | 708 63333 03934+ | 51644 50119 | 10 | |
| **7** | 0 | 49 19022 20606+ | 483 54809+ | 627 11688 53815+ | 48502 23932 | 0 | **53** |
| | 10 | 54 34505 75415+ | 496 12106+ | 545 63186 29883+ | 45361 83228 | 50 | |
| | 20 | 59 50001 87522+ | 508 69692 | 464 17824 46655 | 42223 27861+ | 40 | |
| | 30 | 64 65510 57214+ | 521 27566 | 382 75601 18793+ | 39086 57686+ | 30 | |
| | 40 | 69 81031 84780+ | 533 85728+ | 301 36514 61107 | 35951 72557+ | 20 | |
| | 50 | 74 96565 70509+ | 546 44179+ | 220 00562 88549 | 32818 72329 | 10 | |
| **8** | 0 | 80 12112 14688+ | 559 02918+ | 138 67744 16220 | 29687 56855+ | 0 | **52** |
| | 10 | 85 27671 17607+ | 571 61946+ | 3,97057 38056 59364+ | 26558 25992 | 50 | |
| | 20 | 90 43242 79554 | 584 21262+ | 3,96976 11498 33372+ | 23430 79593+ | 40 | |
| | 30 | 0,25195 58827 00816+ | 596 80867+ | 894 88067 53778+ | 20305 17515+ | 30 | |
| | 40 | 0,25200 74423 81683+ | 609 40760+ | 813 67762 36263+ | 17181 39612 | 20 | |
| | 50 | 05 90033 22444 | 622 00942+ | 732 50580 96651 | 14059 45739+ | 10 | |
| **9** | 0 | 11 05655 23386+ | 634 61413 | 651 36521 50911+ | 10939 35753+ | 0 | **51** |
| | 10 | 16 21289 84799+ | 647 22172 | 570 25582 15158 | 07821 09509 | 50 | |
| | 20 | 21 36937 06971+ | 659 83219+ | 489 17761 05649 | 04704 66862+ | 40 | |
| | 30 | 26 52596 90191 | 672 44556 | 408 13056 38786+ | 81 01590 07669+ | 30 | |
| | 40 | 31 68269 34747 | 685 06181 | 327 11466 31117 | 80 98477 31786+ | 20 | |
| | 50 | 36 83954 40928 | 5 15697 68095 | 246 12988 99330+ | 80 95366 39069+ | 10 | |
| **10** | 0 | 0,25241 99652 09023 | | 3,96165 17622 60261 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

# 14°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,25241 99652 09023 | 5 15710 30297+ | 3,96165 17622 60261 | 80 92257 29374+ | 0 | **50** |
| | 10 | 47 15362 39320+ | 722 92789 | 084 25365 30886+ | 89150 02558+ | 50 | |
| | 20 | 52 31085 32109+ | 735 55569 | 3,96003 36215 28328 | 86044 58478+ | 40 | |
| | 30 | 57 46820 87678+ | 748 18638 | 3,95922 50170 69849+ | 82940 96990+ | 30 | |
| | 40 | 62 62569 06316+ | 760 81996 | 841 67229 72859 | 79839 17952 | 20 | |
| | 50 | 67 78329 88312 | 773 45642+ | 760 87390 54906+ | 76739 21220 | 10 | |
| **11** | 0 | 72 94103 33954+ | 786 09578 | 680 10651 33686+ | 73641 06651+ | 0 | **49** |
| | 10 | 78 09889 43532+ | 798 73802+ | 599 37010 27035 | 70544 74104 | 50 | |
| | 20 | 83 25688 17335+ | 811 38316 | 518 66465 52931 | 67450 23435 | 40 | |
| | 30 | 88 41499 55651+ | 824 03118+ | 437 99015 29496 | 64357 54502 | 30 | |
| | 40 | 93 57323 58770+ | 836 68210+ | 357 34657 74994 | 61266 67163+ | 20 | |
| | 50 | 0,25298 73160 26980+ | 849 33591 | 276 73391 07830+ | 58177 61276+ | 10 | |
| **12** | 0 | 0,25303 89009 60571+ | 861 99260+ | 196 15213 46554+ | 55090 36699 | 0 | **48** |
| | 10 | 09 04871 59832 | 874 65219 | 115 60123 09855 | 52004 93290 | 50 | |
| | 20 | 14 20746 25051 | 887 31467 | 3,95035 08118 16565 | 48921 30907+ | 40 | |
| | 30 | 19 36633 56518 | 899 98004 | 3,94954 59196 85657+ | 45839 49410 | 30 | |
| | 40 | 24 52533 54522 | 912 64830 | 874 13357 36248 | 42759 48655+ | 20 | |
| | 50 | 29 68446 19352 | 925 31945+ | 793 70597 87592 | 39681 28504 | 10 | |
| **13** | 0 | 34 84371 51297+ | 937 99350 | 713 30916 59088+ | 36604 88813 | 0 | **47** |
| | 10 | 40 00309 50648 | 950 67044 | 632 94311 70275+ | 33530 29442+ | 50 | |
| | 20 | 45 16260 17691+ | 963 35027 | 552 60781 40832+ | 30457 50251+ | 40 | |
| | 30 | 50 32223 52718+ | 976 03299+ | 472 30323 90581 | 27386 51099 | 30 | |
| | 40 | 55 48199 56018 | 5 15988 71861 | 392 02937 39482 | 24317 31844+ | 20 | |
| | 50 | 60 64188 27879 | 5 16001 40712 | 311 78620 07637+ | 21249 92348 | 10 | |
| **14** | 0 | 65 80189 68591 | 014 09852+ | 231 57370 15289+ | 18184 32468+ | 0 | **46** |
| | 10 | 70 96203 78444 | 026 79282+ | 151 39185 82821 | 15120 52066+ | 50 | |
| | 20 | 76 12230 57726+ | 039 49001+ | 3,94071 24065 30754 | 12058 51002 | 40 | |
| | 30 | 81 28270 06728 | 052 19010+ | 3,93991 12006 79752 | 08998 29134+ | 30 | |
| | 40 | 86 44322 25738+ | 064 89308+ | 911 03008 50617+ | 05939 86325 | 20 | |
| | 50 | 91 60387 15047 | 077 59896+ | 830 97068 64292+ | 80 02883 22433 | 10 | |
| **15** | 0 | 0,25396 76464 74943+ | 090 30773+ | 750 94185 41859+ | 79 99828 37320 | 0 | **45** |
| | 10 | 0,25401 92555 05717+ | 103 01940+ | 670 94357 04540 | 96775 30846 | 50 | |
| | 20 | 07 08658 07658 | 115 73397 | 590 97581 73694 | 93724 02872 | 40 | |
| | 30 | 12 24773 81055 | 128 45143 | 511 03857 70822 | 90674 53259 | 30 | |
| | 40 | 17 40902 26198 | 141 17178+ | 431 13183 17563+ | 87626 81868 | 20 | |
| | 50 | 22 57043 43376+ | 153 89504 | 351 25556 35695+ | 84580 88560 | 10 | |
| **16** | 0 | 27 73197 32880+ | 166 62119 | 271 40975 47135 | 81536 73197 | 0 | **44** |
| | 10 | 32 89363 94999+ | 179 35024 | 191 59438 73938 | 78494 35640 | 50 | |
| | 20 | 38 05543 30023+ | 192 08218+ | 111 80944 38298 | 75453 75751 | 40 | |
| | 30 | 43 21735 38242 | 204 81702+ | 3,93032 05490 62547 | 72414 93391 | 30 | |
| | 40 | 48 37940 19944+ | 217 55476+ | 3,92952 33075 69156 | 69377 88422+ | 20 | |
| | 50 | 53 54157 75421 | 230 29540+ | 872 63697 80733+ | 66342 60707 | 10 | |
| **17** | 0 | 58 70388 04961+ | 243 03894+ | 792 97355 20026+ | 63309 10107+ | 0 | **43** |
| | 10 | 63 86631 08856 | 255 78538 | 713 34046 09919 | 60277 36485+ | 50 | |
| | 20 | 69 02886 87394 | 268 53471+ | 633 73768 73433+ | 57247 39704 | 40 | |
| | 30 | 74 19155 40865+ | 281 28695 | 554 16521 33729+ | 54219 19625 | 30 | |
| | 40 | 79 35436 69560+ | 294 04208+ | 474 62302 14104+ | 51192 76111+ | 20 | |
| | 50 | 84 51730 73769 | 306 80012 | 395 11109 37993 | 48168 09026+ | 10 | |
| **18** | 0 | 89 68037 53780+ | 319 56105 | 315 62941 28966+ | 45145 18232+ | 0 | **42** |
| | 10 | 0,25494 84357 09885+ | 332 32488+ | 236 17796 10734 | 42124 03592+ | 50 | |
| | 20 | 0,25500 00689 42374+ | 345 09162 | 156 75672 07141+ | 39104 64970+ | 40 | |
| | 30 | 05 17034 51536+ | 357 86125+ | 3,92077 36567 42171 | 36087 02229+ | 30 | |
| | 40 | 10 33392 37662 | 370 63379+ | 3,91998 00480 39941+ | 33071 15232+ | 20 | |
| | 50 | 15 49763 01041+ | 383 40923 | 918 67409 24709 | 30057 03843+ | 10 | |
| **19** | 0 | 20 66146 41964+ | 396 18757+ | 839 37352 20865 | 27044 67926+ | 0 | **41** |
| | 10 | 25 82542 60722 | 408 96881+ | 760 10307 52938+ | 24034 07345 | 50 | |
| | 20 | 30 98951 57603+ | 421 75296 | 680 86273 45593+ | 21025 21963 | 40 | |
| | 30 | 36 15373 32899+ | 434 54000+ | 601 65248 23630+ | 18018 11645 | 30 | |
| | 40 | 41 31807 86900 | 447 32995+ | 522 47230 11985+ | 15012 76255 | 20 | |
| | 50 | 46 48255 19895+ | 5 16460 12280+ | 443 32217 35730 | 79 12009 15657+ | 10 | |
| **20** | 0 | 0,25551 64715 32176 | | 3,91364 20208 20072+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,25551 64715 32176 | 5 16472 91856+ | 3,91364 20208 20072+ | 79 09007 29717 | 0 | **40** |
| | 10 | 56 81188 24032+ | 485 71722 | 285 11200 90355+ | 06007 18298+ | 50 | |
| | 20 | 61 97673 95754+ | 498 51878+ | 206 05193 72057 | 03008 81266 | 40 | |
| | 30 | 67 14172 47633 | 511 32325 | 127 02184 90791 | 79 00012 18485 | 30 | |
| | 40 | 72 30683 79958+ | 524 13062+ | 3,91048 02172 72305+ | 78 97017 29821 | 20 | |
| | 50 | 77 47207 93020+ | 536 94090 | 3,90969 05155 42485 | 94024 15138 | 10 | |
| **21** | 0 | 82 63744 87110+ | 549 75408 | 890 11131 27347 | 91032 74302+ | 0 | **39** |
| | 10 | 87 80294 62518+ | 562 57016+ | 811 20098 53044+ | 88043 07179 | 50 | |
| | 20 | 92 96857 19535 | 575 38915+ | 732 32055 45865+ | 85055 13634 | 40 | |
| | 30 | 0,25598 13432 58451 | 588 21105+ | 653 47000 32231+ | 82068 93532+ | 30 | |
| | 40 | 0,25603 30020 79556+ | 601 03585+ | 574 64931 38698+ | 79084 46741 | 20 | |
| | 50 | 08 46621 83142 | 613 86356+ | 495 85846 91958 | 76101 73124+ | 10 | |
| **22** | 0 | 13 63235 69498+ | 626 69418 | 417 09745 18833 | 73120 72550 | 0 | **38** |
| | 10 | 18 79862 38916+ | 639 52770+ | 338 36624 46283 | 70141 44883+ | 50 | |
| | 20 | 23 96501 91687 | 652 36413 | 259 66483 01399 | 67163 89991+ | 40 | |
| | 30 | 29 13154 28100 | 665 20347 | 180 99319 11407+ | 64188 07740 | 30 | |
| | 40 | 34 29819 48447 | 678 04571 | 102 35131 03667+ | 61213 97996 | 20 | |
| | 50 | 39 46497 53018 | 690 89086+ | 3,90023 73917 05671+ | 58241 60626 | 10 | |
| **23** | 0 | 44 63188 42104+ | 703 73892 | 3,89945 15675 45045+ | 55270 95497+ | 0 | **37** |
| | 10 | 49 79892 15996+ | 716 58989 | 866 60404 49548 | 52302 02476+ | 50 | |
| | 20 | 54 96608 74985+ | 729 44376+ | 788 08102 47071+ | 49334 81431 | 40 | |
| | 30 | 60 13338 19362 | 742 30055 | 709 58767 65640+ | 46369 32228 | 30 | |
| | 40 | 65 30080 49417+ | 755 16024+ | 631 12398 33412+ | 43405 54734+ | 20 | |
| | 50 | 70 46835 65442 | 768 02285 | 552 68992 78678 | 40443 48819 | 10 | |
| **24** | 0 | 75 63603 67727 | 780 88836 | 474 28549 29859+ | 37483 14348 | 0 | **36** |
| | 10 | 80 80384 56563 | 793 75678+ | 395 91066 15511+ | 34524 51190 | 50 | |
| | 20 | 85 97178 32241+ | 806 62812 | 317 56541 64321+ | 31567 59212+ | 40 | |
| | 30 | 91 13984 95053+ | 819 50236 | 239 24974 05109 | 28612 38284 | 30 | |
| | 40 | 0,25696 30804 45289+ | 832 37951+ | 160 96361 66825+ | 25658 88272 | 20 | |
| | 50 | 0,25701 47636 83241 | 845 25958 | 082 70702 78553+ | 22707 09045+ | 10 | |
| **25** | 0 | 06 64482 09199+ | 858 14256 | 3,89004 47995 69508 | 19757 00472+ | 0 | **35** |
| | 10 | 11 81340 23455 | 871 02844+ | 3,88926 28238 69035+ | 16808 62421+ | 50 | |
| | 20 | 16 98211 26299+ | 883 91724+ | 848 11430 06614 | 13861 94761+ | 40 | |
| | 30 | 22 15095 18024 | 896 80895+ | 769 97568 11852+ | 10916 97361 | 30 | |
| | 40 | 27 31991 98920 | 909 70358 | 691 86651 14492 | 07973 70089 | 20 | |
| | 50 | 32 48901 69278 | 922 60111+ | 613 78677 44403 | 05032 12814+ | 10 | |
| **26** | 0 | 37 65824 29389+ | 935 50156+ | 535 73645 31588+ | 78 02092 25406+ | 0 | **34** |
| | 10 | 42 82759 79546 | 948 40493 | 457 71553 06182 | 77 99154 07735 | 50 | |
| | 20 | 47 99708 20039 | 961 31120+ | 379 72398 98447 | 96217 59668+ | 40 | |
| | 30 | 53 16669 51159+ | 974 22039+ | 301 76181 38778+ | 93282 81077 | 30 | |
| | 40 | 58 33643 73198+ | 5 16987 13249+ | 223 82898 57701+ | 90349 71830+ | 20 | |
| | 50 | 63 50630 86448+ | 5 17000 04751+ | 145 92548 85871+ | 87418 31798 | 10 | |
| **27** | 0 | 68 67630 91199+ | 012 96544+ | 3,88068 05130 54073 | 84488 60850 | 0 | **33** |
| | 10 | 73 84643 87744 | 025 88629 | 3,87990 20641 93223 | 81560 58856+ | 50 | |
| | 20 | 79 01669 76373+ | 038 81005+ | 912 39081 34366+ | 78634 25687+ | 40 | |
| | 30 | 84 18708 57378+ | 051 73673 | 834 60447 08678+ | 75709 61213+ | 30 | |
| | 40 | 89 35760 31051+ | 064 66632 | 756 84737 47465 | 72786 65305 | 20 | |
| | 50 | 94 52824 97683+ | 077 59883 | 679 11950 82160 | 69865 37832 | 10 | |
| **28** | 0 | 0,25799 69902 57566+ | 090 53425 | 601 42085 44328 | 66945 78666 | 0 | **32** |
| | 10 | 0,25804 86993 10991+ | 103 47259 | 523 75139 65662 | 64027 87677 | 50 | |
| | 20 | 10 04096 58251 | 116 41385 | 446 11111 77985+ | 61111 64736 | 40 | |
| | 30 | 15 21212 99636 | 129 35802 | 368 50000 13249+ | 58197 09714+ | 30 | |
| | 40 | 20 38342 35438 | 142 30511+ | 290 91803 03535 | 55284 22483+ | 20 | |
| | 50 | 25 55484 65949+ | 155 25512 | 213 36518 81051+ | 52373 02914 | 10 | |
| **29** | 0 | 30 72639 91461+ | 168 20804+ | 135 84145 78137+ | 49463 50878 | 0 | **31** |
| | 10 | 35 89808 12266 | 181 16389 | 3,87058 34682 27259+ | 46555 66246+ | 50 | |
| | 20 | 41 06989 28655 | 194 12265 | 3,86980 88126 61013 | 43649 48891 | 40 | |
| | 30 | 46 24183 40920 | 207 08433 | 903 44477 12122 | 40744 98684 | 30 | |
| | 40 | 51 41390 49353 | 220 04893 | 826 03732 13437+ | 37842 15497 | 20 | |
| | 50 | 56 58610 54245+ | 5 17233 01644+ | 748 65889 97940+ | 77 34940 99202+ | 10 | |
| **30** | 0 | 0,25861 75843 55890+ | | 3,86671 30948 98738 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

# 14°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,25861 75843 55890+ | 5 17245 98688+ | 3,86671 30948 98738 | 77 32041 49671+ | 0 | **30** |
| | 10 | 66 93089 54578+ | 258 96024 | 593 98907 49066+ | 29143 66777+ | 50 | |
| | 20 | 72 10348 50602+ | 271 93651+ | 516 69763 82289 | 26247 50392 | 40 | |
| | 30 | 77 27620 44254 | 284 91571 | 439 43516 31897 | 23353 00388 | 30 | |
| | 40 | 82 44905 35825 | 297 89782+ | 362 20163 31509 | 20460 16638 | 20 | |
| | 50 | 87 62203 25608 | 310 88286+ | 284 99703 14871 | 17568 99015 | 10 | |
| **31** | 0 | 92 79514 13894 | 323 87082 | 207 82134 15856 | 14679 47391+ | 0 | **29** |
| | 10 | 0,25897 96838 00976+ | 336 86170 | 130 67454 68464+ | 11791 61641 | 50 | |
| | 20 | 0,25903 14174 87146+ | 349 85550 | 3,86053 55663 06823+ | 08905 41636 | 40 | |
| | 30 | 08 31524 72696+ | 362 85222 | 3,85976 46757 65188 | 06020 87250 | 30 | |
| | 40 | 13 48887 57918+ | 375 85186+ | 899 40736 77938 | 03137 98356+ | 20 | |
| | 50 | 18 66263 43105+ | 388 85443 | 822 37598 79581+ | 77 00256 74829 | 10 | |
| **32** | 0 | 23 83652 28548+ | 401 85992 | 745 37342 04752+ | 76 97377 16541 | 0 | **28** |
| | 10 | 29 01054 14540+ | 414 86833 | 668 39964 88211+ | 94499 23366 | 50 | |
| | 20 | 34 18469 01373+ | 427 87966+ | 591 45465 64845 | 91622 95178+ | 40 | |
| | 30 | 39 35896 89340+ | 440 89392+ | 514 53842 69666+ | 88748 31852 | 30 | |
| | 40 | 44 53337 78732+ | 453 91110+ | 437 65094 37814+ | 85875 33260+ | 20 | |
| | 50 | 49 70791 69843 | 466 93121 | 360 79219 04554 | 83003 99278+ | 10 | |
| **33** | 0 | 54 88258 62964 | 479 95423+ | 283 96215 05275+ | 80134 29780+ | 0 | **27** |
| | 10 | 60 05738 58387+ | 492 98019 | 207 16080 75495 | 77266 24640 | 50 | |
| | 20 | 65 23231 56406+ | 506 00907 | 130 38814 50855 | 74399 83733 | 40 | |
| | 30 | 70 40737 57313+ | 519 04087 | 3,85053 64414 67122 | 71535 06933 | 30 | |
| | 40 | 75 58256 61400+ | 532 07560 | 3,84976 92879 60189 | 68671 94115 | 20 | |
| | 50 | 80 75788 68960 | 545 11325 | 900 24207 66074 | 65810 45154+ | 10 | |
| **34** | 0 | 85 93333 80285 | 558 15383 | 823 58397 20919+ | 62950 59926+ | 0 | **26** |
| | 10 | 91 10891 95668 | 571 19733+ | 746 95446 60993 | 60092 38305+ | 50 | |
| | 20 | 0,25996 28463 15401+ | 584 24376+ | 670 35354 22687+ | 57235 80167+ | 40 | |
| | 30 | 0,26001 46047 39778 | 597 29312+ | 593 78118 42520 | 54380 85387 | 30 | |
| | 40 | 06 63644 69090+ | 610 34540+ | 517 23737 57133 | 51527 53841 | 20 | |
| | 50 | 11 81255 03631 | 623 40062 | 440 72210 03292 | 48675 85403+ | 10 | |
| **35** | 0 | 16 98878 43693 | 636 45875+ | 364 23534 17888+ | 45825 79951+ | 0 | **25** |
| | 10 | 22 16514 89568+ | 649 51982+ | 287 77708 37937 | 42977 37360 | 50 | |
| | 20 | 27 34164 41551 | 662 58381+ | 211 34731 00577 | 40130 57505+ | 40 | |
| | 30 | 32 51826 99932+ | 675 65074 | 134 94600 43071+ | 37285 40264+ | 30 | |
| | 40 | 37 69502 65006+ | 688 72059 | 3,84058 57315 02807 | 34441 85512 | 20 | |
| | 50 | 42 87191 37065+ | 701 79337 | 3,83982 22873 17295 | 31599 93125+ | 10 | |
| **36** | 0 | 48 04893 16402+ | 714 86907+ | 905 91273 24169 | 28759 62981+ | 0 | **24** |
| | 10 | 53 22608 03310 | 727 94771+ | 829 62513 61188 | 25920 94955+ | 50 | |
| | 20 | 58 40335 98081+ | 741 02928 | 753 36592 66232+ | 23083 88925 | 40 | |
| | 30 | 63 58077 01009+ | 754 11377+ | 677 13508 77307 | 20248 44767 | 30 | |
| | 40 | 68 75831 12387 | 767 20120+ | 600 93260 32540 | 17414 62358 | 20 | |
| | 50 | 73 93598 32507+ | 780 29156 | 524 75845 70182 | 14582 41575 | 10 | |
| **37** | 0 | 79 11378 61663+ | 793 38485 | 448 61263 28607 | 11751 82295+ | 0 | **23** |
| | 10 | 84 29172 00148+ | 806 48106+ | 372 49511 46311 | 08922 84397 | 50 | |
| | 20 | 89 46978 48255 | 819 58021+ | 296 40588 61914+ | 06095 47756 | 40 | |
| | 30 | 94 64798 06276+ | 832 68229+ | 220 34493 14158+ | 03269 72251 | 30 | |
| | 40 | 0,26099 82630 74506 | 845 78731 | 144 31223 41907+ | 76 00445 57759 | 20 | |
| | 50 | 0,26105 00476 53237 | 858 89525 | 3,83068 30777 84148+ | 75 97623 04158 | 10 | |
| **38** | 0 | 10 18335 42762 | 872 00613 | 3,82992 33154 79990+ | 94802 11326 | 0 | **22** |
| | 10 | 15 36207 43375 | 885 11994 | 916 38352 68665 | 91982 79140+ | 50 | |
| | 20 | 20 54092 55368+ | 898 23668 | 840 46369 89524+ | 89165 07480 | 40 | |
| | 30 | 25 71990 79036+ | 911 35635+ | 764 57204 82044 | 86348 96223 | 30 | |
| | 40 | 30 89902 14672 | 924 47896 | 688 70855 85821+ | 83534 45247 | 20 | |
| | 50 | 36 07826 62568 | 937 60450+ | 612 87321 40574 | 80721 54431+ | 10 | |
| **39** | 0 | 41 25764 23018+ | 950 73298 | 537 06599 86142+ | 77910 23654 | 0 | **21** |
| | 10 | 46 43714 96316 | 963 86438+ | 461 28689 62488+ | 75100 52794 | 50 | |
| | 20 | 51 61678 82755 | 976 99873 | 385 53589 09694+ | 72292 41730 | 40 | |
| | 30 | 56 79655 82628 | 5 17990 13601 | 309 81296 67964+ | 69485 90340+ | 30 | |
| | 40 | 61 97645 96229 | 5 18003 27622+ | 234 11810 77624 | 66680 98505+ | 20 | |
| | 50 | 67 15649 23851+ | 5 18016 41937 | 158 45129 79118+ | 75 63877 66103 | 10 | |
| **40** | 0 | 0,26172 33665 65788+ | | 3,82082 81252 13015+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

# 14°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,26172 33665 65788+ | 5 18029 56545+ | 3,82082 81252 13015+ | 75 61075 93013 | 0 | **20** |
| | 10 | 77 51695 22334 | 042 71447+ | 3,82007 20176 20002+ | 58275 79115 | 50 | |
| | 20 | 82 69737 93781+ | 055 86643 | 3,81931 61900 40887+ | 55477 24287+ | 40 | |
| | 30 | 87 87793 80424+ | 069 02132 | 856 06423 16600 | 52680 28411 | 30 | |
| | 40 | 93 05862 82556+ | 082 17915 | 780 53742 88188+ | 49884 91365+ | 20 | |
| | 50 | 0,26198 23945 00471+ | 095 33991+ | 705 03857 96823+ | 47091 13029+ | 10 | |
| **41** | 0 | 0,26203 42040 34463 | 108 50361+ | 629 56766 83794 | 44298 93284 | 0 | **19** |
| | 10 | 08 60148 84824+ | 121 67025+ | 554 12467 90509+ | 41508 32009 | 50 | |
| | 20 | 13 78270 51850+ | 134 83983+ | 478 70959 58500+ | 38719 29084 | 40 | |
| | 30 | 18 96405 35834 | 148 01235 | 403 32240 29416+ | 35931 84390 | 30 | |
| | 40 | 24 14553 37068+ | 161 18780+ | 327 96308 45026+ | 33145 97807 | 20 | |
| | 50 | 29 32714 55849 | 174 36619+ | 252 63162 47219+ | 30361 69216 | 10 | |
| **42** | 0 | 34 50888 92468+ | 187 54752+ | 177 32800 78003+ | 27578 98496+ | 0 | **18** |
| | 10 | 39 69076 47221 | 200 73179+ | 102 05221 79507 | 24797 85530+ | 50 | |
| | 20 | 44 87277 20400+ | 213 91900+ | 3,81026 80423 93976+ | 22018 30198 | 40 | |
| | 30 | 50 05491 12301 | 227 10915 | 3,80951 58405 63778+ | 19240 32380+ | 30 | |
| | 40 | 55 23718 23216 | 240 30224 | 876 39165 31398 | 16463 91958+ | 20 | |
| | 50 | 60 41958 53440 | 253 49827 | 801 22701 39440 | 13689 08813+ | 10 | |
| **43** | 0 | 65 60212 03267 | 266 69723+ | 726 09012 30626+ | 10915 82827 | 0 | **17** |
| | 10 | 70 78478 72990+ | 279 89914+ | 650 98096 47799+ | 08144 13880 | 50 | |
| | 20 | 75 96758 62905 | 293 10399+ | 575 89952 33919+ | 05374 01854 | 40 | |
| | 30 | 81 15051 73304+ | 306 31179 | 500 84578 32065+ | 75 02605 46631 | 30 | |
| | 40 | 86 33358 04483+ | 319 52252 | 425 81972 85434 | 74 99838 48093 | 20 | |
| | 50 | 91 51677 56735+ | 332 73619+ | 350 82134 37341+ | 97073 06121 | 10 | |
| **44** | 0 | 0,26296 70010 30355 | 345 95281 | 275 85061 31220+ | 94309 20597 | 0 | **16** |
| | 10 | 0,26301 88356 25636 | 359 17237 | 200 90752 10623+ | 91546 91404 | 50 | |
| | 20 | 07 06715 42873 | 372 39487 | 125 99205 19219+ | 88786 18423+ | 40 | |
| | 30 | 12 25087 82360+ | 385 62031+ | 3,80051 10419 00796 | 86027 01538 | 30 | |
| | 40 | 17 43473 44392 | 398 84870+ | 3,79976 24391 99258 | 83269 40629+ | 20 | |
| | 50 | 22 61872 29262+ | 412 08003+ | 901 41122 58628+ | 80513 35581 | 10 | |
| **45** | 0 | 27 80284 37266 | 425 31431 | 826 60609 23047+ | 77758 86275 | 0 | **15** |
| | 10 | 32 98709 68697 | 438 55152+ | 751 82850 36773 | 75005 92594 | 50 | |
| | 20 | 38 17148 23849+ | 451 79169 | 677 07844 44178+ | 72254 54421 | 40 | |
| | 30 | 43 35600 03018+ | 465 03479+ | 602 35589 89757+ | 69504 71639+ | 30 | |
| | 40 | 48 54065 06498 | 478 28085 | 527 66085 18118 | 66756 44131+ | 20 | |
| | 50 | 53 72543 34583 | 491 52984+ | 452 99328 73986+ | 64009 71781 | 10 | |
| **46** | 0 | 58 91034 87567+ | 504 78179 | 378 35319 02205 | 61264 54471 | 0 | **14** |
| | 10 | 64 09539 65746+ | 518 03667+ | 303 74054 47734 | 58520 92085 | 50 | |
| | 20 | 69 28057 69414 | 531 29451 | 229 15533 55648+ | 55778 84506+ | 40 | |
| | 30 | 74 46588 98865 | 544 55529 | 154 59754 71142 | 53038 31619 | 30 | |
| | 40 | 79 65133 54393+ | 557 81901+ | 080 06716 39523 | 50299 33306+ | 20 | |
| | 50 | 84 83691 36295 | 571 08569 | 3,79005 56417 06216+ | 47561 89452 | 10 | |
| **47** | 0 | 90 02262 44864 | 584 35531 | 3,78931 08855 16764+ | 44825 99940+ | 0 | **13** |
| | 10 | 0,26395 20846 80394+ | 597 62787+ | 856 64029 16824 | 42091 64655+ | 50 | |
| | 20 | 0,26400 39444 43182 | 610 90339 | 782 21937 52168+ | 39358 83481+ | 40 | |
| | 30 | 05 58055 33521 | 624 18185 | 707 82578 68687 | 36627 56302 | 30 | |
| | 40 | 10 76679 51706+ | 637 46326 | 633 45951 12385 | 33897 83002+ | 20 | |
| | 50 | 15 95316 98032+ | 650 74762 | 559 12053 29382+ | 31169 63466+ | 10 | |
| **48** | 0 | 21 13967 72794+ | 664 03493 | 484 80883 65916 | 28442 97579 | 0 | **12** |
| | 10 | 26 32631 76287+ | 677 32518+ | 410 52440 68337 | 25717 85225 | 50 | |
| | 20 | 31 51309 08806 | 690 61839 | 336 26722 83112 | 22994 26289 | 40 | |
| | 30 | 36 69999 70644+ | 703 91454+ | 262 03728 56823 | 20272 20655+ | 30 | |
| | 40 | 41 88703 62099 | 717 21365 | 187 83456 36167+ | 17551 68210+ | 20 | |
| | 50 | 47 07420 83464 | 730 51570+ | 113 65904 67957 | 14832 68838+ | 10 | |
| **49** | 0 | 52 26151 35034+ | 743 82071 | 3,78039 51071 99119 | 12115 22424+ | 0 | **11** |
| | 10 | 57 44895 17105+ | 757 12866+ | 3,77965 38956 76694+ | 09399 28854+ | 50 | |
| | 20 | 62 63652 29972 | 770 43957 | 891 29557 47840 | 06684 88013+ | 40 | |
| | 30 | 67 82422 73929 | 783 75343 | 817 22872 59826+ | 03971 99787+ | 30 | |
| | 40 | 73 01206 49271+ | 797 07023+ | 743 18900 60039 | 74 01260 64061+ | 20 | |
| | 50 | 78 20003 56295 | 5 18810 38999+ | 669 17639 95977+ | 73 98550 80722 | 10 | |
| **50** | 0 | 0,26483 38813 95295 | | 3,77595 19089 15256 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

# 14°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,26483 38813 95295 | 5 18823 71271 | 3,77595 19089 15256 | 73 95842 49654 | 0 | **10** |
| | 10 | 88 57637 66565+ | 837 03837+ | 521 23246 65601+ | 93135 70744+ | 50 | |
| | 20 | 93 76474 70403 | 850 36699 | 447 30110 94857 | 90430 43879+ | 40 | |
| | 30 | 0,26498 95325 07102 | 863 69856 | 373 39680 50977+ | 87726 68944+ | 30 | |
| | 40 | 0,26504 14188 76958 | 877 03308+ | 299 51953 82033+ | 85024 45826 | 20 | |
| | 50 | 09 33065 80266+ | 890 37056 | 225 66929 36207+ | 82323 74411 | 10 | |
| **51** | 0 | 14 51956 17322+ | 903 71099 | 151 84605 61796+ | 79624 54585 | 0 | **9** |
| | 10 | 19 70859 88421 | 917 05437 | 078 04981 07211+ | 76926 86236 | 50 | |
| | 20 | 24 89776 93858+ | 930 40071 | 3,77004 28054 20975+ | 74230 69249+ | 40 | |
| | 30 | 30 08707 33929+ | 943 75000 | 3,76930 53823 51726 | 71536 03513 | 30 | |
| | 40 | 35 27651 08929+ | 957 10225 | 856 82287 48213+ | 68842 88913 | 20 | |
| | 50 | 40 46608 19154+ | 970 45745 | 783 13444 59300 | 66151 25337 | 10 | |
| **52** | 0 | 45 65578 64899+ | 983 81561 | 709 47293 33963 | 63461 12672+ | 0 | **8** |
| | 10 | 50 84562 46460+ | 5 18997 17672 | 635 83832 21290+ | 60772 50805+ | 50 | |
| | 20 | 56 03559 64132+ | 5 19010 54079 | 562 23059 70485 | 58085 39624+ | 40 | |
| | 30 | 61 22570 18211+ | 023 90781+ | 488 64974 30860+ | 55399 79017 | 30 | |
| | 40 | 66 41594 08993 | 037 27779+ | 415 09574 51843+ | 52715 68869+ | 20 | |
| | 50 | 71 60631 36772+ | 050 65073 | 341 56858 82974 | 50033 09071 | 10 | |
| **53** | 0 | 76 79682 01845+ | 064 02662+ | 268 06825 73903+ | 47351 99508 | 0 | **7** |
| | 10 | 81 98746 04508+ | 077 40548 | 194 59473 74395 | 44672 40069+ | 50 | |
| | 20 | 87 17823 45056 | 090 78729 | 121 14801 34325+ | 41994 30643 | 40 | |
| | 30 | 92 36914 23785 | 104 17205+ | 3,76047 72807 03682+ | 39317 71116+ | 30 | |
| | 40 | 0,26597 56018 40990+ | 117 55978 | 3,75974 33489 32566 | 36642 61379 | 20 | |
| | 50 | 0,26602 75135 96968+ | 130 95046+ | 900 96846 71187 | 33969 01317+ | 10 | |
| **54** | 0 | 07 94266 92014+ | 144 34410+ | 827 62877 69869+ | 31296 90821+ | 0 | **6** |
| | 10 | 13 13411 26425 | 157 74070+ | 754 31580 79048 | 28626 29779 | 50 | |
| | 20 | 18 32569 00495+ | 171 14026+ | 681 02954 49269 | 25957 18079 | 40 | |
| | 30 | 23 51740 14522+ | 184 54278+ | 607 76997 31190+ | 23289 55609+ | 30 | |
| | 40 | 28 70924 68801 | 197 94826+ | 534 53707 75580+ | 20623 42260 | 20 | |
| | 50 | 33 90122 63627 | 211 35670+ | 461 33084 33320+ | 17958 77919+ | 10 | |
| **55** | 0 | 39 09333 99297+ | 224 76810 | 388 15125 55401 | 15295 62476+ | 0 | **5** |
| | 10 | 44 28558 76107+ | 238 18246 | 314 99829 92924+ | 12633 95820+ | 50 | |
| | 20 | 49 47796 94354 | 251 59978+ | 241 87195 97104 | 09973 77841 | 40 | |
| | 30 | 54 67048 54332+ | 265 02006+ | 168 77222 19262+ | 07315 08427 | 30 | |
| | 40 | 59 86313 56339 | 278 44331 | 095 69907 10836 | 04657 87467+ | 20 | |
| | 50 | 65 05592 00669+ | 291 86951+ | 3,75022 65249 23368 | 73 02002 14853 | 10 | |
| **56** | 0 | 70 24883 87621 | 305 29868 | 3,74949 63247 08515 | 72 99347 90472+ | 0 | **4** |
| | 10 | 75 44189 17489 | 318 73081 | 876 63899 18042+ | 96695 14216 | 50 | |
| | 20 | 80 63507 90570 | 332 16590 | 803 67204 03826+ | 94043 85973+ | 40 | |
| | 30 | 85 82840 07160 | 345 60395+ | 730 73160 17853 | 91394 05634+ | 30 | |
| | 40 | 91 02185 67555+ | 359 04497 | 657 81766 12218+ | 88745 73089+ | 20 | |
| | 50 | 0,26696 21544 72052+ | 372 48895+ | 584 93020 39128+ | 86098 88228+ | 10 | |
| **57** | 0 | 0,26701 40917 20948 | 385 93589+ | 512 06921 50900 | 83453 50942 | 0 | **3** |
| | 10 | 06 60303 14537+ | 399 38580+ | 439 23467 99958 | 80809 61120 | 50 | |
| | 20 | 11 79702 53118 | 412 83868 | 366 42658 38838 | 78167 18653 | 40 | |
| | 30 | 16 99115 36986 | 426 29451+ | 293 64491 20185 | 75526 23432 | 30 | |
| | 40 | 22 18541 66437+ | 439 75331+ | 220 88964 96753 | 72886 75347+ | 20 | |
| | 50 | 27 37981 41769 | 453 21508+ | 148 16078 21405+ | 70248 74289+ | 10 | |
| **58** | 0 | 32 57434 63277+ | 466 67981+ | 075 45829 47116 | 67612 20150+ | 0 | **2** |
| | 10 | 37 76901 31259 | 480 14751+ | 3,74002 78217 26965+ | 64977 12820 | 50 | |
| | 20 | 42 96381 46010 | 493 61817+ | 3,73930 13240 14146 | 62343 52189+ | 40 | |
| | 30 | 48 15875 07828 | 507 09180+ | 857 50896 61956+ | 59711 38150+ | 30 | |
| | 40 | 53 35382 17008+ | 520 56840 | 784 91185 23806 | 57080 70594 | 20 | |
| | 50 | 58 54902 73848+ | 534 04796+ | 712 34104 53211+ | 54451 49411+ | 10 | |
| **59** | 0 | 63 74436 78645 | 547 53049+ | 639 79653 03800 | 51823 74495 | 0 | **1** |
| | 10 | 68 93984 31694+ | 561 01599 | 567 27829 29305 | 49197 45735 | 50 | |
| | 20 | 74 13545 33293+ | 574 50445+ | 494 78631 83570+ | 46572 63023+ | 40 | |
| | 30 | 79 33119 83739+ | 587 99589 | 422 32059 20546+ | 43949 26253 | 30 | |
| | 40 | 84 52707 83328 | 601 49029 | 349 88109 94293+ | 41327 35315 | 20 | |
| | 50 | 89 72309 32357 | 5 19614 98765+ | 277 46782 58978+ | 72 38706 90101 | 10 | |
| **60** | 0 | 0,26794 91924 31122+ | | 3,73205 08075 68877+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 75°

# 15°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,26794 91924 31122+ | 5 19628 48799+ | 3,73205 08075 68877+ | 72 36087 90504 | 0 | **60** |
| | 10 | 0,26800 11552 79922 | 641 99130 | 132 71987 78373+ | 33470 36415+ | 50 | |
| | 20 | 05 31194 79052+ | 655 49757+ | 3,73060 38517 41958 | 30854 27727+ | 40 | |
| | 30 | 10 50850 28810 | 669 00682 | 3,72988 07663 14230+ | 28239 64333+ | 30 | |
| | 40 | 15 70519 29492+ | 682 51903+ | 915 79423 49897 | 25626 46125 | 20 | |
| | 50 | 20 90201 81396 | 696 03422+ | 843 53797 03772 | 23014 72995 | 10 | |
| **1** | 0 | 26 09897 84818+ | 709 55238 | 771 30782 30776+ | 20404 44836+ | 0 | **59** |
| | 10 | 31 29607 40056 | 723 07350+ | 699 10377 85940+ | 17795 61541+ | 50 | |
| | 20 | 36 49330 47406+ | 736 59760 | 626 92582 24399 | 15188 23003 | 40 | |
| | 30 | 41 69067 07166+ | 750 12467 | 554 77394 01396 | 12582 29115 | 30 | |
| | 40 | 46 88817 19633+ | 763 65471 | 482 64811 72281 | 09977 79769+ | 20 | |
| | 50 | 52 08580 85104+ | 777 18772 | 410 54833 92511+ | 07374 74860 | 10 | |
| **2** | 0 | 57 28358 03876+ | 790 72370+ | 338 47459 17652 | 04773 14279+ | 0 | **58** |
| | 10 | 62 48148 76247 | 804 26266 | 266 42686 03372 | 72 02172 97922+ | 50 | |
| | 20 | 67 67953 02513 | 817 80459 | 194 40513 05450 | 71 99574 25681 | 40 | |
| | 30 | 72 87770 82972 | 831 34949 | 122 40938 79769 | 96976 97449+ | 30 | |
| | 40 | 78 07602 17921 | 844 89736+ | 3,72050 43961 82319+ | 94381 13121+ | 20 | |
| | 50 | 83 27447 07657 | 858 44821 | 3,71978 49580 69198 | 91786 72590+ | 10 | |
| **3** | 0 | 88 47305 52478+ | 872 00203+ | 906 57793 96607+ | 89193 75750+ | 0 | **57** |
| | 10 | 93 67177 52682 | 885 55883 | 834 68600 20857 | 86602 22496 | 50 | |
| | 20 | 0,26898 87063 08565 | 899 11860 | 762 81997 98361 | 84012 12720 | 40 | |
| | 30 | 0,26904 06962 20425 | 912 68134+ | 690 97985 85641 | 81423 46317+ | 30 | |
| | 40 | 09 26874 88559+ | 926 24706+ | 619 16562 39323+ | 78836 23182+ | 20 | |
| | 50 | 14 46801 13266 | 939 81576 | 547 37726 16140+ | 76250 43209+ | 10 | |
| **4** | 0 | 19 66740 94841+ | 953 38743 | 475 61475 72931 | 73666 06293 | 0 | **56** |
| | 10 | 24 86694 33584+ | 966 96207+ | 403 87809 66638+ | 71083 12327 | 50 | |
| | 20 | 30 06661 29792 | 980 53969+ | 332 16726 54311+ | 68501 61206+ | 40 | |
| | 30 | 35 26641 83762 | 5 19994 12029+ | 260 48224 93104+ | 65921 52826+ | 30 | |
| | 40 | 40 46635 95791+ | 5 20007 70387 | 188 82303 40278 | 63342 87081+ | 20 | |
| | 50 | 45 66643 66178+ | 021 29042 | 117 18960 53196+ | 60765 63867 | 10 | |
| **5** | 0 | 50 86664 95220+ | 034 87995 | 3,71045 58194 89329+ | 58189 83077 | 0 | **55** |
| | 10 | 56 06699 83215+ | 048 47245+ | 3,70974 00005 06252+ | 55615 44607+ | 50 | |
| | 20 | 61 26748 30461+ | 062 06794 | 902 44389 61645 | 53042 48353+ | 40 | |
| | 30 | 66 46810 37255+ | 075 66640 | 830 91347 13291+ | 50470 94210 | 30 | |
| | 40 | 71 66886 03895+ | 089 26784+ | 759 40876 19081 | 47900 82073 | 20 | |
| | 50 | 76 86975 30680 | 102 87226 | 687 92975 37008 | 45332 11838 | 10 | |
| **6** | 0 | 82 07078 17906 | 116 47966 | 616 47643 25170 | 42764 83400 | 0 | **54** |
| | 10 | 87 27194 65872 | 130 09003+ | 545 04878 41770 | 40198 96655 | 50 | |
| | 20 | 92 47324 74875+ | 143 70339 | 473 64679 45115 | 37634 51499 | 40 | |
| | 30 | 0,26997 67468 45214+ | 157 31972+ | 402 27044 93616+ | 35071 47827+ | 30 | |
| | 40 | 0,27002 87625 77187+ | 170 93904+ | 330 91973 45788+ | 32509 85537 | 20 | |
| | 50 | 08 07796 71091+ | 184 56134 | 259 59463 60251+ | 29949 64523+ | 10 | |
| **7** | 0 | 13 27981 27225+ | 198 18661+ | 188 29513 95728 | 27390 84683 | 0 | **53** |
| | 10 | 18 48179 45887 | 211 81487+ | 117 02123 11045 | 24833 45911+ | 50 | |
| | 20 | 23 68391 27374+ | 225 44611 | 3,70045 77289 65133 | 22277 48106 | 40 | |
| | 30 | 28 88616 71985+ | 239 08033 | 3,69974 55012 17027 | 19722 91163 | 30 | |
| | 40 | 34 08855 80018+ | 252 71753+ | 903 35289 25864 | 17169 74978+ | 20 | |
| | 50 | 39 29108 51772 | 266 35771+ | 832 18119 50886 | 14617 99449 | 10 | |
| **8** | 0 | 44 49374 87543+ | 280 00088 | 761 03501 51437 | 12067 64472 | 0 | **52** |
| | 10 | 49 69654 87632 | 293 64703 | 689 91433 86964+ | 09518 69944 | 50 | |
| | 20 | 54 89948 52335 | 307 29616 | 618 81915 17020+ | 06971 15762+ | 40 | |
| | 30 | 60 10255 81951+ | 320 94827+ | 547 74944 01258 | 04425 01823+ | 30 | |
| | 40 | 65 30576 76779 | 334 60337+ | 476 70518 99435 | 71 01880 28024+ | 20 | |
| | 50 | 70 50911 37116+ | 348 26145+ | 405 68638 71410 | 70 99336 94263+ | 10 | |
| **9** | 0 | 75 71259 63262 | 361 92252 | 334 69301 77146+ | 96795 00437 | 0 | **51** |
| | 10 | 80 91621 55514 | 375 58657 | 263 72506 76710 | 94254 46442+ | 50 | |
| | 20 | 86 11997 14171 | 389 25360+ | 192 78252 30267+ | 91715 32177+ | 40 | |
| | 30 | 91 32386 39531+ | 402 92362+ | 121 86536 98090 | 89177 57540 | 30 | |
| | 40 | 0,27096 52789 31893+ | 416 59662+ | 3,69050 97359 40550 | 86641 22427+ | 20 | |
| | 50 | 0,27101 73205 91556+ | 5 20430 27261+ | 3,68980 10718 18122 | 70 84106 26738 | 10 | |
| **10** | 0 | 0,27106 93636 18818 | | 3,68909 26611 91384 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 74°

# 15°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,27106 93636 18818 | 5 20443 95159 | 3,68909 26611 91384 | 70 81572 70369 | 0 | **50** |
| | 10 | 12 14080 13977 | 457 63355 | 838 45039 21015+ | 79040 53218+ | 50 | |
| | 20 | 17 34537 77332+ | 471 31850 | 767 65998 67797 | 76509 75185 | 40 | |
| | 30 | 22 55009 09182+ | 485 00643+ | 696 89488 92612 | 73980 36166 | 30 | |
| | 40 | 27 75494 09825+ | 498 69735+ | 626 15508 56446 | 71452 36060+ | 20 | |
| | 50 | 32 95992 79561 | 512 39126 | 555 44056 20385+ | 68925 74766+ | 10 | |
| **11** | 0 | 38 16505 18687 | 526 08815+ | 484 75130 45619 | 66400 52182 | 0 | **49** |
| | 10 | 43 37031 27503 | 539 78804 | 414 08729 93437 | 63876 68206+ | 50 | |
| | 20 | 48 57571 06307 | 553 49091 | 343 44853 25230+ | 61354 22738 | 40 | |
| | 30 | 53 78124 55398 | 567 19677 | 272 83499 02492+ | 58833 15675+ | 30 | |
| | 40 | 58 98691 75075 | 580 90561+ | 202 24665 86817 | 56313 46917+ | 20 | |
| | 50 | 64 19272 65636+ | 594 61745+ | 131 68352 39899+ | 53795 16363 | 10 | |
| **12** | 0 | 69 39867 27382 | 608 33228 | 3,68061 14557 23536+ | 51278 23911+ | 0 | **48** |
| | 10 | 74 60475 60609+ | 622 05009+ | 3,67990 63278 99625 | 48762 69461+ | 50 | |
| | 20 | 79 81097 65619 | 635 77090 | 920 14516 30163+ | 46248 52912 | 40 | |
| | 30 | 85 01733 42709 | 649 49469 | 849 68267 77251+ | 43735 74163+ | 30 | |
| | 40 | 90 22382 92178 | 663 22147+ | 779 24532 03088 | 41224 33114 | 20 | |
| | 50 | 0,27195 43046 14325+ | 676 95125 | 708 83307 69974+ | 38714 29663+ | 10 | |
| **13** | 0 | 0,27200 63723 09451 | 690 68402 | 638 44593 40311 | 36205 63711+ | 0 | **47** |
| | 10 | 05 84413 77852+ | 704 41977+ | 568 08387 76599+ | 33698 35158 | 50 | |
| | 20 | 11 05118 19830+ | 718 15852+ | 497 74689 41441+ | 31192 43902+ | 40 | |
| | 30 | 16 25836 35682+ | 731 90026+ | 427 43496 97539 | 28687 89844+ | 30 | |
| | 40 | 21 46568 25709 | 745 64499+ | 357 14809 07695 | 26184 72884 | 20 | |
| | 50 | 26 67313 90208+ | 759 39272 | 286 88624 34810+ | 23682 92921+ | 10 | |
| **14** | 0 | 31 88073 29481 | 773 14344 | 216 64941 41889 | 21182 49857 | 0 | **46** |
| | 10 | 37 08846 43824+ | 786 89715 | 146 43758 92032 | 18683 43590+ | 50 | |
| | 20 | 42 29633 33539+ | 800 65385 | 076 25075 48441 | 16185 74022 | 40 | |
| | 30 | 47 50433 98924+ | 814 41354+ | 3,67006 08889 74419 | 13689 41052+ | 30 | |
| | 40 | 52 71248 40279 | 828 17623+ | 3,66935 95200 33366+ | 11194 44582 | 20 | |
| | 50 | 57 92076 57903 | 841 94192 | 865 84005 88784 | 08700 84511+ | 10 | |
| **15** | 0 | 63 12918 52095 | 855 71060 | 795 75305 04273 | 06208 60741 | 0 | **45** |
| | 10 | 68 33774 23155 | 869 48227 | 725 69096 43531+ | 03717 73172 | 50 | |
| | 20 | 73 54643 71382 | 883 25694 | 655 65378 70360 | 70 01228 21704+ | 40 | |
| | 30 | 78 75526 97076 | 897 03460+ | 585 64150 48655+ | 69 98740 06240 | 30 | |
| | 40 | 83 96424 00536+ | 910 81526 | 515 65410 42415+ | 96253 26679+ | 20 | |
| | 50 | 89 17334 82062+ | 924 59891+ | 445 69157 15736 | 93767 82924 | 10 | |
| **16** | 0 | 94 38259 41954 | 938 38556+ | 375 75389 32812 | 91283 74874+ | 0 | **44** |
| | 10 | 0,27299 59197 80511 | 952 17521 | 305 84105 57937+ | 88801 02432+ | 50 | |
| | 20 | 0,27304 80149 98032 | 965 96785+ | 235 95304 55505+ | 86319 65499 | 40 | |
| | 30 | 10 01115 94817+ | 979 76349+ | 166 08984 90006 | 83839 63976 | 30 | |
| | 40 | 15 22095 71167 | 5 20993 56213 | 096 25145 26030 | 81360 97765 | 20 | |
| | 50 | 20 43089 27380 | 5 21007 36376+ | 3,66026 43784 28265 | 78883 66767+ | 10 | |
| **17** | 0 | 25 64096 63756+ | 021 16840 | 3,65956 64900 61497+ | 76407 70885 | 0 | **43** |
| | 10 | 30 85117 80596+ | 034 97603 | 886 88492 90612 | 73933 10019+ | 50 | |
| | 20 | 36 06152 78199 | 048 78665+ | 817 14559 80592+ | 71459 84073 | 40 | |
| | 30 | 41 27201 56864+ | 062 60028+ | 747 43099 96519+ | 68987 92947+ | 30 | |
| | 40 | 46 48264 16893 | 076 41691 | 677 74112 03572 | 66517 36545 | 20 | |
| | 50 | 51 69340 58584 | 090 23653+ | 608 07594 67027 | 64048 14767+ | 10 | |
| **18** | 0 | 56 90430 82237 | 104 05916 | 538 43546 52259+ | 61580 27517+ | 0 | **42** |
| | 10 | 62 11534 88153 | 117 88478+ | 468 81966 24742+ | 59113 74697 | 50 | |
| | 20 | 67 32652 76631+ | 131 71340+ | 399 22852 50045 | 56648 56209 | 40 | |
| | 30 | 72 53784 47972 | 145 54503 | 329 66203 93836 | 54184 71956 | 30 | |
| | 40 | 77 74930 02475 | 159 37965+ | 260 12019 21880 | 51722 21840 | 20 | |
| | 50 | 82 96089 40441 | 173 21728+ | 190 60297 00039+ | 49261 05764+ | 10 | |
| **19** | 0 | 88 17262 62169 | 187 05791 | 121 11035 94275+ | 46801 23631+ | 0 | **41** |
| | 10 | 93 38449 67960 | 200 90154 | 3,65051 64234 70644 | 44342 75344+ | 50 | |
| | 20 | 0,27398 59650 58114 | 214 74817 | 3,64982 19891 95299+ | 41885 60806 | 40 | |
| | 30 | 0,27403 80865 32931 | 228 59780 | 912 78006 34493+ | 39429 79919+ | 30 | |
| | 40 | 09 02093 92711+ | 242 45044 | 843 38576 54574+ | 36975 32587+ | 20 | |
| | 50 | 14 23336 37755 | 5 21256 30607+ | 774 01601 21986+ | 69 34522 18714 | 10 | |
| **20** | 0 | 0,27419 44592 68362+ | | 3,64704 67079 03272+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 74°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,27419 44592 68362+ | 5 21270 16471+ | 3,64704 67079 03272+ | 69 32070 38202 | 0 | **40** |
| | 10 | 24 65862 84834 | 284 02636 | 635 35008 65071 | 29619 90954+ | 50 | |
| | 20 | 29 87146 87470 | 297 89100+ | 566 05388 74116 | 27170 76876 | 40 | |
| | 30 | 35 08444 76571 | 311 75866 | 496 78217 97240 | 24722 95869 | 30 | |
| | 40 | 40 29756 52436+ | 325 62931+ | 427 53495 01371 | 22276 47838 | 20 | |
| | 50 | 45 51082 15368 | 339 50297+ | 358 31218 53533 | 19831 32686 | 10 | |
| **21** | 0 | 50 72421 65665+ | 353 37963+ | 289 11387 20847 | 17387 50317+ | 0 | **39** |
| | 10 | 55 93775 03629 | 367 25930+ | 219 93999 70529+ | 14945 00636 | 50 | |
| | 20 | 61 15142 29560 | 381 14198 | 150 79054 69893+ | 12503 83546 | 40 | |
| | 30 | 66 36523 43758 | 395 02766 | 081 66550 86347+ | 10063 98951 | 30 | |
| | 40 | 71 57918 46524 | 408 91634+ | 3,64012 56486 87396+ | 07625 46755+ | 20 | |
| | 50 | 76 79327 38159 | 422 80804 | 3,63943 48861 40640+ | 05188 26864 | 10 | |
| **22** | 0 | 82 00750 18962+ | 436 70274 | 874 43673 13776+ | 02752 39180+ | 0 | **38** |
| | 10 | 87 22186 89236+ | 450 60044+ | 805 40920 74596 | 69 00317 83609+ | 50 | |
| | 20 | 92 43637 49281 | 464 50115+ | 736 40602 90986+ | 68 97884 60056 | 40 | |
| | 30 | 0,27497 65101 99396+ | 478 40487+ | 667 42718 30930+ | 95452 68424 | 30 | |
| | 40 | 0,27502 86580 39884 | 492 31160 | 598 47265 62506+ | 93022 08618 | 20 | |
| | 50 | 08 08072 71044 | 506 22133+ | 529 54243 53888+ | 90592 80544 | 10 | |
| **23** | 0 | 13 29578 93177+ | 520 13408 | 460 63650 73344+ | 88164 84105+ | 0 | **37** |
| | 10 | 18 51099 06585+ | 534 04983 | 391 75485 89239 | 85738 19208+ | 50 | |
| | 20 | 23 72633 11569 | 547 96859 | 322 89747 70030+ | 83312 85757+ | 40 | |
| | 30 | 28 94181 08428 | 561 89036 | 254 06434 84273 | 80888 83658 | 30 | |
| | 40 | 34 15742 97464 | 575 81514 | 185 25546 00615 | 78466 12815 | 20 | |
| | 50 | 39 37318 78978 | 589 74293 | 116 47079 87800 | 76044 73133+ | 10 | |
| **24** | 0 | 44 58908 53271 | 603 67372+ | 3,63047 71035 14666+ | 73624 64519+ | 0 | **36** |
| | 10 | 49 80512 20643+ | 617 60753+ | 3,62978 97410 50147 | 71205 86878 | 50 | |
| | 20 | 55 02129 81397 | 631 54435+ | 910 26204 63269 | 68788 40115 | 40 | |
| | 30 | 60 23761 35832+ | 645 48418+ | 841 57416 23154 | 66372 24136 | 30 | |
| | 40 | 65 45406 84251 | 659 42702+ | 772 91043 99018 | 63957 38846+ | 20 | |
| | 50 | 70 67066 26953+ | 673 37287+ | 704 27086 60172 | 61543 84152+ | 10 | |
| **25** | 0 | 75 88739 64241 | 687 32174 | 635 65542 76019+ | 59131 59959+ | 0 | **35** |
| | 10 | 81 10426 96415 | 701 27361+ | 567 06411 16060 | 56720 66174+ | 50 | |
| | 20 | 86 32128 23776+ | 715 22850+ | 498 49690 49885+ | 54311 02702+ | 40 | |
| | 30 | 91 53843 46627 | 729 18640+ | 429 95379 47183 | 51902 69450+ | 30 | |
| | 40 | 0,27596 75572 65267+ | 743 14732 | 361 43476 77732+ | 49495 66324 | 20 | |
| | 50 | 0,27601 97315 79999+ | 757 11124+ | 292 93981 11408 | 47089 93230 | 10 | |
| **26** | 0 | 07 19072 91124 | 771 07818+ | 224 46891 18178 | 44685 50074+ | 0 | **34** |
| | 10 | 12 40843 98942+ | 785 04814 | 156 02205 68103+ | 42282 36764 | 50 | |
| | 20 | 17 62629 03756+ | 799 02110+ | 087 59923 31339+ | 39880 53205+ | 40 | |
| | 30 | 22 84428 05867 | 812 99709 | 3,62019 20042 78134 | 37479 99305 | 30 | |
| | 40 | 28 06241 05576 | 826 97608+ | 3,61950 82562 78829 | 35080 74969+ | 20 | |
| | 50 | 33 28068 03184+ | 840 95809+ | 882 47482 03859 | 32682 80106+ | 10 | |
| **27** | 0 | 38 49908 98994 | 854 94312+ | 814 14799 23753 | 30286 14622 | 0 | **33** |
| | 10 | 43 71763 93306+ | 868 93116+ | 745 84513 09131 | 27890 78423 | 50 | |
| | 20 | 48 93632 86423 | 882 92222+ | 677 56622 30707+ | 25496 71417+ | 40 | |
| | 30 | 54 15515 78645+ | 896 91630 | 609 31125 59290 | 23103 93512 | 30 | |
| | 40 | 59 37412 70275+ | 910 91339 | 541 08021 65778+ | 20712 44613+ | 20 | |
| | 50 | 64 59323 61614 | 924 91349+ | 472 87309 21165 | 18322 24630 | 10 | |
| **28** | 0 | 69 81248 52963+ | 938 91662 | 404 68986 96534+ | 15933 33468+ | 0 | **32** |
| | 10 | 75 03187 44625+ | 952 92276 | 336 53053 63066 | 13545 71036+ | 50 | |
| | 20 | 80 25140 36901+ | 966 93192 | 268 39507 92029+ | 11159 37242 | 40 | |
| | 30 | 85 47107 30093+ | 980 94409+ | 200 28348 54787+ | 08774 31992 | 30 | |
| | 40 | 90 69088 24503 | 5 21994 95929 | 132 19574 22795+ | 06390 55195 | 20 | |
| | 50 | 0,27695 91083 20432 | 5 22008 97750+ | 3,61064 13183 67600+ | 04008 06758 | 10 | |
| **29** | 0 | 0,27701 13092 18182+ | 022 99873+ | 3,60996 09175 60842+ | 68 01626 86589+ | 0 | **31** |
| | 10 | 06 35115 18056 | 037 02298+ | 928 07548 74253 | 67 99246 94597+ | 50 | |
| | 20 | 11 57152 20354+ | 051 05025+ | 860 08301 79655 | 96868 30690 | 40 | |
| | 30 | 16 79203 25380 | 065 08054+ | 792 11433 48965+ | 94490 94775 | 30 | |
| | 40 | 22 01268 33434+ | 079 11385+ | 724 16942 54190+ | 92114 86760+ | 20 | |
| | 50 | 27 23347 44820 | 5 22093 15018+ | 656 24827 67430 | 67 89740 06555+ | 10 | |
| **30** | 0 | 0,27732 45440 59838+ | | 3,60588 35087 60874+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 74°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,27732 45440 59838+ | 5 22107 18953+ | 3,60588 35087 60874+ | 67 87366 54068 | 0 | **30** |
| | 10 | 37 67547 78792 | 121 23190+ | 520 47721 06806 | 84994 29206+ | 50 | |
| | 20 | 42 89669 01982+ | 135 27729+ | 452 62726 77599+ | 82623 31880 | 40 | |
| | 30 | 48 11804 29712 | 149 32571 | 384 80103 45720 | 80253 61996+ | 30 | |
| | 40 | 53 33953 62283+ | 163 37714+ | 316 99849 83723+ | 77885 19465 | 20 | |
| | 50 | 58 56116 99998 | 177 43160 | 249 21964 64259 | 75518 04194 | 10 | |
| **31** | 0 | 63 78294 43158 | 191 48908 | 181 46446 60064+ | 73152 16093+ | 0 | **29** |
| | 10 | 69 00485 92066 | 205 54958+ | 113 73294 43971+ | 70787 55071 | 50 | |
| | 20 | 74 22691 47024+ | 219 61311 | 3,60046 02506 88900 | 68424 21036+ | 40 | |
| | 30 | 79 44911 08335+ | 233 67965+ | 3,59978 34082 67863+ | 66062 13899+ | 30 | |
| | 40 | 84 67144 76301 | 247 74922+ | 910 68020 53964 | 63701 33568 | 20 | |
| | 50 | 89 89392 51223+ | 261 82182 | 843 04319 20396 | 61341 79952 | 10 | |
| **32** | 0 | 0,27795 11654 33405+ | 275 89744 | 775 42977 40444 | 58983 52961+ | 0 | **28** |
| | 10 | 0,27800 33930 23149+ | 289 97608+ | 707 83993 87482+ | 56626 52504+ | 50 | |
| | 20 | 05 56220 20758 | 304 05775 | 640 27367 34978 | 54270 78492 | 40 | |
| | 30 | 10 78524 26533 | 318 14244+ | 572 73096 56486 | 51916 30832+ | 30 | |
| | 40 | 16 00842 40777 | 332 23016 | 505 21180 25653+ | 49563 09436+ | 20 | |
| | 50 | 21 23174 63793 | 346 32090+ | 437 71617 16217 | 47211 14213+ | 10 | |
| **33** | 0 | 26 45520 95883+ | 360 41467+ | 370 24406 02003+ | 44860 45073+ | 0 | **27** |
| | 10 | 31 67881 37351 | 374 51147 | 302 79545 56930 | 42511 01926 | 50 | |
| | 20 | 36 90255 88497+ | 388 61129 | 235 37034 55004 | 40162 84681+ | 40 | |
| | 30 | 42 12644 49626+ | 402 71413+ | 167 96871 70322+ | 37815 93250 | 30 | |
| | 40 | 47 35047 21040 | 416 82001 | 100 59055 77072+ | 35470 27541+ | 20 | |
| | 50 | 52 57464 03041+ | 430 92891+ | 3,59033 23585 49531 | 33125 87467 | 10 | |
| **34** | 0 | 57 79894 95933 | 445 04084+ | 3,58965 90459 62064 | 30782 72936 | 0 | **26** |
| | 10 | 63 02340 00017 | 459 15580 | 898 59676 89128 | 28440 83859 | 50 | |
| | 20 | 68 24799 15597+ | 473 27379 | 831 31236 05269 | 26100 20147 | 40 | |
| | 30 | 73 47272 42976 | 487 39480 | 764 05135 85122 | 23760 81710 | 30 | |
| | 40 | 78 69759 82456+ | 501 51884+ | 696 81375 03412 | 21422 68459+ | 20 | |
| | 50 | 83 92261 34341 | 515 64591+ | 629 59952 34952+ | 19085 80305+ | 10 | |
| **35** | 0 | 89 14776 98932+ | 529 77602 | 562 40866 54647+ | 16750 17159 | 0 | **25** |
| | 10 | 94 37306 76534+ | 543 90915 | 495 24116 37488+ | 14415 78931 | 50 | |
| | 20 | 0,27899 59850 67449+ | 558 04531 | 428 09700 58557 | 12082 65533 | 40 | |
| | 30 | 0,27904 82408 71980+ | 572 18450 | 360 97617 93024 | 09750 76875 | 30 | |
| | 40 | 10 04980 90430+ | 586 32672+ | 293 87867 16149 | 07420 12869 | 20 | |
| | 50 | 15 27567 23103 | 600 47197+ | 226 80447 03280 | 05090 73426 | 10 | |
| **36** | 0 | 20 50167 70300+ | 614 62026 | 159 75356 29854+ | 02762 58457 | 0 | **24** |
| | 10 | 25 72782 32326+ | 628 77157+ | 092 72593 71397+ | 67 00435 67874 | 50 | |
| | 20 | 30 95411 09483+ | 642 92592 | 3,58025 72158 03523+ | 66 98110 01587+ | 40 | |
| | 30 | 36 18054 02076 | 657 08330 | 3,57958 74048 01936 | 95785 59510+ | 30 | |
| | 40 | 41 40711 10406 | 671 24371 | 891 78262 42425+ | 93462 41553 | 20 | |
| | 50 | 46 63382 34777 | 685 40715+ | 824 84800 00872+ | 91140 47628 | 10 | |
| **37** | 0 | 51 86067 75492+ | 699 57363 | 757 93659 53244+ | 88819 77646+ | 0 | **23** |
| | 10 | 57 08767 32855+ | 713 74314 | 691 04839 75598 | 86500 31520+ | 50 | |
| | 20 | 62 31481 07169+ | 727 91568+ | 624 18339 44077+ | 84182 09162+ | 40 | |
| | 30 | 67 54208 98738 | 742 09126 | 557 34157 34915 | 81865 10483+ | 30 | |
| | 40 | 72 76951 07864 | 756 26987 | 490 52292 24431+ | 79549 35396+ | 20 | |
| | 50 | 77 99707 34851 | 770 45151+ | 423 72742 89034+ | 77234 83813+ | 10 | |
| **38** | 0 | 83 22477 80003 | 784 63620 | 356 95508 05221 | 74921 55646+ | 0 | **22** |
| | 10 | 88 45262 43622+ | 798 82391+ | 290 20586 49574+ | 72609 50807+ | 50 | |
| | 20 | 93 68061 26014 | 813 01466+ | 223 47976 98767 | 70298 69210 | 40 | |
| | 30 | 0,27998 90874 27480 | 827 20845 | 156 77678 29557 | 67989 10765+ | 30 | |
| | 40 | 0,28004 13701 48325 | 841 40527 | 090 09689 18792 | 65680 75386+ | 20 | |
| | 50 | 09 36542 88852 | 855 60513 | 3,57023 44008 43405+ | 63373 62986+ | 10 | |
| **39** | 0 | 14 59398 49365 | 869 80802+ | 3,56956 80634 80419 | 61067 73477+ | 0 | **21** |
| | 10 | 19 82268 30167+ | 884 01395+ | 890 19567 06941+ | 58763 06772+ | 50 | |
| | 20 | 25 05152 31563 | 898 22292+ | 823 60804 00169+ | 56459 62784+ | 40 | |
| | 30 | 30 28050 53855 | 912 43493 | 757 04344 37385 | 54157 41426 | 30 | |
| | 40 | 35 50962 97348 | 926 64997 | 690 50186 95959 | 51856 42610+ | 20 | |
| | 50 | 40 73889 62345+ | 5 22940 86805+ | 623 98330 53348+ | 66 49556 66251 | 10 | |
| **40** | 0 | 0,28045 96830 49151 | | 3,56557 48773 87097+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 74°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,28045 96830 49151 | 5 22955 08917+ | 3,56557 48773 87097+ | 66 47258 12260+ | 0 | **20** |
| | 10 | 51 19785 58068 | 969 31333 | 491 01515 74837 | 44960 80552+ | 50 | |
| | 20 | 56 42754 89401+ | 983 54053 | 424 56554 94284 | 42664 71040+ | 40 | |
| | 30 | 61 65738 43454 | 5 22997 77076+ | 358 13890 23243+ | 40369 83637+ | 30 | |
| | 40 | 66 88736 20530+ | 5 23012 00404 | 291 73520 39606 | 38076 18257 | 20 | |
| | 50 | 72 11748 20934+ | 026 24035+ | 225 35444 21349 | 35783 74812+ | 10 | |
| **41** | 0 | 77 34774 44970+ | 040 47971 | 158 99660 46536+ | 33492 53218 | 0 | **19** |
| | 10 | 82 57814 92941+ | 054 72211 | 092 66167 93318+ | 31202 53387 | 50 | |
| | 20 | 87 80869 65152+ | 068 96754+ | 3,56026 34965 39931+ | 28913 75233+ | 40 | |
| | 30 | 93 03938 61906+ | 083 21602 | 3,55960 06051 64698 | 26626 18671 | 30 | |
| | 40 | 0,28098 27021 83509 | 097 46754 | 893 79425 46026+ | 24339 83614 | 20 | |
| | 50 | 0,28103 50119 30263 | 111 72210 | 827 55085 62413 | 22054 69975+ | 10 | |
| **42** | 0 | 08 73231 02473 | 125 97970+ | 761 33030 92437 | 19770 77671 | 0 | **18** |
| | 10 | 13 96357 00443+ | 140 24034+ | 695 13260 14766 | 17488 06613+ | 50 | |
| | 20 | 19 19497 24478 | 154 50403+ | 628 95772 08152+ | 15206 56717+ | 40 | |
| | 30 | 24 42651 74881+ | 168 77076+ | 562 80565 51435 | 12926 27898 | 30 | |
| | 40 | 29 65820 51958 | 183 04053+ | 496 67639 23537 | 10647 20068+ | 20 | |
| | 50 | 34 89003 56011+ | 197 31335 | 430 56992 03468+ | 08369 33144 | 10 | |
| **43** | 0 | 40 12200 87346+ | 211 58921 | 364 48622 70324 | 06092 67039 | 0 | **17** |
| | 10 | 45 35412 46268 | 225 86811+ | 298 42530 03285 | 03817 21668+ | 50 | |
| | 20 | 50 58638 33079+ | 240 15006+ | 232 38712 81616+ | 66 01542 96946 | 40 | |
| | 30 | 55 81878 48085+ | 254 43505+ | 166 37169 84670+ | 65 99269 92787+ | 30 | |
| | 40 | 61 05132 91591 | 268 72309+ | 100 37899 91883 | 96998 09107+ | 20 | |
| | 50 | 66 28401 63900+ | 283 01417+ | 3,55034 40901 82776 | 94727 45820+ | 10 | |
| **44** | 0 | 71 51684 65318 | 297 30830+ | 3,54968 46174 36955+ | 92458 02842 | 0 | **16** |
| | 10 | 76 74981 96148+ | 311 60547+ | 902 53716 34113+ | 90189 80086+ | 50 | |
| | 20 | 81 98293 56696 | 325 90569+ | 836 63526 54027 | 87922 77470 | 40 | |
| | 30 | 87 21619 47266 | 340 20896+ | 770 75603 76557 | 85656 94907 | 30 | |
| | 40 | 92 44959 68162 | 354 51527+ | 704 89946 81650 | 83392 32313+ | 20 | |
| | 50 | 0,28197 68314 19689+ | 368 82463+ | 639 06554 49336+ | 81128 89604 | 10 | |
| **45** | 0 | 0,28202 91683 02153 | 383 13704 | 573 25425 59732+ | 78866 66695 | 0 | **15** |
| | 10 | 08 15066 15857+ | 397 45249+ | 507 46558 93037+ | 76605 63501 | 50 | |
| | 20 | 13 38463 61107 | 411 77100 | 441 69953 29536+ | 74345 79938 | 40 | |
| | 30 | 18 61875 38207 | 426 09255 | 375 95607 49598+ | 72087 15922 | 30 | |
| | 40 | 23 85301 47462 | 440 41715 | 310 23520 33676+ | 69829 71368+ | 20 | |
| | 50 | 29 08741 89177 | 454 74479+ | 244 53690 62308+ | 67573 46193 | 10 | |
| **46** | 0 | 34 32196 63656+ | 469 07549+ | 178 86117 16115+ | 65318 40312 | 0 | **14** |
| | 10 | 39 55665 71206 | 483 40924 | 113 20798 75803+ | 63064 53641 | 50 | |
| | 20 | 44 79149 12130 | 497 74603+ | 3,54047 57734 22162+ | 60811 86096 | 40 | |
| | 30 | 50 02646 86733+ | 512 08588 | 3,53981 96922 36066+ | 58560 37593+ | 30 | |
| | 40 | 55 26158 95321+ | 526 42878 | 916 38361 98473 | 56310 08049+ | 20 | |
| | 50 | 60 49685 38199+ | 540 77472+ | 850 82051 90423 | 54060 97380+ | 10 | |
| **47** | 0 | 65 73226 15672 | 555 12372+ | 785 27990 93042+ | 51813 05502+ | 0 | **13** |
| | 10 | 70 96781 28044 | 569 47577 | 719 76177 87540 | 49566 32332+ | 50 | |
| | 20 | 76 20350 75621+ | 583 83087 | 654 26611 55207+ | 47320 77786 | 40 | |
| | 30 | 81 43934 58708+ | 598 18902+ | 588 79290 77421+ | 45076 41780 | 30 | |
| | 40 | 86 67532 77611 | 612 55023 | 523 34214 35641+ | 42833 24231+ | 20 | |
| | 50 | 91 91145 32634 | 626 91448+ | 457 91381 11410 | 40591 25057 | 10 | |
| **48** | 0 | 0,28297 14772 24082+ | 641 28179+ | 392 50789 86353 | 38350 44173 | 0 | **12** |
| | 10 | 0,28302 38413 52262 | 655 65215+ | 327 12439 42179+ | 36110 81497 | 50 | |
| | 20 | 07 62069 17477+ | 670 02557+ | 261 76328 60682+ | 33872 36945 | 40 | |
| | 30 | 12 85739 20034+ | 684 40204 | 196 42456 23737+ | 31635 10435 | 30 | |
| | 40 | 18 09423 60239 | 698 78156+ | 131 10821 13302+ | 29399 01883+ | 20 | |
| | 50 | 23 33122 38395+ | 713 16414+ | 065 81422 11419 | 27164 11207+ | 10 | |
| **49** | 0 | 28 56835 54809+ | 727 54977+ | 3,53000 54258 00212 | 24930 38324+ | 0 | **11** |
| | 10 | 33 80563 09787 | 741 93846 | 3,52935 29327 61887+ | 22697 83152 | 50 | |
| | 20 | 39 04305 03633+ | 756 33020+ | 870 06629 78735+ | 20466 45606+ | 40 | |
| | 30 | 44 28061 36653+ | 770 72500 | 804 86163 33129 | 18236 25606+ | 30 | |
| | 40 | 49 51832 09153+ | 785 12285+ | 739 67927 07522 | 16007 23069 | 20 | |
| | 50 | 54 75617 21439 | 5 23799 52376+ | 674 51919 84453 | 65 13779 37912 | 10 | |
| **50** | 0 | 0,28359 99416 73815+ | | 3,52609 38140 46541 | | 0 | **10** |
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# 74°

# 15°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,28359 99416 73815+ | 5 23813 92773 | 3,52609 38140 46541 | 65 11552 70052+ | 0 | **10** |
| | 10 | 65 23230 66588 | 828 33475 | 544 26587 76489 | 09327 19408 | 50 | |
| | 20 | 70 47059 00063 | 842 74483 | 479 17260 57080+ | 07102 85897+ | 40 | |
| | 30 | 75 70901 74546 | 857 15796+ | 414 10157 71183 | 04879 69438 | 30 | |
| | 40 | 80 94758 90342+ | 871 57416 | 349 05278 01745 | 02657 69947+ | 20 | |
| | 50 | 86 18630 47758+ | 885 99341 | 284 02620 31797+ | 65 00436 87344+ | 10 | |
| **51** | 0 | 91 42516 47099+ | 900 41572 | 219 02183 44453 | 64 98217 21546+ | 0 | **9** |
| | 10 | 0,28396 66416 88672 | 914 84109 | 154 03966 22907 | 95998 72471+ | 50 | |
| | 20 | 0,28401 90331 72780+ | 929 26951+ | 089 07967 50435 | 93781 40039 | 40 | |
| | 30 | 07 14260 99732+ | 943 70100 | 3,52024 14186 10396+ | 91565 24165+ | 30 | |
| | 40 | 12 38204 69832+ | 958 13555 | 3,51959 22620 86230+ | 89350 24771 | 20 | |
| | 50 | 17 62162 83387+ | 972 57315+ | 894 33270 61460 | 87136 41773 | 10 | |
| **52** | 0 | 22 86135 40702+ | 5 23987 01382 | 829 46134 19687 | 84923 75090 | 0 | **8** |
| | 10 | 28 10122 42084+ | 5 24001 45754+ | 764 61210 44597 | 82712 24641 | 50 | |
| | 20 | 33 34123 87839 | 015 90433 | 699 78498 19955+ | 80501 90344+ | 40 | |
| | 30 | 38 58139 78272 | 030 35417+ | 634 97996 29611 | 78292 72119+ | 30 | |
| | 40 | 43 82170 13689+ | 044 80708+ | 570 19703 57491+ | 76084 69884+ | 20 | |
| | 50 | 49 06214 94398 | 059 26305+ | 505 43618 87607 | 73877 83558 | 10 | |
| **53** | 0 | 54 30274 20703+ | 073 72208+ | 440 69741 04049 | 71672 13059+ | 0 | **7** |
| | 10 | 59 54347 92912 | 088 18418 | 375 98068 90989+ | 69467 58308 | 50 | |
| | 20 | 64 78436 11330 | 102 64933+ | 311 28601 32681 | 67264 19222+ | 40 | |
| | 30 | 70 02538 76263+ | 117 11755+ | 246 61337 13458+ | 65061 95722 | 30 | |
| | 40 | 75 26655 88019 | 131 58883+ | 181 96275 17736+ | 62860 87726 | 20 | |
| | 50 | 80 50787 46903 | 146 06318 | 117 33414 30011 | 60660 95153 | 10 | |
| **54** | 0 | 85 74933 53221 | 160 54059 | 3,51052 72753 34857+ | 58462 17923+ | 0 | **6** |
| | 10 | 90 99094 07280 | 175 02106+ | 3,50988 14291 16934 | 56264 55956+ | 50 | |
| | 20 | 0,28496 23269 09386+ | 189 50460 | 923 58026 60977+ | 54068 09171 | 40 | |
| | 30 | 0,28501 47458 59846+ | 203 99120 | 859 03958 51806+ | 51872 77487+ | 30 | |
| | 40 | 06 71662 58966+ | 218 48087 | 794 52085 74319 | 49678 60825 | 20 | |
| | 50 | 11 95881 07053 | 232 97360 | 730 02407 13494 | 47485 59103 | 10 | |
| **55** | 0 | 17 20114 04413 | 247 46939+ | 665 54921 54391 | 45293 72242 | 0 | **5** |
| | 10 | 22 44361 51353 | 261 96826 | 601 09627 82148+ | 43103 00161+ | 50 | |
| | 20 | 27 68623 48179 | 276 47019 | 536 66524 81987 | 40913 42781+ | 40 | |
| | 30 | 32 92899 95197+ | 290 97518+ | 472 25611 39205+ | 38725 00022 | 30 | |
| | 40 | 38 17190 92716 | 305 48324+ | 407 86886 39183+ | 36537 71803 | 20 | |
| | 50 | 43 41496 41040+ | 319 99437+ | 343 50348 67380+ | 34351 58044+ | 10 | |
| **56** | 0 | 48 65816 40478 | 334 50857 | 279 15997 09336 | 32166 58667 | 0 | **4** |
| | 10 | 53 90150 91335 | 349 02583+ | 214 83830 50669+ | 29982 73590+ | 50 | |
| | 20 | 59 14499 93918+ | 363 54616+ | 150 53847 77079 | 27800 02735+ | 40 | |
| | 30 | 64 38863 48535+ | 378 06956+ | 086 26047 74344 | 25618 46022 | 30 | |
| | 40 | 69 63241 55492 | 392 59603+ | 3,50022 00429 28322 | 23438 03371+ | 20 | |
| | 50 | 74 87634 15095+ | 407 12557+ | 3,49957 76991 24950+ | 21258 74703+ | 10 | |
| **57** | 0 | 80 12041 27653 | 421 65818 | 893 55732 50247 | 19080 59939+ | 0 | **3** |
| | 10 | 85 36462 93471 | 436 19385+ | 829 36651 90307+ | 16903 58999+ | 50 | |
| | 20 | 90 60899 12856+ | 450 73260 | 765 19748 31308 | 14727 71804+ | 40 | |
| | 30 | 0,28595 85349 86116+ | 465 27442 | 701 05020 59504 | 12552 98275 | 30 | |
| | 40 | 0,28601 09815 13558+ | 479 81930+ | 636 92467 61228+ | 10379 38332+ | 20 | |
| | 50 | 06 34294 95489 | 494 36726 | 572 82088 22896 | 08206 91898 | 10 | |
| **58** | 0 | 11 58789 32215 | 508 91829 | 508 73881 30998 | 06035 58892 | 0 | **2** |
| | 10 | 16 83298 24044 | 523 47239 | 444 67845 72106 | 03865 39236 | 50 | |
| | 20 | 22 07821 71282+ | 538 02956 | 380 63980 32870 | 64 01696 32850+ | 40 | |
| | 30 | 27 32359 74238+ | 552 58980 | 316 62284 00019+ | 63 99528 39658 | 30 | |
| | 40 | 32 56912 33219 | 567 15311+ | 252 62755 60361+ | 97361 59578+ | 20 | |
| | 50 | 37 81479 48530+ | 581 71950+ | 188 65394 00783+ | 95195 92534 | 10 | |
| **59** | 0 | 43 06061 20481 | 596 28896+ | 124 70198 08249 | 93031 38446 | 0 | **1** |
| | 10 | 48 30657 49377+ | 610 86150 | 3,49060 77166 69803 | 90867 97236 | 50 | |
| | 20 | 53 55268 35527+ | 625 43710+ | 3,48996 86298 72567 | 88705 68825+ | 40 | |
| | 30 | 58 79893 79238 | 640 01578+ | 932 97593 03741+ | 86544 53136 | 30 | |
| | 40 | 64 04533 80816+ | 654 59754 | 869 11048 50605+ | 84384 50089+ | 20 | |
| | 50 | 69 29188 40571 | 5 24669 18237 | 805 26664 00516 | 63 82225 59607+ | 10 | |
| **60** | 0 | 0,28674 53857 58808 | | 3,48741 44438 40908+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 74°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,28674 53857 58808 | 5 24683 77027+ | 3,48741 44438 40908+ | 63 80067 81612 | 0 | **60** |
| | 10 | 79 78541 35835+ | 698 36125+ | 677 64370 59296+ | 77911 16025 | 50 | |
| | 20 | 85 03239 71961 | 712 95531 | 613 86459 43271+ | 75755 62768+ | 40 | |
| | 30 | 90 27952 67491+ | 727 55244 | 550 10703 80503 | 73601 21764+ | 30 | |
| | 40 | 0,28695 52680 22735+ | 742 15264+ | 486 37102 58738+ | 71447 92935 | 20 | |
| | 50 | 0,28700 77422 37999+ | 756 75592+ | 422 65654 65803+ | 69295 76202+ | 10 | |
| **1** | 0 | 06 02179 13592 | 771 36228+ | 358 96358 89601 | 67144 71488+ | 0 | **59** |
| | 10 | 11 26950 49820+ | 785 97172 | 295 29214 18112+ | 64994 78716+ | 50 | |
| | 20 | 16 51736 46992+ | 800 58423 | 231 64219 39396 | 62845 97808 | 40 | |
| | 30 | 21 76537 05415+ | 815 19982 | 168 01373 41588 | 60698 28686 | 30 | |
| | 40 | 27 01352 25397+ | 829 81849 | 104 40675 12902+ | 58551 71272+ | 20 | |
| | 50 | 32 26182 07246+ | 844 44023+ | 3,48040 82123 41630 | 56406 25490+ | 10 | |
| **2** | 0 | 37 51026 51270 | 859 06506 | 3,47977 25717 16139+ | 54261 91262+ | 0 | **58** |
| | 10 | 42 75885 57776 | 873 69296 | 913 71455 24877+ | 52118 68511 | 50 | |
| | 20 | 48 00759 27072+ | 888 32394+ | 850 19336 56366+ | 49976 57159+ | 40 | |
| | 30 | 53 25647 59466+ | 902 95800+ | 786 69359 99207 | 47835 57130 | 30 | |
| | 40 | 58 50550 55267 | 917 59514+ | 723 21524 42076+ | 45695 68346+ | 20 | |
| | 50 | 63 75468 14782 | 932 23536+ | 659 75828 73730+ | 43556 90731 | 10 | |
| **3** | 0 | 69 00400 38318+ | 946 87867 | 596 32271 82999+ | 41419 24207 | 0 | **57** |
| | 10 | 74 25347 26185+ | 961 52505 | 532 90852 58793 | 39282 68697+ | 50 | |
| | 20 | 79 50308 78690+ | 976 17451 | 469 51569 90095+ | 37147 24125+ | 40 | |
| | 30 | 84 75284 96141+ | 5 24990 82705+ | 406 14422 65970 | 35012 90415 | 30 | |
| | 40 | 90 00275 78847 | 5 25005 48268 | 342 79409 75555 | 32879 67488+ | 20 | |
| | 50 | 0,28795 25281 27115 | 020 14138+ | 279 46530 08066+ | 30747 55270 | 10 | |
| **4** | 0 | 0,28800 50301 41254 | 034 80317+ | 216 15782 52796+ | 28616 53682+ | 0 | **56** |
| | 10 | 05 75336 21571+ | 049 46805 | 152 87165 99114 | 26486 62650 | 50 | |
| | 20 | 11 00385 68376 | 064 13600 | 089 60679 36464+ | 24357 82095+ | 40 | |
| | 30 | 16 25449 81976+ | 078 80704 | 3,47026 36321 54368+ | 22230 11943+ | 30 | |
| | 40 | 21 50528 62680+ | 093 48116 | 3,46963 14091 42425+ | 20103 52117 | 20 | |
| | 50 | 26 75622 10796 | 108 15836+ | 899 93987 90308+ | 17978 02540 | 10 | |
| **5** | 0 | 32 00730 26632+ | 122 83865 | 836 76009 87769 | 15853 63136 | 0 | **55** |
| | 10 | 37 25853 10498 | 137 52202+ | 773 60156 24633 | 13730 33830 | 50 | |
| | 20 | 42 50990 62700 | 152 20848 | 710 46425 90803 | 11608 14545 | 40 | |
| | 30 | 47 76142 83548+ | 166 89802+ | 647 34817 76258 | 09487 05205 | 30 | |
| | 40 | 53 01309 73350+ | 181 59065 | 584 25330 71053 | 07367 05735 | 20 | |
| | 50 | 58 26491 32415+ | 196 28636+ | 521 17963 65318 | 05248 16058+ | 10 | |
| **6** | 0 | 63 51687 61052 | 210 98516 | 458 12715 49259+ | 03130 36100 | 0 | **54** |
| | 10 | 68 76898 59568 | 225 68704+ | 395 09585 13159+ | 63 01013 65783+ | 50 | |
| | 20 | 74 02124 28272+ | 240 39201+ | 332 08571 47376 | 62 98898 05034 | 40 | |
| | 30 | 79 27364 67474 | 255 10007+ | 269 09673 42342+ | 96783 53775 | 30 | |
| | 40 | 84 52619 77481+ | 269 81122 | 206 12889 88567 | 94670 11932 | 20 | |
| | 50 | 89 77889 58603+ | 284 52545 | 143 18219 76635 | 92557 79429 | 10 | |
| **7** | 0 | 0,28895 03174 11148+ | 299 24277 | 080 25661 97206 | 90446 56191 | 0 | **53** |
| | 10 | 0,28900 28473 35425+ | 313 96318 | 3,46017 35215 41015 | 88336 42142+ | 50 | |
| | 20 | 05 53787 31743+ | 328 68667+ | 3,45954 46878 98872+ | 86227 37208 | 40 | |
| | 30 | 10 79116 00411 | 343 41326 | 891 60651 61664 | 84119 41313 | 30 | |
| | 40 | 16 04459 41737 | 358 14293+ | 828 76532 20351 | 82012 54382 | 20 | |
| | 50 | 21 29817 56030+ | 372 87569+ | 765 94519 65969 | 79906 76340 | 10 | |
| **8** | 0 | 26 55190 43600 | 387 61155 | 703 14612 89629+ | 77802 07111+ | 0 | **52** |
| | 10 | 31 80578 04755 | 402 35049 | 640 36810 82518 | 75698 46622+ | 50 | |
| | 20 | 37 05980 39804 | 417 09252+ | 577 61112 35895 | 73595 94798 | 40 | |
| | 30 | 42 31397 49056+ | 431 83765 | 514 87516 41097 | 71494 51563 | 30 | |
| | 40 | 47 56829 32821+ | 446 58586 | 452 16021 89534+ | 69394 16842+ | 20 | |
| | 50 | 52 82275 91407+ | 461 33716+ | 389 46627 72692 | 67294 90562 | 10 | |
| **9** | 0 | 58 07737 25124+ | 476 09156+ | 326 79332 82129+ | 65196 72647+ | 0 | **51** |
| | 10 | 63 33213 34280+ | 490 84905 | 264 14136 09482 | 63099 63024 | 50 | |
| | 20 | 68 58704 19186 | 505 60963 | 201 51036 46458 | 61003 61617 | 40 | |
| | 30 | 73 84209 80149 | 520 37330+ | 138 90032 84841 | 58908 68352 | 30 | |
| | 40 | 79 09730 17479+ | 535 14007 | 076 31124 16489 | 56814 83155+ | 20 | |
| | 50 | 84 35265 31486+ | 5 25549 90993 | 3,45013 74309 33333+ | 62 54722 05952 | 10 | |
| **10** | 0 | 0,28989 60815 22479 | | 3,44951 19587 27381+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,28989 60815 22479 | 5 25564 68288 | 3,44951 19587 27381+ | 62 52630 36668+ | 0 | **50** |
| | 10 | 0,28994 86379 90767 | 579 45892+ | 888 66956 90713+ | 50539 75230 | 50 | |
| | 20 | 0,29000 11959 36660 | 594 23806+ | 826 16417 15483+ | 48450 21562+ | 40 | |
| | 30 | 05 37553 60466 | 609 02030 | 763 67966 93921 | 46361 75592+ | 30 | |
| | 40 | 10 63162 62496 | 623 80562+ | 701 21605 18328+ | 44274 37245+ | 20 | |
| | 50 | 15 88786 43058+ | 638 59405 | 638 77330 81083 | 42188 06448 | 10 | |
| **11** | 0 | 21 14425 02463+ | 653 38556+ | 576 35142 74635 | 40102 83126+ | 0 | **49** |
| | 10 | 26 40078 41020+ | 668 18018 | 513 95039 91508+ | 38018 67206+ | 50 | |
| | 20 | 31 65746 59038+ | 682 97789 | 451 57021 24302+ | 35935 58614+ | 40 | |
| | 30 | 36 91429 56827+ | 697 77869+ | 389 21085 65688 | 33853 57277 | 30 | |
| | 40 | 42 17127 34697 | 712 58260 | 326 87232 08411 | 31772 63120+ | 20 | |
| | 50 | 47 42839 92957 | 727 38959+ | 264 55459 45290+ | 29692 76071+ | 10 | |
| **12** | 0 | 52 68567 31916+ | 742 19969+ | 202 25766 69218+ | 27613 96056+ | 0 | **48** |
| | 10 | 57 94309 51885+ | 757 01288+ | 139 98152 73162 | 25536 23002+ | 50 | |
| | 20 | 63 20066 53174+ | 771 82917+ | 077 72616 50159+ | 23459 56835+ | 40 | |
| | 30 | 68 45838 36092 | 786 64856+ | 3,44015 49156 93324+ | 21383 97482+ | 30 | |
| | 40 | 73 71625 00948+ | 801 47105+ | 3,43953 27772 95842 | 19309 44870 | 20 | |
| | 50 | 78 97426 48054 | 816 29664 | 891 08463 50972 | 17235 98926 | 10 | |
| **13** | 0 | 84 23242 77717+ | 831 12532+ | 828 91227 52046 | 15163 59576+ | 0 | **47** |
| | 10 | 89 49073 90250 | 845 95711 | 766 76063 92469+ | 13092 26748+ | 50 | |
| | 20 | 0,29094 74919 85961 | 860 79199 | 704 62971 65721+ | 11022 00369 | 40 | |
| | 30 | 0,29100 00780 65160 | 875 62997+ | 642 51949 65352 | 08952 80366 | 30 | |
| | 40 | 05 26656 28157+ | 890 47106 | 580 42996 84986 | 06884 66666 | 20 | |
| | 50 | 10 52546 75263+ | 905 31524+ | 518 36112 18320+ | 04817 59196 | 10 | |
| **14** | 0 | 15 78452 06787+ | 920 16253 | 456 31294 59124+ | 02751 57883+ | 0 | **46** |
| | 10 | 21 04372 23040+ | 935 01291+ | 394 28543 01241 | 62 00686 62656+ | 50 | |
| | 20 | 26 30307 24332 | 949 86640 | 332 27856 38584+ | 61 98622 73442 | 40 | |
| | 30 | 31 56257 10972 | 964 72299 | 270 29233 65142+ | 96559 90167 | 30 | |
| | 40 | 36 82221 83271+ | 979 58268+ | 208 32673 74975+ | 94498 12759+ | 20 | |
| | 50 | 42 08201 41540 | 5 25994 44548 | 146 38175 62216 | 92437 41147+ | 10 | |
| **15** | 0 | 47 34195 86087+ | 5 26009 31137+ | 084 45738 21068+ | 90377 75258+ | 0 | **45** |
| | 10 | 52 60205 17225 | 024 18037+ | 3,43022 55360 45810 | 88319 15019+ | 50 | |
| | 20 | 57 86229 35262+ | 039 05248 | 3,42960 67041 30790+ | 86261 60359+ | 40 | |
| | 30 | 63 12268 40510 | 053 92768+ | 898 80779 70431 | 84205 11205 | 30 | |
| | 40 | 68 38322 33278+ | 068 80599+ | 836 96574 59226 | 82149 67485+ | 20 | |
| | 50 | 73 64391 13878 | 083 68741 | 775 14424 91740+ | 80095 29127+ | 10 | |
| **16** | 0 | 78 90474 82619+ | 098 57193 | 713 34329 62613 | 78041 96060 | 0 | **44** |
| | 10 | 84 16573 39812+ | 113 45955+ | 651 56287 66553 | 75989 68211 | 50 | |
| | 20 | 89 42686 85768 | 128 35028+ | 589 80297 98342 | 73938 45508+ | 40 | |
| | 30 | 94 68815 20796+ | 143 24412 | 528 06359 52833+ | 71888 27880+ | 30 | |
| | 40 | 0,29199 94958 45208+ | 158 14106 | 466 34471 24952+ | 69839 15256 | 20 | |
| | 50 | 0,29205 21116 59314+ | 173 04111 | 404 64632 09697 | 67791 07562+ | 10 | |
| **17** | 0 | 10 47289 63425+ | 187 94426+ | 342 96841 02134+ | 65744 04729 | 0 | **43** |
| | 10 | 15 73477 57852 | 202 85052+ | 281 31096 97405 | 63698 06684 | 50 | |
| | 20 | 20 99680 42904+ | 217 75989+ | 219 67398 90721+ | 61653 13355+ | 40 | |
| | 30 | 26 25898 18894 | 232 67237 | 158 05745 77365+ | 59609 24673 | 30 | |
| | 40 | 31 52130 86131 | 247 58795 | 096 46136 52692+ | 57566 40564+ | 20 | |
| | 50 | 36 78378 44926 | 262 50664+ | 3,42034 88570 12128+ | 55524 60958+ | 10 | |
| **18** | 0 | 42 04640 95590+ | 277 42844+ | 3,41973 33045 51169+ | 53483 85784+ | 0 | **42** |
| | 10 | 47 30918 38435 | 292 35335 | 911 79561 65385 | 51444 14971 | 50 | |
| | 20 | 52 57210 73770 | 307 28137 | 850 28117 50414 | 49405 48447 | 40 | |
| | 30 | 57 83518 01907 | 322 21249+ | 788 78712 01967 | 47367 86141 | 30 | |
| | 40 | 63 09840 23156+ | 337 14673+ | 727 31344 15826 | 45331 27983 | 20 | |
| | 50 | 68 36177 37830 | 352 08408 | 665 86012 87843 | 43295 73901 | 10 | |
| **19** | 0 | 73 62529 46238 | 367 02453+ | 604 42717 13941+ | 41261 23825 | 0 | **41** |
| | 10 | 78 88896 48692 | 381 96810+ | 543 01455 90116+ | 39227 77684 | 50 | |
| | 20 | 84 15278 45502+ | 396 91478+ | 481 62228 12432+ | 37195 35407 | 40 | |
| | 30 | 89 41675 36980+ | 411 86457+ | 420 25032 77026 | 35163 96923+ | 30 | |
| | 40 | 94 68087 23438 | 426 81747+ | 358 89868 80102+ | 33133 62162+ | 20 | |
| | 50 | 0,29299 94514 05185+ | 5 26441 77349 | 297 56735 17940 | 31104 31054 | 10 | |
| **20** | 0 | 0,29305 20955 82534+ | | 3,41236 25630 86885+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,29305 20955 82534+ | 5 26456 73261+ | 3,41236 25630 86885+ | 61 29076 03527+ | 0 | **40** |
| | 10 | 10 47412 55796 | 471 69485 | 174 96554 83358 | 27048 79512+ | 50 | |
| | 20 | 15 73884 25281 | 486 66020+ | 113 69506 03845+ | 25022 58938+ | 40 | |
| | 30 | 21 00370 91301+ | 501 62866+ | 3,41052 44483 44907 | 22997 41735 | 30 | |
| | 40 | 26 26872 54168 | 516 60024+ | 3,40991 21486 03172 | 20973 27832+ | 20 | |
| | 50 | 31 53389 14192+ | 531 57493+ | 930 00512 75339+ | 18950 17159+ | 10 | |
| **21** | 0 | 36 79920 71686 | 546 55274 | 868 81562 58180 | 16928 09647+ | 0 | **39** |
| | 10 | 42 06467 26960+ | 561 53366 | 807 64634 48532+ | 14907 05225 | 50 | |
| | 20 | 47 33028 80326+ | 576 51769+ | 746 49727 43307+ | 12887 03823 | 40 | |
| | 30 | 52 59605 32096 | 591 50484+ | 685 36840 39485 | 10868 05370+ | 30 | |
| | 40 | 57 86196 82580+ | 606 49511 | 624 25972 34114 | 08850 09799 | 20 | |
| | 50 | 63 12803 32092 | 621 48849+ | 563 17122 24315 | 06833 17037+ | 10 | |
| **22** | 0 | 68 39424 80941 | 636 48499 | 502 10289 07277+ | 04817 27016+ | 0 | **38** |
| | 10 | 73 66061 29440 | 651 48460+ | 441 05471 80261 | 02802 39667 | 50 | |
| | 20 | 78 92712 77900+ | 666 48733+ | 380 02669 40594+ | 61 00788 54918 | 40 | |
| | 30 | 84 19379 26633+ | 681 49318 | 319 01880 85676 | 60 98775 72701 | 30 | |
| | 40 | 89 46060 75951+ | 696 50214+ | 258 03105 12975 | 96763 92946+ | 20 | |
| | 50 | 94 72757 26166 | 711 51422+ | 197 06341 20028+ | 94753 15584+ | 10 | |
| **23** | 0 | 0,29399 99468 77588+ | 726 52942+ | 136 11588 04444 | 92743 40545+ | 0 | **37** |
| | 10 | 0,29405 26195 30531+ | 741 54774+ | 075 18844 63898+ | 90734 67760+ | 50 | |
| | 20 | 10 52936 85305+ | 756 56918 | 3,40014 28109 96138+ | 88726 97160 | 40 | |
| | 30 | 15 79693 42223+ | 771 59373+ | 3,39953 39382 98978+ | 86720 28675 | 30 | |
| | 40 | 21 06465 01597+ | 786 62141 | 892 52662 70303+ | 84714 62236 | 20 | |
| | 50 | 26 33251 63738+ | 801 65220+ | 831 67948 08067+ | 82709 97774 | 10 | |
| **24** | 0 | 31 60053 28959 | 816 68612 | 770 85238 10293+ | 80706 35220 | 0 | **36** |
| | 10 | 36 86869 97571 | 831 72315+ | 710 04531 75074 | 78703 74505 | 50 | |
| | 20 | 42 13701 69886+ | 846 76331 | 649 25828 00569 | 76702 15560 | 40 | |
| | 30 | 47 40548 46217+ | 861 80658+ | 588 49125 85009 | 74701 58316 | 30 | |
| | 40 | 52 67410 26876 | 876 85298 | 527 74424 26693 | 72702 02704+ | 20 | |
| | 50 | 57 94287 12174 | 891 90250 | 467 01722 23988+ | 70703 48656 | 10 | |
| **25** | 0 | 63 21179 02424 | 906 95514 | 406 31018 75332+ | 68705 96103 | 0 | **35** |
| | 10 | 68 48085 97938 | 922 01090 | 345 62312 79229+ | 66709 44975+ | 50 | |
| | 20 | 73 75007 99028+ | 937 06978+ | 284 95603 34254 | 64713 95206 | 40 | |
| | 30 | 79 01945 06007 | 952 13179+ | 224 30889 39048 | 62719 46725 | 30 | |
| | 40 | 84 28897 19186+ | 967 19692+ | 163 68169 92323 | 60725 99465 | 20 | |
| | 50 | 89 55864 38879 | 982 26518 | 103 07443 92858 | 58733 53356+ | 10 | |
| **26** | 0 | 0,29494 82846 65397 | 5 26997 33655+ | 3,39042 48710 39501+ | 56742 08332+ | 0 | **34** |
| | 10 | 0,29500 09843 99052+ | 5 27012 41106 | 3,38981 91968 31169 | 54751 64323 | 50 | |
| | 20 | 05 36856 40158 | 027 48868+ | 921 37216 66846 | 52762 21261 | 40 | |
| | 30 | 10 63883 89026+ | 042 56943+ | 860 84454 45584+ | 50773 79078 | 30 | |
| | 40 | 15 90926 45970 | 057 65331 | 800 33680 66506+ | 48786 37706 | 20 | |
| | 50 | 21 17984 11301 | 072 74031 | 739 84894 28800+ | 46799 97076+ | 10 | |
| **27** | 0 | 26 45056 85332 | 087 83043+ | 679 38094 31724 | 44814 57121+ | 0 | **33** |
| | 10 | 31 72144 68375+ | 102 92369 | 618 93279 74602+ | 42830 17773+ | 50 | |
| | 20 | 36 99247 60744+ | 118 02007 | 558 50449 56828+ | 40846 78964+ | 40 | |
| | 30 | 42 26365 62751 | 133 11957+ | 498 09602 77864+ | 38864 40626 | 30 | |
| | 40 | 47 53498 74708+ | 148 22220+ | 437 70738 37238+ | 36883 02691 | 20 | |
| | 50 | 52 80646 96929 | 163 32796+ | 377 33855 34547+ | 34902 65091+ | 10 | |
| **28** | 0 | 58 07810 29725+ | 178 43685 | 316 98952 69456 | 32923 27759+ | 0 | **32** |
| | 10 | 63 34988 73410+ | 193 54886+ | 256 66029 41696+ | 30944 90627+ | 50 | |
| | 20 | 68 62182 28297 | 208 66401 | 196 35084 51069 | 28967 53628+ | 40 | |
| | 30 | 73 89390 94698 | 223 78228 | 136 06116 97440+ | 26991 16694+ | 30 | |
| | 40 | 79 16614 72926 | 238 90368 | 075 79125 80746 | 25015 79758 | 20 | |
| | 50 | 84 43853 63294 | 254 02821 | 3,38015 54110 00988+ | 23041 42751+ | 10 | |
| **29** | 0 | 89 71107 66115 | 269 15587 | 3,37955 31068 58237 | 21068 05608 | 0 | **31** |
| | 10 | 0,29594 98376 81702 | 284 28666 | 895 10000 52629 | 19095 68260 | 50 | |
| | 20 | 0,29600 25661 10367+ | 299 42057+ | 834 90904 84368+ | 17124 30640+ | 40 | |
| | 30 | 05 52960 52425+ | 314 55762+ | 774 73780 53728 | 15153 92682+ | 30 | |
| | 40 | 10 80275 08188 | 329 69780+ | 714 58626 61045+ | 13184 54318+ | 20 | |
| | 50 | 16 07604 77968+ | 5 27344 84111+ | 654 45442 06727 | 60 11216 15481 | 10 | |
| **30** | 0 | 0,29621 34949 62080 | | 3,37594 34225 91246 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,29621 34949 62080 | 5 27359 98756 | 3,37594 34225 91246 | 60 09248 76104 | 0 | **30** |
| | 10 | 26 62309 60836 | 375 13713+ | 534 24977 15142 | 07282 36120 | 50 | |
| | 20 | 31 89684 74549+ | 390 28984 | 474 17694 79022 | 05316 95462 | 40 | |
| | 30 | 37 17075 03533+ | 405 44568 | 414 12377 83560 | 03352 54063+ | 30 | |
| | 40 | 42 44480 48101+ | 420 60465 | 354 09025 29496 | 60 01389 11858 | 20 | |
| | 50 | 47 71901 08566+ | 435 76675+ | 294 07636 17638 | 59 99426 68778 | 10 | |
| **31** | 0 | 52 99336 85242 | 450 93199 | 234 08209 48860 | 97465 24757+ | 0 | **29** |
| | 10 | 58 26787 78441 | 466 10036+ | 174 10744 24103 | 95504 79729 | 50 | |
| | 20 | 63 54253 88477+ | 481 27187 | 114 15239 44374 | 93545 33627 | 40 | |
| | 30 | 68 81735 15664+ | 496 44651 | 3,37054 21694 10746+ | 91586 86384+ | 30 | |
| | 40 | 74 09231 60315+ | 511 62428+ | 3,36994 30107 24362 | 89629 37935+ | 20 | |
| | 50 | 79 36743 22744 | 526 80519+ | 934 40477 86426+ | 87672 88213 | 10 | |
| **32** | 0 | 84 64270 03263 | 541 98923+ | 874 52804 98214 | 85717 37150+ | 0 | **28** |
| | 10 | 89 91812 02187 | 557 17642 | 814 67087 61063 | 83762 84682+ | 50 | |
| | 20 | 0,29695 19369 19828+ | 572 36673+ | 754 83324 76380+ | 81809 30742+ | 40 | |
| | 30 | 0,29700 46941 56502 | 587 56018+ | 695 01515 45637+ | 79856 75264+ | 30 | |
| | 40 | 05 74529 12520+ | 602 75677+ | 635 21658 70373 | 77905 18182 | 20 | |
| | 50 | 11 02131 88198 | 617 95650 | 575 43753 52191 | 75954 59429 | 10 | |
| **33** | 0 | 16 29749 83848 | 633 15936+ | 515 67798 92762 | 74004 98940 | 0 | **27** |
| | 10 | 21 57382 99784+ | 648 36536+ | 455 93793 93822+ | 72056 36648 | 50 | |
| | 20 | 26 85031 36321 | 663 57450+ | 396 21737 57174 | 70108 72488+ | 40 | |
| | 30 | 32 12694 93771+ | 678 78678 | 336 51628 84685+ | 68162 06394+ | 30 | |
| | 40 | 37 40373 72449+ | 694 00219+ | 276 83466 78291 | 66216 38301 | 20 | |
| | 50 | 42 68067 72669 | 709 22075 | 217 17250 39989+ | 64271 68142 | 10 | |
| **34** | 0 | 47 95776 94744 | 724 44244+ | 157 52978 71847+ | 62327 95852 | 0 | **26** |
| | 10 | 53 23501 38988 | 739 66727+ | 097 90650 75995+ | 60385 21365 | 50 | |
| | 20 | 58 51241 05715+ | 754 89525 | 3,36038 30265 54630 | 58443 44616 | 40 | |
| | 30 | 63 78995 95240+ | 770 12636 | 3,35978 71822 10014+ | 56502 65539 | 30 | |
| | 40 | 69 06766 07876+ | 785 36061+ | 919 15319 44475+ | 54562 84068+ | 20 | |
| | 50 | 74 34551 43938 | 800 59801 | 859 60756 60407 | 52624 00139+ | 10 | |
| **35** | 0 | 79 62352 03738+ | 815 83854+ | 800 08132 60267 | 50686 13687 | 0 | **25** |
| | 10 | 84 90167 87593 | 831 08222 | 740 57446 46580 | 48749 24644+ | 50 | |
| | 20 | 90 17998 95815 | 846 32903+ | 681 08697 21935+ | 46813 32948 | 40 | |
| | 30 | 0,29795 45845 28718+ | 861 57900 | 621 61883 88987+ | 44878 38532 | 30 | |
| | 40 | 0,29800 73706 86618+ | 876 83210 | 562 17005 50455+ | 42944 41331 | 20 | |
| | 50 | 06 01583 69828+ | 892 08834+ | 502 74061 09124+ | 41011 41280 | 10 | |
| **36** | 0 | 11 29475 78663 | 907 34773+ | 443 33049 67844+ | 39079 38314+ | 0 | **24** |
| | 10 | 16 57383 13436+ | 922 61026+ | 383 93970 29529+ | 37148 32369 | 50 | |
| | 20 | 21 85305 74463 | 937 87594 | 324 56821 97160+ | 35218 23379 | 40 | |
| | 30 | 27 13243 62057 | 953 14476 | 265 21603 73781+ | 33289 11279+ | 30 | |
| | 40 | 32 41196 76533+ | 968 41672+ | 205 88314 62501+ | 31360 96006 | 20 | |
| | 50 | 37 69165 18206 | 983 69183+ | 146 56953 66495+ | 29433 77493 | 10 | |
| **37** | 0 | 42 97148 87389+ | 5 27998 97009 | 087 27519 89002+ | 27507 55676+ | 0 | **23** |
| | 10 | 48 25147 84398+ | 5 28014 25148+ | 3,35028 00012 33326 | 25582 30492 | 50 | |
| | 20 | 53 53162 09547 | 029 53603 | 3,34968 74430 02834 | 23658 01874 | 40 | |
| | 30 | 58 81191 63150 | 044 82372+ | 909 50772 00960 | 21734 69759 | 30 | |
| | 40 | 64 09236 45522+ | 060 11456 | 850 29037 31201 | 19812 34082 | 20 | |
| | 50 | 69 37296 56978+ | 075 40854+ | 791 09224 97119+ | 17890 94778+ | 10 | |
| **38** | 0 | 74 65371 97833 | 090 70567+ | 731 91334 02340+ | 15970 51784+ | 0 | **22** |
| | 10 | 79 93462 68400+ | 106 00595 | 672 75363 50556 | 14051 05036 | 50 | |
| | 20 | 85 21568 68995+ | 121 30938 | 613 61312 45520+ | 12132 54467+ | 40 | |
| | 30 | 90 49689 99933+ | 136 61595 | 554 49179 91052+ | 10215 00016 | 30 | |
| | 40 | 0,29895 77826 61528+ | 151 92567+ | 495 38964 91036+ | 08298 41617 | 20 | |
| | 50 | 0,29901 05978 54096 | 167 23854+ | 436 30666 49419 | 06382 79206+ | 10 | |
| **39** | 0 | 06 34145 77950 | 182 55456+ | 377 24283 70212+ | 04468 12720+ | 0 | **21** |
| | 10 | 11 62328 33406+ | 197 87373 | 318 19815 57492+ | 02554 42094+ | 50 | |
| | 20 | 16 90526 20779+ | 213 19605 | 259 17261 15398 | 59 00641 67265 | 40 | |
| | 30 | 22 18739 40384+ | 228 52152 | 200 16619 48133 | 58 98729 88168 | 30 | |
| | 40 | 27 46967 92536+ | 243 85013+ | 141 17889 59964+ | 96819 04740 | 20 | |
| | 50 | 32 75211 77550 | 5 28259 18190+ | 082 21070 55224+ | 58 94909 16917 | 10 | |
| **40** | 0 | 0,29938 03470 95740+ | | 3,34023 26161 38307+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,29938 03470 95740+ | 5 28274 51682+ | 3,34023 26161 38307+ | 58 93000 24635 | 0 | **20** |
| | 10 | 43 31745 47423 | 289 85489+ | 3,33964 33161 13672+ | 91092 27830+ | 50 | |
| | 20 | 48 60035 32912+ | 305 19612 | 905 42068 85842 | 89185 26440+ | 40 | |
| | 30 | 53 88340 52524+ | 320 54049+ | 846 52883 59401+ | 87279 20400+ | 30 | |
| | 40 | 59 16661 06573+ | 335 88802 | 787 65604 39001 | 85374 09647+ | 20 | |
| | 50 | 64 44996 95375+ | 351 23870 | 728 80230 29353+ | 83469 94118+ | 10 | |
| **41** | 0 | 69 73348 19245+ | 366 59253 | 669 96760 35235 | 81566 73749 | 0 | **19** |
| | 10 | 75 01714 78498+ | 381 94951+ | 611 15193 61486 | 79664 48476+ | 50 | |
| | 20 | 80 30096 73450 | 397 30965+ | 552 35529 13010 | 77763 18237 | 40 | |
| | 30 | 85 58494 04415+ | 412 67294+ | 493 57765 94772+ | 75862 82968+ | 30 | |
| | 40 | 90 86906 71710+ | 428 03939+ | 434 81903 11804+ | 73963 42606+ | 20 | |
| | 50 | 0,29996 15334 75649+ | 443 40899+ | 376 07939 69198 | 72064 97088+ | 10 | |
| **42** | 0 | 0,30001 43778 16549 | 458 78175 | 317 35874 72109+ | 70167 46351 | 0 | **18** |
| | 10 | 06 72236 94724 | 474 15766 | 258 65707 25758+ | 68270 90332 | 50 | |
| | 20 | 12 00711 10490+ | 489 53673 | 199 97436 35426+ | 66375 28967+ | 40 | |
| | 30 | 17 29200 64163+ | 504 91895 | 141 31061 06459 | 64480 62194+ | 30 | |
| | 40 | 22 57705 56058+ | 520 30433 | 082 66580 44264+ | 62586 89951 | 20 | |
| | 50 | 27 86225 86491+ | 535 69286+ | 3,33024 03993 54314 | 60694 12173+ | 10 | |
| **43** | 0 | 33 14761 55777+ | 551 08455+ | 3,32965 43299 42140+ | 58802 28799+ | 0 | **17** |
| | 10 | 38 43312 64233+ | 566 47940+ | 906 84497 13341 | 56911 39766 | 50 | |
| | 20 | 43 71879 12174 | 581 87741 | 848 27585 73575 | 55021 45010+ | 40 | |
| | 30 | 49 00460 99915 | 597 27857+ | 789 72564 28564+ | 53132 44471 | 30 | |
| | 40 | 54 29058 27772+ | 612 68290 | 731 19431 84093+ | 51244 38084 | 20 | |
| | 50 | 59 57670 96062+ | 628 09038 | 672 68187 46009+ | 49357 25787 | 10 | |
| **44** | 0 | 64 86299 05100 | 643 50102 | 614 18830 20222+ | 47471 07518+ | 0 | **16** |
| | 10 | 70 14942 55202 | 658 91481+ | 555 71359 12704 | 45585 83215+ | 50 | |
| | 20 | 75 43601 46683+ | 674 33177+ | 497 25773 29488+ | 43701 52815+ | 40 | |
| | 30 | 80 72275 79861 | 689 75189 | 438 82071 76673+ | 41818 16256 | 30 | |
| | 40 | 86 00965 55050+ | 705 17517 | 380 40253 60417 | 39935 73475+ | 20 | |
| | 50 | 91 29670 72567+ | 720 60161 | 322 00317 86941+ | 38054 24411+ | 10 | |
| **45** | 0 | 0,30096 58391 32728 | 736 03120+ | 263 62263 62530 | 36173 69001+ | 0 | **15** |
| | 10 | 0,30101 87127 35849 | 751 46396+ | 205 26089 93528+ | 34294 07184 | 50 | |
| | 20 | 07 15878 82245+ | 766 89989 | 146 91795 86344+ | 32415 38896+ | 40 | |
| | 30 | 12 44645 72234+ | 782 33897 | 088 59380 47448 | 30537 64077 | 30 | |
| | 40 | 17 73428 06131+ | 797 78121+ | 3,32030 28842 83371+ | 28660 82664 | 20 | |
| | 50 | 23 02225 84253 | 813 22662+ | 3,31972 00182 00707+ | 26784 94595 | 10 | |
| **46** | 0 | 28 31039 06915+ | 828 67519+ | 913 73397 06112+ | 24909 99808+ | 0 | **14** |
| | 10 | 33 59867 74435 | 844 12693 | 855 48487 06304 | 23035 98243 | 50 | |
| | 20 | 38 88711 87128 | 859 58182+ | 797 25451 08061+ | 21162 89836 | 40 | |
| | 30 | 44 17571 45310 | 875 03988+ | 739 04288 18225+ | 19290 74526+ | 30 | |
| | 40 | 49 46446 49298+ | 890 50111 | 680 84997 43699 | 17419 52252+ | 20 | |
| | 50 | 54 75336 99409+ | 905 96550 | 622 67577 91446 | 15549 22953 | 10 | |
| **47** | 0 | 60 04242 95959+ | 921 43305 | 564 52028 68493 | 13679 86565+ | 0 | **13** |
| | 10 | 65 33164 39264+ | 936 90377 | 506 38348 81927+ | 11811 43029+ | 50 | |
| | 20 | 70 62101 29641+ | 952 37765+ | 448 26537 38898 | 09943 92283 | 40 | |
| | 30 | 75 91053 67407 | 967 85470+ | 390 16593 46615 | 08077 34264+ | 30 | |
| | 40 | 81 20021 52877+ | 983 33492 | 332 08516 12350 | 06211 68913+ | 20 | |
| | 50 | 86 49004 86369 | 5 28998 81830 | 274 02304 43437 | 04346 96167+ | 10 | |
| **48** | 0 | 91 78003 68199+ | 5 29014 30485 | 215 97957 47269+ | 02483 15966 | 0 | **12** |
| | 10 | 0,30197 07017 98684+ | 029 79456+ | 157 95474 31303 | 58 00620 28248 | 50 | |
| | 20 | 0,30202 36047 78141 | 045 28745 | 099 94854 03055 | 57 98758 32952 | 40 | |
| | 30 | 07 65093 06885+ | 060 78350 | 3,31041 96095 70103 | 96897 30017+ | 30 | |
| | 40 | 12 94153 85235+ | 076 28272 | 3,30983 99198 40085+ | 95037 19382+ | 20 | |
| | 50 | 18 23230 13507+ | 091 78510+ | 926 04161 20703 | 93178 00986+ | 10 | |
| **49** | 0 | 23 52321 92018 | 107 29066 | 868 10983 19716+ | 91319 74769 | 0 | **11** |
| | 10 | 28 81429 21084 | 122 79938+ | 810 19663 44948 | 89462 40668+ | 50 | |
| | 20 | 34 10552 01022+ | 138 31128 | 752 30201 04279+ | 87605 98624+ | 40 | |
| | 30 | 39 39690 32150 | 153 82634+ | 694 42595 05655 | 85750 48576 | 30 | |
| | 40 | 44 68844 14784+ | 169 34457+ | 636 56844 57079 | 83895 90462+ | 20 | |
| | 50 | 49 98013 49242 | 5 29184 86598 | 578 72948 66616+ | 57 82042 24223+ | 10 | |
| **50** | 0 | 0,30255 27198 35840 | | 3,30520 90906 42393+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 16°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,30255 27198 35840 | 5 29200 39055+ | 3,30520 90906 42393+ | 57 80189 49798 | 0 | **10** |
| | 10 | 60 56398 74895+ | 215 91830 | 463 10716 92595+ | 78337 67125+ | 50 | |
| | 20 | 65 85614 66725+ | 231 44922 | 405 32379 25470+ | 76486 76145+ | 40 | |
| | 30 | 71 14846 11647+ | 246 98330+ | 347 55892 49325 | 74636 76797+ | 30 | |
| | 40 | 76 44093 09978 | 262 52056+ | 289 81255 72527+ | 72787 69021+ | 20 | |
| | 50 | 81 73355 62034+ | 278 06100 | 232 08468 03506 | 70939 52756+ | 10 | |
| **51** | 0 | 87 02633 68134+ | 293 60460+ | 174 37528 50749+ | 69092 27942+ | 0 | **9** |
| | 10 | 92 31927 28595 | 309 15138+ | 116 68436 22807 | 67245 94519+ | 50 | |
| | 20 | 0,30297 61236 43733+ | 324 70133+ | 059 01190 28287+ | 65400 52426+ | 40 | |
| | 30 | 0,30302 90561 13867 | 340 25446 | 3,30001 35789 75861 | 63556 01604 | 30 | |
| | 40 | 08 19901 39313+ | 355 81076 | 3,29943 72233 74257 | 61712 41991+ | 20 | |
| | 50 | 13 49257 20389+ | 371 37023+ | 886 10521 32265+ | 59869 73529+ | 10 | |
| **52** | 0 | 18 78628 57413 | 386 93288+ | 828 50651 58736 | 58027 96157+ | 0 | **8** |
| | 10 | 24 08015 50701 | 402 49870+ | 770 92623 62579 | 56187 09815 | 50 | |
| | 20 | 29 37418 00572 | 418 06770+ | 713 36436 52763+ | 54347 14443+ | 40 | |
| | 30 | 34 66836 07342+ | 433 63988 | 655 82089 38320+ | 52508 09981+ | 30 | |
| | 40 | 39 96269 71330+ | 449 21523 | 598 29581 28339 | 50669 96370+ | 20 | |
| | 50 | 45 25718 92853+ | 464 79375+ | 540 78911 31968+ | 48832 73550 | 10 | |
| **53** | 0 | 50 55183 72229 | 480 37546 | 483 30078 58418+ | 46996 41460+ | 0 | **7** |
| | 10 | 55 84664 09775 | 495 96034 | 425 83082 16958 | 45161 00042 | 50 | |
| | 20 | 61 14160 05809 | 511 54840 | 368 37921 16915+ | 43326 49235+ | 40 | |
| | 30 | 66 43671 60649 | 527 13963+ | 310 94594 67680 | 41492 88981 | 30 | |
| | 40 | 71 73198 74612+ | 542 73404+ | 253 53101 78699 | 39660 19219 | 20 | |
| | 50 | 77 02741 48017 | 558 33164 | 196 13441 59479+ | 37828 39890 | 10 | |
| **54** | 0 | 82 32299 81181 | 573 93241 | 138 75613 19589+ | 35997 50934+ | 0 | **6** |
| | 10 | 87 61873 74422 | 589 53636 | 081 39615 68655 | 34167 52293+ | 50 | |
| | 20 | 92 91463 28057+ | 605 14348+ | 3,29024 05448 16361+ | 32338 43907+ | 40 | |
| | 30 | 0,30398 21068 42406+ | 620 75379+ | 3,28966 73109 72454 | 30510 25716+ | 30 | |
| | 40 | 0,30403 50689 17786 | 636 36728+ | 909 42599 46737+ | 28682 97662+ | 20 | |
| | 50 | 08 80325 54514 | 651 98395 | 852 13916 49075 | 26856 59685 | 10 | |
| **55** | 0 | 14 09977 52909+ | 667 60380 | 794 87059 89390 | 25031 11726 | 0 | **5** |
| | 10 | 19 39645 13289+ | 683 22683 | 737 62028 77663+ | 23206 53726 | 50 | |
| | 20 | 24 69328 35972+ | 698 85304+ | 680 38822 23938 | 21382 85625+ | 40 | |
| | 30 | 29 99027 21276+ | 714 48243+ | 623 17439 38312+ | 19560 07366 | 30 | |
| | 40 | 35 28741 69520+ | 730 11501 | 565 97879 30946 | 17738 18888+ | 20 | |
| | 50 | 40 58471 81021+ | 745 75077 | 508 80141 12057+ | 15917 20134 | 10 | |
| **56** | 0 | 45 88217 56098 | 761 38971 | 451 64223 91923+ | 14097 11044 | 0 | **4** |
| | 10 | 51 17978 95069 | 777 03183 | 394 50126 80879+ | 12277 91559 | 50 | |
| | 20 | 56 47755 98252 | 792 67714 | 337 37848 89320+ | 10459 61620+ | 40 | |
| | 30 | 61 77548 65966 | 808 32563 | 280 27389 27700 | 08642 21170 | 30 | |
| | 40 | 67 07356 98529 | 823 97730 | 223 18747 06530 | 06825 70149 | 20 | |
| | 50 | 72 37180 96259 | 839 63216 | 166 11921 36380+ | 05010 08498+ | 10 | |
| **57** | 0 | 77 67020 59475 | 855 29020+ | 109 06911 27882 | 03195 36160 | 0 | **3** |
| | 10 | 82 96875 88495+ | 870 95143 | 3,28052 03715 91722 | 57 01381 53075+ | 50 | |
| | 20 | 88 26746 83639 | 886 61584+ | 3,27995 02334 38646+ | 56 99568 59185+ | 40 | |
| | 30 | 93 56633 45223+ | 902 28344+ | 938 02765 79461 | 97756 54432+ | 30 | |
| | 40 | 0,30498 86535 73568 | 917 95423 | 881 05009 25028+ | 95945 38757+ | 20 | |
| | 50 | 0,30504 16453 68991 | 933 62820 | 824 09063 86271 | 94135 12103 | 10 | |
| **58** | 0 | 09 46387 31811 | 949 30536 | 767 14928 74168 | 92325 74410 | 0 | **2** |
| | 10 | 14 76336 62347 | 964 98570+ | 710 22602 99758 | 90517 25620 | 50 | |
| | 20 | 20 06301 60917+ | 980 66924 | 653 32085 74138 | 88709 65676 | 40 | |
| | 30 | 25 36282 27841+ | 5 29996 35596 | 596 43376 08462 | 86902 94518+ | 30 | |
| | 40 | 30 66278 63437 | 5 30012 04586+ | 539 56473 13943+ | 85097 12090+ | 20 | |
| | 50 | 35 96290 68024 | 027 73896+ | 482 71376 01853 | 83292 18333+ | 10 | |
| **59** | 0 | 41 26318 41920 | 043 43525 | 425 88083 83519+ | 81488 13189+ | 0 | **1** |
| | 10 | 46 56361 85445 | 059 13472+ | 369 06595 70330 | 79684 96600+ | 50 | |
| | 20 | 51 86420 98917+ | 074 83738+ | 312 26910 73730 | 77882 68508+ | 40 | |
| | 30 | 57 16495 82656 | 090 54324 | 255 49028 05221 | 76081 28856+ | 30 | |
| | 40 | 62 46586 36980 | 106 25228+ | 198 72946 76365 | 74280 77585+ | 20 | |
| | 50 | 67 76692 62208+ | 5 30121 96452 | 141 98665 98779+ | 56 72481 14638+ | 10 | |
| **60** | 0 | 0,30573 06814 58660+ | | 3,27085 26184 84141 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 73°

# 17°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,30573 06814 58660+ | 5 30137 67994+ | 3,27085 26184 84141 | 56 70682 39957+ | 0 | **60** |
| | 10 | 78 36952 26654+ | 153 39856 | 3,27028 55502 44183+ | 68884 53485 | 50 | |
| | 20 | 83 67105 66510+ | 169 12036+ | 3,26971 86617 90698+ | 67087 55163 | 40 | |
| | 30 | 88 97274 78547 | 184 84536+ | 915 19530 35535 | 65291 44935 | 30 | |
| | 40 | 94 27459 63083+ | 200 57355+ | 858 54238 90600+ | 63496 22742 | 20 | |
| | 50 | 0,30599 57660 20439 | 216 30494 | 801 90742 67858+ | 61701 88527+ | 10 | |
| **1** | 0 | 0,30604 87876 50933 | 232 03951+ | 745 29040 79330+ | 59908 42234 | 0 | **59** |
| | 10 | 10 18108 54884+ | 247 77728+ | 688 69132 37097 | 58115 83804 | 50 | |
| | 20 | 15 48356 32613 | 263 51824+ | 632 11016 53293 | 56324 13179+ | 40 | |
| | 30 | 20 78619 84438 | 279 26240+ | 575 54692 40113 | 54533 30304+ | 30 | |
| | 40 | 26 08899 10678+ | 295 00975+ | 519 00159 09808+ | 52743 35121 | 20 | |
| | 50 | 31 39194 11654 | 310 76030 | 462 47415 74688 | 50954 27571+ | 10 | |
| **2** | 0 | 36 69504 87683+ | 326 51404 | 405 96461 47116 | 49166 07600 | 0 | **58** |
| | 10 | 41 99831 39087+ | 342 27097+ | 349 47295 39516+ | 47378 75148 | 50 | |
| | 20 | 47 30173 66185 | 358 03110+ | 292 99916 64368+ | 45592 30159+ | 40 | |
| | 30 | 52 60531 69295+ | 373 79443 | 236 54324 34209 | 43806 72577 | 30 | |
| | 40 | 57 90905 48738+ | 389 56095+ | 180 10517 61632+ | 42022 02343+ | 20 | |
| | 50 | 63 21295 04834 | 405 33067 | 123 68495 59289 | 40238 19402 | 10 | |
| **3** | 0 | 68 51700 37901 | 421 10358+ | 067 28257 39886+ | 38455 23696+ | 0 | **57** |
| | 10 | 73 82121 48259+ | 436 87970 | 3,26010 89802 16190+ | 36673 15169 | 50 | |
| | 20 | 79 12558 36229+ | 452 65901 | 3,25954 53129 01021 | 34891 93763+ | 40 | |
| | 30 | 84 43011 02130+ | 468 44151+ | 898 18237 07257+ | 33111 59423+ | 30 | |
| | 40 | 89 73479 46282 | 484 22722+ | 841 85125 47834 | 31332 12091+ | 20 | |
| | 50 | 0,30695 03963 69004+ | 500 01613 | 785 53793 35743 | 29553 51711 | 10 | |
| **4** | 0 | 0,30700 34463 70617+ | 515 80823 | 729 24239 84032 | 27775 78226 | 0 | **56** |
| | 10 | 05 64979 51440+ | 531 60353+ | 672 96464 05806 | 25998 91579+ | 50 | |
| | 20 | 10 95511 11794 | 547 40203+ | 616 70465 14226+ | 24222 91715 | 40 | |
| | 30 | 16 26058 51997+ | 563 20374 | 560 46242 22511+ | 22447 78576 | 30 | |
| | 40 | 21 56621 72371+ | 579 00864 | 504 23794 43935+ | 20673 52106+ | 20 | |
| | 50 | 26 87200 73235+ | 594 81674+ | 448 03120 91829 | 18900 12250 | 10 | |
| **5** | 0 | 32 17795 54909+ | 610 62804+ | 391 84220 79579 | 17127 58950 | 0 | **55** |
| | 10 | 37 48406 17714+ | 626 44255 | 335 67093 20629 | 15355 92150 | 50 | |
| | 20 | 42 79032 61969+ | 642 26025+ | 279 51737 28479 | 13585 11794+ | 40 | |
| | 30 | 48 09674 87995 | 658 08116+ | 223 38152 16684+ | 11815 17827 | 30 | |
| | 40 | 53 40332 96112 | 673 90527+ | 167 26336 98858 | 10046 10191 | 20 | |
| | 50 | 58 71006 86639+ | 689 73259 | 111 16290 88667 | 08277 88830+ | 10 | |
| **6** | 0 | 64 01696 59898+ | 705 56310+ | 3,25055 08012 99836+ | 06510 53690 | 0 | **54** |
| | 10 | 69 32402 16209 | 721 39682+ | 3,24999 01502 46146+ | 04744 04713 | 50 | |
| | 20 | 74 63123 55891 | 737 23374+ | 942 96758 41433+ | 02978 41844 | 40 | |
| | 30 | 79 93860 79266 | 753 07387+ | 886 93779 99589+ | 56 01213 65026+ | 30 | |
| | 40 | 85 24613 86653 | 768 91720+ | 830 92566 34563 | 55 99449 74205 | 20 | |
| | 50 | 90 55382 78373+ | 784 76374 | 774 93116 60358 | 97686 69324 | 10 | |
| **7** | 0 | 0,30795 86167 54747+ | 800 61348 | 718 95429 91034 | 95924 50327 | 0 | **53** |
| | 10 | 0,30801 16968 16095+ | 816 46642+ | 662 99505 40707+ | 94163 17158+ | 50 | |
| | 20 | 06 47784 62738+ | 832 32257+ | 607 05342 23548+ | 92402 69763+ | 40 | |
| | 30 | 11 78616 94996 | 848 18193+ | 551 12939 53785+ | 90643 08085+ | 30 | |
| | 40 | 17 09465 13189+ | 864 04450 | 495 22296 45700 | 88884 32069 | 20 | |
| | 50 | 22 40329 17639+ | 879 91027 | 439 33412 13631 | 87126 41659+ | 10 | |
| **8** | 0 | 27 71209 08666 | 895 77924+ | 383 46285 71971+ | 85369 36800 | 0 | **52** |
| | 10 | 33 02104 86591 | 911 65143 | 327 60916 35171+ | 83613 17436 | 50 | |
| | 20 | 38 33016 51734 | 927 52682+ | 271 77303 17735 | 81857 83512 | 40 | |
| | 30 | 43 63944 04416 | 943 40542+ | 215 95445 34223 | 80103 34972+ | 30 | |
| | 40 | 48 94887 44958+ | 959 28723 | 160 15341 99250+ | 78349 71762 | 20 | |
| | 50 | 54 25846 73681+ | 975 17225 | 104 36992 27488+ | 76596 93825+ | 10 | |
| **9** | 0 | 59 56821 90906+ | 5 30991 06047+ | 3,24048 60395 33662+ | 74845 01108 | 0 | **51** |
| | 10 | 64 87812 96954 | 5 31006 95191 | 3,23992 85550 32555 | 73093 93553+ | 50 | |
| | 20 | 70 18819 92145+ | 022 84655+ | 937 12456 39001 | 71343 71108 | 40 | |
| | 30 | 75 49842 76801 | 038 74441+ | 881 41112 67893+ | 69594 33715 | 30 | |
| | 40 | 80 80881 51242+ | 054 64548 | 825 71518 34178 | 67845 81321 | 20 | |
| | 50 | 86 11936 15790+ | 5 31070 54975+ | 770 03672 52857+ | 55 66098 13869+ | 10 | |
| **10** | 0 | 0,30891 43006 70766 | | 3,23714 37574 38987+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,30891 43006 70766 | 5 31086 45724+ | 3,23714 37574 38987+ | 55 64351 31307 | 0 | **50** |
| | 10 | 0,30896 74093 16490 | 102 36794 | 658 73223 07681 | 62605 33577 | 50 | |
| | 20 | 0,30902 05195 53284+ | 118 28185+ | 603 10617 74103+ | 60860 20626 | 40 | |
| | 30 | 07 36313 81469+ | 134 19897+ | 547 49757 53477+ | 59115 92399 | 30 | |
| | 40 | 12 67448 01367+ | 150 11931 | 491 90641 61078+ | 57372 48840 | 20 | |
| | 50 | 17 98598 13298+ | 166 04286 | 436 33269 12238+ | 55629 89896 | 10 | |
| **11** | 0 | 23 29764 17584+ | 181 96962 | 380 77639 22342+ | 53888 15511 | 0 | **49** |
| | 10 | 28 60946 14547 | 197 89959+ | 325 23751 06831+ | 52147 25631 | 50 | |
| | 20 | 33 92144 04506+ | 213 83278+ | 269 71603 81201 | 50407 20201 | 40 | |
| | 30 | 39 23357 87785 | 229 76919 | 214 21196 61000 | 48667 99166+ | 30 | |
| | 40 | 44 54587 64704 | 245 70880+ | 158 72528 61834 | 46929 62473 | 20 | |
| | 50 | 49 85833 35585 | 261 65164 | 103 25598 99360+ | 45192 10066+ | 10 | |
| **12** | 0 | 55 17095 00748+ | 277 59768+ | 3,23047 80406 89294 | 43455 41892 | 0 | **48** |
| | 10 | 60 48372 60517+ | 293 54695 | 3,22992 36951 47401+ | 41719 57895+ | 50 | |
| | 20 | 65 79666 15212+ | 309 49943 | 936 95231 89506 | 39984 58022+ | 40 | |
| | 30 | 71 10975 65155 | 325 45512+ | 881 55247 31483+ | 38250 42218+ | 30 | |
| | 40 | 76 42301 10667+ | 341 41403+ | 826 16996 89265 | 36517 10429+ | 20 | |
| | 50 | 81 73642 52071 | 357 37616+ | 770 80479 78835 | 34784 62601+ | 10 | |
| **13** | 0 | 87 04999 89687+ | 373 34151 | 715 45695 16233+ | 33052 98680 | 0 | **47** |
| | 10 | 92 36373 23838+ | 389 31007+ | 660 12642 17553+ | 31322 18610+ | 50 | |
| | 20 | 0,30997 67762 54846 | 405 28185+ | 604 81319 98943 | 29592 22339+ | 40 | |
| | 30 | 0,31002 99167 83031+ | 421 25685+ | 549 51727 76603+ | 27863 09813 | 30 | |
| | 40 | 08 30589 08717 | 437 23507+ | 494 23864 66790+ | 26134 80977 | 20 | |
| | 50 | 13 62026 32224+ | 453 21651 | 438 97729 85813+ | 24407 35777 | 10 | |
| **14** | 0 | 18 93479 53875+ | 469 20117 | 383 73322 50036+ | 22680 74159+ | 0 | **46** |
| | 10 | 24 24948 73992 | 485 18904+ | 328 50641 75877 | 20954 96071 | 50 | |
| | 20 | 29 56433 92896+ | 501 18014 | 273 29686 79806 | 19230 01457 | 40 | |
| | 30 | 34 87935 10910+ | 517 17445+ | 218 10456 78349 | 17505 90264 | 30 | |
| | 40 | 40 19452 28356+ | 533 17199+ | 162 92950 88085+ | 15782 62438+ | 20 | |
| | 50 | 45 50985 45556 | 549 17275+ | 107 77168 25647 | 14060 17926+ | 10 | |
| **15** | 0 | 50 82534 62831 | 565 17673+ | 3,22052 63108 07720+ | 12338 56674 | 0 | **45** |
| | 10 | 56 14099 80504+ | 581 18393+ | 3,21997 50769 51046+ | 10617 78628+ | 50 | |
| | 20 | 61 45680 98898 | 597 19436 | 942 40151 72418 | 08897 83735+ | 40 | |
| | 30 | 66 77278 18333+ | 613 20800+ | 887 31253 88682+ | 07178 71942 | 30 | |
| | 40 | 72 08891 39134 | 629 22487+ | 832 24075 16740+ | 05460 43194 | 20 | |
| | 50 | 77 40520 61621+ | 645 24496+ | 777 18614 73546+ | 03742 97438+ | 10 | |
| **16** | 0 | 82 72165 86118 | 661 26828 | 722 14871 76107+ | 02026 34622+ | 0 | **44** |
| | 10 | 88 03827 12946 | 677 29482 | 667 12845 41485+ | 55 00310 54691+ | 50 | |
| | 20 | 93 35504 42428 | 693 32458+ | 612 12534 86794 | 54 98595 57593 | 40 | |
| | 30 | 0,31098 67197 74886 | 709 35757 | 557 13939 29201 | 96881 43274 | 30 | |
| | 40 | 0,31103 98907 10643 | 725 39378+ | 502 17057 85927 | 95168 11680+ | 20 | |
| | 50 | 09 30632 50021+ | 741 43322 | 447 21889 74246+ | 93455 62759+ | 10 | |
| **17** | 0 | 14 62373 93343+ | 757 47588+ | 392 28434 11487 | 91743 96458+ | 0 | **43** |
| | 10 | 19 94131 40932 | 773 52177+ | 337 36690 15028+ | 90033 12724 | 50 | |
| | 20 | 25 25904 93109+ | 789 57089 | 282 46657 02304+ | 88323 11503 | 40 | |
| | 30 | 30 57694 50198 | 805 62323 | 227 58333 90801+ | 86613 92742 | 30 | |
| | 40 | 35 89500 12521 | 821 67880 | 172 71719 98059+ | 84905 56389 | 20 | |
| | 50 | 41 21321 80401 | 837 73759+ | 117 86814 41670+ | 83198 02390 | 10 | |
| **18** | 0 | 46 53159 54161 | 853 79962 | 063 03616 39280+ | 81491 30693+ | 0 | **42** |
| | 10 | 51 85013 34122+ | 869 86487 | 3,21008 22125 08587 | 79785 41245 | 50 | |
| | 20 | 57 16883 20610 | 885 93335 | 3,20953 42339 67342 | 78080 33993+ | 40 | |
| | 30 | 62 48769 13945 | 902 00506 | 898 64259 33348+ | 76376 08884+ | 30 | |
| | 40 | 67 80671 14451 | 918 07999+ | 843 87883 24464 | 74672 65866+ | 20 | |
| | 50 | 73 12589 22450+ | 934 15816+ | 789 13210 58597+ | 72970 04886+ | 10 | |
| **19** | 0 | 78 44523 38267 | 950 23956 | 734 40240 53710+ | 71268 25892 | 0 | **41** |
| | 10 | 83 76473 62223 | 966 32418+ | 679 68972 27818+ | 69567 28830 | 50 | |
| | 20 | 89 08439 94642 | 982 41204+ | 624 99404 98988+ | 67867 13648+ | 40 | |
| | 30 | 94 40422 35846+ | 5 31998 50313 | 570 31537 85340 | 66167 80294+ | 30 | |
| | 40 | 0,31199 72420 86159+ | 5 32014 59745 | 515 65370 05045+ | 64469 28716 | 20 | |
| | 50 | 0,31205 04435 45904+ | 5 32030 69500 | 461 00900 76330 | 54 62771 58860 | 10 | |
| **20** | 0 | 0,31210 36466 15404+ | | 3,20406 38129 17469+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,31210 36466 15404+ | 5 32046 79578+ | 3,20406 38129 17469+ | 54 61074 70675 | 0 | **40** |
| | 10 | 15 68512 94983 | 062 89979+ | 351 77054 46794+ | 59378 64108 | 50 | |
| | 20 | 21 00575 84962+ | 079 00704+ | 297 17675 82686+ | 57683 39107 | 40 | |
| | 30 | 26 32654 85667 | 095 11752 | 242 59992 43579+ | 55988 95619+ | 30 | |
| | 40 | 31 64749 97419 | 111 23123+ | 188 04003 47960 | 54295 33593+ | 20 | |
| | 50 | 36 96861 20542+ | 127 34818 | 133 49708 14366+ | 52602 52977 | 10 | |
| **21** | 0 | 42 28988 55360+ | 143 46836 | 078 97105 61389+ | 50910 53717+ | 0 | **39** |
| | 10 | 47 61132 02196+ | 159 59177+ | 3,20024 46195 07671+ | 49219 35763+ | 50 | |
| | 20 | 52 93291 61374 | 175 71842 | 3,19969 96975 71908+ | 47528 99062 | 40 | |
| | 30 | 58 25467 33216+ | 191 84830+ | 915 49446 72846+ | 45839 43562 | 30 | |
| | 40 | 63 57659 18047 | 207 98142+ | 861 03607 29284+ | 44150 69211 | 20 | |
| | 50 | 68 89867 16189+ | 224 11778 | 806 59456 60073 | 42462 75957+ | 10 | |
| **22** | 0 | 74 22091 27967 | 240 25737 | 752 16993 84116 | 40775 63749 | 0 | **38** |
| | 10 | 79 54331 53704 | 256 40019+ | 697 76218 20367 | 39089 32534+ | 50 | |
| | 20 | 84 86587 93723+ | 272 54625+ | 643 37128 87832+ | 37403 82261+ | 40 | |
| | 30 | 90 18860 48349 | 288 69555+ | 588 99725 05571+ | 35719 12878+ | 30 | |
| | 40 | 0,31295 51149 17905 | 304 84809+ | 534 64005 92693 | 34035 24333+ | 20 | |
| | 50 | 0,31300 83454 02714+ | 321 00387 | 480 29970 68359+ | 32352 16575+ | 10 | |
| **23** | 0 | 06 15775 03101+ | 337 16288 | 425 97618 51783+ | 30669 89552+ | 0 | **37** |
| | 10 | 11 48112 19389+ | 353 32513+ | 371 66948 62231 | 28988 43213+ | 50 | |
| | 20 | 16 80465 51903 | 369 49062+ | 317 37960 19017+ | 27307 77506 | 40 | |
| | 30 | 22 12835 00965 | 385 65935 | 263 10652 41512 | 25627 92378+ | 30 | |
| | 40 | 27 45220 66900+ | 401 83132 | 208 85024 49133+ | 23948 87780+ | 20 | |
| | 50 | 32 77622 50032+ | 418 00653 | 154 61075 61352+ | 22270 63660 | 10 | |
| **24** | 0 | 38 10040 50685+ | 434 18497+ | 100 38804 97692+ | 20593 19966 | 0 | **36** |
| | 10 | 43 42474 69183 | 450 36666+ | 3,19046 18211 77727 | 18916 56646+ | 50 | |
| | 20 | 48 74925 05849+ | 466 55159+ | 3,18991 99295 21080+ | 17240 73650+ | 40 | |
| | 30 | 54 07391 61009 | 482 73976+ | 937 82054 47430 | 15565 70927 | 30 | |
| | 40 | 59 39874 34985+ | 498 93118 | 883 66488 76503 | 13891 48424+ | 20 | |
| | 50 | 64 72373 28103+ | 515 12583 | 829 52597 28078 | 12218 06092 | 10 | |
| **25** | 0 | 70 04888 40686+ | 531 32373 | 775 40379 21986 | 10545 43878+ | 0 | **35** |
| | 10 | 75 37419 73059+ | 547 52486+ | 721 29833 78107+ | 08873 61733 | 50 | |
| | 20 | 80 69967 25546 | 563 72925 | 667 20960 16374+ | 07202 59603+ | 40 | |
| | 30 | 86 02530 98471 | 579 93687+ | 613 13757 56770+ | 05532 37440+ | 30 | |
| | 40 | 91 35110 92158+ | 596 14774 | 559 08225 19330+ | 03862 95191+ | 20 | |
| | 50 | 0,31396 67707 06932+ | 612 36185+ | 505 04362 24138+ | 02194 32807 | 10 | |
| **26** | 0 | 0,31402 00319 43118 | 628 57921 | 451 02167 91332 | 54 00526 50235 | 0 | **34** |
| | 10 | 07 32948 01039 | 644 79981+ | 397 01641 41097 | 53 98859 47425 | 50 | |
| | 20 | 12 65592 81020+ | 661 02366 | 343 02781 93672 | 97193 24326+ | 40 | |
| | 30 | 17 98253 83386+ | 677 25075 | 289 05588 69345 | 95527 80888+ | 30 | |
| | 40 | 23 30931 08461+ | 693 48109 | 235 10060 88456+ | 93863 17060+ | 20 | |
| | 50 | 28 63624 56570+ | 709 71467 | 181 16197 71396 | 92199 32791+ | 10 | |
| **27** | 0 | 33 96334 28037+ | 725 95150 | 127 23998 38605 | 90536 28031 | 0 | **33** |
| | 10 | 39 29060 23187+ | 742 19158 | 073 33462 10574 | 88874 02728 | 50 | |
| | 20 | 44 61802 42345+ | 758 43490 | 3,18019 44588 07846 | 87212 56833 | 40 | |
| | 30 | 49 94560 85835+ | 774 68147+ | 3,17965 57375 51013 | 85551 90294+ | 30 | |
| | 40 | 55 27335 53983 | 790 93129 | 911 71823 60718+ | 83892 03062 | 20 | |
| | 50 | 60 60126 47112 | 807 18436 | 857 87931 57656+ | 82232 95086 | 10 | |
| **28** | 0 | 65 92933 65548 | 823 44067+ | 804 05698 62570+ | 80574 66315 | 0 | **32** |
| | 10 | 71 25757 09615+ | 839 70024 | 750 25123 96255 | 78917 16699+ | 50 | |
| | 20 | 76 58596 79639+ | 855 96305+ | 696 46206 79555+ | 77260 46189 | 40 | |
| | 30 | 81 91452 75945 | 872 22911+ | 642 68946 33367 | 75604 54732+ | 30 | |
| | 40 | 87 24324 98856+ | 888 49843 | 588 93341 78634+ | 73949 42280+ | 20 | |
| | 50 | 92 57213 48699+ | 904 77099+ | 535 19392 36353+ | 72295 08783 | 10 | |
| **29** | 0 | 0,31497 90118 25798+ | 921 04680+ | 481 47097 27571 | 70641 54189 | 0 | **31** |
| | 10 | 0,31503 23039 30479+ | 937 32587 | 427 76455 73382 | 68988 78449 | 50 | |
| | 20 | 08 55976 63066+ | 953 60819 | 374 07466 94933 | 67336 81512+ | 40 | |
| | 30 | 13 88930 23885+ | 969 89375+ | 320 40130 13420 | 65685 63330 | 30 | |
| | 40 | 19 21900 13261 | 5 32986 18257+ | 266 74444 50090 | 64035 23851+ | 20 | |
| | 50 | 24 54886 31518+ | 5 33002 47465 | 213 10409 26238+ | 62385 63026 | 10 | |
| **30** | 0 | 0,31529 87888 78983+ | | 3,17159 48023 63212+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

# 17°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,31529 87888 78983+ | 5 33018 76997+ | 3,17159 48023 63212+ | 53 60736 80805 | 0 | **30** |
| | 10 | 35 20907 55981 | 035 06855 | 105 87286 82407+ | 59088 77137+ | 50 | |
| | 20 | 40 53942 62836 | 051 37038+ | 3,17052 28198 05270 | 57441 51974+ | 40 | |
| | 30 | 45 86993 99874+ | 067 67547 | 3,16998 70756 53295+ | 55795 05265+ | 30 | |
| | 40 | 51 20061 67421+ | 083 98381 | 945 14961 48029+ | 54149 36961+ | 20 | |
| | 50 | 56 53145 65802 | 100 29540+ | 891 60812 11068 | 52504 47012 | 10 | |
| **31** | 0 | 61 86245 95342+ | 116 61025 | 838 08307 64056 | 50860 35367+ | 0 | **29** |
| | 10 | 67 19362 56367+ | 132 92835+ | 784 57447 28688+ | 49217 01979 | 50 | |
| | 20 | 72 52495 49203 | 149 24971+ | 731 08230 26710 | 47574 46796 | 40 | |
| | 30 | 77 85644 74174+ | 165 57433 | 677 60655 79914 | 45932 69769+ | 30 | |
| | 40 | 83 18810 31607+ | 181 90220 | 624 14723 10144+ | 44291 70849+ | 20 | |
| | 50 | 88 51992 21828 | 198 23333 | 570 70431 39295 | 42651 49987 | 10 | |
| **32** | 0 | 93 85190 45161 | 214 56771+ | 517 27779 89308 | 41012 07132+ | 0 | **28** |
| | 10 | 0,31599 18405 01932+ | 230 90536 | 463 86767 82175 | 39373 42236+ | 50 | |
| | 20 | 0,31604 51635 92468+ | 247 24626 | 410 47394 39938+ | 37735 55249+ | 40 | |
| | 30 | 09 84883 17094 | 263 59041+ | 357 09658 84689 | 36098 46122+ | 30 | |
| | 40 | 15 18146 76136 | 279 93783+ | 303 73560 38567 | 34462 14805+ | 20 | |
| | 50 | 20 51426 69919+ | 296 28851 | 250 39098 23761+ | 32826 61250 | 10 | |
| **33** | 0 | 25 84722 98770 | 312 64244+ | 197 06271 62511+ | 31191 85406+ | 0 | **27** |
| | 10 | 31 18035 63014+ | 328 99963+ | 143 75079 77105 | 29557 87226 | 50 | |
| | 20 | 36 51364 62978 | 345 36009 | 090 45521 89879 | 27924 66659 | 40 | |
| | 30 | 41 84709 98987+ | 361 72380+ | 3,16037 17597 23220 | 26292 23656+ | 30 | |
| | 40 | 47 18071 71367+ | 378 09078 | 3,15983 91304 99563+ | 24660 58170 | 20 | |
| | 50 | 52 51449 80445+ | 394 46101+ | 930 66644 41393+ | 23029 70149+ | 10 | |
| **34** | 0 | 57 84844 26547 | 410 83451 | 877 43614 71244 | 21399 59547 | 0 | **26** |
| | 10 | 63 18255 09998 | 427 21127 | 824 22215 11697 | 19770 26313 | 50 | |
| | 20 | 68 51682 31124+ | 443 59129 | 771 02444 85384+ | 18141 70398+ | 40 | |
| | 30 | 73 85125 90253+ | 459 97457 | 717 84303 14986 | 16513 91755 | 30 | |
| | 40 | 79 18585 87710+ | 476 36111+ | 664 67789 23231 | 14886 90333+ | 20 | |
| | 50 | 84 52062 23822 | 492 75092 | 611 52902 32898 | 13260 66085 | 10 | |
| **35** | 0 | 89 85554 98914 | 509 14399+ | 558 39641 66813 | 11635 18961+ | 0 | **25** |
| | 10 | 0,31695 19064 13313+ | 525 54032+ | 505 28006 47851+ | 10010 48913+ | 50 | |
| | 20 | 0,31700 52589 67346 | 541 93992+ | 452 17995 98938 | 08386 55892+ | 40 | |
| | 30 | 05 86131 61338+ | 558 34279 | 399 09609 43046 | 06763 39850 | 30 | |
| | 40 | 11 19689 95617+ | 574 74891+ | 346 02846 03196 | 05141 00737+ | 20 | |
| | 50 | 16 53264 70509 | 591 15831 | 292 97705 02458+ | 03519 38506 | 10 | |
| **36** | 0 | 21 86855 86340 | 607 57097 | 239 94185 63952 | 01898 53108 | 0 | **24** |
| | 10 | 27 20463 43437 | 623 98689 | 186 92287 10844+ | 53 00278 44493+ | 50 | |
| | 20 | 32 54087 42126 | 640 40608 | 133 92008 66350+ | 52 98659 12615+ | 40 | |
| | 30 | 37 87727 82734+ | 656 82854 | 080 93349 53735 | 97040 57425 | 30 | |
| | 40 | 43 21384 65588+ | 673 25426+ | 3,15027 96308 96310+ | 95422 78873 | 20 | |
| | 50 | 48 55057 91014+ | 689 68325+ | 3,14975 00886 17437 | 93805 76912+ | 10 | |
| **37** | 0 | 53 88747 59340 | 706 11551 | 922 07080 40524+ | 92189 51494 | 0 | **23** |
| | 10 | 59 22453 70891 | 722 55104 | 869 14890 89030+ | 90574 02570 | 50 | |
| | 20 | 64 56176 25995 | 738 98983+ | 816 24316 86460+ | 88959 30092 | 40 | |
| | 30 | 69 89915 24978+ | 755 43189+ | 763 35357 56368+ | 87345 34012 | 30 | |
| | 40 | 75 23670 68168 | 771 87723 | 710 48012 22356+ | 85732 14281+ | 20 | |
| | 50 | 80 57442 55891 | 788 32583 | 657 62280 08075 | 84119 70852+ | 10 | |
| **38** | 0 | 85 91230 88474 | 804 77770 | 604 78160 37222 | 82508 03677+ | 0 | **22** |
| | 10 | 91 25035 66244 | 821 23284+ | 551 95652 33544+ | 80897 12708 | 50 | |
| | 20 | 0,31796 58856 89528+ | 837 69125+ | 499 14755 20837 | 79286 97896 | 40 | |
| | 30 | 0,31801 92694 58654 | 854 15294 | 446 35468 22941 | 77677 59193+ | 30 | |
| | 40 | 07 26548 73948 | 870 61789 | 393 57790 63747+ | 76068 96552+ | 20 | |
| | 50 | 12 60419 35737 | 887 08612 | 340 81721 67195 | 74461 09925+ | 10 | |
| **39** | 0 | 17 94306 44349 | 903 55761+ | 288 07260 57269+ | 72853 99264+ | 0 | **21** |
| | 10 | 23 28210 00110+ | 920 03238+ | 235 34406 58005 | 71247 64522 | 50 | |
| | 20 | 28 62130 03349 | 936 51042+ | 182 63158 93483 | 69642 05649+ | 40 | |
| | 30 | 33 96066 54391+ | 952 99174 | 129 93516 87833+ | 68037 22600 | 30 | |
| | 40 | 39 30019 53565+ | 969 47633 | 077 25479 65233 | 66433 15325+ | 20 | |
| | 50 | 44 63989 01198+ | 5 33985 96419 | 3,14024 59046 49907+ | 64829 83778+ | 10 | |
| **40** | 0 | 0,31849 97974 97618 | | 3,13971 94216 66129 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

# 17°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,31849 97974 97618 | 5 34002 45533 | 3,13971 94216 66129 | 52 63227 27911 | 0 | **20** |
| | 10 | 55 31977 43150+ | 018 94974 | 919 30989 38218 | 61625 47676 | 50 | |
| | 20 | 60 65996 38124+ | 035 44742+ | 866 69363 90542 | 60024 43025+ | 40 | |
| | 30 | 66 00031 82866+ | 051 94838+ | 814 09339 47516+ | 58424 13912 | 30 | |
| | 40 | 71 34083 77705 | 068 45262 | 761 50915 33604+ | 56824 60288+ | 20 | |
| | 50 | 76 68152 22967 | 084 96013 | 708 94090 73316 | 55225 82107+ | 10 | |
| **41** | 0 | 82 02237 18980 | 101 47091+ | 656 38864 91208+ | 53627 79321 | 0 | **19** |
| | 10 | 87 36338 66071+ | 117 98498 | 603 85237 11887+ | 52030 51882+ | 50 | |
| | 20 | 92 70456 64569+ | 134 50232 | 551 33206 60005 | 50433 99744 | 40 | |
| | 30 | 0,31898 04591 14802 | 151 02294 | 498 82772 60261 | 48838 22858+ | 30 | |
| | 40 | 0,31903 38742 17096 | 167 54683+ | 446 33934 37403 | 47243 21178+ | 20 | |
| | 50 | 08 72909 71779+ | 184 07401 | 393 86691 16224+ | 45648 94657+ | 10 | |
| **42** | 0 | 14 07093 79180+ | 200 60446 | 341 41042 21567 | 44055 43247+ | 0 | **18** |
| | 10 | 19 41294 39626+ | 217 13819 | 288 96986 78319+ | 42462 66902 | 50 | |
| | 20 | 24 75511 53445+ | 233 67520 | 236 54524 11418 | 40870 65573+ | 40 | |
| | 30 | 30 09745 20965+ | 250 21549 | 184 13653 45844+ | 39279 39215 | 30 | |
| | 40 | 35 43995 42514+ | 266 75906 | 131 74374 06629 | 37688 87780 | 20 | |
| | 50 | 40 78262 18420+ | 283 30590+ | 079 36685 18849 | 36099 11221 | 10 | |
| **43** | 0 | 46 12545 49011+ | 299 85603+ | 3,13027 00586 07628 | 34510 09491 | 0 | **17** |
| | 10 | 51 46845 34615 | 316 40944+ | 3,12974 66075 98137 | 32921 82543+ | 50 | |
| | 20 | 56 81161 75559+ | 332 96613+ | 922 33154 15593+ | 31334 30331+ | 40 | |
| | 30 | 62 15494 72173+ | 349 52611 | 870 01819 85262+ | 29747 52808 | 30 | |
| | 40 | 67 49844 24784+ | 366 08936+ | 817 72072 32454+ | 28161 49926 | 20 | |
| | 50 | 72 84210 33720+ | 382 65590 | 765 43910 82528+ | 26576 21639+ | 10 | |
| **44** | 0 | 78 18592 99311 | 399 22572 | 713 17334 60889+ | 24991 67901 | 0 | **16** |
| | 10 | 83 52992 21883 | 415 79882+ | 660 92342 92988+ | 23407 88664 | 50 | |
| | 20 | 88 87408 01765 | 432 37521 | 608 68935 04324+ | 21824 83882 | 40 | |
| | 30 | 94 21840 39286 | 448 95488 | 556 47110 20442 | 20242 53509 | 30 | |
| | 40 | 0,31999 56289 34773+ | 465 53783 | 504 26867 66933+ | 18660 97497 | 20 | |
| | 50 | 0,32004 90754 88557 | 482 12407 | 452 08206 69436+ | 17080 15801 | 10 | |
| **45** | 0 | 10 25237 00963+ | 498 71359 | 399 91126 53635+ | 15500 08373 | 0 | **15** |
| | 10 | 15 59735 72323 | 515 30640 | 347 75626 45262+ | 13920 75168 | 50 | |
| | 20 | 20 94251 02962+ | 531 90249 | 295 61705 70094+ | 12342 16138+ | 40 | |
| | 30 | 26 28782 93212 | 548 50187 | 243 49363 53956 | 10764 31238+ | 30 | |
| | 40 | 31 63331 43399 | 565 10453+ | 191 38599 22718 | 09187 20421+ | 20 | |
| | 50 | 36 97896 53852+ | 581 71049 | 139 29412 02296+ | 07610 83641+ | 10 | |
| **46** | 0 | 42 32478 24901+ | 598 31972+ | 087 21801 18655 | 06035 20852 | 0 | **14** |
| | 10 | 47 67076 56874 | 614 93225 | 3,12035 15765 97803 | 04460 32006+ | 50 | |
| | 20 | 53 01691 50099 | 631 54806+ | 3,11983 11305 65796+ | 02886 17059+ | 40 | |
| | 30 | 58 36323 04906 | 648 16716+ | 931 08419 48737 | 52 01312 75964 | 30 | |
| | 40 | 63 70971 21622+ | 664 78955+ | 879 07106 72773 | 51 99740 08674+ | 20 | |
| | 50 | 69 05636 00578 | 681 41523+ | 827 07366 64099 | 98168 15144+ | 10 | |
| **47** | 0 | 74 40317 42102 | 698 04420+ | 775 09198 48954+ | 96596 95328 | 0 | **13** |
| | 10 | 79 75015 46522 | 714 67646 | 723 12601 53626+ | 95026 49179 | 50 | |
| | 20 | 85 09730 14168 | 731 31200+ | 671 17575 04447+ | 93456 76651+ | 40 | |
| | 30 | 90 44461 45369 | 747 95084+ | 619 24118 27796 | 91887 77700 | 30 | |
| | 40 | 0,32095 79209 40453+ | 764 59297 | 567 32230 50096 | 90319 52278 | 20 | |
| | 50 | 0,32101 13973 99750+ | 781 23839 | 515 41910 97818 | 88752 00339+ | 10 | |
| **48** | 0 | 06 48755 23589+ | 797 88710 | 463 53158 97478+ | 87185 21839 | 0 | **12** |
| | 10 | 11 83553 12299+ | 814 53910 | 411 65973 75639+ | 85619 16730+ | 50 | |
| | 20 | 17 18367 66209+ | 831 19439+ | 359 80354 58909 | 84053 84968+ | 40 | |
| | 30 | 22 53198 85649 | 847 85298 | 307 96300 73940 | 82489 26507+ | 30 | |
| | 40 | 27 88046 70947+ | 864 51486 | 256 13811 47433 | 80925 41301 | 20 | |
| | 50 | 33 22911 22433 | 881 18003 | 204 32886 06132 | 79362 29303+ | 10 | |
| **49** | 0 | 38 57792 40436 | 897 84849+ | 152 53523 76828+ | 77799 90469+ | 0 | **11** |
| | 10 | 43 92690 25286 | 914 52025+ | 100 75723 86359 | 76238 24754 | 50 | |
| | 20 | 49 27604 77311 | 931 19530+ | 3,11048 99485 61605 | 74677 32110+ | 40 | |
| | 30 | 54 62535 96842 | 947 87365+ | 3,10997 24808 29495 | 73117 12493+ | 30 | |
| | 40 | 59 97483 84207 | 964 55529+ | 945 51691 17001 | 71557 65858+ | 20 | |
| | 50 | 65 32448 39737 | 5 34981 24023+ | 893 80133 51142+ | 51 69998 92159 | 10 | |
| **50** | 0 | 0,32170 67429 63760 | | 3,10842 10134 58983+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

# 17°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,32170 67429 63760 | 5 34997 92846+ | 3,10842 10134 58983+ | 51 68440 91350 | 0 | **10** |
| | 10 | 76 02427 56607 | 5 35014 61999+ | 790 41693 67633+ | 66883 63386+ | 50 | |
| | 20 | 81 37442 18606+ | 031 31482 | 738 74810 04247 | 65327 08222+ | 40 | |
| | 30 | 86 72473 50088+ | 048 01294 | 687 09482 96024+ | 63771 25813 | 30 | |
| | 40 | 92 07521 51382+ | 064 71436 | 635 45711 70211+ | 62216 16112 | 20 | |
| | 50 | 0,32197 42586 22818+ | 081 41908 | 583 83495 54099+ | 60661 79075+ | 10 | |
| **51** | 0 | 0,32202 77667 64726+ | 098 12709 | 532 22833 75024 | 59108 14657+ | 0 | **9** |
| | 10 | 08 12765 77435+ | 114 83840+ | 480 63725 60366 | 57555 22813 | 50 | |
| | 20 | 13 47880 61276 | 131 55301+ | 429 06170 37553 | 56003 03497 | 40 | |
| | 30 | 18 83012 16577+ | 148 27092+ | 377 50167 34056 | 54451 56664 | 30 | |
| | 40 | 24 18160 43670 | 164 99213+ | 325 95715 77392 | 52900 82269+ | 20 | |
| | 50 | 29 53325 42883+ | 181 71664 | 274 42814 95122+ | 51350 80268 | 10 | |
| **52** | 0 | 34 88507 14547+ | 198 44445 | 222 91464 14855 | 49801 50614+ | 0 | **8** |
| | 10 | 40 23705 58992+ | 215 17556 | 171 41662 64240+ | 48252 93264 | 50 | |
| | 20 | 45 58920 76548+ | 231 90997 | 119 93409 70976+ | 46705 08172 | 40 | |
| | 30 | 50 94152 67545 | 248 64768 | 068 46704 62805 | 45157 95293 | 30 | |
| | 40 | 56 29401 32313 | 265 38869 | 3,10017 01546 67512 | 43611 54582+ | 20 | |
| | 50 | 61 64666 71182 | 282 13300+ | 3,09965 57935 12929 | 42065 85996 | 10 | |
| **53** | 0 | 66 99948 84482+ | 298 88062 | 914 15869 26933 | 40520 89488 | 0 | **7** |
| | 10 | 72 35247 72544+ | 315 63154 | 862 75348 37445 | 38976 65014+ | 50 | |
| | 20 | 77 70563 35698 | 332 38576 | 811 36371 72430+ | 37433 12530 | 40 | |
| | 30 | 83 05895 74274 | 349 14328+ | 759 98938 59900+ | 35890 31990 | 30 | |
| | 40 | 88 41244 88602 | 365 90411 | 708 63048 27910+ | 34348 23350+ | 20 | |
| | 50 | 93 76610 79013+ | 382 66824+ | 657 28700 04560 | 32806 86566 | 10 | |
| **54** | 0 | 0,32299 11993 45837+ | 399 43568 | 605 95893 17993+ | 31266 21592+ | 0 | **6** |
| | 10 | 0,32304 47392 89405+ | 416 20642 | 554 64626 96401 | 29726 28385+ | 50 | |
| | 20 | 09 82809 10047+ | 432 98046+ | 503 34900 68015+ | 28187 06900 | 40 | |
| | 30 | 15 18242 08094 | 449 75781+ | 452 06713 61116 | 26648 57091+ | 30 | |
| | 40 | 20 53691 83875+ | 466 53847+ | 400 80065 04024+ | 25110 78916 | 20 | |
| | 50 | 25 89158 37723 | 483 32243+ | 349 54954 25108+ | 23573 72329 | 10 | |
| **55** | 0 | 31 24641 69966+ | 500 10970+ | 298 31380 52779 | 22037 37286 | 0 | **5** |
| | 10 | 36 60141 80937 | 516 90028+ | 247 09343 15493 | 20501 73742+ | 50 | |
| | 20 | 41 95658 70965+ | 533 69416+ | 195 88841 41750+ | 18966 81654+ | 40 | |
| | 30 | 47 31192 40382 | 550 49136 | 144 69874 60096 | 17432 60978 | 30 | |
| | 40 | 52 66742 89518 | 567 29186 | 093 52441 99118 | 15899 11667+ | 20 | |
| | 50 | 58 02310 18704 | 584 09566+ | 3,09042 36542 87450+ | 14366 33680+ | 10 | |
| **56** | 0 | 63 37894 28270+ | 600 90278 | 3,08991 22176 53770 | 12834 26971+ | 0 | **4** |
| | 10 | 68 73495 18548+ | 617 71320+ | 940 09342 26798+ | 11302 91497 | 50 | |
| | 20 | 74 09112 89869 | 634 52694 | 888 98039 35302 | 09772 27212+ | 40 | |
| | 30 | 79 44747 42563+ | 651 34398+ | 837 88267 08089+ | 08242 34074+ | 30 | |
| | 40 | 84 80398 76962 | 668 16434 | 786 80024 74015 | 06713 12038 | 20 | |
| | 50 | 90 16066 93396 | 684 98800+ | 735 73311 61977 | 05184 61060+ | 10 | |
| **57** | 0 | 0,32395 51751 92197 | 701 81498+ | 684 68127 00916+ | 03656 81096+ | 0 | **3** |
| | 10 | 0,32400 87453 73695 | 718 64527 | 633 64470 19820 | 02129 72103 | 50 | |
| | 20 | 06 23172 38222+ | 735 47887 | 582 62340 47717 | 51 00603 34035+ | 40 | |
| | 30 | 11 58907 86109 | 752 31578 | 531 61737 13681+ | 50 99077 66851 | 30 | |
| | 40 | 16 94660 17687+ | 769 15600+ | 480 62659 46830+ | 97552 70505 | 20 | |
| | 50 | 22 30429 33288 | 785 99954 | 429 65106 76326 | 96028 44953+ | 10 | |
| **58** | 0 | 27 66215 33242 | 802 84639 | 378 69078 31372+ | 94504 90153 | 0 | **2** |
| | 10 | 33 02018 17881 | 819 69655+ | 327 74573 41219 | 92982 06060+ | 50 | |
| | 20 | 38 37837 87536 | 836 55003 | 276 81591 35159 | 91459 92631 | 40 | |
| | 30 | 43 73674 42539 | 853 40682 | 225 90131 42528 | 89938 49821+ | 30 | |
| | 40 | 49 09527 83221 | 870 26692+ | 175 00192 92706+ | 88417 77588+ | 20 | |
| | 50 | 54 45398 09913+ | 887 13034+ | 124 11775 15117+ | 86897 75888+ | 10 | |
| **59** | 0 | 59 81285 22948 | 903 99708 | 073 24877 39229 | 85378 44677+ | 0 | **1** |
| | 10 | 65 17189 22656 | 920 86713 | 3,08022 39498 94551+ | 83859 83912 | 50 | |
| | 20 | 70 53110 09369+ | 937 74050 | 3,07971 55639 10639+ | 82341 93549 | 40 | |
| | 30 | 75 89047 83419+ | 954 61718+ | 920 73297 17091 | 80824 73544+ | 30 | |
| | 40 | 81 25002 45138 | 971 49718+ | 869 92472 43546+ | 79308 23855 | 20 | |
| | 50 | 86 60973 94856 | 5 35988 38050 | 819 13164 19691 | 50 77792 44438 | 10 | |
| **60** | 0 | 0,32491 96962 32906+ | | 3,07768 35371 75253+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 72°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,32491 96962 32906+ | 5 36005 26713+ | 3,07768 35371 75253+ | 50 76277 35249 | 0 | **60** |
| | 10 | 0,32497 32967 59620 | 022 15709 | 717 59094 40004+ | 74762 96245+ | 50 | |
| | 20 | 0,32502 68989 75329 | 039 05036 | 666 84331 43759 | 73249 27383+ | 40 | |
| | 30 | 08 05028 80365 | 055 94695 | 616 11082 16375 | 71736 28620+ | 30 | |
| | 40 | 13 41084 75060 | 072 84686 | 565 39345 87754+ | 70223 99913 | 20 | |
| | 50 | 18 77157 59746 | 089 75008+ | 514 69121 87841+ | 68712 41217+ | 10 | |
| **1** | 0 | 24 13247 34754+ | 106 65663+ | 464 00409 46624 | 67201 52491+ | 0 | **59** |
| | 10 | 29 49354 00418 | 123 56650+ | 413 33207 94132+ | 65691 33691 | 50 | |
| | 20 | 34 85477 57068+ | 140 47969 | 362 67516 60442 | 64181 84773+ | 40 | |
| | 30 | 40 21618 05037+ | 157 39620 | 312 03334 75668+ | 62673 05695+ | 30 | |
| | 40 | 45 57775 44657+ | 174 31603 | 261 40661 69973 | 61164 96414+ | 20 | |
| | 50 | 50 93949 76260+ | 191 23918 | 210 79496 73558+ | 59657 56887 | 10 | |
| **2** | 0 | 56 30141 00178+ | 208 16565+ | 160 19839 16671+ | 58150 87070+ | 0 | **58** |
| | 10 | 61 66349 16744 | 225 09545 | 109 61688 29601 | 56644 86922 | 50 | |
| | 20 | 67 02574 26289+ | 242 02857 | 059 05043 42678+ | 55139 56398+ | 40 | |
| | 30 | 72 38816 29146+ | 258 96501 | 3,07008 49903 86280 | 53634 95457 | 30 | |
| | 40 | 77 75075 25647+ | 275 90477+ | 3,06957 96268 90823 | 52131 04055 | 20 | |
| | 50 | 83 11351 16125+ | 292 84786+ | 907 44137 86768+ | 50627 82149 | 10 | |
| **3** | 0 | 88 47644 00912 | 309 79428 | 856 93510 04619 | 49125 29697 | 0 | **57** |
| | 10 | 93 83953 80340 | 326 74401+ | 806 44384 74922 | 47623 46656 | 50 | |
| | 20 | 0,32599 20280 54741+ | 343 69708 | 755 96761 28266 | 46122 32983+ | 40 | |
| | 30 | 0,32604 56624 24449+ | 360 65346+ | 705 50638 95282+ | 44621 88636+ | 30 | |
| | 40 | 09 92984 89796+ | 377 61318 | 655 06017 06646 | 43122 13572+ | 20 | |
| | 50 | 15 29362 51114+ | 394 57622 | 604 62894 93073+ | 41623 07749 | 10 | |
| **4** | 0 | 20 65757 08736 | 411 54258+ | 554 21271 85325 | 40124 71123 | 0 | **56** |
| | 10 | 26 02168 62994+ | 428 51227+ | 503 81147 14202 | 38627 03652+ | 50 | |
| | 20 | 31 38597 14222+ | 445 48529+ | 453 42520 10549+ | 37130 05295 | 40 | |
| | 30 | 36 75042 62752 | 462 46164+ | 403 05390 05254+ | 35633 76007+ | 30 | |
| | 40 | 42 11505 08916+ | 479 44132 | 352 69756 29247 | 34138 15748 | 20 | |
| | 50 | 47 47984 53048 | 496 42432 | 302 35618 13499 | 32643 24474 | 10 | |
| **5** | 0 | 52 84480 95480+ | 513 41065 | 252 02974 89024+ | 31149 02143+ | 0 | **55** |
| | 10 | 58 20994 36545+ | 530 40031+ | 201 71825 86881+ | 29655 48713+ | 50 | |
| | 20 | 63 57524 76577 | 547 39330 | 151 42170 38168 | 28162 64142 | 40 | |
| | 30 | 68 94072 15907 | 564 38962 | 101 14007 74026 | 26670 48386+ | 30 | |
| | 40 | 74 30636 54869+ | 581 38927 | 050 87337 25639+ | 25179 01405+ | 20 | |
| | 50 | 79 67217 93796+ | 598 39225 | 3,06000 62158 24234 | 23688 23155+ | 10 | |
| **6** | 0 | 85 03816 33021+ | 615 39856 | 3,05950 38470 01078+ | 22198 13596 | 0 | **54** |
| | 10 | 90 40431 72877+ | 632 40820+ | 900 16271 87482+ | 20708 72683+ | 50 | |
| | 20 | 0,32695 77064 13698 | 649 42117+ | 849 95563 14799+ | 19220 00376 | 40 | |
| | 30 | 0,32701 13713 55816 | 666 43748 | 799 76343 14423+ | 17731 96632 | 30 | |
| | 40 | 06 50379 99564 | 683 45712 | 749 58611 17791 | 16244 61409+ | 20 | |
| | 50 | 11 87063 45276 | 700 48009 | 699 42366 56381+ | 14757 94666 | 10 | |
| **7** | 0 | 17 23763 93285 | 717 50639+ | 649 27608 61715+ | 13271 96360 | 0 | **53** |
| | 10 | 22 60481 43924+ | 734 53603 | 599 14336 65355+ | 11786 66449 | 50 | |
| | 20 | 27 97215 97527+ | 751 56900 | 549 02549 98907 | 10302 04891 | 40 | |
| | 30 | 33 33967 54427+ | 768 60530+ | 498 92247 94015+ | 08818 11645 | 30 | |
| | 40 | 38 70736 14958 | 785 64494+ | 448 83429 82371 | 07334 86668+ | 20 | |
| | 50 | 44 07521 79452 | 802 68792 | 398 76094 95702+ | 05852 29919+ | 10 | |
| **8** | 0 | 49 44324 48244 | 819 73422+ | 348 70242 65782+ | 04370 41357 | 0 | **52** |
| | 10 | 54 81144 21666+ | 836 78387 | 298 65872 24426 | 02889 20938+ | 50 | |
| | 20 | 60 17981 00054 | 853 83685+ | 248 62983 03487+ | 50 01408 68622+ | 40 | |
| | 30 | 65 54834 83739 | 870 89317 | 198 61574 34865 | 49 99928 84367 | 30 | |
| | 40 | 70 91705 73056 | 887 95282+ | 148 61645 50498 | 98449 68131 | 20 | |
| | 50 | 76 28593 68338+ | 905 01581+ | 098 63195 82367 | 96971 19872+ | 10 | |
| **9** | 0 | 81 65498 69920 | 922 08214+ | 3,05048 66224 62494 | 95493 39550 | 0 | **51** |
| | 10 | 87 02420 78134+ | 939 15181 | 3,04998 70731 22944 | 94016 27122 | 50 | |
| | 20 | 92 39359 93315+ | 956 22481+ | 948 76714 95822 | 92539 82546+ | 40 | |
| | 30 | 0,32797 76316 15796+ | 973 30116 | 898 84175 13275 | 91064 05782+ | 30 | |
| | 40 | 0,32803 13289 45912+ | 5 36990 38084 | 848 93111 07492+ | 89588 96788+ | 20 | |
| | 50 | 08 50279 83996+ | 5 37007 46386 | 799 03522 10704 | 49 88114 55523 | 10 | |
| **10** | 0 | 0,32813 87287 30382+ | | 3,04749 15407 55181 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,32813 87287 30382+ | 5 37024 55022+ | 3,04749 15407 55181 | 49 86640 81944 | 0 | **50** |
| | 10 | 19 24311 85405 | 041 63992+ | 699 28766 73237 | 85167 76011 | 50 | |
| | 20 | 24 61353 49397 | 058 73296+ | 649 43598 97225+ | 83695 37682+ | 40 | |
| | 30 | 29 98412 22694 | 075 82935 | 599 59903 59543 | 82223 66917 | 30 | |
| | 40 | 35 35488 05628+ | 092 92907 | 549 77679 92626 | 80752 63673 | 20 | |
| | 50 | 40 72580 98536 | 110 03214 | 499 96927 28953+ | 79282 27909 | 10 | |
| **11** | 0 | 46 09691 01749+ | 127 13854+ | 450 17645 01044+ | 77812 59585 | 0 | **49** |
| | 10 | 51 46818 15604+ | 144 24829+ | 400 39832 41459+ | 76343 58658+ | 50 | |
| | 20 | 56 83962 40434 | 161 36139 | 350 63488 82801 | 74875 25089+ | 40 | |
| | 30 | 62 21123 76572+ | 178 47782+ | 300 88613 57711+ | 73407 58835+ | 30 | |
| | 40 | 67 58302 24355 | 195 59760 | 251 15205 98876 | 71940 59857 | 20 | |
| | 50 | 72 95497 84115 | 212 72072+ | 201 43265 39019 | 70474 28111+ | 10 | |
| **12** | 0 | 78 32710 56187+ | 229 84719+ | 151 72791 10907+ | 69008 63559 | 0 | **48** |
| | 10 | 83 69940 40907 | 246 97700+ | 102 03782 47348+ | 67543 66158 | 50 | |
| | 20 | 89 07187 38607+ | 264 11016 | 052 36238 81191 | 66079 35867+ | 40 | |
| | 30 | 94 44451 49623+ | 281 24666+ | 3,04002 70159 45323+ | 64615 72646+ | 30 | |
| | 40 | 0,32899 81732 74290 | 298 38651 | 3,03953 05543 72677 | 63152 76454+ | 20 | |
| | 50 | 0,32905 19031 12941 | 315 52970+ | 903 42390 96222+ | 61690 47250+ | 10 | |
| **13** | 0 | 10 56346 65911+ | 332 67624+ | 853 80700 48972 | 60228 84993+ | 0 | **47** |
| | 10 | 15 93679 33535+ | 349 82613 | 804 20471 63978+ | 58767 89643 | 50 | |
| | 20 | 21 31029 16149 | 366 97936+ | 754 61703 74335+ | 57307 61157+ | 40 | |
| | 30 | 26 68396 14085+ | 384 13595 | 705 04396 13177+ | 55847 99497 | 30 | |
| | 40 | 32 05780 27680+ | 401 29588 | 655 48548 13680+ | 54389 04621 | 20 | |
| | 50 | 37 43181 57268 | 418 45915+ | 605 94159 09059+ | 52930 76487+ | 10 | |
| **14** | 0 | 42 80600 03183+ | 435 62578+ | 556 41228 32572 | 51473 15057 | 0 | **46** |
| | 10 | 48 18035 65762 | 452 79576 | 506 89755 17514+ | 50016 20289 | 50 | |
| | 20 | 53 55488 45338 | 469 96908+ | 457 39738 97226 | 48559 92142 | 40 | |
| | 30 | 58 92958 42246 | 487 14576 | 407 91179 05084 | 47104 30576 | 30 | |
| | 40 | 64 30445 56822 | 504 32578+ | 358 44074 74508 | 45649 35550 | 20 | |
| | 50 | 69 67949 89400+ | 521 50916 | 308 98425 38958 | 44195 07024+ | 10 | |
| **15** | 0 | 75 05471 40316+ | 538 69589 | 259 54230 31933+ | 42741 44958 | 0 | **45** |
| | 10 | 80 43010 09905+ | 555 88596+ | 210 11488 86975+ | 41288 49310+ | 50 | |
| | 20 | 85 80565 98502 | 573 07939+ | 160 70200 37664+ | 39836 20041+ | 40 | |
| | 30 | 91 18139 06441+ | 590 27618 | 111 30364 17623 | 38384 57111 | 30 | |
| | 40 | 0,32996 55729 34059+ | 607 47631+ | 061 91979 60512 | 36933 60478 | 20 | |
| | 50 | 0,33001 93336 81690+ | 624 67980 | 3,03012 55046 00034 | 35483 30102+ | 10 | |
| **16** | 0 | 07 30961 49670+ | 641 88664 | 3,02963 19562 69931 | 34033 65944+ | 0 | **44** |
| | 10 | 12 68603 38335 | 659 09683+ | 913 85529 03986+ | 32584 67963+ | 50 | |
| | 20 | 18 06262 48018+ | 676 31038+ | 864 52944 36023+ | 31136 36119 | 40 | |
| | 30 | 23 43938 79056+ | 693 52728+ | 815 21807 99904+ | 29688 70371 | 30 | |
| | 40 | 28 81632 31785 | 710 74754+ | 765 92119 29533+ | 28241 70679+ | 20 | |
| | 50 | 34 19343 06539+ | 727 97115+ | 716 63877 58854+ | 26795 37004 | 10 | |
| **17** | 0 | 39 57071 03655 | 745 19812+ | 667 37082 21850+ | 25349 69305 | 0 | **43** |
| | 10 | 44 94816 23467+ | 762 42844+ | 618 11732 52545+ | 23904 67542 | 50 | |
| | 20 | 50 32578 66312 | 779 66212+ | 568 87827 85003+ | 22460 31675 | 40 | |
| | 30 | 55 70358 32525 | 796 89916+ | 519 65367 53329 | 21016 61663+ | 30 | |
| | 40 | 61 08155 22441 | 814 13955+ | 470 44350 91665 | 19573 57468+ | 20 | |
| | 50 | 66 45969 36397 | 831 38331 | 421 24777 34196+ | 18131 19050 | 10 | |
| **18** | 0 | 71 83800 74727+ | 848 63041+ | 372 06646 15146+ | 16689 46367 | 0 | **42** |
| | 10 | 77 21649 37769 | 865 88088+ | 322 89956 68779+ | 15248 39380+ | 50 | |
| | 20 | 82 59515 25857+ | 883 13471 | 273 74708 29399 | 13807 98050+ | 40 | |
| | 30 | 87 97398 39328+ | 900 39189+ | 224 60900 31348 | 12368 22337 | 30 | |
| | 40 | 93 35298 78517+ | 917 65243+ | 175 48532 09011 | 10929 12200+ | 20 | |
| | 50 | 0,33098 73216 43761+ | 934 91634 | 126 37602 96810+ | 09490 67601 | 10 | |
| **19** | 0 | 0,33104 11151 35395 | 952 18360 | 077 28112 29209+ | 08052 88498+ | 0 | **41** |
| | 10 | 09 49103 53755+ | 969 45422+ | 3,02028 20059 40710+ | 06615 74854 | 50 | |
| | 20 | 14 87072 99178 | 5 37986 72821 | 3,01979 13443 65857 | 05179 26627 | 40 | |
| | 30 | 20 25059 71999 | 5 38004 00555+ | 930 08264 39230 | 03743 43778+ | 30 | |
| | 40 | 25 63063 72554+ | 021 28626 | 881 04520 95451+ | 02308 26268+ | 20 | |
| | 50 | 31 01085 01180+ | 5 38038 57033 | 832 02212 69183 | 49 00873 74057+ | 10 | |
| **20** | 0 | 0,33136 39123 58213+ | | 3,01783 01338 95125+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,33136 39123 58213+ | 5 38055 85776 | 3,01783 01338 95125+ | 48 99439 87106 | 0 | **40** |
| | 10 | 41 77179 43989+ | 073 14855+ | 734 01899 08019+ | 98006 65374+ | 50 | |
| | 20 | 47 15252 58845 | 090 44271 | 685 03892 42645 | 96574 08823+ | 40 | |
| | 30 | 52 53343 03116 | 107 74023 | 636 07318 33821+ | 95142 17413+ | 30 | |
| | 40 | 57 91450 77139+ | 125 04111+ | 587 12176 16408+ | 93710 91105 | 20 | |
| | 50 | 63 29575 81251 | 142 34536+ | 538 18465 25303+ | 92280 29858+ | 10 | |
| **21** | 0 | 68 67718 15787+ | 159 65297+ | 489 26184 95445 | 90850 33635 | 0 | **39** |
| | 10 | 74 05877 81085 | 176 96395+ | 440 35334 61810 | 89421 02394+ | 50 | |
| | 20 | 79 44054 77480 | 194 27829+ | 391 45913 59415+ | 87992 36098+ | 40 | |
| | 30 | 84 82249 05310 | 211 59600+ | 342 57921 23317 | 86564 34707 | 30 | |
| | 40 | 90 20460 64910+ | 228 91708 | 293 71356 88610 | 85136 98181+ | 20 | |
| | 50 | 0,33195 58689 56618+ | 246 24152 | 244 86219 90428+ | 83710 26482 | 10 | |
| **22** | 0 | 0,33200 96935 80770+ | 263 56933 | 196 02509 63946+ | 82284 19569+ | 0 | **38** |
| | 10 | 06 35199 37703 | 280 90050+ | 147 20225 44377 | 80858 77405 | 50 | |
| | 20 | 11 73480 27753+ | 298 23504+ | 098 39366 66972 | 79433 99949+ | 40 | |
| | 30 | 17 11778 51258 | 315 57295+ | 049 59932 67022+ | 78009 87163+ | 30 | |
| | 40 | 22 50094 08554 | 332 91423+ | 3,01000 81922 79859 | 76586 39008 | 20 | |
| | 50 | 27 88426 99977+ | 350 25888+ | 3,00952 05336 40850+ | 75163 55444+ | 10 | |
| **23** | 0 | 33 26777 25865+ | 367 60690 | 903 30172 85406+ | 73741 36433 | 0 | **37** |
| | 10 | 38 65144 86555+ | 384 95828+ | 854 56431 48973+ | 72319 81935+ | 50 | |
| | 20 | 44 03529 82384 | 402 31304 | 805 84111 67038 | 70898 91912 | 40 | |
| | 30 | 49 41932 13688+ | 419 67117 | 757 13212 75126 | 69478 66324+ | 30 | |
| | 40 | 54 80351 80805+ | 437 03266+ | 708 43734 08801 | 68059 05134 | 20 | |
| | 50 | 60 18788 84072 | 454 39753+ | 659 75675 03667+ | 66640 08301 | 10 | |
| **24** | 0 | 65 57243 23825+ | 471 76577+ | 611 09034 95366+ | 65221 75787 | 0 | **36** |
| | 10 | 70 95715 00402+ | 489 13738+ | 562 43813 19580 | 63804 07553 | 50 | |
| | 20 | 76 34204 14141 | 506 51237 | 513 80009 12026+ | 62387 03560+ | 40 | |
| | 30 | 81 72710 65378 | 523 89072+ | 465 17622 08466 | 60970 63771 | 30 | |
| | 40 | 87 11234 54450 | 541 27245 | 416 56651 44695 | 59554 88145 | 20 | |
| | 50 | 92 49775 81695+ | 558 65755+ | 367 97096 56550 | 58139 76644+ | 10 | |
| **25** | 0 | 0,33297 88334 47450+ | 576 04603 | 319 38956 79905+ | 56725 29230+ | 0 | **35** |
| | 10 | 0,33303 26910 52053+ | 593 43788 | 270 82231 50675+ | 55311 45864 | 50 | |
| | 20 | 08 65503 95841+ | 610 83310+ | 222 26920 04811+ | 53898 26507 | 40 | |
| | 30 | 14 04114 79152 | 628 23170+ | 173 73021 78304 | 52485 71121 | 30 | |
| | 40 | 19 42743 02322+ | 645 63367+ | 125 20536 07183 | 51073 79667 | 20 | |
| | 50 | 24 81388 65690 | 663 03902+ | 076 69462 27516+ | 49662 52106+ | 10 | |
| **26** | 0 | 30 20051 69592+ | 680 44775+ | 3,00028 19799 75410 | 48251 88401 | 0 | **34** |
| | 10 | 35 58732 14368 | 697 85985+ | 2,99979 71547 87009 | 46841 88512+ | 50 | |
| | 20 | 40 97430 00353+ | 715 27533+ | 931 24705 98497 | 45432 52402 | 40 | |
| | 30 | 46 36145 27887 | 732 69419 | 882 79273 46095 | 44023 80031 | 30 | |
| | 40 | 51 74877 97306 | 750 11642+ | 834 35249 66064 | 42615 71362 | 20 | |
| | 50 | 57 13628 08948 | 767 54203+ | 785 92633 94702 | 41208 26355+ | 10 | |
| **27** | 0 | 62 52395 63151+ | 784 97102+ | 737 51425 68346+ | 39801 44974 | 0 | **33** |
| | 10 | 67 91180 60254 | 802 40339 | 689 11624 23372+ | 38395 27179 | 50 | |
| | 20 | 73 29983 00593 | 819 83914 | 640 73228 96193+ | 36989 72932 | 40 | |
| | 30 | 78 68802 84507 | 837 27826+ | 592 36239 23261+ | 35584 82195+ | 30 | |
| | 40 | 84 07640 12333+ | 854 72077 | 544 00654 41066 | 34180 54930 | 20 | |
| | 50 | 89 46494 84411 | 872 16666 | 495 66473 86136 | 32776 91098+ | 10 | |
| **28** | 0 | 0,33394 85367 01076+ | 889 61592+ | 447 33696 95037+ | 31373 90662+ | 0 | **32** |
| | 10 | 0,33400 24256 62669+ | 907 06857+ | 399 02323 04375 | 29971 53583+ | 50 | |
| | 20 | 05 63163 69526+ | 924 52460+ | 350 72351 50791+ | 28569 79824 | 40 | |
| | 30 | 11 02088 21987 | 941 98401+ | 302 43781 70967+ | 27168 69345 | 30 | |
| | 40 | 16 41030 20388+ | 959 44681 | 254 16613 01622+ | 25768 22109+ | 20 | |
| | 50 | 21 79989 65069+ | 976 91298+ | 205 90844 79513 | 24368 38079+ | 10 | |
| **29** | 0 | 27 18966 56367+ | 5 38994 38254 | 157 66476 41433+ | 22969 17216 | 0 | **31** |
| | 10 | 32 57960 94622 | 5 39011 85548+ | 109 43507 24217+ | 21570 59482 | 50 | |
| | 20 | 37 96972 80170 | 029 33181 | 061 21936 64735+ | 20172 64839 | 40 | |
| | 30 | 43 36002 13351 | 046 81152 | 2,99013 01763 99896+ | 18775 33249+ | 30 | |
| | 40 | 48 75048 94503 | 064 29461 | 2,98964 82988 66647+ | 17378 64675+ | 20 | |
| | 50 | 54 14113 23964 | 5 39081 78109 | 916 65610 01972 | 15982 59079 | 10 | |
| **30** | 0 | 0,33459 53195 02073 | | 2,98868 49627 42893 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,33459 53195 02073 | 5 39099 27095+ | 2,98868 49627 42893 | 48 14587 16422 | 0 | **30** |
| | 10 | 64 92294 29168+ | 116 76420+ | 820 35040 26471 | 13192 36667+ | 50 | |
| | 20 | 70 31411 05589 | 134 26084 | 772 21847 89803+ | 11798 19777+ | 40 | |
| | 30 | 75 70545 31673 | 151 76086 | 724 10049 70026 | 10404 65713+ | 30 | |
| | 40 | 81 09697 07759 | 169 26427 | 675 99645 04312+ | 09011 74439 | 20 | |
| | 50 | 86 48866 34185+ | 186 77106+ | 627 90633 29873+ | 07619 45915 | 10 | |
| **31** | 0 | 91 88053 11292 | 204 28124+ | 579 83013 83958+ | 06227 80105 | 0 | **29** |
| | 10 | 0,33497 27257 39416+ | 221 79481+ | 531 76786 03853 | 04836 76971 | 50 | |
| | 20 | 0,33502 66479 18898 | 239 31177+ | 483 71949 26882 | 03446 36475+ | 40 | |
| | 30 | 08 05718 50075+ | 256 83212 | 435 68502 90406+ | 02056 58580+ | 30 | |
| | 40 | 13 44975 33288 | 274 35586 | 387 66446 31826 | 48 00667 43249 | 20 | |
| | 50 | 18 84249 68874 | 291 88298+ | 339 65778 88577 | 47 99278 90443+ | 10 | |
| **32** | 0 | 24 23541 57172 | 309 41350 | 291 66499 98133+ | 97891 00126 | 0 | **28** |
| | 10 | 29 62850 98522 | 326 94740+ | 243 68608 98007+ | 96503 72259+ | 50 | |
| | 20 | 35 02177 93263 | 344 48470 | 195 72105 25748 | 95117 06806+ | 40 | |
| | 30 | 40 41522 41733 | 362 02539 | 147 76988 18942 | 93731 03729+ | 30 | |
| | 40 | 45 80884 44272 | 379 56946+ | 099 83257 15212+ | 92345 62991+ | 20 | |
| | 50 | 51 20264 01218+ | 397 11693+ | 051 90911 52221 | 90960 84554+ | 10 | |
| **33** | 0 | 56 59661 12912+ | 414 66780 | 2,98003 99950 67666+ | 89576 68382 | 0 | **27** |
| | 10 | 61 99075 79692+ | 432 22205+ | 2,97956 10373 99284+ | 88193 14436 | 50 | |
| | 20 | 67 38508 01897+ | 449 77970 | 908 22180 84848+ | 86810 22680 | 40 | |
| | 30 | 72 77957 79868 | 467 34074+ | 860 35370 62168+ | 85427 93076 | 30 | |
| | 40 | 78 17425 13942 | 484 90517+ | 812 49942 69092+ | 84046 25587+ | 20 | |
| | 50 | 83 56910 04460 | 502 47300+ | 764 65896 43505 | 82665 20176+ | 10 | |
| **34** | 0 | 88 96412 51760+ | 520 04423 | 716 83231 23328+ | 81284 76807 | 0 | **26** |
| | 10 | 94 35932 56183+ | 537 61884+ | 669 01946 46521+ | 79904 95441 | 50 | |
| | 20 | 0,33599 75470 18068 | 555 19686 | 621 22041 51080+ | 78525 76041+ | 40 | |
| | 30 | 0,33605 15025 37753+ | 572 77826+ | 573 43515 75039 | 77147 18572 | 30 | |
| | 40 | 10 54598 15580+ | 590 36307 | 525 66368 56467 | 75769 22995 | 20 | |
| | 50 | 15 94188 51887+ | 607 95127 | 477 90599 33472 | 74391 89273+ | 10 | |
| **35** | 0 | 21 33796 47014+ | 625 54287 | 430 16207 44198 | 73015 17371 | 0 | **25** |
| | 10 | 26 73422 01301+ | 643 13786+ | 382 43192 26827 | 71639 07250 | 50 | |
| | 20 | 32 13065 15088 | 660 73625+ | 334 71553 19577 | 70263 58874 | 40 | |
| | 30 | 37 52725 88713+ | 678 33804+ | 287 01289 60703 | 68888 72205+ | 30 | |
| | 40 | 42 92404 22518 | 695 94323+ | 239 32400 88497+ | 67514 47208+ | 20 | |
| | 50 | 48 32100 16841 | 713 55182 | 191 64886 41288+ | 66140 83845+ | 10 | |
| **36** | 0 | 53 71813 72023 | 731 16380+ | 143 98745 57443 | 64767 82080 | 0 | **24** |
| | 10 | 59 11544 88403+ | 748 77919 | 096 33977 75363 | 63395 41875+ | 50 | |
| | 20 | 64 51293 66323 | 766 39797+ | 048 70582 33487+ | 62023 63194+ | 40 | |
| | 30 | 69 91060 06120+ | 784 02016 | 2,97001 08558 70293 | 60652 46001 | 30 | |
| | 40 | 75 30844 08136+ | 801 64574+ | 2,96953 47906 24292+ | 59281 90257+ | 20 | |
| | 50 | 80 70645 72711 | 819 27473+ | 905 88624 34035 | 57911 95928 | 10 | |
| **37** | 0 | 86 10465 00184+ | 836 90712 | 858 30712 38106+ | 56542 62976 | 0 | **23** |
| | 10 | 91 50301 90896+ | 854 54291 | 810 74169 75130+ | 55173 91364+ | 50 | |
| | 20 | 0,33696 90156 45187+ | 872 18210+ | 763 18995 83766 | 53805 81057 | 40 | |
| | 30 | 0,33702 30028 63398 | 889 82470 | 715 65190 02709+ | 52438 32016+ | 30 | |
| | 40 | 07 69918 45867+ | 907 47069+ | 668 12751 70692+ | 51071 44207+ | 20 | |
| | 50 | 13 09825 92937 | 925 12009+ | 620 61680 26485 | 49705 17593 | 10 | |
| **38** | 0 | 18 49751 04947 | 942 77290 | 573 11975 08892+ | 48339 52136 | 0 | **22** |
| | 10 | 23 89693 82237 | 960 42911 | 525 63635 56756+ | 46974 47800+ | 50 | |
| | 20 | 29 29654 25148 | 978 08872 | 478 16661 08956 | 45610 04550+ | 40 | |
| | 30 | 34 69632 34020 | 5 39995 75174 | 430 71051 04405+ | 44246 22348+ | 30 | |
| | 40 | 40 09628 09194 | 5 40013 41816+ | 383 26804 82057 | 42883 01159+ | 20 | |
| | 50 | 45 49641 51010 | 031 08799 | 335 83921 80897+ | 41520 40946 | 10 | |
| **39** | 0 | 50 89672 59809+ | 048 76122+ | 288 42401 39951+ | 40158 41672+ | 0 | **21** |
| | 10 | 56 29721 35932 | 066 43787 | 241 02242 98279 | 38797 03302 | 50 | |
| | 20 | 61 69787 79719 | 084 11791+ | 193 63445 94976+ | 37436 25799 | 40 | |
| | 30 | 67 09871 91510+ | 101 80137 | 146 26009 69177+ | 36076 09127 | 30 | |
| | 40 | 72 49973 71647+ | 119 48823+ | 098 89933 60050+ | 34716 53249+ | 20 | |
| | 50 | 77 90093 20471 | 5 40137 17850+ | 051 55217 06801 | 47 33357 58130+ | 10 | |
| **40** | 0 | 0,33783 30230 38321 | | 2,96004 21859 48671 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,33783 30230 38321 | 5 40154 87218+ | 2,96004 21859 48671 | 47 31999 23733+ | 0 | **20** |
| | 10 | 88 70385 25539+ | 172 56927 | 2,95956 89860 24937 | 30641 50023 | 50 | |
| | 20 | 94 10557 82466+ | 190 26977 | 909 59218 74914 | 29284 36963 | 40 | |
| | 30 | 0,33799 50748 09443+ | 207 97367+ | 862 29934 37951 | 27927 84516+ | 30 | |
| | 40 | 0,33804 90956 06811 | 225 68099 | 815 02006 53434+ | 26571 92648+ | 20 | |
| | 50 | 10 31181 74910 | 243 39172 | 767 75434 60786 | 25216 61322+ | 10 | |
| **41** | 0 | 15 71425 14082 | 261 10585+ | 720 50217 99463+ | 23861 90502+ | 0 | **19** |
| | 10 | 21 11686 24667+ | 278 82340+ | 673 26356 08961 | 22507 80152 | 50 | |
| | 20 | 26 51965 07008 | 296 54436+ | 626 03848 28809 | 21154 30236 | 40 | |
| | 30 | 31 92261 61444+ | 314 26873+ | 578 82693 98572+ | 19801 40718+ | 30 | |
| | 40 | 37 32575 88318 | 331 99652 | 531 62892 57854 | 18449 11563 | 20 | |
| | 50 | 42 72907 87970 | 349 72771+ | 484 44443 46291 | 17097 42734 | 10 | |
| **42** | 0 | 48 13257 60742 | 367 46232+ | 437 27346 03557 | 15746 34196 | 0 | **18** |
| | 10 | 53 53625 06974+ | 385 20035 | 390 11599 69361 | 14395 85912+ | 50 | |
| | 20 | 58 94010 27009+ | 402 94179 | 342 97203 83448 | 13045 97848+ | 40 | |
| | 30 | 64 34413 21188+ | 420 68664 | 295 84157 85600 | 11696 69967+ | 30 | |
| | 40 | 69 74833 89852 | 438 43490+ | 248 72461 15632+ | 10348 02234 | 20 | |
| | 50 | 75 15272 33342+ | 456 18658+ | 201 62113 13398+ | 08999 94612+ | 10 | |
| **43** | 0 | 80 55728 52001+ | 473 94168 | 154 53113 18786+ | 07652 47067 | 0 | **17** |
| | 10 | 85 96202 46169+ | 491 70019+ | 107 45460 71719 | 06305 59562+ | 50 | |
| | 20 | 91 36694 16189 | 509 46212+ | 060 39155 12156+ | 04959 32063 | 40 | |
| | 30 | 0,33896 77203 62401+ | 527 22747 | 2,95013 34195 80093+ | 03613 64532+ | 30 | |
| | 40 | 0,33902 17730 85148 | 544 99623 | 2,94966 30582 15561 | 02268 56936 | 20 | |
| | 50 | 07 58275 84771 | 562 76841 | 919 28313 58625 | 47 00924 09238 | 10 | |
| **44** | 0 | 12 98838 61612 | 580 54400+ | 872 27389 49387 | 46 99580 21402+ | 0 | **16** |
| | 10 | 18 39419 16012+ | 598 32302 | 825 27809 27984+ | 98236 93394+ | 50 | |
| | 20 | 23 80017 48314+ | 616 10545+ | 778 29572 34590 | 96894 25178+ | 40 | |
| | 30 | 29 20633 58860 | 633 89130+ | 731 32678 09411+ | 95552 16718+ | 30 | |
| | 40 | 34 61267 47991 | 651 68058 | 684 37125 92693 | 94210 67979+ | 20 | |
| | 50 | 40 01919 16049 | 669 47327 | 637 42915 24713+ | 92869 78926+ | 10 | |
| **45** | 0 | 45 42588 63376 | 687 26938 | 590 50045 45787+ | 91529 49523+ | 0 | **15** |
| | 10 | 50 83275 90314 | 705 06891+ | 543 58515 96264 | 90189 79735 | 50 | |
| | 20 | 56 23980 97205+ | 722 87186+ | 496 68326 16529 | 88850 69527 | 40 | |
| | 30 | 61 64703 84392 | 740 67824 | 449 79475 47002 | 87512 18863 | 30 | |
| | 40 | 67 05444 52216+ | 758 48804 | 402 91963 28139 | 86174 27708 | 20 | |
| | 50 | 72 46203 01020 | 776 30125+ | 356 05789 00431+ | 84836 96026+ | 10 | |
| **46** | 0 | 77 86979 31145+ | 794 11789+ | 309 20952 04404+ | 83500 23784+ | 0 | **14** |
| | 10 | 83 27773 42935+ | 811 93796 | 262 37451 80620+ | 82164 10945+ | 50 | |
| | 20 | 88 68585 36731 | 829 76144+ | 215 55287 69674+ | 80828 57475 | 40 | |
| | 30 | 94 09415 12876 | 847 58835+ | 168 74459 12199+ | 79493 63338 | 30 | |
| | 40 | 0,33999 50262 71711+ | 865 41869 | 121 94965 48862 | 78159 28498+ | 20 | |
| | 50 | 0,34004 91128 13580+ | 883 25245 | 075 16806 20363 | 76825 52923 | 10 | |
| **47** | 0 | 10 32011 38825+ | 901 08963 | 2,94028 39980 67440+ | 75492 36575 | 0 | **13** |
| | 10 | 15 72912 47788+ | 918 93024 | 2,93981 64488 30865+ | 74159 79420 | 50 | |
| | 20 | 21 13831 40812+ | 936 77427+ | 934 90328 51445+ | 72827 81423 | 40 | |
| | 30 | 26 54768 18240 | 954 62173+ | 888 17500 70022+ | 71496 42549+ | 30 | |
| | 40 | 31 95722 80413+ | 972 47262 | 841 46004 27473 | 70165 62764 | 20 | |
| | 50 | 37 36695 27675+ | 5 40990 32693+ | 794 75838 64709+ | 68835 42031+ | 10 | |
| **48** | 0 | 42 77685 60369+ | 5 41008 18467+ | 748 07003 22678 | 67505 80317+ | 0 | **12** |
| | 10 | 48 18693 78837 | 026 04584+ | 701 39497 42360+ | 66176 77587 | 50 | |
| | 20 | 53 59719 83421 | 043 91044 | 654 73320 64773+ | 64848 33805 | 40 | |
| | 30 | 59 00763 74465 | 061 77846+ | 608 08472 30968+ | 63520 48937 | 30 | |
| | 40 | 64 41825 52311+ | 079 64991+ | 561 44951 82031+ | 62193 22948 | 20 | |
| | 50 | 69 82905 17303+ | 097 52480 | 514 82758 59083+ | 60866 55803+ | 10 | |
| **49** | 0 | 75 24002 69783+ | 115 40311 | 468 21892 03280 | 59540 47468+ | 0 | **11** |
| | 10 | 80 65118 10094+ | 133 28485+ | 421 62351 55811+ | 58214 97908+ | 50 | |
| | 20 | 86 06251 38580 | 151 17002+ | 375 04136 57903 | 56890 07088+ | 40 | |
| | 30 | 91 47402 55582+ | 169 05863 | 328 47246 50815 | 55565 74974 | 30 | |
| | 40 | 0,34096 88571 61445 | 186 95066 | 281 91680 75841 | 54242 01530+ | 20 | |
| | 50 | 0,34102 29758 56511+ | 5 41204 84613 | 235 37438 74310+ | 46 52918 86723 | 10 | |
| **50** | 0 | 0,34107 70963 41124 | | 2,93188 84519 87587+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 18°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,34107 70963 41124 | 5 41222 74502+ | 2,93188 84519 87587+ | 46 51596 30517+ | 0 | **10** |
| | 10 | 13 12186 15626+ | 240 64735+ | 142 32923 57070 | 50274 32879 | 50 | |
| | 20 | 18 53426 80362 | 258 55311+ | 095 82649 24191 | 48952 93773+ | 40 | |
| | 30 | 23 94685 35674 | 276 46231+ | 049 33696 30417+ | 47632 13166 | 30 | |
| | 40 | 29 35961 81905 | 294 37494 | 2,93002 86064 17251+ | 46311 91022 | 20 | |
| | 50 | 34 77256 19399+ | 312 29100+ | 2,92956 39752 26229+ | 44992 27307+ | 10 | |
| **51** | 0 | 40 18568 48500 | 330 21050 | 909 94759 98922+ | 43673 21987+ | 0 | **9** |
| | 10 | 45 59898 69550 | 348 13343+ | 863 51086 76935 | 42354 75028 | 50 | |
| | 20 | 51 01246 82893+ | 366 05980 | 817 08732 01907 | 41036 86394+ | 40 | |
| | 30 | 56 42612 88873+ | 383 98960+ | 770 67695 15512+ | 39719 56052+ | 30 | |
| | 40 | 61 83996 87833+ | 401 92284 | 724 27975 59460 | 38402 83968 | 20 | |
| | 50 | 67 25398 80118 | 419 85951+ | 677 89572 75492 | 37086 70106+ | 10 | |
| **52** | 0 | 72 66818 66069+ | 437 79962+ | 631 52486 05385 | 35771 14434 | 0 | **8** |
| | 10 | 78 08256 46032 | 455 74317+ | 585 16714 90951 | 34456 16916 | 50 | |
| | 20 | 83 49712 20349+ | 473 69016 | 538 82258 74035 | 33141 77518 | 40 | |
| | 30 | 88 91185 89365+ | 491 64058+ | 492 49116 96517 | 31827 96206+ | 30 | |
| | 40 | 94 32677 53424 | 509 59444+ | 446 17289 00310+ | 30514 72946+ | 20 | |
| | 50 | 0,34199 74187 12868+ | 527 55174+ | 399 86774 27364 | 29202 07704+ | 10 | |
| **53** | 0 | 0,34205 15714 68043 | 545 51248+ | 353 57572 19659+ | 27890 00446 | 0 | **7** |
| | 10 | 10 57260 19291+ | 563 47666+ | 307 29682 19213+ | 26578 51137+ | 50 | |
| | 20 | 15 98823 66958 | 581 44428+ | 261 03103 68076+ | 25267 59744 | 40 | |
| | 30 | 21 40405 11386+ | 599 41534 | 214 77836 08332+ | 23957 26232 | 30 | |
| | 40 | 26 82004 52920+ | 617 38984 | 168 53878 82100+ | 22647 50567+ | 20 | |
| | 50 | 32 23621 91905 | 635 36778 | 122 31231 31533 | 21338 32716+ | 10 | |
| **54** | 0 | 37 65257 28683 | 653 34916+ | 076 09892 98816+ | 20029 72645 | 0 | **6** |
| | 10 | 43 06910 63599+ | 671 33399 | 2,92029 89863 26171+ | 18721 70318+ | 50 | |
| | 20 | 48 48581 96998+ | 689 32225+ | 2,91983 71141 55853 | 17414 25704 | 40 | |
| | 30 | 53 90271 29223+ | 707 31396+ | 937 53727 30149 | 16107 38767+ | 30 | |
| | 40 | 59 31978 60620 | 725 30911+ | 891 37619 91381+ | 14801 09474 | 20 | |
| | 50 | 64 73703 91531+ | 743 30771 | 845 22818 81907+ | 13495 37791 | 10 | |
| **55** | 0 | 70 15447 22302+ | 761 30975 | 799 09323 44116+ | 12190 23684 | 0 | **5** |
| | 10 | 75 57208 53277 | 779 31523 | 752 97133 20432 | 10885 67119+ | 50 | |
| | 20 | 80 98987 84800+ | 797 32416 | 706 86247 53313 | 09581 68063+ | 40 | |
| | 30 | 86 40785 17216+ | 815 33653 | 660 76665 85249+ | 08278 26482 | 30 | |
| | 40 | 91 82600 50869+ | 833 35235 | 614 68387 58767+ | 06975 42342 | 20 | |
| | 50 | 0,34297 24433 86104+ | 851 37161+ | 568 61412 16425+ | 05673 15609 | 10 | |
| **56** | 0 | 0,34302 66285 23266 | 869 39432+ | 522 55739 00816+ | 04371 46250 | 0 | **4** |
| | 10 | 08 08154 62698+ | 887 42048 | 476 51367 54566+ | 03070 34231 | 50 | |
| | 20 | 13 50042 04746+ | 905 45008+ | 430 48297 20335+ | 01769 79518+ | 40 | |
| | 30 | 18 91947 49755 | 923 48313+ | 384 46527 40817 | 46 00469 82078+ | 30 | |
| | 40 | 24 33870 98068+ | 941 51963+ | 338 46057 58738+ | 45 99170 41878 | 20 | |
| | 50 | 29 75812 50032 | 959 55958 | 292 46887 16860 | 97871 58883+ | 10 | |
| **57** | 0 | 35 17772 05990 | 977 60297+ | 246 49015 57976+ | 96573 33061 | 0 | **3** |
| | 10 | 40 59749 66287+ | 5 41995 64982 | 200 52442 24916 | 95275 64377 | 50 | |
| | 20 | 46 01745 31270 | 5 42013 70011+ | 154 57166 60539 | 93978 52798+ | 40 | |
| | 30 | 51 43759 01281+ | 031 75386 | 108 63188 07740+ | 92681 98291+ | 30 | |
| | 40 | 56 85790 76667+ | 049 81105+ | 062 70506 09449 | 91386 00823 | 20 | |
| | 50 | 62 27840 57773 | 067 87170 | 2,91016 79120 08626 | 90090 60359 | 10 | |
| **58** | 0 | 67 69908 44942+ | 085 93579+ | 2,90970 89029 48267 | 88795 76867 | 0 | **2** |
| | 10 | 73 11994 38522 | 104 00334 | 925 00233 71400 | 87501 50313 | 50 | |
| | 20 | 78 54098 38856+ | 122 07434 | 879 12732 21087 | 86207 80664 | 40 | |
| | 30 | 83 96220 46290+ | 140 14879 | 833 26524 40423 | 84914 67886+ | 30 | |
| | 40 | 89 38360 61169+ | 158 22669+ | 787 41609 72536+ | 83622 11947 | 20 | |
| | 50 | 0,34394 80518 83839 | 176 30805 | 741 57987 60589+ | 82330 12813 | 10 | |
| **59** | 0 | 0,34400 22695 14644 | 194 39286 | 695 75657 47776+ | 81038 70450+ | 0 | **1** |
| | 10 | 05 64889 53930 | 212 48112+ | 649 94618 77326+ | 79747 84826+ | 50 | |
| | 20 | 11 07102 02042+ | 230 57284+ | 604 14870 92500 | 78457 55908 | 40 | |
| | 30 | 16 49332 59327 | 248 66801+ | 558 36413 36592 | 77167 83661+ | 30 | |
| | 40 | 21 91581 26128+ | 266 76664+ | 512 59245 52930+ | 75878 68054+ | 20 | |
| | 50 | 27 33848 02792+ | 5 42284 86872+ | 466 83366 84876 | 45 74590 09053 | 10 | |
| **60** | 0 | 0,34432 76132 89665 | | 2,90421 08776 75823 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 71°

# 19°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,34432 76132 89665 | 5 42302 97426+ | 2,90421 08776 75823 | 45 73302 06625 | 0 | **60** |
| | 10 | 38 18435 87091+ | 321 08326 | 375 35474 69198 | 72014 60736 | 50 | |
| | 20 | 43 60756 95417+ | 339 19571 | 329 63460 08462 | 70727 71354+ | 40 | |
| | 30 | 49 03096 14988+ | 357 31162 | 283 92732 37107+ | 69441 38446+ | 30 | |
| | 40 | 54 45453 46150+ | 375 43098+ | 238 23290 98661 | 68155 61979+ | 20 | |
| | 50 | 59 87828 89249 | 393 55381 | 192 55135 36681+ | 66870 41920 | 10 | |
| **1** | 0 | 65 30222 44630 | 411 68009 | 146 88264 94761+ | 65585 78235+ | 0 | **59** |
| | 10 | 70 72634 12639+ | 429 80983 | 101 22679 16526 | 64301 70893 | 50 | |
| | 20 | 76 15063 93622+ | 447 94303 | 055 58377 45633+ | 63018 19859+ | 40 | |
| | 30 | 81 57511 87925+ | 466 07969 | 2,90009 95359 25774 | 61735 25102 | 30 | |
| | 40 | 86 99977 95894+ | 484 21981 | 2,89964 33624 00672 | 60452 86588 | 20 | |
| | 50 | 92 42462 17875+ | 502 36339 | 918 73171 14084+ | 59171 04284+ | 10 | |
| **2** | 0 | 0,34497 84964 54214 | 520 51042+ | 873 14000 09800 | 57889 78158+ | 0 | **58** |
| | 10 | 0,34503 27485 05257 | 538 66093 | 827 56110 31641 | 56609 08178 | 50 | |
| | 20 | 08 70023 71349+ | 556 81489 | 781 99501 23463+ | 55328 94309 | 40 | |
| | 30 | 14 12580 52838+ | 574 97231+ | 736 44172 29154 | 54049 36520 | 30 | |
| | 40 | 19 55155 50070 | 593 13320 | 690 90122 92634 | 52770 34777+ | 20 | |
| | 50 | 24 97748 63390 | 611 29755 | 645 37352 57856+ | 51491 89049 | 10 | |
| **3** | 0 | 30 40359 93145 | 629 46536 | 599 85860 68807+ | 50213 99302+ | 0 | **57** |
| | 10 | 35 82989 39681 | 647 63663+ | 554 35646 69505 | 48936 65504 | 50 | |
| | 20 | 41 25637 03344+ | 665 81137+ | 508 86710 04001 | 47659 87622 | 40 | |
| | 30 | 46 68302 84481+ | 683 98957+ | 463 39050 16379 | 46383 65624 | 30 | |
| | 40 | 52 10986 83439+ | 702 17124+ | 417 92666 50755 | 45107 99476+ | 20 | |
| | 50 | 57 53689 00564 | 720 35638 | 372 47558 51278+ | 43832 89147+ | 10 | |
| **4** | 0 | 62 96409 36202 | 738 54497+ | 327 03725 62130+ | 42558 34605 | 0 | **56** |
| | 10 | 68 39147 90699+ | 756 73704 | 281 61167 27526 | 41284 35815+ | 50 | |
| | 20 | 73 81904 64403+ | 774 93257 | 236 19882 91710+ | 40010 92747+ | 40 | |
| | 30 | 79 24679 57660+ | 793 13157 | 190 79871 98963 | 38738 05367+ | 30 | |
| | 40 | 84 67472 70817+ | 811 33403 | 145 41133 93595+ | 37465 73644 | 20 | |
| | 50 | 90 10284 04220+ | 829 53996+ | 100 03668 19951+ | 36193 97544+ | 10 | |
| **5** | 0 | 0,34595 53113 58217 | 847 74936+ | 054 67474 22407 | 34922 77036 | 0 | **55** |
| | 10 | 0,34600 95961 33153 | 865 96223 | 2,89009 32551 45371+ | 33652 12086+ | 50 | |
| | 20 | 06 38827 29376+ | 884 17856+ | 2,88963 98899 33284+ | 32382 02664 | 40 | |
| | 30 | 11 81711 47233 | 902 39837+ | 918 66517 30620+ | 31112 48736 | 30 | |
| | 40 | 17 24613 87070+ | 920 62165 | 873 35404 81884+ | 29843 50270 | 20 | |
| | 50 | 22 67534 49235 | 938 84839 | 828 05561 31615 | 28575 07234 | 10 | |
| **6** | 0 | 28 10473 34074+ | 957 07861 | 782 76986 24381 | 27307 19595+ | 0 | **54** |
| | 10 | 33 53430 41935 | 975 31229+ | 737 49679 04785+ | 26039 87322+ | 50 | |
| | 20 | 38 96405 73164+ | 5 42993 54945 | 692 23639 17463 | 24773 10383 | 40 | |
| | 30 | 44 39399 28109+ | 5 43011 79008 | 646 98866 07080 | 23506 88744+ | 30 | |
| | 40 | 49 82411 07117+ | 030 03418 | 601 75359 18336 | 22241 22374+ | 20 | |
| | 50 | 55 25441 10535 | 048 28175 | 556 53117 95961 | 20976 11242 | 10 | |
| **7** | 0 | 60 68489 38710+ | 066 53279+ | 511 32141 84719 | 19711 55314 | 0 | **53** |
| | 10 | 66 11555 91990 | 084 78731+ | 466 12430 29405 | 18447 54559 | 50 | |
| | 20 | 71 54640 70721+ | 103 04531 | 420 93982 74846 | 17184 08944+ | 40 | |
| | 30 | 76 97743 75252+ | 121 30677+ | 375 76798 65901+ | 15921 18438+ | 30 | |
| | 40 | 82 40865 05930 | 139 57171+ | 330 60877 47463 | 14658 83009+ | 20 | |
| | 50 | 87 84004 63101 | 157 84013 | 285 46218 64453+ | 13397 02624+ | 10 | |
| **8** | 0 | 93 27162 47114 | 176 11202 | 240 32821 61829 | 12135 77253 | 0 | **52** |
| | 10 | 0,34698 70338 58316 | 194 38738+ | 195 20685 84576 | 10875 06862 | 50 | |
| | 20 | 0,34704 13532 97054+ | 212 66622+ | 150 09810 77714 | 09614 91419+ | 40 | |
| | 30 | 09 56745 63677 | 230 94854+ | 105 00195 86294+ | 08355 30894+ | 30 | |
| | 40 | 14 99976 58531+ | 249 23434 | 059 91840 55400 | 07096 25254+ | 20 | |
| | 50 | 20 43225 81965+ | 267 52361 | 2,88014 84744 30145 | 05837 74468 | 10 | |
| **9** | 0 | 25 86493 34326+ | 285 81636 | 2,87969 78906 55677 | 04579 78503 | 0 | **51** |
| | 10 | 31 29779 15963 | 304 11259 | 924 74326 77174 | 03322 37327+ | 50 | |
| | 20 | 36 73083 27221+ | 322 41229+ | 879 71004 39847 | 02065 50910 | 40 | |
| | 30 | 42 16405 68451 | 340 71548 | 834 68938 88936+ | 45 00809 19219 | 30 | |
| | 40 | 47 59746 39999 | 359 02214+ | 789 68129 69718 | 44 99553 42222 | 20 | |
| | 50 | 53 03105 42213+ | 5 43377 33228+ | 744 68576 27496 | 44 98298 19888 | 10 | |
| **10** | 0 | 0,34758 46482 75442 | | 2,87699 70278 07608 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 70°

# 19°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,34758 46482 75442 | 5 43395 64591 | 2,87699 70278 07608 | 44 97043 52185 | 0 | **50** |
| | 10 | 63 89878 40033+ | 413 96301+ | 654 73234 55422+ | 95789 39082 | 50 | |
| | 20 | 69 33292 36335 | 432 28360 | 609 77445 16340+ | 94535 80546+ | 40 | |
| | 30 | 74 76724 64695 | 450 60766+ | 564 82909 35794+ | 93282 76547 | 30 | |
| | 40 | 80 20175 25461+ | 468 93521+ | 519 89626 59247 | 92030 27052+ | 20 | |
| | 50 | 85 63644 18983 | 487 26624+ | 474 97596 32195 | 90778 32031 | 10 | |
| **11** | 0 | 91 07131 45607 | 505 60075+ | 430 06818 00164 | 89526 91451 | 0 | **49** |
| | 10 | 0,34796 50637 05683 | 523 93875 | 385 17291 08713 | 88276 05281 | 50 | |
| | 20 | 0,34801 94160 99558 | 542 28023 | 340 29015 03432 | 87025 73489+ | 40 | |
| | 30 | 07 37703 27581 | 560 62519 | 295 41989 29942 | 85775 96045+ | 30 | |
| | 40 | 12 81263 90100 | 578 97364 | 250 56213 33896+ | 84526 72917 | 20 | |
| | 50 | 18 24842 87464 | 597 32557 | 205 71686 60980 | 83278 04072+ | 10 | |
| **12** | 0 | 23 68440 20021 | 615 68098+ | 160 88408 56907+ | 82029 89481 | 0 | **48** |
| | 10 | 29 12055 88119+ | 634 03988+ | 116 06378 67426+ | 80782 29110+ | 50 | |
| | 20 | 34 55689 92108 | 652 40227+ | 071 25596 38316 | 79535 22930+ | 40 | |
| | 30 | 39 99342 32335+ | 670 76814+ | 2,87026 46061 15385 | 78288 70909+ | 30 | |
| | 40 | 45 43013 09150 | 689 13750+ | 2,86981 67772 44475+ | 77042 73015+ | 20 | |
| | 50 | 50 86702 22900+ | 707 51035 | 936 90729 71460 | 75797 29218 | 10 | |
| **13** | 0 | 56 30409 73935+ | 725 88668+ | 892 14932 42242+ | 74552 39485 | 0 | **47** |
| | 10 | 61 74135 62604 | 744 26650+ | 847 40380 02757 | 73308 03786 | 50 | |
| | 20 | 67 17879 89254+ | 762 64981+ | 802 67071 98971 | 72064 22089+ | 40 | |
| | 30 | 72 61642 54236+ | 781 03661+ | 757 95007 76882 | 70820 94364 | 30 | |
| | 40 | 78 05423 57898 | 799 42690 | 713 24186 82518 | 69578 20578+ | 20 | |
| | 50 | 83 49223 00588 | 817 82068 | 668 54608 61939+ | 68336 00702 | 10 | |
| **14** | 0 | 88 93040 82656 | 836 21794+ | 623 86272 61237 | 67094 34703+ | 0 | **46** |
| | 10 | 94 36877 04450+ | 854 61870 | 579 19178 26533+ | 65853 22551+ | 50 | |
| | 20 | 0,34899 80731 66320+ | 873 02295 | 534 53325 03982 | 64612 64215 | 40 | |
| | 30 | 0,34905 24604 68615+ | 891 43069 | 489 88712 39767 | 63372 59663+ | 30 | |
| | 40 | 10 68496 11684+ | 909 84191+ | 445 25339 80103+ | 62133 08865 | 20 | |
| | 50 | 16 12405 95876 | 928 25664 | 400 63206 71238+ | 60894 11789 | 10 | |
| **15** | 0 | 21 56334 21540 | 946 67485+ | 356 02312 59449+ | 59655 68405 | 0 | **45** |
| | 10 | 27 00280 89025+ | 965 09656 | 311 42656 91044+ | 58417 78681 | 50 | |
| | 20 | 32 44245 98681 | 5 43983 52176 | 266 84239 12363+ | 57180 42587 | 40 | |
| | 30 | 37 88229 50857 | 5 44001 95045+ | 222 27058 69776+ | 55943 60091+ | 30 | |
| | 40 | 43 32231 45902+ | 020 38264 | 177 71115 09685 | 54707 31163+ | 20 | |
| | 50 | 48 76251 84166+ | 038 81832 | 133 16407 78522 | 53471 55772+ | 10 | |
| **16** | 0 | 54 20290 65998+ | 057 25750 | 088 62936 22749+ | 52236 33887+ | 0 | **44** |
| | 10 | 59 64347 91748+ | 075 70017 | 2,86044 10699 88862 | 51001 65477+ | 50 | |
| | 20 | 65 08423 61765 | 094 14633+ | 2,85999 59698 23384+ | 49767 50512 | 40 | |
| | 30 | 70 52517 76399 | 112 59600 | 955 09930 72872+ | 48533 88960 | 30 | |
| | 40 | 75 96630 35998+ | 131 04916 | 910 61396 83912 | 47300 80791 | 20 | |
| | 50 | 81 40761 40914+ | 149 50581+ | 866 14096 03121 | 46068 25974 | 10 | |
| **17** | 0 | 86 84910 91496 | 167 96596+ | 821 68027 77147+ | 44836 24478 | 0 | **43** |
| | 10 | 92 29078 88092+ | 186 42962 | 777 23191 52669+ | 43604 76273 | 50 | |
| | 20 | 0,34997 73265 31054+ | 204 89676+ | 732 79586 76396+ | 42373 81327+ | 40 | |
| | 30 | 0,35003 17470 20731 | 223 36741+ | 688 37212 95069 | 41143 39611+ | 30 | |
| | 40 | 08 61693 57472+ | 241 84156 | 643 96069 55457+ | 39913 51094 | 20 | |
| | 50 | 14 05935 41628+ | 260 31920+ | 599 56156 04363+ | 38684 15744+ | 10 | |
| **18** | 0 | 19 50195 73549 | 278 80035 | 555 17471 88619 | 37455 33532+ | 0 | **42** |
| | 10 | 24 94474 53584 | 297 28499+ | 510 80016 55086+ | 36227 04427+ | 50 | |
| | 20 | 30 38771 82083+ | 315 77314 | 466 43789 50659+ | 34999 28398+ | 40 | |
| | 30 | 35 83087 59397+ | 334 26478+ | 422 08790 22261 | 33772 05415 | 30 | |
| | 40 | 41 27421 85876 | 352 75993+ | 377 75018 16845+ | 32545 35447+ | 20 | |
| | 50 | 46 71774 61869+ | 371 25858+ | 333 42472 81398+ | 31319 18464 | 10 | |
| **19** | 0 | 52 16145 87728 | 389 76073+ | 289 11153 62934 | 30093 54435+ | 0 | **41** |
| | 10 | 57 60535 63801+ | 408 26639 | 244 81060 08499 | 28868 43330+ | 50 | |
| | 20 | 63 04943 90440+ | 426 77554+ | 200 52191 65168+ | 27643 85119 | 40 | |
| | 30 | 68 49370 67995+ | 445 28820+ | 156 24547 80050 | 26419 79770 | 30 | |
| | 40 | 73 93815 96816 | 463 80437 | 111 98128 00279+ | 25196 27254+ | 20 | |
| | 50 | 79 38279 77253 | 5 44482 32404 | 067 72931 73025 | 44 23973 27541 | 10 | |
| **20** | 0 | 0,35084 82762 09657 | | 2,85023 48958 45484+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 70°

# 19°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,35084 82762 09657 | 5 44500 84721+ | 2,85023 48958 45484+ | 44 22750 80599+ | 0 | **40** |
| | 10 | 90 27262 94378+ | 519 37389 | 2,84979 26207 64885 | 21528 86399+ | 50 | |
| | 20 | 0,35095 71782 31767+ | 537 90407+ | 935 04678 78485+ | 20307 44911 | 40 | |
| | 30 | 0,35101 16320 22175 | 556 43776+ | 890 84371 33574+ | 19086 56103+ | 30 | |
| | 40 | 06 60876 65951+ | 574 97496 | 846 65284 77471 | 17866 19947 | 20 | |
| | 50 | 12 05451 63447+ | 593 51566 | 802 47418 57523+ | 16646 36411+ | 10 | |
| **21** | 0 | 17 50045 15013+ | 612 05987 | 758 30772 21112+ | 15427 05466 | 0 | **39** |
| | 10 | 22 94657 21000+ | 630 60758+ | 714 15345 15646+ | 14208 27081 | 50 | |
| | 20 | 28 39287 81759 | 649 15881 | 670 01136 88565+ | 12990 01226 | 40 | |
| | 30 | 33 83936 97640+ | 667 71354+ | 625 88146 87339+ | 11772 27871 | 30 | |
| | 40 | 39 28604 68995 | 686 27178+ | 581 76374 59469 | 10555 06985+ | 20 | |
| | 50 | 44 73290 96173+ | 704 83354 | 537 65819 52483 | 09338 38540+ | 10 | |
| **22** | 0 | 50 17995 79527+ | 723 39880 | 493 56481 13942+ | 08122 22504+ | 0 | **38** |
| | 10 | 55 62719 19407 | 741 96757 | 449 48358 91438 | 06906 58848+ | 50 | |
| | 20 | 61 07461 16164 | 760 53985 | 405 41452 32589+ | 05691 47542 | 40 | |
| | 30 | 66 52221 70149 | 779 11564 | 361 35760 85047+ | 04476 88555+ | 30 | |
| | 40 | 71 97000 81713 | 797 69494+ | 317 31283 96492 | 03262 81858 | 20 | |
| | 50 | 77 41798 51207+ | 816 27776 | 273 28021 14633+ | 02049 27420+ | 10 | |
| **23** | 0 | 82 86614 78983 | 834 86408+ | 229 25971 87213 | 44 00836 25213 | 0 | **37** |
| | 10 | 88 31449 65391+ | 853 45392+ | 185 25135 62000 | 43 99623 75205 | 50 | |
| | 20 | 93 76303 10784 | 872 04727+ | 141 25511 86795 | 98411 77367 | 40 | |
| | 30 | 0,35199 21175 15511+ | 890 64414 | 097 27100 09428 | 97200 31669 | 30 | |
| | 40 | 0,35204 66065 79925+ | 909 24452 | 053 29899 77759 | 95989 38081 | 20 | |
| | 50 | 10 10975 04377+ | 927 84841 | 2,84009 33910 39678 | 94778 96573+ | 10 | |
| **24** | 0 | 15 55902 89219 | 946 45582 | 2,83965 39131 43105 | 93569 07116+ | 0 | **36** |
| | 10 | 21 00849 34800+ | 965 06674 | 921 45562 35988+ | 92359 69680 | 50 | |
| | 20 | 26 45814 41475 | 5 44983 68118 | 877 53202 66308+ | 91150 84234+ | 40 | |
| | 30 | 31 90798 09593 | 5 45002 29913+ | 833 62051 82073+ | 89942 50750+ | 30 | |
| | 40 | 37 35800 39506 | 020 92060+ | 789 72109 31323 | 88734 69198 | 20 | |
| | 50 | 42 80821 31566+ | 039 54559 | 745 83374 62125 | 87527 39547 | 10 | |
| **25** | 0 | 48 25860 86125+ | 058 17409+ | 701 95847 22578 | 86320 61768 | 0 | **35** |
| | 10 | 53 70919 03534+ | 076 80611+ | 658 09526 60810 | 85114 35832 | 50 | |
| | 20 | 59 15995 84146 | 095 44165 | 614 24412 24978 | 83908 61708 | 40 | |
| | 30 | 64 61091 28311+ | 114 08071 | 570 40503 63270 | 82703 39367+ | 30 | |
| | 40 | 70 06205 36382 | 132 72328+ | 526 57800 23902 | 81498 68781 | 20 | |
| | 50 | 75 51338 08710+ | 151 36938 | 482 76301 55121+ | 80294 49918 | 10 | |
| **26** | 0 | 80 96489 45648+ | 170 01899+ | 438 96007 05203+ | 79090 82749+ | 0 | **34** |
| | 10 | 86 41659 47548 | 188 67213 | 395 16916 22454+ | 77887 67245+ | 50 | |
| | 20 | 91 86848 14761 | 207 32878 | 351 39028 55208+ | 76685 03377+ | 40 | |
| | 30 | 0,35297 32055 47639 | 225 98896 | 307 62343 51831+ | 75482 91115 | 30 | |
| | 40 | 0,35302 77281 46534+ | 244 65265+ | 263 86860 60716+ | 74281 30429 | 20 | |
| | 50 | 08 22526 11800 | 263 31987 | 220 12579 30287+ | 73080 21289+ | 10 | |
| **27** | 0 | 13 67789 43787+ | 281 99061 | 176 39499 08998 | 71879 63668 | 0 | **33** |
| | 10 | 19 13071 42848+ | 300 66487+ | 132 67619 45330 | 70679 57534+ | 50 | |
| | 20 | 24 58372 09336 | 319 34266 | 088 96939 87795+ | 69480 02859+ | 40 | |
| | 30 | 30 03691 43602 | 338 02397 | 045 27459 84936 | 68280 99614 | 30 | |
| | 40 | 35 49029 45999 | 356 70880 | 2,83001 59178 85322 | 67082 47768+ | 20 | |
| | 50 | 40 94386 16879 | 375 39715+ | 2,82957 92096 37553+ | 65884 47293+ | 10 | |
| **28** | 0 | 46 39761 56595 | 394 08904 | 914 26211 90259+ | 64686 98160 | 0 | **32** |
| | 10 | 51 85155 65498+ | 412 78444+ | 870 61524 92099+ | 63490 00338+ | 50 | |
| | 20 | 57 30568 43943 | 431 48337+ | 826 98034 91761 | 62293 53800 | 40 | |
| | 30 | 62 75999 92280+ | 450 18583 | 783 35741 37961 | 61097 58515 | 30 | |
| | 40 | 68 21450 10864 | 468 89181+ | 739 74643 79446 | 59902 14454 | 20 | |
| | 50 | 73 66919 00045+ | 487 60132+ | 696 14741 64992 | 58707 21588+ | 10 | |
| **29** | 0 | 79 12406 60178 | 506 31436 | 652 56034 43404 | 57512 79888+ | 0 | **31** |
| | 10 | 84 57912 91614 | 525 03092+ | 608 98521 63515+ | 56318 89325+ | 50 | |
| | 20 | 90 03437 94707 | 543 75102 | 565 42202 74189+ | 55125 49870+ | 40 | |
| | 30 | 0,35395 48981 69808+ | 562 47464 | 521 87077 24319+ | 53932 61493+ | 30 | |
| | 40 | 0,35400 94544 17272+ | 581 20179 | 478 33144 62826 | 52740 24166 | 20 | |
| | 50 | 06 40125 37451+ | 5 45599 93246+ | 434 80404 38660 | 43 51548 37859 | 10 | |
| **30** | 0 | 0,35411 85725 30698 | | 2,82391 28856 00801 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,35411 85725 30698 | 5 45618 66667+ | 2,82391 28856 00801 | 43 50357 02543+ | 0 | **30** |
| | 10 | 17 31343 97365+ | 637 40441 | 347 78498 98257+ | 49166 18190 | 50 | |
| | 20 | 22 76981 37806+ | 656 14568 | 304 29332 80067+ | 47975 84769+ | 40 | |
| | 30 | 28 22637 52374+ | 674 89048 | 260 81356 95298 | 46786 02253+ | 30 | |
| | 40 | 33 68312 41422+ | 693 63881 | 217 34570 93044+ | 45596 70613 | 20 | |
| | 50 | 39 14006 05303+ | 712 39067 | 173 88974 22432 | 44407 89818+ | 10 | |
| **31** | 0 | 44 59718 44370+ | 731 14606+ | 130 44566 32613+ | 43219 59841+ | 0 | **29** |
| | 10 | 50 05449 58977 | 749 90499 | 087 01346 72772 | 42031 80652+ | 50 | |
| | 20 | 55 51199 49476 | 768 66745 | 043 59314 92119+ | 40844 52223+ | 40 | |
| | 30 | 60 96968 16221 | 787 43344 | 2,82000 18470 39895+ | 39657 74525+ | 30 | |
| | 40 | 66 42755 59565 | 806 20297 | 2,81956 78812 65370 | 38471 47529 | 20 | |
| | 50 | 71 88561 79862 | 824 97603 | 913 40341 17841 | 37285 71205+ | 10 | |
| **32** | 0 | 77 34386 77464+ | 843 75262+ | 870 03055 46635+ | 36100 45526+ | 0 | **28** |
| | 10 | 82 80230 52727 | 862 53275+ | 826 66955 01109+ | 34915 70462+ | 50 | |
| | 20 | 88 26093 06002 | 881 31642 | 783 32039 30647 | 33731 45985+ | 40 | |
| | 30 | 93 71974 37644 | 900 10362 | 739 98307 84661+ | 32547 72066 | 30 | |
| | 40 | 0,35499 17874 48006 | 918 89435+ | 696 65760 12595+ | 31364 48676 | 20 | |
| | 50 | 0,35504 63793 37441+ | 937 68863 | 653 34395 63919 | 30181 75786+ | 10 | |
| **33** | 0 | 10 09731 06304+ | 956 48644 | 610 04213 88132+ | 28999 53368+ | 0 | **27** |
| | 10 | 15 55687 54948+ | 975 28779 | 566 75214 34764 | 27817 81394 | 50 | |
| | 20 | 21 01662 83727+ | 5 45994 09267+ | 523 47396 53370 | 26636 59834 | 40 | |
| | 30 | 26 47656 92995 | 5 46012 90110 | 480 20759 93536 | 25455 88659+ | 30 | |
| | 40 | 31 93669 83105 | 031 71306+ | 436 95304 04877 | 24275 67842+ | 20 | |
| | 50 | 37 39701 54411+ | 050 52856+ | 393 71028 37034+ | 23095 97354 | 10 | |
| **34** | 0 | 42 85752 07268+ | 069 34761 | 350 47932 39681 | 21916 77165+ | 0 | **26** |
| | 10 | 48 31821 42029+ | 088 17019 | 307 26015 62515+ | 20738 07248+ | 50 | |
| | 20 | 53 77909 59048+ | 106 99631+ | 264 05277 55267 | 19559 87574+ | 40 | |
| | 30 | 59 24016 58680 | 125 82598 | 220 85717 67692+ | 18382 18115+ | 30 | |
| | 40 | 64 70142 41278 | 144 65918+ | 177 67335 49577 | 17204 98842 | 20 | |
| | 50 | 70 16287 07196 | 163 49593 | 134 50130 50735 | 16028 29726 | 10 | |
| **35** | 0 | 75 62450 56789 | 182 33622 | 091 34102 21009 | 14852 10739+ | 0 | **25** |
| | 10 | 81 08632 90411 | 201 18005 | 048 19250 10269+ | 13676 41853+ | 50 | |
| | 20 | 86 54834 08416 | 220 02742+ | 2,81005 05573 68416 | 12501 23040 | 40 | |
| | 30 | 92 01054 11158+ | 238 87834 | 2,80961 93072 45376 | 11326 54270 | 30 | |
| | 40 | 0,35597 47292 98992+ | 257 73280+ | 918 81745 91105+ | 10152 35516 | 20 | |
| | 50 | 0,35602 93550 72273 | 276 59081 | 875 71593 55589+ | 08978 66749 | 10 | |
| **36** | 0 | 08 39827 31354 | 295 45236 | 832 62614 88840+ | 07805 47941 | 0 | **24** |
| | 10 | 13 86122 76590 | 314 31745+ | 789 54809 40900 | 06632 79063+ | 50 | |
| | 20 | 19 32437 08335+ | 333 18609+ | 746 48176 61836+ | 05460 60088 | 40 | |
| | 30 | 24 78770 26945 | 352 05828+ | 703 42716 01748+ | 04288 90987 | 30 | |
| | 40 | 30 25122 32773+ | 370 93401+ | 660 38427 10761+ | 03117 71731+ | 20 | |
| | 50 | 35 71493 26175 | 389 81329+ | 617 35309 39030+ | 01947 02293+ | 10 | |
| **37** | 0 | 41 17883 07504+ | 408 69612+ | 574 33362 36737 | 43 00776 82645 | 0 | **23** |
| | 10 | 46 64291 77117 | 427 58250 | 531 32585 54092 | 42 99607 12757+ | 50 | |
| | 20 | 52 10719 35367 | 446 47242 | 488 32978 41334+ | 98437 92603 | 40 | |
| | 30 | 57 57165 82609+ | 465 36589+ | 445 34540 48731+ | 97269 22153+ | 30 | |
| | 40 | 63 03631 19198+ | 484 26291+ | 402 37271 26577+ | 96101 01381 | 20 | |
| | 50 | 68 50115 45490 | 503 16348+ | 359 41170 25196+ | 94933 30257 | 10 | |
| **38** | 0 | 73 96618 61838+ | 522 06760+ | 316 46236 94940 | 93766 08753+ | 0 | **22** |
| | 10 | 79 43140 68598+ | 540 97527 | 273 52470 86186+ | 92599 36842+ | 50 | |
| | 20 | 84 89681 66126 | 559 88649 | 230 59871 49344 | 91433 14495+ | 40 | |
| | 30 | 90 36241 54775 | 578 80126+ | 187 68438 34848+ | 90267 41685+ | 30 | |
| | 40 | 0,35695 82820 34901+ | 597 71958+ | 144 78170 93163 | 89102 18384 | 20 | |
| | 50 | 0,35701 29418 06860 | 616 64146 | 101 89068 74779+ | 87937 44562+ | 10 | |
| **39** | 0 | 06 76034 71006 | 635 56688+ | 059 01131 30217 | 86773 20193+ | 0 | **21** |
| | 10 | 12 22670 27694+ | 654 49586+ | 2,80016 14358 10023+ | 85609 45249+ | 50 | |
| | 20 | 17 69324 77281+ | 673 42840 | 2,79973 28748 64774 | 84446 19701+ | 40 | |
| | 30 | 23 15998 20121 | 692 36448+ | 930 44302 45072+ | 83283 43522+ | 30 | |
| | 40 | 28 62690 56569+ | 711 30412+ | 887 61019 01550 | 82121 16684+ | 20 | |
| | 50 | 34 09401 86982 | 5 46730 24732 | 844 78897 84865+ | 42 80959 39159 | 10 | |
| **40** | 0 | 0,35739 56132 11714 | | 2,79801 97938 45706+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,35739 56132 11714 | 5 46749 19407 | 2,79801 97938 45706+ | 42 79798 10919 | 0 | **20** |
| | 10 | 45 02881 31121 | 768 14437+ | 759 18140 34787+ | 78637 31936 | 50 | |
| | 20 | 50 49649 45558 | 787 09823+ | 716 39503 02851+ | 77477 02182+ | 40 | |
| | 30 | 55 96436 55381+ | 806 05565 | 673 62026 00669 | 76317 21631 | 30 | |
| | 40 | 61 43242 60946+ | 825 01662 | 630 85708 79038 | 75157 90253 | 20 | |
| | 50 | 66 90067 62608+ | 843 98115 | 588 10550 88785 | 73999 08021+ | 10 | |
| **41** | 0 | 72 36911 60724 | 862 94924 | 545 36551 80763+ | 72840 74908 | 0 | **19** |
| | 10 | 77 83774 55647+ | 881 92088+ | 502 63711 05855+ | 71682 90885+ | 50 | |
| | 20 | 83 30656 47736 | 900 89608+ | 459 92028 14969+ | 70525 55926 | 40 | |
| | 30 | 88 77557 37345 | 919 87485 | 417 21502 59043+ | 69368 70002 | 30 | |
| | 40 | 94 24477 24829+ | 938 85717 | 374 52133 89041+ | 68212 33085+ | 20 | |
| | 50 | 0,35799 71416 10546+ | 957 84305 | 331 83921 55956 | 67056 45149+ | 10 | |
| **42** | 0 | 0,35805 18373 94851+ | 976 83249 | 289 16865 10806+ | 65901 06165+ | 0 | **18** |
| | 10 | 10 65350 78100+ | 5 46995 82549 | 246 50964 04641+ | 64746 16106+ | 50 | |
| | 20 | 16 12346 60649+ | 5 47014 82205 | 203 86217 88535 | 63591 74945 | 40 | |
| | 30 | 21 59361 42854+ | 033 82217+ | 161 22626 13590 | 62437 82653 | 30 | |
| | 40 | 27 06395 25072 | 052 82586 | 118 60188 30937 | 61284 39203 | 20 | |
| | 50 | 32 53448 07658 | 071 83310+ | 075 98903 91734 | 60131 44568 | 10 | |
| **43** | 0 | 38 00519 90968+ | 090 84391+ | 2,79033 38772 47166 | 58978 98720+ | 0 | **17** |
| | 10 | 43 47610 75360 | 109 85828+ | 2,78990 79793 48445+ | 57827 01632+ | 50 | |
| | 20 | 48 94720 61188+ | 128 87622 | 948 21966 46813 | 56675 53276+ | 40 | |
| | 30 | 54 41849 48810+ | 147 89772 | 905 65290 93536+ | 55524 53625+ | 30 | |
| | 40 | 59 88997 38582 | 166 92278 | 863 09766 39911 | 54374 02652 | 20 | |
| | 50 | 65 36164 30860+ | 185 95141 | 820 55392 37258+ | 53224 00328+ | 10 | |
| **44** | 0 | 70 83350 26001+ | 204 98360 | 778 02168 36930 | 52074 46628 | 0 | **16** |
| | 10 | 76 30555 24361+ | 224 01936 | 735 50093 90302 | 50925 41522+ | 50 | |
| | 20 | 81 77779 26297+ | 243 05868+ | 692 99168 48780 | 49776 84984+ | 40 | |
| | 30 | 87 25022 32166 | 262 10157+ | 650 49391 63795 | 48628 76987+ | 30 | |
| | 40 | 92 72284 42323 | 281 14803 | 608 00762 86807+ | 47481 17504 | 20 | |
| | 50 | 0,35898 19565 57126 | 300 19805+ | 565 53281 69303+ | 46334 06506+ | 10 | |
| **45** | 0 | 0,35903 66865 76931+ | 319 25164+ | 523 06947 62797 | 45187 43967+ | 0 | **15** |
| | 10 | 09 14185 02096+ | 338 30880+ | 480 61760 18829+ | 44041 29860+ | 50 | |
| | 20 | 14 61523 32977 | 357 36953+ | 438 17718 88969+ | 42895 64157 | 40 | |
| | 30 | 20 08880 69930+ | 376 43383 | 395 74823 24812 | 41750 46831+ | 30 | |
| | 40 | 25 56257 13313+ | 395 50170 | 353 33072 77980+ | 40605 77855+ | 20 | |
| | 50 | 31 03652 63483+ | 414 57313+ | 310 92467 00125+ | 39461 57202 | 10 | |
| **46** | 0 | 36 51067 20796+ | 433 64814 | 268 53005 42923+ | 38317 84844+ | 0 | **14** |
| | 10 | 41 98500 85611 | 452 72671+ | 226 14687 58079 | 37174 60755 | 50 | |
| | 20 | 47 45953 58282+ | 471 80886+ | 183 77512 97323+ | 36031 84907+ | 40 | |
| | 30 | 52 93425 39169 | 490 89458+ | 141 41481 12416+ | 34889 57274 | 30 | |
| | 40 | 58 40916 28627+ | 509 98387+ | 099 06591 55142+ | 33747 77827+ | 20 | |
| | 50 | 63 88426 27015 | 529 07674 | 056 72843 77315 | 32606 46541 | 10 | |
| **47** | 0 | 69 35955 34689 | 548 17317+ | 2,78014 40237 30774 | 31465 63388 | 0 | **13** |
| | 10 | 74 83503 52006+ | 567 27318+ | 2,77972 08771 67386 | 30325 28341 | 50 | |
| | 20 | 80 31070 79325 | 586 37677 | 929 78446 39045 | 29185 41373 | 40 | |
| | 30 | 85 78657 17002 | 605 48392+ | 887 49260 97672 | 28046 02457 | 30 | |
| | 40 | 91 26262 65394+ | 624 59465+ | 845 21214 95215 | 26907 11566+ | 20 | |
| | 50 | 0,35996 73887 24860+ | 643 70896+ | 802 94307 83648+ | 25768 68674 | 10 | |
| **48** | 0 | 0,36002 21530 95756+ | 662 82684+ | 760 68539 14975 | 24630 73752+ | 0 | **12** |
| | 10 | 07 69193 78441 | 681 94830+ | 718 43908 41222+ | 23493 26776 | 50 | |
| | 20 | 13 16875 73271+ | 701 07333+ | 676 20415 14446+ | 22356 27716+ | 40 | |
| | 30 | 18 64576 80605 | 720 20194+ | 633 98058 86730 | 21219 76548 | 30 | |
| | 40 | 24 12297 00799+ | 739 33413+ | 591 76839 10182+ | 20083 73243 | 20 | |
| | 50 | 29 60036 34213 | 758 46990 | 549 56755 36939+ | 18948 17775 | 10 | |
| **49** | 0 | 35 07794 81203 | 777 60924 | 507 37807 19164+ | 17813 10117 | 0 | **11** |
| | 10 | 40 55572 42127 | 796 75216 | 465 19994 09047+ | 16678 50243 | 50 | |
| | 20 | 46 03369 17343+ | 815 89866 | 423 03315 58804+ | 15544 38125 | 40 | |
| | 30 | 51 51185 07209+ | 835 04874 | 380 87771 20679+ | 14410 73737 | 30 | |
| | 40 | 56 99020 12083+ | 854 20240 | 338 73360 46942+ | 13277 57052 | 20 | |
| | 50 | 62 46874 32323+ | 5 47873 35964 | 296 60082 89890+ | 42 12144 88043+ | 10 | |
| **50** | 0 | 0,36067 94747 68287+ | | 2,77254 47938 01847 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 70°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,36067 94747 68287+ | 5 47892 52045+ | 2,77254 47938 01847 | 42 11012 66685 | 0 | **10** |
| | 10 | 73 42640 20333 | 911 68485+ | 212 36925 35162 | 09880 92949+ | 50 | |
| | 20 | 78 90551 88819 | 930 85284 | 170 27044 42212+ | 08749 66810 | 40 | |
| | 30 | 84 38482 74102+ | 950 02440 | 128 18294 75402+ | 07618 88240+ | 30 | |
| | 40 | 89 86432 76543 | 969 19954+ | 086 10675 87162+ | 06488 57214 | 20 | |
| | 50 | 0,36095 34401 96497+ | 5 47988 37827+ | 044 04187 29948+ | 05358 73704 | 10 | |
| **51** | 0 | 0,36100 82390 34325 | 5 48007 56058+ | 2,77001 98828 56244+ | 04229 37683+ | 0 | **9** |
| | 10 | 06 30397 90383+ | 026 74648 | 2,76959 94599 18561 | 03100 49127 | 50 | |
| | 20 | 11 78424 65031+ | 045 93596 | 917 91498 69434 | 01972 08007 | 40 | |
| | 30 | 17 26470 58627+ | 065 12902 | 875 89526 61427 | 42 00844 14297+ | 30 | |
| | 40 | 22 74535 71529+ | 084 32567 | 833 88682 47129+ | 41 99716 67971+ | 20 | |
| | 50 | 28 22620 04096 | 103 52590 | 791 88965 79158 | 98589 69003 | 10 | |
| **52** | 0 | 33 70723 56686 | 122 72972 | 749 90376 10155 | 97463 17365 | 0 | **8** |
| | 10 | 39 18846 29658 | 141 93712+ | 707 92912 92789+ | 96337 13032 | 50 | |
| | 20 | 44 66988 23370+ | 161 14811+ | 665 96575 79758 | 95211 55976+ | 40 | |
| | 30 | 50 15149 38182 | 180 36269 | 624 01364 23781+ | 94086 46172+ | 30 | |
| | 40 | 55 63329 74451 | 199 58085+ | 582 07277 77609+ | 92961 83593+ | 20 | |
| | 50 | 61 11529 32537 | 218 80261 | 540 14315 94016 | 91837 68213+ | 10 | |
| **53** | 0 | 66 59748 12798 | 238 02795 | 498 22478 25802+ | 90714 00005+ | 0 | **7** |
| | 10 | 72 07986 15593 | 257 25688 | 456 31764 25797 | 89590 78943+ | 50 | |
| | 20 | 77 56243 41281 | 276 48940 | 414 42173 46853+ | 88468 05001+ | 40 | |
| | 30 | 83 04519 90221+ | 295 72551 | 372 53705 41852 | 87345 78153 | 30 | |
| | 40 | 88 52815 62772 | 314 96521 | 330 66359 63699 | 86223 98371+ | 20 | |
| | 50 | 94 01130 59293 | 334 20849+ | 288 80135 65327+ | 85102 65630+ | 10 | |
| **54** | 0 | 0,36199 49464 80142+ | 353 45537+ | 246 95032 99697 | 83981 79904+ | 0 | **6** |
| | 10 | 0,36204 97818 25680 | 372 70584+ | 205 11051 19793 | 82861 41166+ | 50 | |
| | 20 | 10 46190 96265 | 391 95991 | 163 28189 78626+ | 81741 49390+ | 40 | |
| | 30 | 15 94582 92256 | 411 21756+ | 121 46448 29235+ | 80622 04551 | 30 | |
| | 40 | 21 42994 14012+ | 430 47881 | 079 65826 24684+ | 79503 06621 | 20 | |
| | 50 | 26 91424 61893+ | 449 74365+ | 2,76037 86323 18063+ | 78384 55574+ | 10 | |
| **55** | 0 | 32 39874 36259 | 469 01208+ | 2,75996 07938 62489 | 77266 51385+ | 0 | **5** |
| | 10 | 37 88343 37467+ | 488 28411+ | 954 30672 11103+ | 76148 94028 | 50 | |
| | 20 | 43 36831 65879 | 507 55973+ | 912 54523 17076 | 75031 83475+ | 40 | |
| | 30 | 48 85339 21853 | 526 83895+ | 870 79491 33600+ | 73915 19702 | 30 | |
| | 40 | 54 33866 05748 | 546 12176+ | 829 05576 13898 | 72799 02682 | 20 | |
| | 50 | 59 82412 17924+ | 565 40817+ | 787 32777 11216+ | 71683 32389 | 10 | |
| **56** | 0 | 65 30977 58742 | 584 69817+ | 745 61093 78827+ | 70568 08796+ | 0 | **4** |
| | 10 | 70 79562 28559+ | 603 99177+ | 703 90525 70031 | 69453 31879+ | 50 | |
| | 20 | 76 28166 27737 | 623 28897+ | 662 21072 38151+ | 68339 01611 | 40 | |
| | 30 | 81 76789 56634+ | 642 58977 | 620 52733 36540+ | 67225 17966 | 30 | |
| | 40 | 87 25432 15611 | 661 89416 | 578 85508 18575 | 66111 80917+ | 20 | |
| | 50 | 92 74094 05027 | 681 20215 | 537 19396 37657+ | 64998 90440+ | 10 | |
| **57** | 0 | 0,36298 22775 25242 | 700 51374 | 495 54397 47217 | 63886 46508+ | 0 | **3** |
| | 10 | 0,36303 71475 76616 | 719 82892+ | 453 90511 00708+ | 62774 49095+ | 50 | |
| | 20 | 09 20195 59509 | 739 14771+ | 412 27736 51613 | 61662 98176+ | 40 | |
| | 30 | 14 68934 74280 | 758 47010 | 370 66073 53436+ | 60551 93724+ | 30 | |
| | 40 | 20 17693 21290+ | 777 79609 | 329 05521 59712 | 59441 35714+ | 20 | |
| | 50 | 25 66471 00899+ | 797 12568 | 287 46080 23997+ | 58331 24120 | 10 | |
| **58** | 0 | 31 15268 13467 | 816 45887 | 245 87748 99877+ | 57221 58915+ | 0 | **2** |
| | 10 | 36 64084 59354 | 835 79566 | 204 30527 40961+ | 56112 40075+ | 50 | |
| | 20 | 42 12920 38920 | 855 13605+ | 162 74415 00886 | 55003 67574 | 40 | |
| | 30 | 47 61775 52525+ | 874 48005 | 121 19411 33312 | 53895 41385 | 30 | |
| | 40 | 53 10650 00530+ | 893 82765 | 079 65515 91927+ | 52787 61482+ | 20 | |
| | 50 | 58 59543 83295+ | 913 17885 | 2,75038 12728 30444+ | 51680 27842 | 10 | |
| **59** | 0 | 64 08457 01180+ | 932 53366 | 2,74996 61048 02603 | 50573 40436+ | 0 | **1** |
| | 10 | 69 57389 54546+ | 951 89207 | 955 10474 62166+ | 49466 99240+ | 50 | |
| | 20 | 75 06341 43753+ | 971 25408+ | 913 61007 62926 | 48361 04229 | 40 | |
| | 30 | 80 55312 69162 | 5 48990 61970+ | 872 12646 58697 | 47255 55376 | 30 | |
| | 40 | 86 04303 31132+ | 5 49009 98893+ | 830 65391 03321 | 46150 52656 | 20 | |
| | 50 | 91 53313 30026 | 5 49029 36176+ | 789 19240 50665 | 41 45045 96043 | 10 | |
| **60** | 0 | 0,36397 02342 66202+ | | 2,74747 74194 54622+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 70°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,36397 02342 66202+ | 5 49048 73820+ | 2,74747 74194 54622+ | 41 43941 85511+ | 0 | **60** |
| | 10 | 0,36402 51391 40023 | 068 11825 | 706 30252 69111 | 42838 21036 | 50 | |
| | 20 | 08 00459 51848 | 087 50190+ | 664 87414 48075 | 41735 02591 | 40 | |
| | 30 | 13 49547 02038 | 106 88916+ | 623 45679 45484 | 40632 30151 | 30 | |
| | 40 | 18 98653 90954+ | 126 28003+ | 582 05047 15333 | 39530 03690+ | 20 | |
| | 50 | 24 47780 18958 | 145 67451 | 540 65517 11642+ | 38428 23183+ | 10 | |
| **1** | 0 | 29 96925 86409 | 165 07260 | 499 27088 88459 | 37326 88605 | 0 | **59** |
| | 10 | 35 46090 93669 | 184 47429+ | 457 89761 99854 | 36225 99929+ | 50 | |
| | 20 | 40 95275 41098+ | 203 87960 | 416 53535 99924 | 35125 57131+ | 40 | |
| | 30 | 46 44479 29059 | 223 28852 | 375 18410 42792+ | 34025 60185+ | 30 | |
| | 40 | 51 93702 57910+ | 242 70104+ | 333 84384 82607 | 32926 09066 | 20 | |
| | 50 | 57 42945 28015+ | 262 11718+ | 292 51458 73541+ | 31827 03747+ | 10 | |
| **2** | 0 | 62 92207 39734 | 281 53693+ | 251 19631 69793+ | 30728 44205 | 0 | **58** |
| | 10 | 68 41488 93428 | 300 96030 | 209 88903 25588+ | 29630 30413 | 50 | |
| | 20 | 73 90789 89458 | 320 38727+ | 168 59272 95176 | 28532 62345+ | 40 | |
| | 30 | 79 40110 28185+ | 339 81786+ | 127 30740 32830 | 27435 39978 | 30 | |
| | 40 | 84 89450 09972 | 359 25206+ | 086 03304 92852 | 26338 63285 | 20 | |
| | 50 | 90 38809 35178+ | 378 68988+ | 044 76966 29567 | 25242 32241 | 10 | |
| **3** | 0 | 0,36495 88188 04167 | 398 13131+ | 2,74003 51723 97325+ | 24146 46821 | 0 | **57** |
| | 10 | 0,36501 37586 17298+ | 417 57636 | 2,73962 27577 50504+ | 23051 06999+ | 50 | |
| | 20 | 06 87003 74934+ | 437 02502 | 921 04526 43505 | 21956 12751 | 40 | |
| | 30 | 12 36440 77436+ | 456 47729+ | 879 82570 30754 | 20861 64051 | 30 | |
| | 40 | 17 85897 25166 | 475 93319 | 838 61708 66703 | 19767 60873+ | 20 | |
| | 50 | 23 35373 18485 | 495 39270 | 797 41941 05829+ | 18674 03193+ | 10 | |
| **4** | 0 | 28 84868 57754+ | 514 85582+ | 756 23267 02636 | 17580 90986+ | 0 | **56** |
| | 10 | 34 34383 43337 | 534 32256+ | 715 05686 11649+ | 16488 24226+ | 50 | |
| | 20 | 39 83917 75593+ | 553 79293 | 673 89197 87423 | 15396 02888+ | 40 | |
| | 30 | 45 33471 54886+ | 573 26691 | 632 73801 84534+ | 14304 26948 | 30 | |
| | 40 | 50 83044 81577+ | 592 74450+ | 591 59497 57587 | 13212 96379 | 20 | |
| | 50 | 56 32637 56028 | 612 22572+ | 550 46284 61208 | 12122 11157 | 10 | |
| **5** | 0 | 61 82249 78600+ | 631 71056 | 509 34162 50051 | 11031 71256+ | 0 | **55** |
| | 10 | 67 31881 49656+ | 651 19902 | 468 23130 78794+ | 09941 76653 | 50 | |
| | 20 | 72 81532 69558+ | 670 69109+ | 427 13189 02141+ | 08852 27321 | 40 | |
| | 30 | 78 31203 38668 | 690 18679+ | 386 04336 74820+ | 07763 23236 | 30 | |
| | 40 | 83 80893 57347+ | 709 68611+ | 344 96573 51584+ | 06674 64372 | 20 | |
| | 50 | 89 30603 25959 | 729 18905+ | 303 89898 87212 | 05586 50705 | 10 | |
| **6** | 0 | 0,36594 80332 44865 | 748 69562 | 262 84312 36507 | 04498 82210 | 0 | **54** |
| | 10 | 0,36600 30081 14427 | 768 20581 | 221 79813 54297 | 03411 58861+ | 50 | |
| | 20 | 05 79849 35008 | 787 71962 | 180 76401 95435+ | 02324 80634+ | 40 | |
| | 30 | 11 29637 06969+ | 807 23705 | 139 74077 14801 | 01238 47504+ | 30 | |
| | 40 | 16 79444 30675 | 826 75811 | 098 72838 67296+ | 41 00152 59446+ | 20 | |
| | 50 | 22 29271 06486 | 846 28279 | 057 72686 07850 | 40 99067 16435+ | 10 | |
| **7** | 0 | 27 79117 34765 | 865 81110 | 2,73016 73618 91414 | 97982 18447 | 0 | **53** |
| | 10 | 33 28983 15875 | 885 34303 | 2,72975 75636 72967 | 96897 65455+ | 50 | |
| | 20 | 38 78868 50178+ | 904 87859 | 934 78739 07511+ | 95813 57437 | 40 | |
| | 30 | 44 28773 38037+ | 924 41777+ | 893 82925 50074+ | 94729 94366 | 30 | |
| | 40 | 49 78697 79815 | 943 96058+ | 852 88195 55708+ | 93646 76217+ | 20 | |
| | 50 | 55 28641 75873+ | 963 50702+ | 811 94548 79491 | 92564 02967+ | 10 | |
| **8** | 0 | 60 78605 26576 | 5 49983 05709 | 771 01984 76523 | 91481 74591 | 0 | **52** |
| | 10 | 66 28588 32285 | 5 50002 61078+ | 730 10503 01932 | 90399 91063 | 50 | |
| | 20 | 71 78590 93363+ | 022 16810+ | 689 20103 10869+ | 89318 52359 | 40 | |
| | 30 | 77 28613 10174 | 041 72906 | 648 30784 58510+ | 88237 58454 | 30 | |
| | 40 | 82 78654 83080 | 061 29364 | 607 42547 00057 | 87157 09323+ | 20 | |
| | 50 | 88 28716 12444 | 080 86185 | 566 55389 90733+ | 86077 04942+ | 10 | |
| **9** | 0 | 93 78796 98629 | 100 43369 | 525 69312 85791 | 84997 45287 | 0 | **51** |
| | 10 | 0,36699 28897 41998 | 120 00916 | 484 84315 40504 | 83918 30332 | 50 | |
| | 20 | 0,36704 79017 42914 | 139 58826+ | 444 00397 10172 | 82839 60052+ | 40 | |
| | 30 | 10 29157 01740+ | 159 17100 | 403 17557 50119+ | 81761 34424+ | 30 | |
| | 40 | 15 79316 18840 | 178 75736+ | 362 35796 15695 | 80683 53423+ | 20 | |
| | 50 | 21 29494 94576+ | 5 50198 34736 | 321 55112 62271+ | 40 79606 17024 | 10 | |
| **10** | 0 | 0,36726 79693 29313 | | 2,72280 75506 45247+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,36726 79693 29313 | 5 50217 94099+ | 2,72280 75506 45247+ | 40 78529 25202+ | 0 | **50** |
| | 10 | 32 29911 23412 | 237 53826 | 239 96977 20045 | 77452 77933+ | 50 | |
| | 20 | 37 80148 77238 | 257 13915+ | 199 19524 42111+ | 76376 75193+ | 40 | |
| | 30 | 43 30405 91153+ | 276 74369 | 158 43147 66918 | 75301 16957 | 30 | |
| | 40 | 48 80682 65522+ | 296 35185+ | 117 67846 49961 | 74226 03200 | 20 | |
| | 50 | 54 30979 00708 | 315 96366 | 076 93620 46761+ | 73151 33898 | 10 | |
| **11** | 0 | 59 81294 97074 | 335 57909+ | 2,72036 20469 12863+ | 72077 09026+ | 0 | **49** |
| | 10 | 65 31630 54983+ | 355 19817 | 2,71995 48392 03837 | 71003 28561 | 50 | |
| | 20 | 70 81985 74800+ | 374 82088 | 954 77388 75275+ | 69929 92477+ | 40 | |
| | 30 | 76 32360 56888+ | 394 44723 | 914 07458 82798+ | 68857 00751 | 30 | |
| | 40 | 81 82755 01611+ | 414 07721 | 873 38601 82047+ | 67784 53357 | 20 | |
| | 50 | 87 33169 09332+ | 433 71083+ | 832 70817 28690+ | 66712 50272 | 10 | |
| **12** | 0 | 92 83602 80416 | 453 34809+ | 792 04104 78418+ | 65640 91470+ | 0 | **48** |
| | 10 | 0,36798 34056 15225+ | 472 98899+ | 751 38463 86948 | 64569 76929+ | 50 | |
| | 20 | 0,36803 84529 14125 | 492 63353 | 710 73894 10018+ | 63499 06623+ | 40 | |
| | 30 | 09 35021 77478 | 512 28171 | 670 10395 03395 | 62428 80528+ | 30 | |
| | 40 | 14 85534 05649 | 531 93352+ | 629 47966 22866+ | 61358 98620+ | 20 | |
| | 50 | 20 36065 99001+ | 551 58898+ | 588 86607 24246 | 60289 60875 | 10 | |
| **13** | 0 | 25 86617 57900 | 571 24808+ | 548 26317 63371 | 59220 67268 | 0 | **47** |
| | 10 | 31 37188 82708+ | 590 91082+ | 507 67096 96103 | 58152 17775 | 50 | |
| | 20 | 36 87779 73791 | 610 57720+ | 467 08944 78328 | 57084 12371+ | 40 | |
| | 30 | 42 38390 31511+ | 630 24723 | 426 51860 65956+ | 56016 51034 | 30 | |
| | 40 | 47 89020 56234+ | 649 92089+ | 385 95844 14922+ | 54949 33738 | 20 | |
| | 50 | 53 39670 48324+ | 669 59820+ | 345 40894 81184+ | 53882 60459 | 10 | |
| **14** | 0 | 58 90340 08145 | 689 27916 | 304 87012 20726 | 52816 31173 | 0 | **46** |
| | 10 | 64 41029 36061 | 708 96376 | 264 34195 89552+ | 51750 45856 | 50 | |
| | 20 | 69 91738 32437 | 728 65200 | 223 82445 43696+ | 50685 04484 | 40 | |
| | 30 | 75 42466 97637 | 748 34388+ | 183 31760 39212+ | 49620 07033 | 30 | |
| | 40 | 80 93215 32025+ | 768 03942 | 142 82140 32179+ | 48555 53478 | 20 | |
| | 50 | 86 43983 35967+ | 787 73859+ | 102 33584 78701+ | 47491 43796 | 10 | |
| **15** | 0 | 91 94771 09827 | 807 44142 | 061 86093 34905+ | 46427 77962+ | 0 | **45** |
| | 10 | 0,36897 45578 53969 | 827 14789 | 2,71021 39665 56943 | 45364 55953 | 50 | |
| | 20 | 0,36902 96405 68758 | 846 85801 | 2,70980 94301 00990 | 44301 77744+ | 40 | |
| | 30 | 08 47252 54559 | 866 57177+ | 940 49999 23246 | 43239 43312 | 30 | |
| | 40 | 13 98119 11736+ | 886 28919 | 900 06759 79934 | 42177 52632 | 20 | |
| | 50 | 19 49005 40655+ | 906 01025 | 859 64582 27302 | 41116 05680+ | 10 | |
| **16** | 0 | 24 99911 41680+ | 925 73496 | 819 23466 21621+ | 40055 02433+ | 0 | **44** |
| | 10 | 30 50837 15176+ | 945 46332 | 778 83411 19188 | 38994 42867 | 50 | |
| | 20 | 36 01782 61508+ | 965 19533 | 738 44416 76321 | 37934 26957 | 40 | |
| | 30 | 41 52747 81041 | 5 50984 93099 | 698 06482 49364 | 36874 54680 | 30 | |
| | 40 | 47 03732 74140 | 5 51004 67030 | 657 69607 94684 | 35815 26011+ | 20 | |
| | 50 | 52 54737 41170+ | 024 41326 | 617 33792 68673 | 34756 40928 | 10 | |
| **17** | 0 | 58 05761 82496+ | 044 15987+ | 576 99036 27744+ | 33697 99405+ | 0 | **43** |
| | 10 | 63 56805 98484 | 063 91014 | 536 65338 28339 | 32640 01420+ | 50 | |
| | 20 | 69 07869 89498 | 083 66406 | 496 32698 26918+ | 31582 46948+ | 40 | |
| | 30 | 74 58953 55904 | 103 42163 | 456 01115 79970 | 30525 35966+ | 30 | |
| | 40 | 80 10056 98067 | 123 18285+ | 415 70590 44003+ | 29468 68450 | 20 | |
| | 50 | 85 61180 16352+ | 142 94773 | 375 41121 75553+ | 28412 44375+ | 10 | |
| **18** | 0 | 91 12323 11125+ | 162 71626+ | 335 12709 31178 | 27356 63719+ | 0 | **42** |
| | 10 | 0,36996 63485 82752 | 182 48845 | 294 85352 67459 | 26301 26457+ | 50 | |
| | 20 | 0,37002 14668 31597 | 202 26429+ | 254 59051 41001+ | 25246 32566+ | 40 | |
| | 30 | 07 65870 58026+ | 222 04379 | 214 33805 08435 | 24191 82022+ | 30 | |
| | 40 | 13 17092 62405+ | 241 82694+ | 174 09613 26412+ | 23137 74802 | 20 | |
| | 50 | 18 68334 45100 | 261 61375+ | 133 86475 51610+ | 22084 10881 | 10 | |
| **19** | 0 | 24 19596 06475+ | 281 40422 | 093 64391 40729+ | 21030 90236 | 0 | **41** |
| | 10 | 29 70877 46898 | 301 19834+ | 053 43360 50493+ | 19978 12843+ | 50 | |
| | 20 | 35 22178 66732+ | 320 99613 | 2,70013 23382 37650 | 18925 78679+ | 40 | |
| | 30 | 40 73499 66345+ | 340 79757 | 2,69973 04456 58971 | 17873 87720+ | 30 | |
| | 40 | 46 24840 46102+ | 360 60267 | 932 86582 71250+ | 16822 39943 | 20 | |
| | 50 | 51 76201 06369+ | 5 51380 41143 | 892 69760 31307+ | 15771 35323+ | 10 | |
| **20** | 0 | 0,37057 27581 47512 | | 2,69852 53988 95984 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,37057 27581 47512 | 5 51400 22384+ | 2,69852 53988 95984 | 40 14720 73838 | 0 | **40** |
| | 10 | 62 78981 69896+ | 420 03992+ | 812 39268 22145+ | 13670 55464 | 50 | |
| | 20 | 68 30401 73889 | 439 85966+ | 772 25597 66682 | 12620 80176+ | 40 | |
| | 30 | 73 81841 59855+ | 459 68306+ | 732 12976 86505+ | 11571 47953 | 30 | |
| | 40 | 79 33301 28162 | 479 51012+ | 692 01405 38552+ | 10522 58769+ | 20 | |
| | 50 | 84 84780 79174+ | 499 34085 | 651 90882 79782+ | 09474 12603 | 10 | |
| **21** | 0 | 90 36280 13259 | 519 17523+ | 611 81408 67179+ | 08426 09429+ | 0 | **39** |
| | 10 | 0,37095 87799 30782+ | 539 01328 | 571 72982 57750 | 07378 49226 | 50 | |
| | 20 | 0,37101 39338 32110+ | 558 85499+ | 531 65604 08523+ | 06331 31969 | 40 | |
| | 30 | 06 90897 17610 | 578 70037 | 491 59272 76555 | 05284 57634+ | 30 | |
| | 40 | 12 42475 87647 | 598 54941 | 451 53988 18920+ | 04238 26199+ | 20 | |
| | 50 | 17 94074 42587+ | 618 40211 | 411 49749 92721 | 03192 37641 | 10 | |
| **22** | 0 | 23 45692 82799 | 638 25848 | 371 46557 55080 | 02146 91934+ | 0 | **38** |
| | 10 | 28 97331 08647 | 658 11851+ | 331 44410 63145+ | 01101 89058 | 50 | |
| | 20 | 34 48989 20498+ | 677 98221+ | 291 43308 74087+ | 40 00057 28987+ | 40 | |
| | 30 | 40 00667 18720 | 697 84958+ | 251 43251 45100 | 39 99013 11699+ | 30 | |
| | 40 | 45 52365 03678+ | 717 72061+ | 211 44238 33400+ | 97969 37171 | 20 | |
| | 50 | 51 04082 75740 | 737 59532 | 171 46268 96229+ | 96926 05378 | 10 | |
| **23** | 0 | 56 55820 35272 | 757 47368+ | 131 49342 90851+ | 95883 16298+ | 0 | **37** |
| | 10 | 62 07577 82640+ | 777 35572+ | 091 53459 74553 | 94840 69908+ | 50 | |
| | 20 | 67 59355 18213 | 797 24143 | 051 58619 04644+ | 93798 66184+ | 40 | |
| | 30 | 73 11152 42356 | 817 13080+ | 2,69011 64820 38460+ | 92757 05103+ | 30 | |
| | 40 | 78 62969 55436+ | 837 02385 | 2,68971 72063 33357 | 91715 86642+ | 20 | |
| | 50 | 84 14806 57821 | 856 92056 | 931 80347 46714+ | 90675 10778 | 10 | |
| **24** | 0 | 89 66663 49877+ | 876 82094+ | 891 89672 35937 | 89634 77486+ | 0 | **36** |
| | 10 | 0,37195 18540 31972 | 896 72500+ | 852 00037 58450 | 88594 86746 | 50 | |
| | 20 | 0,37200 70437 04472+ | 916 63273 | 812 11442 71704+ | 87555 38532 | 40 | |
| | 30 | 06 22353 67745+ | 936 54413 | 772 23887 33172 | 86516 32822+ | 30 | |
| | 40 | 11 74290 22158 | 956 45920 | 732 37371 00349+ | 85477 69593+ | 20 | |
| | 50 | 17 26246 68078 | 976 37794+ | 692 51893 30756 | 84439 48822+ | 10 | |
| **25** | 0 | 22 78223 05872+ | 5 51996 30036 | 652 67453 81934 | 83401 70486 | 0 | **35** |
| | 10 | 28 30219 35908+ | 5 52016 22645 | 612 84052 11448 | 82364 34560+ | 50 | |
| | 20 | 33 82235 58553+ | 036 15621+ | 573 01687 76887+ | 81327 41024 | 40 | |
| | 30 | 39 34271 74175 | 056 08965+ | 533 20360 35863 | 80290 89853 | 30 | |
| | 40 | 44 86327 83140+ | 076 02677 | 493 40069 46010 | 79254 81024+ | 20 | |
| | 50 | 50 38403 85817 | 095 96756 | 453 60814 64985+ | 78219 14515 | 10 | |
| **26** | 0 | 55 90499 82573 | 115 91202+ | 413 82595 50470 | 77183 90302+ | 0 | **34** |
| | 10 | 61 42615 73775+ | 135 86016+ | 374 05411 60168 | 76149 08363 | 50 | |
| | 20 | 66 94751 59792 | 155 81198+ | 334 29262 51805 | 75114 68674 | 40 | |
| | 30 | 72 46907 40990 | 175 76748 | 294 54147 83131 | 74080 71212+ | 30 | |
| | 40 | 77 99083 17738 | 195 72665+ | 254 80067 11918+ | 73047 15955+ | 20 | |
| | 50 | 83 51278 90403+ | 215 68950+ | 215 07019 95963 | 72014 02880 | 10 | |
| **27** | 0 | 89 03494 59354 | 235 65603+ | 175 35005 93083 | 70981 31963+ | 0 | **33** |
| | 10 | 0,37294 55730 24957 | 255 62624+ | 135 64024 61119+ | 69949 03183 | 50 | |
| | 20 | 0,37300 07985 87581+ | 275 60013+ | 095 94075 57936+ | 68917 16515 | 40 | |
| | 30 | 05 60261 47595 | 295 57770 | 056 25158 41421+ | 67885 71937+ | 30 | |
| | 40 | 11 12557 05365 | 315 55895 | 2,68016 57272 69484 | 66854 69427 | 20 | |
| | 50 | 16 64872 61260 | 335 54388 | 2,67976 90418 00057 | 65824 08961 | 10 | |
| **28** | 0 | 22 17208 15648 | 355 53249 | 937 24593 91096 | 64793 90517 | 0 | **32** |
| | 10 | 27 69563 68897+ | 375 52478+ | 897 59800 00579 | 63764 14071+ | 50 | |
| | 20 | 33 21939 21376 | 395 52076 | 857 96035 86508 | 62734 79602 | 40 | |
| | 30 | 38 74334 73452 | 415 52042 | 818 33301 06906 | 61705 87085+ | 30 | |
| | 40 | 44 26750 25493+ | 435 52376 | 778 71595 19820+ | 60677 36500 | 20 | |
| | 50 | 49 79185 77869+ | 455 53078+ | 739 10917 83320+ | 59649 27822 | 10 | |
| **29** | 0 | 55 31641 30948 | 475 54149+ | 699 51268 55498 | 58621 61029+ | 0 | **31** |
| | 10 | 60 84116 85097+ | 495 55588+ | 659 92646 94468+ | 57594 36099 | 50 | |
| | 20 | 66 36612 40686 | 515 57396+ | 620 35052 58369+ | 56567 53008+ | 40 | |
| | 30 | 71 89127 98082+ | 535 59573 | 580 78485 05361+ | 55541 11734+ | 30 | |
| | 40 | 77 41663 57655+ | 555 62118 | 541 22943 93626+ | 54515 12255+ | 20 | |
| | 50 | 82 94219 19773+ | 5 52575 65031+ | 501 68428 81371+ | 39 53489 54547+ | 10 | |
| **30** | 0 | 0,37388 46794 84804+ | | 2,67462 14939 26824 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,373 88 46794 84804+ | 5 52595 68313+ | 2,67462 14939 26824 | 39 52464 38589 | 0 | **30** |
| | 10 | 93 99390 53118+ | 615 71964+ | 422 62474 88234+ | 51439 64357 | 50 | |
| | 20 | 0,37399 52006 25083 | 635 75984+ | 383 11035 23878 | 50415 31828+ | 40 | |
| | 30 | 0,37405 04642 01067+ | 655 80373 | 343 60619 92049 | 49391 40982 | 30 | |
| | 40 | 10 57297 81440+ | 675 85130+ | 304 11228 51067+ | 48367 91793+ | 20 | |
| | 50 | 16 09973 66571 | 695 90257 | 264 62860 59273+ | 47344 84241+ | 10 | |
| **31** | 0 | 21 62669 56828 | 715 95752 | 225 15515 75032 | 46322 18303 | 0 | **29** |
| | 10 | 27 15385 52580 | 736 01616+ | 185 69193 56729 | 45299 93956 | 50 | |
| | 20 | 32 68121 54196+ | 756 07850 | 146 23893 62773+ | 44278 11177 | 40 | |
| | 30 | 38 20877 62046+ | 776 14452 | 106 79615 51596 | 43256 69944+ | 30 | |
| | 40 | 43 73653 76498+ | 796 21424 | 067 36358 81651+ | 42235 70235+ | 20 | |
| | 50 | 49 26449 97922+ | 816 28764+ | 2,67027 94123 11416 | 41215 12028 | 10 | |
| **32** | 0 | 54 79266 26687 | 836 36474+ | 2,66988 52907 99388 | 40194 95299 | 0 | **28** |
| | 10 | 60 32102 63161+ | 856 44554 | 949 12713 04089+ | 39175 20026 | 50 | |
| | 20 | 65 84959 07715 | 876 53002+ | 909 73537 84063 | 38155 86187+ | 40 | |
| | 30 | 71 37835 60717+ | 896 61820+ | 870 35381 97876 | 37136 93760 | 30 | |
| | 40 | 76 90732 22538 | 916 71007+ | 830 98245 04116 | 36118 42722 | 20 | |
| | 50 | 82 43648 93545+ | 936 80564+ | 791 62126 61394 | 35100 33050+ | 10 | |
| **33** | 0 | 87 96585 74110 | 956 90490+ | 752 27026 28343+ | 34082 64723+ | 0 | **27** |
| | 10 | 93 49542 64600+ | 977 00786+ | 712 92943 63620 | 33065 37718+ | 50 | |
| | 20 | 0,37499 02519 65387 | 5 52997 11452 | 673 59878 25901+ | 32048 52013 | 40 | |
| | 30 | 0,37504 55516 76839 | 5 53017 22487 | 634 27829 73888+ | 31032 07585+ | 30 | |
| | 40 | 10 08533 99326 | 037 33892 | 594 96797 66303+ | 30016 04412+ | 20 | |
| | 50 | 15 61571 33217+ | 057 45666 | 555 66781 61890+ | 29000 42472+ | 10 | |
| **34** | 0 | 21 14628 78884 | 077 57810+ | 516 37781 19418 | 27985 21743+ | 0 | **26** |
| | 10 | 26 67706 36694+ | 097 70324+ | 477 09795 97674+ | 26970 42202+ | 50 | |
| | 20 | 32 20804 07019 | 117 83208+ | 437 82825 55472 | 25956 03827+ | 40 | |
| | 30 | 37 73921 90227+ | 137 96462+ | 398 56869 51644+ | 24942 06596+ | 30 | |
| | 40 | 43 27059 86690 | 158 10086 | 359 31927 45047+ | 23928 50487+ | 20 | |
| | 50 | 48 80217 96776 | 178 24080 | 320 07998 94560+ | 22915 35477+ | 10 | |
| **35** | 0 | 54 33396 20856 | 198 38444 | 280 85083 59082+ | 21902 61545 | 0 | **25** |
| | 10 | 59 86594 59300 | 218 53178 | 241 63180 97537+ | 20890 28668 | 50 | |
| | 20 | 65 39813 12477+ | 238 68282 | 202 42290 68869+ | 19878 36823+ | 40 | |
| | 30 | 70 93051 80759+ | 258 83756 | 163 22412 32046 | 18866 85990+ | 30 | |
| | 40 | 76 46310 64516 | 278 99601 | 124 03545 46055+ | 17855 76145+ | 20 | |
| | 50 | 81 99589 64116+ | 299 15815+ | 084 85689 69910 | 16845 07268 | 10 | |
| **36** | 0 | 87 52888 79932 | 319 32400+ | 045 68844 62642 | 15834 79334+ | 0 | **24** |
| | 10 | 93 06208 12333 | 339 49356 | 2,66006 53009 83307+ | 14824 92323+ | 50 | |
| | 20 | 0,37598 59547 61689 | 359 66682 | 2,65967 38184 90984 | 13815 46213+ | 40 | |
| | 30 | 0,37604 12907 28371+ | 379 84378+ | 928 24369 44770+ | 12806 40981+ | 30 | |
| | 40 | 09 66287 12750 | 400 02445+ | 889 11563 03789 | 11797 76606 | 20 | |
| | 50 | 15 19687 15195 | 420 20883 | 849 99765 27183 | 10789 53065 | 10 | |
| **37** | 0 | 20 73107 36078 | 440 39691 | 810 88975 74117+ | 09781 70336+ | 0 | **23** |
| | 10 | 26 26547 75769 | 460 58869+ | 771 79194 03781+ | 08774 28398 | 50 | |
| | 20 | 31 80008 34638+ | 480 78419 | 732 70419 75383 | 07767 27228+ | 40 | |
| | 30 | 37 33489 13057+ | 500 98339 | 693 62652 48155 | 06760 66805 | 30 | |
| | 40 | 42 86990 11397 | 521 18630 | 654 55891 81349+ | 05754 47106+ | 20 | |
| | 50 | 48 40511 30027 | 541 39292 | 615 50137 34243 | 04748 68110+ | 10 | |
| **38** | 0 | 53 94052 69318+ | 561 60324+ | 576 45388 66132+ | 03743 29795 | 0 | **22** |
| | 10 | 59 47614 29643 | 581 81728 | 537 41645 36337+ | 02738 32139 | 50 | |
| | 20 | 65 01196 11371 | 602 03502+ | 498 38907 04198+ | 01733 75119+ | 40 | |
| | 30 | 70 54798 14873+ | 622 25648 | 459 37173 29079 | 39 00729 58715 | 30 | |
| | 40 | 76 08420 40522 | 642 48164+ | 420 36443 70364 | 38 99725 82904 | 20 | |
| | 50 | 81 62062 88686+ | 662 71052+ | 381 36717 87460 | 98722 47664+ | 10 | |
| **39** | 0 | 87 15725 59739 | 682 94311+ | 342 37995 39795 | 97719 52974+ | 0 | **21** |
| | 10 | 92 69408 54050 | 703 17941+ | 303 40275 86820+ | 96716 98812+ | 50 | |
| | 20 | 0,37698 23111 71991+ | 723 41942+ | 264 43558 88008 | 95714 85156+ | 40 | |
| | 30 | 0,37703 76835 13934 | 743 66315+ | 225 47844 02851+ | 94713 11984+ | 30 | |
| | 40 | 09 30578 80249+ | 763 91059 | 186 53130 90867 | 93711 79275+ | 20 | |
| | 50 | 14 84342 71308+ | 5 53784 16174+ | 147 59419 11591+ | 38 92710 87007 | 10 | |
| **40** | 0 | 0,37720 38126 87483 | | 2,65108 66708 24585 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,37720 38126 87483 | 5 53804 41661+ | 2,65108 66708 24585 | 38 91710 35157 | 0 | **20** |
| | 10 | 25 91931 29144+ | 824 67519+ | 069 74997 89427+ | 90710 23705 | 50 | |
| | 20 | 31 45755 96664 | 844 93749+ | 2,65030 84287 65722+ | 89710 52628+ | 40 | |
| | 30 | 36 99600 90413+ | 865 20350+ | 2,64991 94577 13094 | 88711 21906 | 30 | |
| | 40 | 42 53466 10764 | 885 47323+ | 953 05865 91188+ | 87712 31515+ | 20 | |
| | 50 | 48 07351 58087+ | 905 74668 | 914 18153 59673 | 86713 81435+ | 10 | |
| **41** | 0 | 53 61257 32756 | 926 02384+ | 875 31439 78237+ | 85715 71644+ | 0 | **19** |
| | 10 | 59 15183 35140+ | 946 30472+ | 836 45724 06593 | 84718 02121 | 50 | |
| | 20 | 64 69129 65613 | 966 58932+ | 797 61006 04471+ | 83720 72843+ | 40 | |
| | 30 | 70 23096 24545+ | 5 53986 87764 | 758 77285 31628+ | 82723 83789+ | 30 | |
| | 40 | 75 77083 12309+ | 5 54007 16968 | 719 94561 47838+ | 81727 34938+ | 20 | |
| | 50 | 81 31090 29277+ | 027 46543+ | 681 12834 12900 | 80731 26268+ | 10 | |
| **42** | 0 | 86 85117 75821 | 047 76491 | 642 32102 86632 | 79735 57757+ | 0 | **18** |
| | 10 | 92 39165 52312 | 068 06810+ | 603 52367 28874+ | 78740 29384+ | 50 | |
| | 20 | 0,37797 93233 59122+ | 088 37502 | 564 73626 99489+ | 77745 41128 | 40 | |
| | 30 | 0,37803 47321 96624+ | 108 68566 | 525 95881 58361+ | 76750 92966+ | 30 | |
| | 40 | 09 01430 65190+ | 129 00002 | 487 19130 65395+ | 75756 84878 | 20 | |
| | 50 | 14 55559 65192+ | 149 31810 | 448 43373 80517+ | 74763 16841+ | 10 | |
| **43** | 0 | 20 09708 97003 | 169 63990+ | 409 68610 63676 | 73769 88835 | 0 | **17** |
| | 10 | 25 63878 60993+ | 189 96543+ | 370 94840 74841 | 72777 00838 | 50 | |
| | 20 | 31 18068 57537 | 210 29468+ | 332 22063 74003 | 71784 52828 | 40 | |
| | 30 | 36 72278 87005+ | 230 62766 | 293 50279 21175 | 70792 44784+ | 30 | |
| | 40 | 42 26509 49771+ | 250 96436 | 254 79486 76390+ | 69800 76685+ | 20 | |
| | 50 | 47 80760 46207+ | 271 30478+ | 216 09685 99705 | 68809 48509+ | 10 | |
| **44** | 0 | 53 35031 76686 | 291 64893+ | 177 40876 51195+ | 67818 60235+ | 0 | **16** |
| | 10 | 58 89323 41579 | 311 99681 | 138 73057 90960 | 66828 11842 | 50 | |
| | 20 | 64 43635 41260+ | 332 34841+ | 100 06229 79117+ | 65838 03308 | 40 | |
| | 30 | 69 97967 76101+ | 352 70374 | 061 40391 75809+ | 64848 34611+ | 30 | |
| | 40 | 75 52320 46476 | 373 06280 | 2,64022 75543 41198 | 63859 05731+ | 20 | |
| | 50 | 81 06693 52756 | 393 42558+ | 2,63984 11684 35466+ | 62870 16646+ | 10 | |
| **45** | 0 | 86 61086 95314 | 413 79209+ | 945 48814 18820 | 61881 67336 | 0 | **15** |
| | 10 | 92 15500 74523+ | 434 16233+ | 906 86932 51484 | 60893 57777+ | 50 | |
| | 20 | 0,37897 69934 90757+ | 454 53630+ | 868 26038 93707 | 59905 87950+ | 40 | |
| | 30 | 0,37903 24389 44388 | 474 91400+ | 829 66133 05756+ | 58918 57833+ | 30 | |
| | 40 | 08 78864 35789 | 495 29543+ | 791 07214 47923 | 57931 67405+ | 20 | |
| | 50 | 14 33359 65332+ | 515 68060 | 752 49282 80517+ | 56945 16645 | 10 | |
| **46** | 0 | 19 87875 33392+ | 536 06949 | 713 92337 63872+ | 55959 05530+ | 0 | **14** |
| | 10 | 25 42411 40341+ | 556 46211+ | 675 36378 58342 | 54973 34042 | 50 | |
| | 20 | 30 96967 86552+ | 576 85847 | 636 81405 24300 | 53988 02157 | 40 | |
| | 30 | 36 51544 72399+ | 597 25855+ | 598 27417 22143 | 53003 09855 | 30 | |
| | 40 | 42 06141 98255 | 617 66237+ | 559 74414 12288+ | 52018 57114+ | 20 | |
| | 50 | 47 60759 64492+ | 638 06993 | 521 22395 55174 | 51034 43914+ | 10 | |
| **47** | 0 | 53 15397 71485+ | 658 48122 | 482 71361 11259 | 50050 70234+ | 0 | **13** |
| | 10 | 58 70056 19607+ | 678 89624 | 444 21310 41024+ | 49067 36052+ | 50 | |
| | 20 | 64 24735 09231+ | 699 31499+ | 405 72243 04972+ | 48084 41347+ | 40 | |
| | 30 | 69 79434 40731 | 719 73749 | 367 24158 63625 | 47101 86098+ | 30 | |
| | 40 | 75 34154 14480 | 740 16371+ | 328 77056 77526+ | 46119 70285 | 20 | |
| | 50 | 80 88894 30851+ | 760 59368 | 290 30937 07241+ | 45137 93885+ | 10 | |
| **48** | 0 | 86 43654 90219 | 781 02738 | 251 85799 13356 | 44156 56878+ | 0 | **12** |
| | 10 | 91 98435 92957 | 801 46481+ | 213 41642 56477+ | 43175 59244 | 50 | |
| | 20 | 0,37997 53237 39439 | 821 90599 | 174 98466 97233+ | 42195 00960 | 40 | |
| | 30 | 0,38003 08059 30038 | 842 35090+ | 136 56271 96273+ | 41214 82006 | 30 | |
| | 40 | 08 62901 65128+ | 862 79955+ | 098 15057 14267+ | 40235 02361 | 20 | |
| | 50 | 14 17764 45084+ | 883 25194+ | 059 74822 11906+ | 39255 62004 | 10 | |
| **49** | 0 | 19 72647 70279 | 903 70807+ | 2,63021 35566 49902+ | 38276 60914 | 0 | **11** |
| | 10 | 25 27551 41086+ | 924 16794+ | 2,62982 97289 88988+ | 37297 99070 | 50 | |
| | 20 | 30 82475 57881+ | 944 63155+ | 944 59991 89918 | 36319 76451 | 40 | |
| | 30 | 36 37420 21037 | 965 09891 | 906 23672 13467 | 35341 93036+ | 30 | |
| | 40 | 41 92385 30928 | 5 54985 57000 | 867 88330 20430+ | 34364 48805+ | 20 | |
| | 50 | 47 47370 87928 | 5 55006 04483+ | 829 53965 71625 | 38 33387 43736+ | 10 | |
| **50** | 0 | 0,38053 02376 92411 | | 2,62791 20578 27889 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 20°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,38053 02376 92411 | 5 55026 52341 | 2,62791 20578 27889 | 38 32410 77809 | 0 | **10** |
| | 10 | 58 57403 44752+ | 047 00573 | 752 88167 50080 | 31434 51002+ | 50 | |
| | 20 | 64 12450 45325 | 067 49179 | 714 56732 99077+ | 30458 63295+ | 40 | |
| | 30 | 69 67517 94504+ | 087 98160 | 676 26274 35782 | 29483 14668 | 30 | |
| | 40 | 75 22605 92664 | 108 47514+ | 637 96791 21114 | 28508 05098 | 20 | |
| | 50 | 80 77714 40179 | 128 97244 | 599 68283 16015+ | 27533 34566 | 10 | |
| **51** | 0 | 86 32843 37423 | 149 47348 | 561 40749 81449+ | 26559 03050+ | 0 | **9** |
| | 10 | 91 87992 84771+ | 169 97826+ | 523 14190 78399+ | 25585 10530+ | 50 | |
| | 20 | 0,38097 43162 82598 | 190 48680 | 484 88605 67868+ | 24611 56986 | 40 | |
| | 30 | 0,38102 98353 31277+ | 210 99907+ | 446 63994 10883 | 23638 42395+ | 30 | |
| | 40 | 08 53564 31185 | 231 51510 | 408 40355 68487+ | 22665 66738+ | 20 | |
| | 50 | 14 08795 82695 | 252 03487 | 370 17690 01749 | 21693 29994+ | 10 | |
| **52** | 0 | 19 64047 86182+ | 272 55839 | 331 95996 71754 | 20721 32142+ | 0 | **8** |
| | 10 | 25 19320 42021+ | 293 08566 | 293 75275 39611+ | 19749 73162+ | 50 | |
| | 20 | 30 74613 50587+ | 313 61667+ | 255 55525 66449 | 18778 53032+ | 40 | |
| | 30 | 36 29927 12255 | 334 15144+ | 217 36747 13416+ | 17807 71733 | 30 | |
| | 40 | 41 85261 27399+ | 354 68996 | 179 18939 41683+ | 16837 29243 | 20 | |
| | 50 | 47 40615 96395+ | 375 23222+ | 141 02102 12440 | 15867 25542 | 10 | |
| **53** | 0 | 52 95991 19618 | 395 77824 | 102 86234 86898+ | 14897 60608+ | 0 | **7** |
| | 10 | 58 51386 97442 | 416 32801 | 064 71337 26289+ | 13928 34423 | 50 | |
| | 20 | 64 06803 30243 | 436 88153 | 2,62026 57408 91866+ | 12959 46964+ | 40 | |
| | 30 | 69 62240 18396 | 457 43880 | 2,61988 44449 44902 | 11990 98212+ | 30 | |
| | 40 | 75 17697 62276 | 477 99982+ | 950 32458 46689+ | 11022 88146 | 20 | |
| | 50 | 80 73175 62258+ | 498 56460+ | 912 21435 58543+ | 10055 16745 | 10 | |
| **54** | 0 | 86 28674 18719 | 519 13313+ | 874 11380 41798 | 09087 83988+ | 0 | **6** |
| | 10 | 91 84193 32032 | 539 70542 | 836 02292 57809+ | 08120 89856+ | 50 | |
| | 20 | 0,38197 39733 02574 | 560 28146 | 797 94171 67953 | 07154 34328 | 40 | |
| | 30 | 0,38202 95293 30720 | 580 86125 | 759 87017 33624+ | 06188 17383 | 30 | |
| | 40 | 08 50874 16845 | 601 44480 | 721 80829 16242 | 05222 39000 | 20 | |
| | 50 | 14 06475 61325+ | 622 03211 | 683 75606 77241+ | 04256 99160 | 10 | |
| **55** | 0 | 19 62097 64536 | 642 62317 | 645 71349 78082 | 03291 97841 | 0 | **5** |
| | 10 | 25 17740 26853 | 663 21799 | 607 68057 80241 | 02327 35023+ | 50 | |
| | 20 | 30 73403 48652 | 683 81656+ | 569 65730 45217 | 01363 10687 | 40 | |
| | 30 | 36 29087 30308 | 704 41890 | 531 64367 34530 | 38 00399 24811 | 30 | |
| | 40 | 41 84791 72198 | 725 02499 | 493 63968 09719 | 37 99435 77375 | 20 | |
| | 50 | 47 40516 74697 | 745 63484 | 455 64532 32343+ | 98472 68359 | 10 | |
| **56** | 0 | 52 96262 38181 | 766 24845 | 417 66059 63985 | 97509 97741+ | 0 | **4** |
| | 10 | 58 52028 63026 | 786 86582 | 379 68549 66243+ | 96547 65503+ | 50 | |
| | 20 | 64 07815 49608 | 807 48695 | 341 72002 00740 | 95585 71623+ | 40 | |
| | 30 | 69 63622 98303 | 828 11184 | 303 76416 29116 | 94624 16082+ | 30 | |
| | 40 | 75 19451 09487 | 848 74049 | 265 81792 13034 | 93662 98858+ | 20 | |
| | 50 | 80 75299 83536+ | 869 37290+ | 227 88129 14175 | 92702 19932+ | 10 | |
| **57** | 0 | 86 31169 20827 | 890 00908 | 189 95426 94242+ | 91741 79284 | 0 | **3** |
| | 10 | 91 87059 21735 | 910 64901+ | 152 03685 14958+ | 90781 76892 | 50 | |
| | 20 | 0,38297 42969 86636+ | 931 29271+ | 114 12903 38066+ | 89822 12737 | 40 | |
| | 30 | 0,38302 98901 15908 | 951 94018 | 076 23081 25329+ | 88862 86798+ | 30 | |
| | 40 | 08 54853 09926+ | 972 59141 | 038 34218 38531+ | 87903 99056 | 20 | |
| | 50 | 14 10825 69067+ | 5 55993 24640 | 2,61000 46314 39475+ | 86945 49489+ | 10 | |
| **58** | 0 | 19 66818 93707+ | 5 56013 90516 | 2,60962 59368 89986 | 85987 38078+ | 0 | **2** |
| | 10 | 25 22832 84223 | 034 56768 | 924 73381 51907 | 85029 64803+ | 50 | |
| | 20 | 30 78867 40991 | 055 23397 | 886 88351 87103+ | 84072 29644 | 40 | |
| | 30 | 36 34922 64388 | 075 90402+ | 849 04279 57460 | 83115 32579 | 30 | |
| | 40 | 41 90998 54790+ | 096 57784+ | 811 21164 24880+ | 82158 73589+ | 20 | |
| | 50 | 47 47095 12575 | 117 25543+ | 773 39005 51291 | 81202 52655 | 10 | |
| **59** | 0 | 53 03212 38118 | 137 93679 | 735 57802 98636+ | 80246 69754+ | 0 | **1** |
| | 10 | 58 59350 31797 | 158 62191+ | 697 77556 28881+ | 79291 24869+ | 50 | |
| | 20 | 64 15508 93988 | 179 31080+ | 659 98265 04012+ | 78336 17978+ | 40 | |
| | 30 | 69 71688 25069 | 200 00347 | 622 19928 86034 | 77381 49061+ | 30 | |
| | 40 | 75 27888 25415+ | 220 69990 | 584 42547 36972+ | 76427 18099+ | 20 | |
| | 50 | 80 84108 95405+ | 5 56241 40010 | 546 66120 18873 | 37 75473 25071+ | 10 | |
| **60** | 0 | 0,38386 40350 35416 | | 2,60508 90646 93801+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 69°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,38386 40350 35416 | 5 56262 10407+ | 2,60508 90646 93801+ | 37 74519 69957+ | 0 | **60** |
| | 10 | 91 96612 45823 | 282 81181+ | 471 16127 23844 | 73566 52738 | 50 | |
| | 20 | 0,38397 52895 27005 | 303 52333 | 433 42560 71106 | 72613 73392 | 40 | |
| | 30 | 0,38403 09198 79338 | 324 23862 | 395 69946 97714 | 71661 31900+ | 30 | |
| | 40 | 08 65523 03200 | 344 95768 | 357 98285 65813+ | 70709 28243 | 20 | |
| | 50 | 14 21867 98968 | 365 68051 | 320 27576 37570+ | 69757 62399+ | 10 | |
| **1** | 0 | 19 78233 67019 | 386 40711+ | 282 57818 75171 | 68806 34350 | 0 | **59** |
| | 10 | 25 34620 07730+ | 407 13749+ | 244 89012 40821 | 67855 44075 | 50 | |
| | 20 | 30 91027 21480 | 427 87165 | 207 21156 96746 | 66904 91554 | 40 | |
| | 30 | 36 47455 08645 | 448 60958 | 169 54252 05192 | 65954 76767 | 30 | |
| | 40 | 42 03903 69603 | 469 35128+ | 131 88297 28424+ | 65004 99694+ | 20 | |
| | 50 | 47 60373 04731+ | 490 09676+ | 094 23292 28730 | 64055 60316+ | 10 | |
| **2** | 0 | 53 16863 14407+ | 510 84602 | 056 59236 68413+ | 63106 58613 | 0 | **58** |
| | 10 | 58 73373 99009+ | 531 59905 | 2,60018 96130 09800+ | 62157 94564 | 50 | |
| | 20 | 64 29905 58914+ | 552 35586 | 2,59981 33972 15236+ | 61209 68149+ | 40 | |
| | 30 | 69 86457 94501 | 573 11645 | 943 72762 47087 | 60261 79350+ | 30 | |
| | 40 | 75 43031 06145+ | 593 88081+ | 906 12500 67737 | 59314 28146 | 20 | |
| | 50 | 80 99624 94227+ | 614 64896 | 868 53186 39591 | 58367 14517 | 10 | |
| **3** | 0 | 86 56239 59123+ | 635 42088+ | 830 94819 25074 | 57420 38443 | 0 | **57** |
| | 10 | 92 12875 01211+ | 656 19658+ | 793 37398 86631 | 56473 99904+ | 50 | |
| | 20 | 0,38497 69531 20870+ | 676 97607 | 755 80924 86726+ | 55527 98882+ | 40 | |
| | 30 | 0,38503 26208 18477+ | 697 75933+ | 718 25396 87844 | 54582 35356 | 30 | |
| | 40 | 08 82905 94411 | 718 54638 | 680 70814 52488+ | 53637 09305+ | 20 | |
| | 50 | 14 39624 49049 | 739 33720+ | 643 17177 43183 | 52692 20711+ | 10 | |
| **4** | 0 | 19 96363 82769+ | 760 13181+ | 605 64485 22471 | 51747 69554+ | 0 | **56** |
| | 10 | 25 53123 95951 | 780 93020+ | 568 12737 52916+ | 50803 55814+ | 50 | |
| | 20 | 31 09904 88971+ | 801 73238 | 530 61933 97102 | 49859 79471+ | 40 | |
| | 30 | 36 66706 62209+ | 822 53833+ | 493 12074 17630+ | 48916 40506+ | 30 | |
| | 40 | 42 23529 16043+ | 843 34808 | 455 63157 77124 | 47973 38899 | 20 | |
| | 50 | 47 80372 50851+ | 864 16160+ | 418 15184 38225 | 47030 74630 | 10 | |
| **5** | 0 | 53 37236 67011+ | 884 97891+ | 380 68153 63595 | 46088 47679 | 0 | **55** |
| | 10 | 58 94121 64903 | 905 80001 | 343 22065 15916 | 45146 58027+ | 50 | |
| | 20 | 64 51027 44904+ | 926 62489+ | 305 76918 57888+ | 44205 05655 | 40 | |
| | 30 | 70 07954 07393+ | 947 45356 | 268 32713 52234 | 43263 90542 | 30 | |
| | 40 | 75 64901 52749+ | 968 28601+ | 230 89449 61692 | 42323 12669 | 20 | |
| | 50 | 81 21869 81351+ | 5 56989 12226 | 193 47126 49023 | 41382 72016+ | 10 | |
| **6** | 0 | 86 78858 93577 | 5 57009 96229 | 156 05743 77007 | 40442 68564+ | 0 | **54** |
| | 10 | 92 35868 89806 | 030 80610+ | 118 65301 08442+ | 39503 02294 | 50 | |
| | 20 | 0,38597 92899 70416+ | 051 65371+ | 081 25798 06148+ | 38563 73185 | 40 | |
| | 30 | 0,38603 49951 35787+ | 072 50511 | 043 87234 32963 | 37624 81218+ | 30 | |
| | 40 | 09 07023 86298+ | 093 36029+ | 2,59006 49609 51744+ | 36686 26374+ | 20 | |
| | 50 | 14 64117 22328 | 114 21927 | 2,58969 12923 25370 | 35748 08633+ | 10 | |
| **7** | 0 | 20 21231 44255 | 135 08203+ | 931 77175 16737 | 34810 27976 | 0 | **53** |
| | 10 | 25 78366 52458+ | 155 94859+ | 894 42364 88761 | 33872 84382+ | 50 | |
| | 20 | 31 35522 47318 | 176 81894+ | 857 08492 04379 | 32935 77833+ | 40 | |
| | 30 | 36 92699 29212 | 197 69308+ | 819 75556 26545+ | 31999 08309+ | 30 | |
| | 40 | 42 49896 98520+ | 218 57101+ | 782 43557 18236 | 31062 75791+ | 20 | |
| | 50 | 48 07115 55622+ | 239 45274+ | 745 12494 42444+ | 30126 80259+ | 10 | |
| **8** | 0 | 53 64355 00897 | 260 33826+ | 707 82367 62185 | 29191 21694+ | 0 | **52** |
| | 10 | 59 21615 34723 | 281 22758 | 670 53176 40490+ | 28256 00076+ | 50 | |
| | 20 | 64 78896 57481 | 302 12068+ | 633 24920 40414 | 27321 15386+ | 40 | |
| | 30 | 70 36198 69549+ | 323 01759 | 595 97599 25027+ | 26386 67605 | 30 | |
| | 40 | 75 93521 71309 | 343 91829 | 558 71212 57422+ | 25452 56713 | 20 | |
| | 50 | 81 50865 63138 | 364 82278+ | 521 45760 00709+ | 24518 82690+ | 10 | |
| **9** | 0 | 87 08230 45416 | 385 73107+ | 484 21241 18019+ | 23585 45518+ | 0 | **51** |
| | 10 | 92 65616 18524 | 406 64316+ | 446 97655 72501 | 22652 45177+ | 50 | |
| | 20 | 0,38698 23022 82840 | 427 55905 | 409 75003 27323+ | 21719 81648 | 40 | |
| | 30 | 0,38703 80450 38745 | 448 47873+ | 372 53283 45675+ | 20787 54911+ | 30 | |
| | 40 | 09 37898 86618+ | 469 40221+ | 335 32495 90764 | 19855 64947+ | 20 | |
| | 50 | 14 95368 26840 | 5 57490 32949+ | 298 12640 25816+ | 37 18924 11738 | 10 | |
| **10** | 0 | 0,38720 52858 59789 | | 2,58260 93716 14078+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,38720 52858 59789 | 5 57511 26057+ | 2,58260 93716 14078+ | 37 17992 95262+ | 0 | **50** |
| | 10 | 26 10369 85846+ | 532 19545+ | 223 75723 18816 | 17062 15502+ | 50 | |
| | 20 | 31 67902 05392 | 553 13413+ | 186 58661 03313+ | 16131 72438+ | 40 | |
| | 30 | 37 25455 18805+ | 574 07661+ | 149 42529 30875 | 15201 66051+ | 30 | |
| | 40 | 42 83029 26467 | 595 02289+ | 112 27327 64824 | 14271 96321+ | 20 | |
| | 50 | 48 40624 28756+ | 615 97298 | 075 13055 68502+ | 13342 63230+ | 10 | |
| **11** | 0 | 53 98240 26054 | 636 92686+ | 037 99713 05272 | 12413 66758 | 0 | **49** |
| | 10 | 59 55877 18740+ | 657 88455 | 2,58000 87299 38514 | 11485 06886 | 50 | |
| | 20 | 65 13535 07196 | 678 84604+ | 2,57963 75814 31628+ | 10556 83594 | 40 | |
| | 30 | 70 71213 91800+ | 699 81134 | 926 65257 48034 | 09628 96864+ | 30 | |
| | 40 | 76 28913 72934 | 720 78044 | 889 55628 51170 | 08701 46677 | 20 | |
| | 50 | 81 86634 50978 | 741 75334 | 852 46927 04493 | 07774 33012+ | 10 | |
| **12** | 0 | 87 44376 26312 | 762 73005 | 815 39152 71480+ | 06847 55852+ | 0 | **48** |
| | 10 | 93 02138 99317 | 783 71056+ | 778 32305 15628 | 05921 15177+ | 50 | |
| | 20 | 0,38798 59922 70373+ | 804 69488+ | 741 26384 00450+ | 04995 10968+ | 40 | |
| | 30 | 0,38804 17727 39862 | 825 68301 | 704 21388 89482+ | 04069 43206 | 30 | |
| | 40 | 09 75553 08163 | 846 67494+ | 667 17319 46276+ | 03144 11871+ | 20 | |
| | 50 | 15 33399 75657+ | 867 67068+ | 630 14175 34405 | 02219 16945+ | 10 | |
| **13** | 0 | 20 91267 42726 | 888 67023+ | 593 11956 17459 | 01294 58409+ | 0 | **47** |
| | 10 | 26 49156 09749+ | 909 67359+ | 556 10661 59049+ | 37 00370 36244 | 50 | |
| | 20 | 32 07065 77109 | 930 68076 | 519 10291 22805+ | 36 99446 50430 | 40 | |
| | 30 | 37 64996 45185 | 951 69173+ | 482 10844 72376 | 98523 00948+ | 30 | |
| | 40 | 43 22948 14358+ | 972 70652 | 445 12321 71427+ | 97599 87780+ | 20 | |
| | 50 | 48 80920 85010+ | 5 57993 72512 | 408 14721 83646+ | 96677 10907 | 10 | |
| **14** | 0 | 54 38914 57522+ | 5 58014 74752+ | 371 18044 72739+ | 95754 70309+ | 0 | **46** |
| | 10 | 59 96929 32275 | 035 77374+ | 334 22290 02430 | 94832 65968 | 50 | |
| | 20 | 65 54965 09649 | 056 80377+ | 297 27457 36462 | 93910 97864+ | 40 | |
| | 30 | 71 13021 90026+ | 077 83761+ | 260 33546 38597+ | 92989 65980 | 30 | |
| | 40 | 76 71099 73788+ | 098 87527 | 223 40556 72617+ | 92068 70294+ | 20 | |
| | 50 | 82 29198 61315+ | 119 91674 | 186 48488 02323 | 91148 10790+ | 10 | |
| **15** | 0 | 87 87318 52989+ | 140 96202+ | 149 57339 91532+ | 90227 87448 | 0 | **45** |
| | 10 | 93 45459 49192 | 162 01112 | 112 67112 04084+ | 89308 00249 | 50 | |
| | 20 | 0,38899 03621 50304 | 183 06403+ | 075 77804 03835+ | 88388 49174 | 40 | |
| | 30 | 0,38904 61804 56707+ | 204 12076 | 038 89415 54661+ | 87469 34204 | 30 | |
| | 40 | 10 20008 68783+ | 225 18130 | 2,57002 01946 20457 | 86550 55321 | 20 | |
| | 50 | 15 78233 86913+ | 246 24566 | 2,56965 15395 65136+ | 85632 12505 | 10 | |
| **16** | 0 | 21 36480 11479+ | 267 31383+ | 928 29763 52631 | 84714 05738+ | 0 | **44** |
| | 10 | 26 94747 42863+ | 288 38583 | 891 45049 46893 | 83796 35001+ | 50 | |
| | 20 | 32 53035 81446+ | 309 46164 | 854 61253 11891+ | 82879 00275+ | 40 | |
| | 30 | 38 11345 27610+ | 330 54127 | 817 78374 11616 | 81962 01542 | 30 | |
| | 40 | 43 69675 81737+ | 351 62471+ | 780 96412 10074 | 81045 38782 | 20 | |
| | 50 | 49 28027 44209 | 372 71198 | 744 15366 71292 | 80129 11977 | 10 | |
| **17** | 0 | 54 86400 15407 | 393 80307 | 707 35237 59315 | 79213 21108 | 0 | **43** |
| | 10 | 60 44793 95714 | 414 89797+ | 670 56024 38207 | 78297 66156 | 50 | |
| | 20 | 66 03208 85511+ | 435 99670 | 633 77726 72051 | 77382 47103 | 40 | |
| | 30 | 71 61644 85181+ | 457 09925 | 597 00344 24948 | 76467 63929+ | 30 | |
| | 40 | 77 20101 95106+ | 478 20562 | 560 23876 61018+ | 75553 16617 | 20 | |
| | 50 | 82 78580 15668+ | 499 31581 | 523 48323 44401+ | 74639 05147+ | 10 | |
| **18** | 0 | 88 37079 47249+ | 520 42982+ | 486 73684 39254 | 73725 29501+ | 0 | **42** |
| | 10 | 93 95599 90231+ | 541 54766 | 449 99959 09753 | 72811 89660 | 50 | |
| | 20 | 0,38999 54141 44998 | 562 66932 | 413 27147 20092+ | 71898 85605+ | 40 | |
| | 30 | 0,39005 12704 11930 | 583 79480+ | 376 55248 34487 | 70986 17319 | 30 | |
| | 40 | 10 71287 91410+ | 604 92411+ | 339 84262 17168 | 70073 84781 | 20 | |
| | 50 | 16 29892 83822 | 626 05725 | 303 14188 32387 | 69161 87974 | 10 | |
| **19** | 0 | 21 88518 89547 | 647 19421 | 266 45026 44413+ | 68250 26878+ | 0 | **41** |
| | 10 | 27 47166 08968 | 668 33499+ | 229 76776 17535 | 67339 01476+ | 50 | |
| | 20 | 33 05834 42467+ | 689 47960+ | 193 09437 16058+ | 66428 11749 | 40 | |
| | 30 | 38 64523 90428 | 710 62804+ | 156 43009 04309+ | 65517 57678 | 30 | |
| | 40 | 44 23234 53232+ | 731 78031 | 119 77491 46631+ | 64607 39244 | 20 | |
| | 50 | 49 81966 31263+ | 5 58752 93640+ | 083 12884 07387+ | 36 63697 56429+ | 10 | |
| **20** | 0 | 0,39055 40719 24904 | | 2,56046 49186 50958 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,39055 40719 24904 | 5 58774 09633 | 2,56046 49186 50958 | 36 62788 09215 | 0 | **40** |
| | 10 | 60 99493 34537 | 795 26008 | 2,56009 86398 41743 | 61878 97583 | 50 | |
| | 20 | 66 58288 60545 | 816 42766 | 2,55973 24519 44160 | 60970 21514 | 40 | |
| | 30 | 72 17105 03311 | 837 59907 | 936 63549 22645+ | 60061 80990+ | 30 | |
| | 40 | 77 75942 63218 | 858 77431 | 900 03487 41655+ | 59153 75993 | 20 | |
| | 50 | 83 34801 40649 | 879 95338+ | 863 44333 65662+ | 58246 06503+ | 10 | |
| **21** | 0 | 88 93681 35987+ | 901 13628+ | 826 86087 59159+ | 57338 72503 | 0 | **39** |
| | 10 | 0,39094 52582 49616+ | 922 32302+ | 790 28748 86656 | 56431 73974 | 50 | |
| | 20 | 0,39100 11504 81918+ | 943 51359 | 753 72317 12682 | 55525 10898 | 40 | |
| | 30 | 05 70448 33277+ | 964 70799 | 717 16792 01784 | 54618 83255+ | 30 | |
| | 40 | 11 29413 04076+ | 5 58985 90622+ | 680 62173 18528+ | 53712 91029 | 20 | |
| | 50 | 16 88398 94699 | 5 59007 10829 | 644 08460 27499+ | 52807 34200 | 10 | |
| **22** | 0 | 22 47406 05528 | 028 31419+ | 607 55652 93300 | 51902 12749+ | 0 | **38** |
| | 10 | 28 06434 36947+ | 049 52393 | 571 03750 80550+ | 50997 26660 | 50 | |
| | 20 | 33 65483 89340+ | 070 73750 | 534 52753 53890+ | 50092 75912+ | 40 | |
| | 30 | 39 24554 63090+ | 091 95491 | 498 02660 77978+ | 49188 60488+ | 30 | |
| | 40 | 44 83646 58581 | 113 17615 | 461 53472 17490 | 48284 80370+ | 20 | |
| | 50 | 50 42759 76196+ | 134 40123 | 425 05187 37119+ | 47381 35539 | 10 | |
| **23** | 0 | 56 01894 16319+ | 155 63015 | 388 57806 01580+ | 46478 25977 | 0 | **37** |
| | 10 | 61 61049 79334+ | 176 86290+ | 352 11327 75603+ | 45575 51665 | 50 | |
| | 20 | 67 20226 65625 | 198 09950 | 315 65752 23938+ | 44673 12585+ | 40 | |
| | 30 | 72 79424 75575 | 219 33993 | 279 21079 11353 | 43771 08719+ | 30 | |
| | 40 | 78 38644 09568 | 240 58420 | 242 77308 02633 | 42869 40049+ | 20 | |
| | 50 | 83 97884 67988 | 261 83231+ | 206 34438 62583+ | 41968 06557 | 10 | |
| **24** | 0 | 89 57146 51219+ | 283 08426+ | 169 92470 56026+ | 41067 08223+ | 0 | **36** |
| | 10 | 0,39195 16429 59646 | 304 34005+ | 133 51403 47803 | 40166 45030+ | 50 | |
| | 20 | 0,39200 75733 93651+ | 325 59969 | 097 11237 02772+ | 39266 16960+ | 40 | |
| | 30 | 06 35059 53620+ | 346 86316+ | 060 71970 85811+ | 38366 23995 | 30 | |
| | 40 | 11 94406 39936+ | 368 13048 | 2,55024 33604 61816+ | 37466 66115+ | 20 | |
| | 50 | 17 53774 52984+ | 389 40164 | 2,54987 96137 95701 | 36567 43304+ | 10 | |
| **25** | 0 | 23 13163 93148+ | 410 67664 | 951 59570 52396+ | 35668 55543 | 0 | **35** |
| | 10 | 28 72574 60813 | 431 95549 | 915 23901 96854 | 34770 02813 | 50 | |
| | 20 | 34 32006 56362 | 453 23818 | 878 89131 94041 | 33871 85096+ | 40 | |
| | 30 | 39 91459 80179+ | 474 52471+ | 842 55260 08944 | 32974 02376 | 30 | |
| | 40 | 45 50934 32651 | 495 81509+ | 806 22286 06568+ | 32076 54632 | 20 | |
| | 50 | 51 10430 14160+ | 517 10932 | 769 90209 51936+ | 31179 41847+ | 10 | |
| **26** | 0 | 56 69947 25092+ | 538 40739 | 733 59030 10088+ | 30282 64004 | 0 | **34** |
| | 10 | 62 29485 65831+ | 559 70931 | 697 28747 46085 | 29386 21083+ | 50 | |
| | 20 | 67 89045 36762+ | 581 01507+ | 660 99361 25001+ | 28490 13067+ | 40 | |
| | 30 | 73 48626 38270 | 602 32468+ | 624 70871 11934 | 27594 39938+ | 30 | |
| | 40 | 79 08228 70738+ | 623 63815 | 588 43276 71995+ | 26699 01678 | 20 | |
| | 50 | 84 67852 34553+ | 644 95545+ | 552 16577 70317+ | 25803 98268+ | 10 | |
| **27** | 0 | 90 27497 30099 | 666 27661+ | 515 90773 72049 | 24909 29691 | 0 | **33** |
| | 10 | 0,39295 87163 57760+ | 687 60162+ | 479 65864 42358 | 24014 95928+ | 50 | |
| | 20 | 0,39301 46851 17923 | 708 93048 | 443 41849 46429+ | 23120 96962+ | 40 | |
| | 30 | 07 06560 10971 | 730 26319 | 407 18728 49467 | 22227 32775 | 30 | |
| | 40 | 12 66290 37290 | 751 59975 | 370 96501 16692 | 21334 03348 | 20 | |
| | 50 | 18 26041 97265 | 772 94016 | 334 75167 13344 | 20441 08663+ | 10 | |
| **28** | 0 | 23 85814 91281 | 794 28442+ | 298 54726 04680+ | 19548 48703+ | 0 | **32** |
| | 10 | 29 45609 19723+ | 815 63254 | 262 35177 55977 | 18656 23450+ | 50 | |
| | 20 | 35 05424 82977+ | 836 98451 | 226 16521 32526+ | 17764 32886 | 40 | |
| | 30 | 40 65261 81428+ | 858 34033 | 189 98756 99640+ | 16872 76992 | 30 | |
| | 40 | 46 25120 15461+ | 879 70000+ | 153 81884 22648+ | 15981 55751 | 20 | |
| | 50 | 51 84999 85462 | 901 06353+ | 117 65902 66897 | 15090 69145 | 10 | |
| **29** | 0 | 57 44900 91815+ | 922 43092 | 081 50811 97752 | 14200 17156 | 0 | **31** |
| | 10 | 63 04823 34907+ | 943 80216 | 045 36611 80596 | 13309 99766 | 50 | |
| | 20 | 68 64767 15124 | 965 17726 | 2,54009 23301 80830 | 12420 16957+ | 40 | |
| | 30 | 74 24732 32850 | 5 59986 55621+ | 2,53973 10881 63872+ | 11530 68712 | 30 | |
| | 40 | 79 84718 88471 | 5 60007 93902+ | 936 99350 95160 | 10641 55012+ | 20 | |
| | 50 | 85 44726 82373+ | 5 60029 32569 | 900 88709 40147+ | 36 09752 75840+ | 10 | |
| **30** | 0 | 0,39391 04756 14942+ | | 2,53864 78956 64307+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,39391 04756 14942+ | 5 60050 71621+ | 2,53864 78956 64307+ | 36 08864 31178 | 0 | **30** |
| | 10 | 0,39396 64806 86564 | 072 11060 | 828 70092 33129+ | 07976 21008 | 50 | |
| | 20 | 0,39402 24878 97624 | 093 50884+ | 792 62116 12121+ | 07088 45311+ | 40 | |
| | 30 | 07 84972 48508+ | 114 91094+ | 756 55027 66810 | 06201 04072 | 30 | |
| | 40 | 13 45087 39603 | 136 31691 | 720 48826 62738 | 05313 97271 | 20 | |
| | 50 | 19 05223 71293+ | 157 72673 | 684 43512 65466+ | 04427 24891 | 10 | |
| **31** | 0 | 24 65381 43967 | 179 14041+ | 648 39085 40575+ | 03540 86914 | 0 | **29** |
| | 10 | 30 25560 58008 | 200 55796 | 612 35544 53661+ | 02654 83322+ | 50 | |
| | 20 | 35 85761 13804 | 221 97936+ | 576 32889 70339+ | 01769 14098 | 40 | |
| | 30 | 41 45983 11741 | 243 40463+ | 540 31120 56241+ | 36 00883 79224 | 30 | |
| | 40 | 47 06226 52204+ | 264 83377 | 504 30236 77017+ | 35 99998 78682 | 20 | |
| | 50 | 52 66491 35581 | 286 26676+ | 468 30237 98335+ | 99114 12454+ | 10 | |
| **32** | 0 | 58 26777 62257+ | 307 70362+ | 432 31123 85881 | 98229 80523+ | 0 | **28** |
| | 10 | 63 87085 32620 | 329 14435 | 396 32894 05357+ | 97345 82871+ | 50 | |
| | 20 | 69 47414 47055 | 350 58893+ | 360 35548 22486 | 96462 19481+ | 40 | |
| | 30 | 75 07765 05948+ | 372 03739 | 324 39086 03004+ | 95578 90334+ | 30 | |
| | 40 | 80 68137 09687+ | 393 48971 | 288 43507 12670 | 94695 95414 | 20 | |
| | 50 | 86 28530 58658+ | 414 94590 | 252 48811 17256 | 93813 34702 | 10 | |
| **33** | 0 | 91 88945 53248+ | 436 40595 | 216 54997 82554 | 92931 08181 | 0 | **27** |
| | 10 | 0,39497 49381 93843+ | 457 86987 | 180 62066 74373 | 92049 15832+ | 50 | |
| | 20 | 0,39503 09839 80831 | 479 33766 | 144 70017 58540+ | 91167 57640+ | 40 | |
| | 30 | 08 70319 14597 | 500 80932 | 108 78850 00900 | 90286 33586 | 30 | |
| | 40 | 14 30819 95528+ | 522 28484+ | 072 88563 67314 | 89405 43652 | 20 | |
| | 50 | 19 91342 24013 | 543 76424 | 036 99158 23662 | 88524 87821 | 10 | |
| **34** | 0 | 25 51886 00437 | 565 24750+ | 2,53001 10633 35841+ | 87644 66075 | 0 | **26** |
| | 10 | 31 12451 25187+ | 586 73464 | 2,52965 22988 69766+ | 86764 78397 | 50 | |
| | 20 | 36 73037 98651+ | 608 22564+ | 929 36223 91369+ | 85885 24769 | 40 | |
| | 30 | 42 33646 21216 | 629 72052+ | 893 50338 66600 | 85006 05174 | 30 | |
| | 40 | 47 94275 93268+ | 651 21927+ | 857 65332 61426 | 84127 19594+ | 20 | |
| | 50 | 53 54927 15196 | 672 72189+ | 821 81205 41831+ | 83248 68012 | 10 | |
| **35** | 0 | 59 15599 87385+ | 694 22839 | 785 97956 73819+ | 82370 50410 | 0 | **25** |
| | 10 | 64 76294 10224+ | 715 73876 | 750 15586 23409+ | 81492 66771 | 50 | |
| | 20 | 70 37009 84100+ | 737 25300 | 714 34093 56638+ | 80615 17077 | 40 | |
| | 30 | 75 97747 09401 | 758 77112 | 678 53478 39562 | 79738 01310+ | 30 | |
| | 40 | 81 58505 86512+ | 780 29311 | 642 73740 38251+ | 78861 19454+ | 20 | |
| | 50 | 87 19286 15823+ | 801 81897+ | 606 94879 18796+ | 77984 71491+ | 10 | |
| **36** | 0 | 92 80087 97721+ | 823 34872 | 571 16894 47305 | 77108 57404+ | 0 | **24** |
| | 10 | 0,39598 40911 32593 | 844 88234 | 535 39785 89900+ | 76232 77175 | 50 | |
| | 20 | 0,39604 01756 20827 | 866 41983+ | 499 63553 12726 | 75357 30786 | 40 | |
| | 30 | 09 62622 62810+ | 887 96120+ | 463 88195 81939+ | 74482 18221 | 30 | |
| | 40 | 15 23510 58931 | 909 50646 | 428 13713 63719 | 73607 39461+ | 20 | |
| | 50 | 20 84420 09577 | 931 05559 | 392 40106 24257+ | 72732 94490+ | 10 | |
| **37** | 0 | 26 45351 15135+ | 952 60859+ | 356 67373 29767 | 71858 83290+ | 0 | **23** |
| | 10 | 32 06303 75995+ | 974 16548+ | 320 95514 46476+ | 70985 05845 | 50 | |
| | 20 | 37 67277 92544 | 5 60995 72625 | 285 24529 40631+ | 70111 62135+ | 40 | |
| | 30 | 43 28273 65169 | 5 61017 29090 | 249 54417 78496 | 69238 52145+ | 30 | |
| | 40 | 48 89290 94259 | 038 85943 | 213 85179 26350+ | 68365 75857 | 20 | |
| | 50 | 54 50329 80201+ | 060 43184 | 178 16813 50494 | 67493 33253+ | 10 | |
| **38** | 0 | 60 11390 23385+ | 082 00813 | 142 49320 17240+ | 66621 24317 | 0 | **22** |
| | 10 | 65 72472 24198+ | 103 58830+ | 106 82698 92923+ | 65749 49030+ | 50 | |
| | 20 | 71 33575 83029 | 125 17236 | 071 16949 43893 | 64878 07377 | 40 | |
| | 30 | 76 94701 00265+ | 146 76030+ | 2,52035 52071 36516+ | 64006 99338+ | 30 | |
| | 40 | 82 55847 76295+ | 168 35213 | 2,51999 88064 37177+ | 63136 24898+ | 20 | |
| | 50 | 88 17016 11508+ | 189 94783+ | 964 24928 12279 | 62265 84040 | 10 | |
| **39** | 0 | 93 78206 06292 | 211 54743 | 928 62662 28239 | 61395 76744+ | 0 | **21** |
| | 10 | 0,39699 39417 61035 | 233 15091 | 893 01266 51494+ | 60526 02996 | 50 | |
| | 20 | 0,39705 00650 76126 | 254 75827+ | 857 40740 48498+ | 59656 62777 | 40 | |
| | 30 | 10 61905 51953+ | 276 36952+ | 821 81083 85721+ | 58787 56070 | 30 | |
| | 40 | 16 23181 88906 | 297 98466+ | 786 22296 29651 | 57918 82858 | 20 | |
| | 50 | 21 84479 87372+ | 5 61319 60369 | 750 64377 46793 | 35 57050 43124 | 10 | |
| **40** | 0 | 0,39727 45799 47741+ | | 2,51715 07327 03669 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,39727 45799 47741+ | 5 61341 22660+ | 2,51715 07327 03669 | 35 56182 36850+ | 0 | **20** |
| | 10 | 33 07140 70402 | 362 85340+ | 679 51144 66818+ | 55314 64020+ | 50 | |
| | 20 | 38 68503 55742+ | 384 48409+ | 643 95830 02798 | 54447 24617 | 40 | |
| | 30 | 44 29888 04152+ | 406 11867+ | 608 41382 78180+ | 53580 18623 | 30 | |
| | 40 | 49 91294 16020 | 427 75715 | 572 87802 59557+ | 52713 46021 | 20 | |
| | 50 | 55 52721 91735 | 449 39951 | 537 35089 13536+ | 51847 06794 | 10 | |
| **41** | 0 | 61 14171 31685+ | 471 04576 | 501 83242 06742+ | 50981 00925 | 0 | **19** |
| | 10 | 66 75642 36261+ | 492 69590+ | 466 32261 05817 | 50115 28397 | 50 | |
| | 20 | 72 37135 05852 | 514 34994 | 430 82145 77420 | 49249 89193 | 40 | |
| | 30 | 77 98649 40846 | 536 00786+ | 395 32895 88227+ | 48384 83295+ | 30 | |
| | 40 | 83 60185 41632+ | 557 66968+ | 359 84511 04932 | 47520 10687+ | 20 | |
| | 50 | 89 21743 08601 | 579 33540 | 324 36990 94244+ | 46655 71352+ | 10 | |
| **42** | 0 | 0,39794 83322 42141 | 601 00500+ | 288 90335 22891+ | 45791 65273 | 0 | **18** |
| | 10 | 0,39800 44923 42641+ | 622 67851 | 253 44543 57618+ | 44927 92432+ | 50 | |
| | 20 | 06 06546 10492+ | 644 35590+ | 217 99615 65186 | 44064 52813+ | 40 | |
| | 30 | 11 68190 46083 | 666 03720 | 182 55551 12372+ | 43201 46399 | 30 | |
| | 40 | 17 29856 49803 | 687 72239 | 147 12349 65973+ | 42338 73172 | 20 | |
| | 50 | 22 91544 22042 | 709 41147+ | 111 70010 92801+ | 41476 33116 | 10 | |
| **43** | 0 | 28 53253 63189 | 731 10445+ | 076 28534 59685 | 40614 26214 | 0 | **17** |
| | 10 | 34 14984 73634+ | 752 80133+ | 040 87920 33471 | 39752 52448+ | 50 | |
| | 20 | 39 76737 53768 | 774 50211 | 2,51005 48167 81023 | 38891 11802+ | 40 | |
| | 30 | 45 38512 03979 | 796 20678+ | 2,50970 09276 69220 | 38030 04260 | 30 | |
| | 40 | 51 00308 24658 | 817 91536 | 934 71246 64960 | 37169 29803+ | 20 | |
| | 50 | 56 62126 16194 | 839 62783+ | 899 34077 35156+ | 36308 88415+ | 10 | |
| **44** | 0 | 62 23965 78978 | 861 34421 | 863 97768 46741 | 35448 80080+ | 0 | **16** |
| | 10 | 67 85827 13399 | 883 06448+ | 828 62319 66660+ | 34589 04780+ | 50 | |
| | 20 | 73 47710 19847+ | 904 78866 | 793 27730 61880+ | 33729 62498+ | 40 | |
| | 30 | 79 09614 98713+ | 926 51674 | 757 94000 99382 | 32870 53218+ | 30 | |
| | 40 | 84 71541 50387+ | 948 24872 | 722 61130 46163 | 32011 76923+ | 20 | |
| | 50 | 90 33489 75259+ | 969 98460 | 687 29118 69240 | 31153 33596 | 10 | |
| **45** | 0 | 0,39895 95459 73719+ | 5 61991 72438+ | 651 97965 35644 | 30295 23219+ | 0 | **15** |
| | 10 | 0,39901 57451 46158 | 5 62013 46807+ | 616 67670 12424 | 29437 45777+ | 50 | |
| | 20 | 07 19464 92965+ | 035 21566+ | 581 38232 66646+ | 28580 01253 | 40 | |
| | 30 | 12 81500 14532 | 056 96716+ | 546 09652 65393+ | 27722 89629 | 30 | |
| | 40 | 18 43557 11248+ | 078 72256+ | 510 81929 75764+ | 26866 10889 | 20 | |
| | 50 | 24 05635 83505 | 100 48187+ | 475 55063 64875+ | 26009 65016 | 10 | |
| **46** | 0 | 29 67736 31692 | 122 24508+ | 440 29053 99859+ | 25153 51993 | 0 | **14** |
| | 10 | 35 29858 56201 | 144 01221 | 405 03900 47866+ | 24297 71804 | 50 | |
| | 20 | 40 92002 57421+ | 165 78323+ | 369 79602 76062+ | 23442 24431+ | 40 | |
| | 30 | 46 54168 35745 | 187 55817 | 334 56160 51630+ | 22587 09859+ | 30 | |
| | 40 | 52 16355 91562 | 209 33701+ | 299 33573 41771 | 21732 28070+ | 20 | |
| | 50 | 57 78565 25263+ | 231 11976+ | 264 11841 13700+ | 20877 79048 | 10 | |
| **47** | 0 | 63 40796 37240 | 252 90642+ | 228 90963 34652+ | 20023 62776 | 0 | **13** |
| | 10 | 69 03049 27882+ | 274 69699+ | 193 70939 71876+ | 19169 79237 | 50 | |
| | 20 | 74 65323 97582+ | 296 49147+ | 158 51769 92639+ | 18316 28414+ | 40 | |
| | 30 | 80 27620 46730 | 318 28987 | 123 33453 64225+ | 17463 10291+ | 30 | |
| | 40 | 85 89938 75717 | 340 09217 | 088 15990 53933+ | 16610 24852+ | 20 | |
| | 50 | 91 52278 84934 | 361 89838+ | 052 99380 29081 | 15757 72079+ | 10 | |
| **48** | 0 | 0,39997 14640 74772+ | 383 70851 | 2,50017 83622 57001+ | 14905 51957 | 0 | **12** |
| | 10 | 0,40002 77024 45623+ | 405 52255 | 2,49982 68717 05044+ | 14053 64467+ | 50 | |
| | 20 | 08 39429 97879 | 427 34050+ | 947 54663 40577+ | 13202 09594+ | 40 | |
| | 30 | 14 01857 31929 | 449 16237 | 912 41461 30983 | 12350 87322 | 30 | |
| | 40 | 19 64306 48166 | 470 98815 | 877 29110 43661 | 11499 97632+ | 20 | |
| | 50 | 25 26777 46980+ | 492 81784+ | 842 17610 46028 | 10649 40510+ | 10 | |
| **49** | 0 | 30 89270 28765 | 514 65145+ | 807 06961 05517+ | 09799 15938+ | 0 | **11** |
| | 10 | 36 51784 93910+ | 536 48898 | 771 97161 89579 | 08949 23900+ | 50 | |
| | 20 | 42 14321 42808+ | 558 33042 | 736 88212 65678+ | 08099 64379+ | 40 | |
| | 30 | 47 76879 75850+ | 580 17578 | 701 80113 01299 | 07250 37359+ | 30 | |
| | 40 | 53 39459 93428+ | 602 02505+ | 666 72862 63939+ | 06401 42823+ | 20 | |
| | 50 | 59 02061 95934 | 5 62623 87825 | 631 66461 21116 | 35 05552 80755 | 10 | |
| **50** | 0 | 0,40064 64685 83759 | | 2,49596 60908 40361 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 21°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,40064 64685 83759 | 5 62645 73536 | 2,49596 60908 40361 | 35 04704 51138 | 0 | **10** |
| | 10 | 70 27331 57295 | 667 59639 | 561 56203 89223 | 3856 53955 | 50 | |
| | 20 | 75 89999 16934 | 689 46134 | 526 52347 35268 | 3008 89190+ | 40 | |
| | 30 | 81 52688 63068+ | 711 33021 | 491 49338 46077+ | 2161 56828 | 30 | |
| | 40 | 87 15399 96089+ | 733 20300 | 456 47176 89249+ | 1314 56850 | 20 | |
| | 50 | 92 78133 16390 | 755 07971+ | 421 45862 32399+ | 35 00467 89241 | 10 | |
| **51** | 0 | 0,40098 40888 24361 | 776 96034+ | 386 45394 43158+ | 34 99621 53984+ | 0 | **9** |
| | 10 | 0,40104 03665 20396 | 798 84490 | 351 45772 89174 | 8775 51063+ | 50 | |
| | 20 | 09 66464 04886 | 820 73337+ | 316 46997 38110+ | 7929 80462 | 40 | |
| | 30 | 15 29284 78223+ | 842 62577+ | 281 49067 57648 | 7084 42163+ | 30 | |
| | 40 | 20 92127 40801 | 864 52210 | 246 51983 15484+ | 6239 36152 | 20 | |
| | 50 | 26 54991 93011 | 886 42234+ | 211 55743 79332+ | 5394 62410 | 10 | |
| **52** | 0 | 32 17878 35245+ | 908 32651+ | 176 60349 16922+ | 4550 20922+ | 0 | **8** |
| | 10 | 37 80786 67897 | 930 23461+ | 141 65798 96000 | 3706 11672 | 50 | |
| | 20 | 43 43716 91358+ | 952 14663+ | 106 72092 84328+ | 2862 34642+ | 40 | |
| | 30 | 49 06669 06022 | 974 06258 | 071 79230 49686 | 2018 89818 | 30 | |
| | 40 | 54 69643 12280 | 5 62995 98245+ | 036 87211 59868 | 1175 77181+ | 20 | |
| | 50 | 60 32639 10525+ | 5 63017 90625+ | 2,49001 96035 82686+ | 34 90332 96717 | 10 | |
| **53** | 0 | 65 95657 01151 | 039 83398+ | 2,48967 05702 85969+ | 34 89490 48408+ | 0 | **7** |
| | 10 | 71 58696 84549+ | 061 76564 | 932 16212 37561 | 8648 32239+ | 50 | |
| | 20 | 77 21758 61114 | 083 70122+ | 897 27564 05321+ | 7806 48193+ | 40 | |
| | 30 | 82 84842 31236+ | 105 64074 | 862 39757 57128 | 6964 96254 | 30 | |
| | 40 | 88 47947 95310+ | 127 58418+ | 827 52792 60874 | 6123 76405 | 20 | |
| | 50 | 94 11075 53728+ | 149 53155+ | 792 66668 84469 | 5282 88630+ | 10 | |
| **54** | 0 | 0,40199 74225 06884+ | 171 48286 | 757 81385 95838 | 4442 32914 | 0 | **6** |
| | 10 | 0,40205 37396 55170+ | 193 43809+ | 722 96943 62924 | 3602 09239+ | 50 | |
| | 20 | 11 00589 98980 | 215 39726 | 688 13341 53685 | 2762 17590 | 40 | |
| | 30 | 16 63805 38706 | 237 36036 | 653 30579 36095 | 1922 57950 | 30 | |
| | 40 | 22 27042 74742 | 259 32739 | 618 48656 78145 | 1083 30303 | 20 | |
| | 50 | 27 90302 07481+ | 281 29835+ | 583 67573 47842+ | 34 80244 34632+ | 10 | |
| **55** | 0 | 33 53583 37317 | 303 27325+ | 548 87329 13210 | 34 79405 70923 | 0 | **5** |
| | 10 | 39 16886 64642+ | 325 25208+ | 514 07923 42287 | 8567 39158 | 50 | |
| | 20 | 44 80211 89851 | 347 23485+ | 479 29356 03129 | 7729 39321 | 40 | |
| | 30 | 50 43559 13336 | 369 22155+ | 444 51626 63808 | 6891 71396 | 30 | |
| | 40 | 56 06928 35491+ | 391 21219+ | 409 74734 92412 | 6054 35367 | 20 | |
| | 50 | 61 70319 56711 | 413 20676+ | 374 98680 57045 | 5217 31218 | 10 | |
| **56** | 0 | 67 33732 77387+ | 435 20527+ | 340 23463 25827 | 4380 58932+ | 0 | **4** |
| | 10 | 72 97167 97915+ | 457 20772+ | 305 49082 66894 | 3544 18494+ | 50 | |
| | 20 | 78 60625 18688 | 479 21411 | 270 75538 48399+ | 2708 09888 | 40 | |
| | 30 | 84 24104 40099 | 501 22443+ | 236 02830 38511+ | 1872 33097 | 30 | |
| | 40 | 89 87605 62542+ | 523 23869+ | 201 30958 05414+ | 1036 88105 | 20 | |
| | 50 | 0,40295 51128 86412 | 545 25690 | 166 59921 17309+ | 34 70201 74896 | 10 | |
| **57** | 0 | 0,40301 14674 12102 | 567 27904 | 131 89719 42414 | 34 69366 93454 | 0 | **3** |
| | 10 | 06 78241 40006 | 589 30512 | 097 20352 48960 | 8532 43763 | 50 | |
| | 20 | 12 41830 70518 | 611 33514+ | 062 51820 05197 | 7698 25807 | 40 | |
| | 30 | 18 05442 04032+ | 633 36911 | 2,48027 84121 79390 | 6864 39569+ | 30 | |
| | 40 | 23 69075 40943+ | 655 40701+ | 2,47993 17257 39820+ | 6030 85035+ | 20 | |
| | 50 | 29 32730 81645 | 677 44886+ | 958 51226 54785 | 5197 62187+ | 10 | |
| **58** | 0 | 34 96408 26531 | 699 49465+ | 923 86028 92597+ | 4364 71011 | 0 | **2** |
| | 10 | 40 60107 75996+ | 721 54439 | 889 21664 21586+ | 3532 11489 | 50 | |
| | 20 | 46 23829 30435+ | 743 59807 | 854 58132 10097+ | 2699 83605+ | 40 | |
| | 30 | 51 87572 90242 | 765 65569 | 819 95432 26492 | 1867 87345 | 30 | |
| | 40 | 57 51338 55811+ | 787 71726 | 785 33564 39147 | 1036 22691+ | 20 | |
| | 50 | 63 15126 27537 | 809 78277 | 750 72528 16455+ | 34 60204 89628+ | 10 | |
| **59** | 0 | 68 78936 05814+ | 831 85223 | 716 12323 26827 | 34 59373 88140+ | 0 | **1** |
| | 10 | 74 42767 91037+ | 853 92563+ | 681 52949 38686 | 8543 18211+ | 50 | |
| | 20 | 80 06621 83601 | 876 00299 | 646 94406 20474+ | 7712 79826 | 40 | |
| | 30 | 85 70497 83900 | 898 08429 | 612 36693 40648+ | 6882 72967 | 30 | |
| | 40 | 91 34395 92329+ | 920 16954 | 577 79810 67681+ | 6052 97619 | 20 | |
| | 50 | 0,40396 98316 09283 | 5 63942 25873+ | 543 23757 70062+ | 34 55223 53766+ | 10 | |
| **60** | 0 | 0,40402 62258 35157 | | 2,47508 68534 16296 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 68°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,40402 62258 35157 | 5 63964 35188 | 2,47508 68534 16296 | 34 54394 41393+ | 0 | **60** |
| | 10 | 08 26222 70345 | 5 63986 44898 | 474 14139 74902 | 3565 60484 | 50 | |
| | 20 | 13 90209 15243 | 5 64008 55002+ | 439 60574 14418 | 2737 11022 | 40 | |
| | 30 | 19 54217 70245+ | 030 65502 | 405 07837 03396 | 1908 92992 | 30 | |
| | 40 | 25 18248 35747+ | 052 76397 | 370 55928 10404 | 1081 06377+ | 20 | |
| | 50 | 30 82301 12144 | 074 87687 | 336 04847 04026+ | 34 50253 51163 | 10 | |
| **1** | 0 | 36 46375 99831 | 096 99372 | 301 54593 52863+ | 34 49426 27333 | 0 | **59** |
| | 10 | 42 10472 99203 | 119 11452+ | 267 05167 25530+ | 8599 34871+ | 50 | |
| | 20 | 47 74592 10655 | 141 23928 | 232 56567 90659 | 7772 73762+ | 40 | |
| | 30 | 53 38733 34583 | 163 36799 | 198 08795 16896+ | 6946 43990 | 30 | |
| | 40 | 59 02896 71382+ | 185 50066 | 163 61848 72907 | 6120 45538+ | 20 | |
| | 50 | 64 67082 21448 | 207 63728 | 129 15728 27368+ | 5294 78392 | 10 | |
| **2** | 0 | 70 31289 85176 | 229 77785+ | 094 70433 48976 | 4469 42535+ | 0 | **58** |
| | 10 | 75 95519 62961+ | 251 92238+ | 060 25964 06441 | 3644 37952 | 50 | |
| | 20 | 81 59771 55200 | 274 07087+ | 2,47025 82319 68488+ | 2819 64627 | 40 | |
| | 30 | 87 24045 62287 | 296 22331+ | 2,46991 39500 03861+ | 1995 22544 | 30 | |
| | 40 | 92 88341 84619 | 318 37972 | 956 97504 81318 | 1171 11687 | 20 | |
| | 50 | 0,40498 52660 22590+ | 340 54008 | 922 56333 69630+ | 34 40347 32041 | 10 | |
| **3** | 0 | 0,40504 17000 76598+ | 362 70439+ | 888 15986 37590 | 34 39523 83590 | 0 | **57** |
| | 10 | 09 81363 47038+ | 384 87267+ | 853 76462 54000 | 8700 66318 | 50 | |
| | 20 | 15 45748 34306 | 407 04491 | 819 37761 87682 | 7877 80209+ | 40 | |
| | 30 | 21 10155 38797 | 429 22111 | 784 99884 07472 | 7055 25249+ | 30 | |
| | 40 | 26 74584 60907+ | 451 40126+ | 750 62828 82223 | 6233 01421 | 20 | |
| | 50 | 32 39036 01034 | 473 58538+ | 716 26595 80801+ | 5411 08709+ | 10 | |
| **4** | 0 | 38 03509 59572+ | 495 77346+ | 681 91184 72092+ | 4589 47098+ | 0 | **56** |
| | 10 | 43 68005 36919 | 517 96550+ | 647 56595 24993+ | 3768 16573 | 50 | |
| | 20 | 49 32523 33469 | 540 16151 | 613 22827 08420+ | 2947 17117 | 40 | |
| | 30 | 54 97063 49620 | 562 36147+ | 578 89879 91303+ | 2126 48715 | 30 | |
| | 40 | 60 61625 85767+ | 584 56540+ | 544 57753 42588+ | 1306 11351+ | 20 | |
| | 50 | 66 26210 42308+ | 606 77330 | 510 26447 31237 | 34 30486 05010+ | 10 | |
| **5** | 0 | 71 90817 19638+ | 628 98516 | 475 95961 26227 | 34 29666 29676+ | 0 | **55** |
| | 10 | 77 55446 18155 | 651 20098+ | 441 66294 96550 | 8846 85334+ | 50 | |
| | 20 | 83 20097 38253+ | 673 42078 | 407 37448 11215+ | 8027 71968 | 40 | |
| | 30 | 88 84770 80331 | 695 64453+ | 373 09420 39247+ | 7208 89562+ | 30 | |
| | 40 | 0,40594 49466 44784+ | 717 87226 | 338 82211 49685+ | 6390 38101+ | 20 | |
| | 50 | 0,40600 14184 32010+ | 740 10395 | 304 55821 11584 | 5572 17569+ | 10 | |
| **6** | 0 | 05 78924 42405+ | 762 33961 | 270 30248 94014+ | 4754 27951+ | 0 | **54** |
| | 10 | 11 43686 76366 | 784 57923+ | 236 05494 66062+ | 3936 69232 | 50 | |
| | 20 | 17 08471 34289+ | 806 82283 | 201 81557 96830+ | 3119 41395 | 40 | |
| | 30 | 22 73278 16572+ | 829 07039+ | 167 58438 55436 | 2302 44425 | 30 | |
| | 40 | 28 38107 23612 | 851 32193 | 133 36136 11010+ | 1485 78307 | 20 | |
| | 50 | 34 02958 55805 | 873 57743+ | 099 14650 32703+ | 34 20669 43025+ | 10 | |
| **7** | 0 | 39 67832 13548+ | 895 83691 | 064 93980 89678 | 34 19853 38564 | 0 | **53** |
| | 10 | 45 32727 97240 | 918 10036 | 2,46030 74127 51114 | 9037 64908+ | 50 | |
| | 20 | 50 97646 07276 | 940 36778 | 2,45996 55089 86205+ | 8222 22042 | 40 | |
| | 30 | 56 62586 44054 | 962 63917 | 962 36867 64163+ | 7407 09950+ | 30 | |
| | 40 | 62 27549 07971 | 5 64984 91453+ | 928 19460 54213 | 6592 28617+ | 20 | |
| | 50 | 67 92533 99424+ | 5 65007 19387+ | 894 02868 25595 | 5777 78028+ | 10 | |
| **8** | 0 | 73 57541 18812 | 029 47719 | 859 87090 47567 | 4963 58167 | 0 | **52** |
| | 10 | 79 22570 66531 | 051 76447+ | 825 72126 89399+ | 4149 69018+ | 50 | |
| | 20 | 84 87622 42978+ | 074 05574 | 791 57977 20381 | 3336 10567 | 40 | |
| | 30 | 90 52696 48552 | 096 35097+ | 757 44641 09814 | 2522 82797+ | 30 | |
| | 40 | 0,40696 17792 83650 | 118 65019 | 723 32118 27016+ | 1709 85694+ | 20 | |
| | 50 | 0,40701 82911 48668+ | 140 95338 | 689 20408 41321+ | 0897 19242+ | 10 | |
| **9** | 0 | 07 48052 44007 | 163 26055 | 655 09511 22079 | 34 10084 83426+ | 0 | **51** |
| | 10 | 13 13215 70061+ | 185 57169+ | 620 99426 38652+ | 34 09272 78230+ | 50 | |
| | 20 | 18 78401 27231 | 207 88682 | 586 90153 60422+ | 8461 03639+ | 40 | |
| | 30 | 24 43609 15913 | 230 20592 | 552 81692 56782+ | 7649 59638+ | 30 | |
| | 40 | 30 08839 36505 | 252 52900+ | 518 74042 97144 | 6838 46211+ | 20 | |
| | 50 | 35 74091 89405 | 5 65274 85606+ | 484 67204 50932+ | | 10 | |
| **10** | 0 | 0,40741 39366 75011+ | | 2,45450 61176 87588+ | 34 06027 63344 | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,40741 39366 75011+ | 5 65297 18710+ | 2,45450 61176 87588+ | 34 05217 11020 | 0 | **50** |
| | 10 | 47 04663 93722+ | 319 52213 | 416 55959 76568+ | 4406 89224+ | 50 | |
| | 20 | 52 69983 45935+ | 341 86113+ | 382 51552 87344 | 3596 97942 | 40 | |
| | 30 | 58 35325 32048+ | 364 20412 | 348 47955 89402 | 2787 37157+ | 30 | |
| | 40 | 64 00689 52460+ | 386 55109 | 314 45168 52244+ | 1978 06855+ | 20 | |
| | 50 | 69 66076 07569+ | 408 90204 | 280 43190 45389 | 1169 07021 | 10 | |
| **11** | 0 | 75 31484 97773+ | 431 25697+ | 246 42021 38368 | 34 00360 37638+ | 0 | **49** |
| | 10 | 80 96916 23471 | 453 61589+ | 212 41661 00729+ | 33 99551 98693 | 50 | |
| | 20 | 86 62369 85060+ | 475 97880 | 178 42109 02036+ | 8743 90169 | 40 | |
| | 30 | 92 27845 82940+ | 498 34568+ | 144 43365 11867+ | 7936 12051+ | 30 | |
| | 40 | 0,40797 93344 17509 | 520 71656 | 110 45428 99816 | 7128 64325 | 20 | |
| | 50 | 0,40803 58864 89165+ | 543 09142 | 076 48300 35490+ | 6321 46975 | 10 | |
| **12** | 0 | 09 24407 98307+ | 565 47027 | 042 51978 88515+ | 5514 59985+ | 0 | **48** |
| | 10 | 14 89973 45334+ | 587 85310+ | 2,45008 56464 28530+ | 4708 03341+ | 50 | |
| | 20 | 20 55561 30644+ | 610 23992+ | 2,44974 61756 25189 | 3901 77028 | 40 | |
| | 30 | 26 21171 54637 | 632 63073+ | 940 67854 48160+ | 3095 81030 | 30 | |
| | 40 | 31 86804 17710+ | 655 02553+ | 906 74758 67130+ | 2290 15332 | 20 | |
| | 50 | 37 52459 20264 | 677 42432 | 872 82468 51798+ | 1484 79919 | 10 | |
| **13** | 0 | 43 18136 62696 | 699 82710 | 838 90983 71880 | 33 90679 74776 | 0 | **47** |
| | 10 | 48 83836 45406 | 722 23387 | 805 00303 97104 | 33 89874 99887+ | 50 | |
| | 20 | 54 49558 68792+ | 744 64462+ | 771 10428 97216+ | 9070 55238+ | 40 | |
| | 30 | 60 15303 33255+ | 767 05937+ | 737 21358 41978 | 8266 40814+ | 30 | |
| | 40 | 65 81070 39193 | 789 47812 | 703 33092 01163+ | 7462 56599+ | 20 | |
| | 50 | 71 46859 87005 | 811 90085+ | 669 45629 44564+ | 6659 02579 | 10 | |
| **14** | 0 | 77 12671 77090+ | 834 32758 | 635 58970 41985+ | 5855 78737+ | 0 | **46** |
| | 10 | 82 78506 09848+ | 856 75830+ | 601 73114 63248 | 5052 85060+ | 50 | |
| | 20 | 88 44362 85679 | 879 19302 | 567 88061 78187+ | 4250 21532+ | 40 | |
| | 30 | 94 10242 04980+ | 901 63172+ | 534 03811 56655 | 3447 88138+ | 30 | |
| | 40 | 0,40899 76143 68153+ | 924 07443 | 500 20363 68516+ | 2645 84863+ | 20 | |
| | 50 | 0,40905 42067 75596+ | 946 52113 | 466 37717 83653 | 1844 11692+ | 10 | |
| **15** | 0 | 11 08014 27709+ | 968 97183 | 432 55873 71960 | 1042 68610+ | 0 | **45** |
| | 10 | 16 73983 24892+ | 5 65991 42652 | 398 74831 03349+ | 33 80241 55602+ | 50 | |
| | 20 | 22 39974 67545 | 5 66013 88521 | 364 94589 47747 | 33 79440 72653+ | 40 | |
| | 30 | 28 05988 56066 | 036 34790 | 331 15148 75093 | 8640 19748+ | 30 | |
| | 40 | 33 72024 90856 | 058 81458+ | 297 36508 55344+ | 7839 96872+ | 20 | |
| | 50 | 39 38083 72314+ | 081 28527 | 263 58668 58472 | 7040 04010+ | 10 | |
| **16** | 0 | 45 04165 00842 | 103 75995+ | 229 81628 54461+ | 6240 41147+ | 0 | **44** |
| | 10 | 50 70268 76837+ | 126 23864 | 196 05388 13314 | 5441 08268+ | 50 | |
| | 20 | 56 36395 00701+ | 148 72132+ | 162 29947 05045+ | 4642 05358+ | 40 | |
| | 30 | 62 02543 72833+ | 171 20801 | 128 55304 99687 | 3843 32403 | 30 | |
| | 40 | 67 68714 93634+ | 193 69869+ | 094 81461 67284 | 3044 89386+ | 20 | |
| | 50 | 73 34908 63504 | 216 19338+ | 061 08416 77897+ | 2246 76294+ | 10 | |
| **17** | 0 | 79 01124 82842+ | 238 69207+ | 2,44027 36170 01603 | 1448 93112 | 0 | **43** |
| | 10 | 84 67363 52050 | 261 19477 | 2,43993 64721 08491 | 33 70651 39824 | 50 | |
| | 20 | 90 33624 71527 | 283 70146+ | 959 94069 68667 | 33 69854 16415+ | 40 | |
| | 30 | 0,40995 99908 41674 | 306 21217 | 926 24215 52251+ | 9057 22872 | 30 | |
| | 40 | 0,41001 66214 62890+ | 328 72687+ | 892 55158 29379+ | 8260 59178 | 20 | |
| | 50 | 07 32543 35578 | 351 24558+ | 858 86897 70201 | 7464 25319+ | 10 | |
| **18** | 0 | 12 98894 60137 | 373 76830+ | 825 19433 44881+ | 6668 21281 | 0 | **42** |
| | 10 | 18 65268 36967 | 396 29502+ | 791 52765 23600+ | 5872 47048 | 50 | |
| | 20 | 24 31664 66469+ | 418 82575+ | 757 86892 76553 | 5077 02605 | 40 | |
| | 30 | 29 98083 49045+ | 441 36049+ | 724 21815 73948 | 4281 87938 | 30 | |
| | 40 | 35 64524 85094+ | 463 89924 | 690 57533 86010 | 3487 03032 | 20 | |
| | 50 | 41 30988 75018+ | 486 44199 | 656 94046 82978 | 2692 47871+ | 10 | |
| **19** | 0 | 46 97475 19217+ | 508 98875+ | 623 31354 35106+ | 1898 22442+ | 0 | **41** |
| | 10 | 52 63984 18093 | 531 53952+ | 589 69456 12663+ | 1104 26730+ | 50 | |
| | 20 | 58 30515 72045+ | 554 09430+ | 556 08351 85933+ | 33 60310 60719+ | 40 | |
| | 30 | 63 97069 81476 | 576 65309+ | 522 48041 25214 | 33 59517 24395+ | 30 | |
| | 40 | 69 63646 46785+ | 599 21590 | 488 88524 00818+ | 8724 17744 | 20 | |
| | 50 | 75 30245 68375+ | 5 66621 78271+ | 455 29799 83074+ | 33 57931 40749+ | 10 | |
| **20** | 0 | 0,41080 96867 46647 | | 2,43421 71868 42325 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,41080 96867 46647 | 5 66644 35354 | 2,43421 71868 42325 | 33 57138 93398 | 0 | **40** |
| | 10 | 86 63511 82001 | 666 92838 | 388 14729 48927+ | 6346 75674 | 50 | |
| | 20 | 92 30178 74839 | 689 50723 | 354 58382 73253+ | 5554 87563+ | 40 | |
| | 30 | 0,41097 96868 25562 | 712 09009+ | 321 02827 85690 | 4763 29051 | 30 | |
| | 40 | 0,41103 63580 34571+ | 734 67697+ | 287 48064 56639 | 3972 00122+ | 20 | |
| | 50 | 09 30315 02269 | 757 26787 | 253 94092 56516 | 3181 00763+ | 10 | |
| **21** | 0 | 14 97072 29056 | 779 86278 | 220 40911 55753 | 2390 30958+ | 0 | **39** |
| | 10 | 20 63852 15334 | 802 46170+ | 186 88521 24794+ | 1599 90693 | 50 | |
| | 20 | 26 30654 61504 | 825 06464+ | 153 36921 34101+ | 0809 79953 | 40 | |
| | 30 | 31 97479 67969 | 847 67160+ | 119 86111 54148+ | 33 50019 98723 | 30 | |
| | 40 | 37 64327 35129 | 870 28258 | 086 36091 55425+ | 33 49230 46988+ | 20 | |
| | 50 | 43 31197 63387 | 892 89757 | 052 86861 08437 | 8441 24735+ | 10 | |
| **22** | 0 | 48 98090 53144 | 915 51658+ | 2,43019 38419 83701 | 7652 31949 | 0 | **38** |
| | 10 | 54 65006 04802+ | 938 13961+ | 2,42985 90767 51752+ | 6863 68614 | 50 | |
| | 20 | 60 31944 18764 | 960 76666+ | 952 43903 83138+ | 6075 34716+ | 40 | |
| | 30 | 65 98904 95430+ | 5 66983 39773+ | 918 97828 48422 | 5287 30241 | 30 | |
| | 40 | 71 65888 35204 | 5 67006 03282+ | 885 52541 18181 | 4499 55174 | 20 | |
| | 50 | 77 32894 38486+ | 028 67194 | 852 08041 63007 | 3712 09500 | 10 | |
| **23** | 0 | 82 99923 05680+ | 051 31507 | 818 64329 53506+ | 2924 93205+ | 0 | **37** |
| | 10 | 88 66974 37187+ | 073 96222+ | 785 21404 60301+ | 2138 06274+ | 50 | |
| | 20 | 0,41194 34048 33410 | 096 61340+ | 751 79266 54026+ | 1351 48693+ | 40 | |
| | 30 | 0,41200 01144 94750+ | 119 26860+ | 718 37915 05333 | 33 40565 20447+ | 30 | |
| | 40 | 05 68264 21611 | 141 92783 | 684 97349 84885+ | 33 39779 21522+ | 20 | |
| | 50 | 11 35406 14394+ | 164 59108 | 651 57570 63363 | 8993 51903 | 10 | |
| **24** | 0 | 17 02570 73502+ | 187 25835+ | 618 18577 11460 | 8208 11575+ | 0 | **36** |
| | 10 | 22 69757 99338 | 209 92965+ | 584 80368 99884+ | 7423 00525 | 50 | |
| | 20 | 28 36967 92303+ | 232 60498 | 551 42945 99359+ | 6638 18736+ | 40 | |
| | 30 | 34 04200 52801+ | 255 28433 | 518 06307 80623 | 5853 66196+ | 30 | |
| | 40 | 39 71455 81234+ | 277 96771 | 484 70454 14426+ | 5069 42889+ | 20 | |
| | 50 | 45 38733 78006 | 300 65511+ | 451 35384 71537 | 4285 48802 | 10 | |
| **25** | 0 | 51 06034 43517+ | 323 34655 | 418 01099 22735 | 3501 83919 | 0 | **35** |
| | 10 | 56 73357 78172+ | 346 04201+ | 384 67597 38816 | 2718 48226 | 50 | |
| | 20 | 62 40703 82374 | 368 74150+ | 351 34878 90590 | 1935 41708+ | 40 | |
| | 30 | 68 08072 56525 | 391 44503 | 318 02943 48881+ | 1152 64352+ | 30 | |
| | 40 | 73 75464 01027+ | 414 15258 | 284 71790 84529 | 33 30370 16143 | 20 | |
| | 50 | 79 42878 16286 | 436 86416+ | 251 41420 68386 | 33 29587 97066 | 10 | |
| **26** | 0 | 85 10315 02702 | 459 57977+ | 218 11832 71320+ | 8806 07107 | 0 | **34** |
| | 10 | 90 77774 60679+ | 482 29942 | 184 83026 64213+ | 8024 46251 | 50 | |
| | 20 | 0,41296 45256 90622 | 505 02310 | 151 55002 17962+ | 7243 14484+ | 40 | |
| | 30 | 0,41302 12761 92932 | 527 75081 | 118 27759 03477+ | 6462 11793 | 30 | |
| | 40 | 07 80289 68013 | 550 48255+ | 085 01296 91684+ | 5681 38161+ | 20 | |
| | 50 | 13 47840 16268+ | 573 21833+ | 051 75615 53523+ | 4900 93576 | 10 | |
| **27** | 0 | 19 15413 38102 | 595 95814+ | 2,42018 50714 59947+ | 4120 78022 | 0 | **33** |
| | 10 | 24 83009 33916+ | 618 70199+ | 2,41985 26593 81925+ | 3340 91485+ | 50 | |
| | 20 | 30 50628 04116 | 641 44987+ | 952 03252 90440 | 2561 33951+ | 40 | |
| | 30 | 36 18269 49103+ | 664 20179+ | 918 80691 56488+ | 1782 05406+ | 30 | |
| | 40 | 41 85933 69283 | 686 95775 | 885 58909 51082 | 1003 05835+ | 20 | |
| | 50 | 47 53620 65058 | 709 71774+ | 852 37906 45246+ | 33 20224 35224+ | 10 | |
| **28** | 0 | 53 21330 36832+ | 732 48177+ | 819 17682 10022 | 33 19445 93559 | 0 | **32** |
| | 10 | 58 89062 85010 | 755 24984+ | 785 98236 16463+ | 8667 80824+ | 50 | |
| | 20 | 64 56818 09994 | 778 02195 | 752 79568 35638+ | 7889 97007+ | 40 | |
| | 30 | 70 24596 12189+ | 800 79810 | 719 61678 38631 | 7112 42093 | 30 | |
| | 40 | 75 92396 91999 | 823 57828+ | 686 44565 96538 | 6335 16067 | 20 | |
| | 50 | 81 60220 49827+ | 846 36251 | 653 28230 80471 | 5558 18915 | 10 | |
| **29** | 0 | 87 28066 86078+ | 869 15078 | 620 12672 61555+ | 4781 50623+ | 0 | **31** |
| | 10 | 92 95936 01156+ | 891 94309 | 586 97891 10932+ | 4005 11177 | 50 | |
| | 20 | 0,41398 63827 95465+ | 914 73944 | 553 83885 99755+ | 3229 00562 | 40 | |
| | 30 | 0,41404 31742 69409+ | 937 53983+ | 520 70656 99193+ | 2453 18764+ | 30 | |
| | 40 | 09 99680 23393 | 960 34427 | 487 58203 80429 | 1677 65770 | 20 | |
| | 50 | 15 67640 57820 | 5 67983 15275 | 454 46526 14659 | 33 10902 41564 | 10 | |
| **30** | 0 | 0,41421 35623 73095 | | 2,41421 35623 73095 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,41421 35623 73095 | 5 68005 96527+ | 2,41421 35623 73095 | 33 10127 46132+ | 0 | **30** |
| | 10 | 27 03629 69622+ | 028 78184+ | 388 25496 26962+ | 33 09352 79461+ | 50 | |
| | 20 | 32 71658 47807+ | 051 60246 | 355 16143 47501 | 8578 41536+ | 40 | |
| | 30 | 38 39710 08053+ | 074 42712 | 322 07565 05964+ | 7804 32344 | 30 | |
| | 40 | 44 07784 50765+ | 097 25583 | 288 99760 73620+ | 7030 51868+ | 20 | |
| | 50 | 49 75881 76348 | 120 08858 | 255 92730 21752 | 6257 00097+ | 10 | |
| **31** | 0 | 55 44001 85206+ | 142 92538 | 222 86473 21654+ | 5483 77015+ | 0 | **29** |
| | 10 | 61 12144 77744+ | 165 76623 | 189 80989 44639+ | 4710 82609 | 50 | |
| | 20 | 66 80310 54367+ | 188 61113 | 156 76278 62030+ | 3938 16863+ | 40 | |
| | 30 | 72 48499 15480+ | 211 46007+ | 123 72340 45167 | 3165 79765 | 30 | |
| | 40 | 78 16710 61488 | 234 31307 | 090 69174 65402 | 2393 71300 | 20 | |
| | 50 | 83 84944 92795 | 257 17011+ | 057 66780 94102 | 1621 91453+ | 10 | |
| **32** | 0 | 89 53202 09806+ | 280 03121+ | 2,41024 65159 02648+ | 0850 40212 | 0 | **28** |
| | 10 | 0,41495 21482 12928 | 302 89636 | 2,40991 64308 62436+ | 33 00079 17561 | 50 | |
| | 20 | 0,41500 89785 02564 | 325 76556 | 958 64229 44875+ | 32 99308 23486+ | 40 | |
| | 30 | 06 58110 79120 | 348 63881 | 925 64921 21389 | 8537 57974+ | 30 | |
| | 40 | 12 26459 43001+ | 371 51611+ | 892 66383 63414+ | 7767 21011 | 20 | |
| | 50 | 17 94830 94613 | 394 39747+ | 859 68616 42403 | 6997 12582 | 10 | |
| **33** | 0 | 23 63225 34360+ | 417 28288+ | 826 71619 29821 | 6227 32673+ | 0 | **27** |
| | 10 | 29 31642 62649 | 440 17235+ | 793 75391 97147+ | 5457 81271 | 50 | |
| | 20 | 35 00082 79884+ | 463 06587+ | 760 79934 15876+ | 4688 58361 | 40 | |
| | 30 | 40 68545 86471+ | 485 96345 | 727 85245 57515+ | 3919 63929 | 30 | |
| | 40 | 46 37031 82817 | 508 86508+ | 694 91325 93586+ | 3150 97961+ | 20 | |
| | 50 | 52 05540 69325 | 531 77077 | 661 98174 95625 | 2382 60444 | 10 | |
| **34** | 0 | 57 74072 46402+ | 554 68052 | 629 05792 35181 | 1614 51363 | 0 | **26** |
| | 10 | 63 42627 14454 | 577 59432+ | 596 14177 83818 | 0846 70704 | 50 | |
| | 20 | 69 11204 73886+ | 600 51218+ | 563 23331 13114+ | 32 90079 18453 | 40 | |
| | 30 | 74 79805 25105 | 623 43410+ | 530 33251 94661 | 32 89311 94596+ | 30 | |
| | 40 | 80 48428 68515+ | 646 36008+ | 497 43940 00064+ | 8544 99120+ | 20 | |
| | 50 | 86 17075 04524 | 669 29012+ | 464 55395 00944 | 7778 32011 | 10 | |
| **35** | 0 | 91 85744 33536+ | 692 22422+ | 431 67616 68933 | 7011 93253+ | 0 | **25** |
| | 10 | 0,41597 54436 55959+ | 715 16239 | 398 80604 75679 | 6245 82835 | 50 | |
| | 20 | 0,41603 23151 72198 | 738 10461 | 365 94358 92844+ | 5480 00740+ | 40 | |
| | 30 | 08 91889 82659+ | 761 05089+ | 333 08878 92103+ | 4714 46957 | 30 | |
| | 40 | 14 60650 87749 | 784 00124+ | 300 24164 45146+ | 3949 21470 | 20 | |
| | 50 | 20 29434 87873+ | 806 95565+ | 267 40215 23676+ | 3184 24266 | 10 | |
| **36** | 0 | 25 98241 83438+ | 829 91413 | 234 57030 99410 | 2419 55331 | 0 | **24** |
| | 10 | 31 67071 74851+ | 852 87666+ | 201 74611 44079 | 1655 14651 | 50 | |
| | 20 | 37 35924 62518+ | 875 84327 | 168 92956 29428 | 0891 02212 | 40 | |
| | 30 | 43 04800 46845+ | 898 81394 | 136 12065 27216 | 32 80127 18000+ | 30 | |
| | 40 | 48 73699 28239 | 921 78867+ | 103 31938 09215 | 32 79363 62002+ | 20 | |
| | 50 | 54 42621 07106+ | 944 76747+ | 070 52574 47212+ | 8600 34204 | 10 | |
| **37** | 0 | 60 11565 83853+ | 967 75034 | 037 73974 13008+ | 7837 34591 | 0 | **23** |
| | 10 | 65 80533 58888 | 5 68990 73727+ | 2,40004 96136 78417+ | 7074 63150+ | 50 | |
| | 20 | 71 49524 32615+ | 5 69013 72828 | 2,39972 19062 15267 | 6312 19867+ | 40 | |
| | 30 | 77 18538 05443 | 036 72335 | 939 42749 95399+ | 5550 04729 | 30 | |
| | 40 | 82 87574 77778 | 059 72249 | 906 67199 90670+ | 4788 17721 | 20 | |
| | 50 | 88 56634 50027+ | 082 72570 | 873 92411 72949+ | 4026 58829+ | 10 | |
| **38** | 0 | 94 25717 22597+ | 105 73298 | 841 18385 14119+ | 3265 28041 | 0 | **22** |
| | 10 | 0,41699 94822 95895+ | 128 74433 | 808 45119 86078+ | 2504 25341+ | 50 | |
| | 20 | 0,41705 63951 70329 | 151 75975+ | 775 72615 60737 | 1743 50717+ | 40 | |
| | 30 | 11 33103 46304 | 174 77925 | 743 00872 10019 | 0983 04155 | 30 | |
| | 40 | 17 02278 24229 | 197 80281+ | 710 29889 05864 | 32 70222 85640+ | 20 | |
| | 50 | 22 71476 04510+ | 220 83045+ | 677 59666 20224 | 32 69462 95159+ | 10 | |
| **39** | 0 | 28 40696 87556 | 243 86217 | 644 90203 25064+ | 8703 32699 | 0 | **21** |
| | 10 | 34 09940 73773 | 266 89795+ | 612 21499 92365 | 7943 98245 | 50 | |
| | 20 | 39 79207 63568+ | 289 93781+ | 579 53555 94120 | 7184 91784 | 40 | |
| | 30 | 45 48497 57350 | 312 98175+ | 546 86371 02335+ | 6426 13302+ | 30 | |
| | 40 | 51 17810 55525+ | 336 02976+ | 514 19944 89033+ | 5667 62786 | 20 | |
| | 50 | 56 87146 58502 | 5 69359 08185+ | 481 54277 26247+ | 32 64909 40221 | 10 | |
| **40** | 0 | 0,41762 56505 66687+ | | 2,39448 89367 86026+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,41762 56505 66687+ | 5 69382 13802 | 2,39448 89367 86026+ | 32 64151 45594 | 0 | **20** |
| | 10 | 68 25887 80489+ | 405 19826 | 416 25216 40432+ | 3393 78892 | 50 | |
| | 20 | 73 95293 00315+ | 428 26258 | 383 61822 61540+ | 2636 40100 | 40 | |
| | 30 | 79 64721 26573+ | 451 33098 | 350 99186 21440+ | 1879 29205+ | 30 | |
| | 40 | 85 34172 59671+ | 474 40346 | 318 37306 92235+ | 1122 46194 | 20 | |
| | 50 | 91 03647 00017+ | 497 48001+ | 285 76184 46041+ | 32 60365 91052 | 10 | |
| **41** | 0 | 0,41796 73144 48018+ | 520 56065 | 253 15818 54989+ | 32 59609 63766+ | 0 | **19** |
| | 10 | 0,41802 42665 04084 | 543 64537 | 220 56208 91223 | 8853 64323 | 50 | |
| | 20 | 08 12208 68621 | 566 73417 | 187 97355 26899+ | 8097 92709 | 40 | |
| | 30 | 13 81775 42037+ | 589 82705 | 155 39257 34191 | 7342 48909+ | 30 | |
| | 40 | 19 51365 24742+ | 612 92401 | 122 81914 85281+ | 6587 32912 | 20 | |
| | 50 | 25 20978 17143+ | 636 02505+ | 090 25327 52369+ | 5832 44702 | 10 | |
| **42** | 0 | 30 90614 19649 | 659 13018+ | 057 69495 07667+ | 5077 84267 | 0 | **18** |
| | 10 | 36 60273 32667+ | 682 23939+ | 2,39025 14417 23400+ | 4323 51592+ | 50 | |
| | 20 | 42 29955 56607 | 705 35269+ | 2,38992 60093 71808 | 3569 46665 | 40 | |
| | 30 | 47 99660 91876+ | 728 47007+ | 960 06524 25143 | 2815 69471+ | 30 | |
| | 40 | 53 69389 38884 | 751 59154+ | 927 53708 55672 | 2062 19998 | 20 | |
| | 50 | 59 39140 98038+ | 774 71709+ | 895 01646 35674 | 1308 98231 | 10 | |
| **43** | 0 | 65 08915 69748 | 797 84673+ | 862 50337 37443 | 32 50556 04157 | 0 | **17** |
| | 10 | 70 78713 54421+ | 820 98046+ | 829 99781 33286 | 32 49803 37762+ | 50 | |
| | 20 | 76 48534 52468 | 844 11828 | 797 49977 95523+ | 9050 99034 | 40 | |
| | 30 | 82 18378 64296 | 867 26018 | 765 00926 96489+ | 8298 87958 | 30 | |
| | 40 | 87 88245 90314 | 890 40617+ | 732 52628 08531+ | 7547 04521 | 20 | |
| | 50 | 93 58136 30931 | 913 55625+ | 700 05081 04011 | 6795 48709 | 10 | |
| **44** | 0 | 0,41899 28049 86556+ | 936 71042+ | 667 58285 55301+ | 6044 20509+ | 0 | **16** |
| | 10 | 0,41904 97986 57599 | 959 86868+ | 635 12241 34792+ | 5293 19908 | 50 | |
| | 20 | 10 67946 44468 | 5 69983 03104 | 602 66948 14884+ | 4542 46892 | 40 | |
| | 30 | 16 37929 47571+ | 5 70006 19748+ | 570 22405 67992+ | 3792 01447 | 30 | |
| | 40 | 22 07935 67320 | 029 36802 | 537 78613 66545+ | 3041 83560+ | 20 | |
| | 50 | 27 77965 04122 | 052 54265 | 505 35571 82985 | 2291 93218 | 10 | |
| **45** | 0 | 33 48017 58387 | 075 72137 | 472 93279 89767 | 1542 30407+ | 0 | **15** |
| | 10 | 39 18093 30524 | 098 90418+ | 440 51737 59359+ | 0792 95114 | 50 | |
| | 20 | 44 88192 20942+ | 122 09109+ | 408 10944 64245+ | 32 40043 87325 | 40 | |
| | 30 | 50 58314 30052 | 145 28210 | 375 70900 76920+ | 32 39295 07027 | 30 | |
| | 40 | 56 28459 58262 | 168 47720 | 343 31605 69893+ | 8546 54206+ | 20 | |
| | 50 | 61 98628 05982 | 191 67639+ | 310 93059 15686+ | 7798 28850 | 10 | |
| **46** | 0 | 67 68819 73622 | 214 87969 | 278 55260 86836+ | 7050 30944+ | 0 | **14** |
| | 10 | 73 39034 61591 | 238 08708 | 246 18210 55892 | 6302 60476 | 50 | |
| | 20 | 79 09272 70299 | 261 29856+ | 213 81907 95416 | 5555 17431+ | 40 | |
| | 30 | 84 79534 00155+ | 284 51415+ | 181 46352 77984+ | 4808 01797+ | 30 | |
| | 40 | 90 49818 51571 | 307 73383+ | 149 11544 76186+ | 4061 13561 | 20 | |
| | 50 | 0,41996 20126 24954+ | 330 95762 | 116 77483 62626 | 3314 52708 | 10 | |
| **47** | 0 | 0,42001 90457 20717 | 354 18550+ | 084 44169 09918 | 2568 19225+ | 0 | **13** |
| | 10 | 07 60811 39267 | 377 41749 | 052 11600 90692+ | 1822 13100+ | 50 | |
| | 20 | 13 31188 81016 | 400 65357 | 2,38019 79778 77592 | 1076 34319 | 40 | |
| | 30 | 19 01589 46373 | 423 89376 | 2,37987 48702 43273 | 32 30330 82868 | 30 | |
| | 40 | 24 72013 35749 | 447 13804+ | 955 18371 60405 | 32 29585 58734+ | 20 | |
| | 50 | 30 42460 49553+ | 470 38643+ | 922 88786 01670+ | 8840 61904+ | 10 | |
| **48** | 0 | 36 12930 88197+ | 493 63893 | 890 59945 39765+ | 8095 92365+ | 0 | **12** |
| | 10 | 41 83424 52090+ | 516 89553 | 858 31849 47400 | 7351 50104 | 50 | |
| | 20 | 47 53941 41643+ | 540 15623 | 826 04497 97296 | 6607 35106 | 40 | |
| | 30 | 53 24481 57266+ | 563 42103+ | 793 77890 62190 | 5863 47359 | 30 | |
| | 40 | 58 95044 99370 | 586 68995 | 761 52027 14831 | 5119 86849+ | 20 | |
| | 50 | 64 65631 68365 | 609 96296+ | 729 26907 27981+ | 4376 53564+ | 10 | |
| **49** | 0 | 70 36241 64661+ | 633 24009 | 697 02530 74417 | 3633 47490 | 0 | **11** |
| | 10 | 76 06874 88670+ | 656 52132 | 664 78897 26927 | 2890 68613+ | 50 | |
| | 20 | 81 77531 40803 | 679 80666 | 632 56006 58313 | 2148 16922 | 40 | |
| | 30 | 87 48211 21469 | 703 09611 | 600 33858 41391+ | 1405 92401+ | 30 | |
| | 40 | 93 18914 31079+ | 726 38966+ | 568 12452 48990 | 32 20663 95039 | 20 | |
| | 50 | 0,42098 89640 70046 | 5 70749 68733 | 535 91788 53951+ | 32 19922 24821 | 10 | |
| **50** | 0 | 0,42104 60390 38779 | | 2,37503 71866 29130 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

# 22°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,42104 60390 38779 | 5 70772 98910+ | 2,37503 71866 29130 | 32 19180 81735+ | 0 | **10** |
| | 10 | 10 31163 37689 | 796 29499 | 471 52685 47394+ | 8439 65768 | 50 | |
| | 20 | 16 01959 67188 | 819 60498+ | 439 34245 81626+ | 7698 76906 | 40 | |
| | 30 | 21 72779 27686 | 842 91909 | 407 16547 04720+ | 6958 15136 | 30 | |
| | 40 | 27 43622 19595 | 866 23731 | 374 99588 89584+ | 6217 80445 | 20 | |
| | 50 | 33 14488 43326 | 889 55964 | 342 83371 09139+ | 5477 72820 | 10 | |
| **51** | 0 | 38 85377 99290+ | 912 88608+ | 310 67893 36319 | 4737 92248 | 0 | **9** |
| | 10 | 44 56290 87899 | 936 21664+ | 278 53155 44071+ | 3998 38715 | 50 | |
| | 20 | 50 27227 09563+ | 959 55132 | 246 39157 05356+ | 3259 12208+ | 40 | |
| | 30 | 55 98186 64695 | 5 70982 89010+ | 214 25897 93148 | 2520 12715+ | 30 | |
| | 40 | 61 69169 53705+ | 5 71006 23301 | 182 13377 80433 | 1781 40222+ | 20 | |
| | 50 | 67 40175 77006+ | 029 58002+ | 150 01596 40210+ | 1042 94716+ | 10 | |
| **52** | 0 | 73 11205 35009+ | 052 93116 | 117 90553 45494 | 32 10304 76184+ | 0 | **8** |
| | 10 | 78 82258 28125+ | 076 28641+ | 085 80248 69310 | 32 09566 84613 | 50 | |
| | 20 | 84 53334 56767 | 099 64578+ | 053 70681 84697 | 8829 19989+ | 40 | |
| | 30 | 90 24434 21345+ | 123 00927 | 2,37021 61852 64707 | 8091 82301 | 30 | |
| | 40 | 0,42195 95557 22272+ | 146 37688 | 2,36989 53760 82406+ | 7354 71534 | 20 | |
| | 50 | 0,42201 66703 59960+ | 169 74860+ | 957 46406 10872+ | 6617 87675 | 10 | |
| **53** | 0 | 07 37873 34820+ | 193 12445 | 925 39788 23197+ | 5881 30712 | 0 | **7** |
| | 10 | 13 09066 47265+ | 216 50441+ | 893 33906 92485 | 5145 00631+ | 50 | |
| | 20 | 18 80282 97707 | 239 88850 | 861 28761 91853+ | 4408 97420+ | 40 | |
| | 30 | 24 51522 86557+ | 263 27671 | 829 24352 94433+ | 3673 21065+ | 30 | |
| | 40 | 30 22786 14228+ | 286 66904 | 797 20679 73368 | 2937 71554 | 20 | |
| | 50 | 35 94072 81132+ | 310 06549+ | 765 17742 01814 | 2202 48873 | 10 | |
| **54** | 0 | 41 65382 87682 | 333 46607 | 733 15539 52941 | 1467 53009 | 0 | **6** |
| | 10 | 47 36716 34289 | 356 87077 | 701 14071 99932 | 32 00732 83949+ | 50 | |
| | 20 | 53 08073 21365+ | 380 27959+ | 669 13339 15982+ | 31 99998 41681+ | 40 | |
| | 30 | 58 79453 49325 | 403 69254 | 637 13340 74301 | 9264 26191+ | 30 | |
| | 40 | 64 50857 18579 | 427 10961+ | 605 14076 48109+ | 8530 37467+ | 20 | |
| | 50 | 70 22284 29540+ | 450 53081+ | 573 15546 10642 | 7796 75495+ | 10 | |
| **55** | 0 | 75 93734 82622 | 473 95614 | 541 17749 35146+ | 7063 40263 | 0 | **5** |
| | 10 | 81 65208 78236+ | 497 38559+ | 509 20685 94884 | 6330 31756+ | 50 | |
| | 20 | 87 36706 16796 | 520 81917+ | 477 24355 63127 | 5597 49964+ | 40 | |
| | 30 | 93 08226 98713+ | 544 25688+ | 445 28758 13163 | 4864 94872+ | 30 | |
| | 40 | 0,42298 79771 24402 | 567 69872+ | 413 33893 18290+ | 4132 66468+ | 20 | |
| | 50 | 0,42304 51338 94274+ | 591 14469 | 381 39760 51822 | 3400 64739 | 10 | |
| **56** | 0 | 10 22930 08743+ | 614 59478+ | 349 46359 87083+ | 2668 89671+ | 0 | **4** |
| | 10 | 15 94544 68222 | 638 04901+ | 317 53690 97412 | 1937 41253 | 50 | |
| | 20 | 21 66182 73123+ | 661 50737+ | 285 61753 56159 | 1206 19470+ | 40 | |
| | 30 | 27 37844 23860+ | 684 96986 | 253 70547 36689 | 31 90475 24311 | 30 | |
| | 40 | 33 09529 20847 | 708 43648+ | 221 80072 12378 | 31 89744 55762 | 20 | |
| | 50 | 38 81237 64495+ | 731 90724 | 189 90327 56616 | 9014 13810 | 10 | |
| **57** | 0 | 44 52969 55219 | 755 38212+ | 158 01313 42806 | 8283 98443 | 0 | **3** |
| | 10 | 50 24724 93432 | 778 86115 | 126 13029 44362+ | 7554 09647+ | 50 | |
| | 20 | 55 96503 79546+ | 802 34430+ | 094 25475 34715 | 6824 47411 | 40 | |
| | 30 | 61 68306 13977 | 825 83159+ | 062 38650 87304 | 6095 11720+ | 30 | |
| | 40 | 67 40131 97136+ | 849 32302 | 2,36030 52555 75583+ | 5366 02563 | 20 | |
| | 50 | 73 11981 29438+ | 872 81858 | 2,35998 67189 73020 | 4637 19926 | 10 | |
| **58** | 0 | 78 83854 11296+ | 896 31828 | 966 82552 53094 | 3908 63796+ | 0 | **2** |
| | 10 | 84 55750 43124+ | 919 82211+ | 934 98643 89298 | 3180 34161+ | 50 | |
| | 20 | 90 27670 25336 | 943 33009 | 903 15463 55136+ | 2452 31008+ | 40 | |
| | 30 | 0,42395 99613 58345 | 966 84220 | 871 33011 24128 | 1724 54324+ | 30 | |
| | 40 | 0,42401 71580 42565 | 5 71990 35845 | 839 51286 69803+ | 0997 04097 | 20 | |
| | 50 | 07 43570 78410+ | 5 72013 87884 | 807 70289 65706+ | 31 80269 80313 | 10 | |
| **59** | 0 | 13 15584 66294+ | 037 40337 | 775 90019 85393+ | 31 79542 82959+ | 0 | **1** |
| | 10 | 18 87622 06631+ | 060 93204 | 744 10477 02434 | 8816 12024 | 50 | |
| | 20 | 24 59682 99835+ | 084 46485 | 712 31660 90410 | 8089 67494 | 40 | |
| | 30 | 30 31767 46320+ | 108 00180+ | 680 53571 22915+ | 7363 49356+ | 30 | |
| | 40 | 36 03875 46501 | 131 54290 | 648 76207 73559 | 6637 57598+ | 20 | |
| | 50 | 41 76007 00791 | 5 72155 08813+ | 616 99570 15960+ | 31 75911 92207+ | 10 | |
| **60** | 0 | 0,42447 48162 09604+ | | 2,35585 23658 23753 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 67°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,42447 48162 09604+ | 5 72178 63752 | 2,35585 23658 23753 | 31 75186 53171 | 0 | **60** |
| | 10 | 53 20340 73356+ | 202 19104 | 553 48471 70581+ | 4461 40476 | 50 | |
| | 20 | 58 92542 92460+ | 225 74871 | 521 74010 30105+ | 3736 54110 | 40 | |
| | 30 | 64 64768 67332 | 249 31052+ | 490 00273 75995+ | 3011 94060 | 30 | |
| | 40 | 70 37017 98384+ | 272 87648+ | 458 27261 81936 | 2287 60313 | 20 | |
| | 50 | 76 09290 86033 | 296 44659 | 426 54974 21622+ | 1563 52857+ | 10 | |
| **1** | 0 | 81 81587 30692 | 320 02084+ | 394 83410 68765 | 0839 71679+ | 0 | **59** |
| | 10 | 87 53907 32776+ | 343 59924+ | 363 12570 97085+ | 31 70116 16767 | 50 | |
| | 20 | 93 26250 92700+ | 367 18179 | 331 42454 80318+ | 31 69392 88107+ | 40 | |
| | 30 | 0,42498 98618 10880 | 390 76848+ | 299 73061 92211 | 8669 85688 | 30 | |
| | 40 | 0,42504 71008 87728+ | 414 35933 | 268 04392 06522+ | 7947 09496 | 20 | |
| | 50 | 10 43423 23661+ | 437 95432+ | 236 36444 97027 | 7224 59518+ | 10 | |
| **2** | 0 | 16 15861 19094 | 461 55347 | 204 69220 37508 | 6502 35743+ | 0 | **58** |
| | 10 | 21 88322 74441 | 485 15676+ | 173 02718 01765 | 5780 38157+ | 50 | |
| | 20 | 27 60807 90117+ | 508 76421 | 141 36937 63607 | 5058 66749 | 40 | |
| | 30 | 33 33316 66538+ | 532 37581 | 109 71878 96858 | 4337 21504+ | 30 | |
| | 40 | 39 05849 04119 | 555 99156 | 078 07541 75353+ | 3616 02411+ | 20 | |
| | 50 | 44 78405 03275 | 579 61146 | 046 43925 72942 | 2895 09458 | 10 | |
| **3** | 0 | 50 50984 64421 | 603 23551+ | 2,35014 81030 63484 | 2174 42631 | 0 | **57** |
| | 10 | 56 23587 87973 | 626 86373 | 2,34983 18856 20853 | 1454 01917+ | 50 | |
| | 20 | 61 96214 74345+ | 650 49609 | 951 57402 18935+ | 0733 87305+ | 40 | |
| | 30 | 67 68865 23955 | 674 13261 | 919 96668 31630 | 31 60013 98782+ | 30 | |
| | 40 | 73 41539 37216 | 697 77329 | 888 36654 32847+ | 31 59294 36335+ | 20 | |
| | 50 | 79 14237 14545 | 721 41812 | 856 77359 96512 | 8574 99952+ | 10 | |
| **4** | 0 | 84 86958 56357 | 745 06711 | 825 18784 96559+ | 7855 89620 | 0 | **56** |
| | 10 | 90 59703 63067+ | 768 72025+ | 793 60929 06939+ | 7137 05326+ | 50 | |
| | 20 | 0,42596 32472 35093+ | 792 37756 | 762 03792 01613 | 6418 47059 | 40 | |
| | 30 | 0,42602 05264 72849 | 816 03902 | 730 47373 54554 | 5700 14805 | 30 | |
| | 40 | 07 78080 76751+ | 839 70464+ | 698 91673 39749 | 4982 08552 | 20 | |
| | 50 | 13 50920 47216 | 863 37442+ | 667 36691 31196+ | 4264 28287+ | 10 | |
| **5** | 0 | 19 23783 84658+ | 887 04836+ | 635 82427 02909 | 3546 73999+ | 0 | **55** |
| | 10 | 24 96670 89495 | 910 72647 | 604 28880 28909+ | 2829 45674+ | 50 | |
| | 20 | 30 69581 62142 | 934 40873+ | 572 76050 83235+ | 2112 43300+ | 40 | |
| | 30 | 36 42516 03015 | 958 09516 | 541 23938 39935 | 1395 66865 | 30 | |
| | 40 | 42 15474 12531 | 5 72981 78574+ | 509 72542 73069+ | 31 50679 16356 | 20 | |
| | 50 | 47 88455 91105+ | 5 73005 48050 | 478 21863 56713+ | 31 49962 91760+ | 10 | |
| **6** | 0 | 53 61461 39155+ | 029 17941+ | 446 71900 64953 | 9246 93066 | 0 | **54** |
| | 10 | 59 34490 57096+ | 052 88249 | 415 22653 71887 | 8531 20260+ | 50 | |
| | 20 | 65 07543 45346 | 076 58973+ | 383 74122 51626+ | 7815 73331 | 40 | |
| | 30 | 70 80620 04319+ | 100 30114+ | 352 26306 78295+ | 7100 52265+ | 30 | |
| | 40 | 76 53720 34434 | 124 01672 | 320 79206 26030 | 6385 57051+ | 20 | |
| | 50 | 82 26844 36106 | 147 73646 | 289 32820 68978+ | 5670 87676+ | 10 | |
| **7** | 0 | 87 99992 09752 | 171 46037 | 257 87149 81302 | 4956 44128 | 0 | **53** |
| | 10 | 93 73163 55789 | 195 18844+ | 226 42193 37173+ | 4242 26394 | 50 | |
| | 20 | 0,42699 46358 74633+ | 218 92069 | 194 97951 10780 | 3528 34461+ | 40 | |
| | 30 | 0,42705 19577 66702+ | 242 65710+ | 163 54422 76318+ | 2814 68318+ | 30 | |
| | 40 | 10 92820 32413 | 266 39768+ | 132 11608 07999+ | 2101 27952+ | 20 | |
| | 50 | 16 66086 72181+ | 290 14243+ | 100 69506 80047 | 1388 13351+ | 10 | |
| **8** | 0 | 22 39376 86425 | 313 89136 | 069 28118 66695+ | 31 40675 24502+ | 0 | **52** |
| | 10 | 28 12690 75561 | 337 64445+ | 037 87443 42193 | 31 39962 61393+ | 50 | |
| | 20 | 33 86028 40006+ | 361 40172 | 2,34006 47480 80799+ | 9250 24012+ | 40 | |
| | 30 | 39 59389 80178 | 385 16315+ | 2,33975 08230 56787 | 8538 12346 | 30 | |
| | 40 | 45 32774 96493+ | 408 92876+ | 943 69692 44441 | 7826 26383 | 20 | |
| | 50 | 51 06183 89370 | 432 69855 | 912 31866 18057+ | 7114 66110+ | 10 | |
| **9** | 0 | 56 79616 59225 | 456 47250+ | 880 94751 51947 | 6403 31516+ | 0 | **51** |
| | 10 | 62 53073 06475+ | 480 25063+ | 849 58348 20430+ | 5692 22588 | 50 | |
| | 20 | 68 26553 31539+ | 504 03294+ | 818 22655 97842+ | 4981 39313+ | 40 | |
| | 30 | 74 00057 34834 | 527 81942+ | 786 87674 58529 | 4270 81680+ | 30 | |
| | 40 | 79 73585 16776+ | 551 61008+ | 755 53403 76849 | 3560 49676 | 20 | |
| | 50 | 85 47136 77785 | 5 73575 40492 | 724 19843 27172+ | 31 32850 43289 | 10 | |
| **10** | 0 | 0,42791 20712 18276+ | | 2,33692 86992 83884 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,42791 20712 18276+ | 5 73599 20393 | 2,33692 86992 83884 | 31 32140 62506 | 0 | **50** |
| | 10 | 0,42796 94311 38670 | 623 00712 | 661 54852 21378 | 1431 07315+ | 50 | |
| | 20 | 0,42802 67934 39382 | 646 81449 | 630 23421 14062+ | 0721 77705 | 40 | |
| | 30 | 08 41581 20831 | 670 62603+ | 598 92699 36357+ | 31 30012 73662 | 30 | |
| | 40 | 14 15251 83434+ | 694 44176+ | 567 62686 62695+ | 31 29303 95174+ | 20 | |
| | 50 | 19 88946 27611 | 718 26167 | 536 33382 67521 | 8595 42230+ | 10 | |
| **11** | 0 | 25 62664 53778 | 742 08576 | 505 04787 25290 | 7887 14817+ | 0 | **49** |
| | 10 | 31 36406 62354 | 765 91403 | 473 76900 10472+ | 7179 12923+ | 50 | |
| | 20 | 37 10172 53757 | 789 74648 | 442 49720 97549+ | 6471 36535+ | 40 | |
| | 30 | 42 83962 28404+ | 813 58311 | 411 23249 61014 | 5763 85642+ | 30 | |
| | 40 | 48 57775 86716 | 837 42393 | 379 97485 75371+ | 5056 60231 | 20 | |
| | 50 | 54 31613 29108+ | 861 26893 | 348 72429 15140+ | 4349 60290 | 10 | |
| **12** | 0 | 60 05474 56001+ | 885 11811 | 317 48079 54850+ | 3642 85806+ | 0 | **48** |
| | 10 | 65 79359 67812+ | 908 97148 | 286 24436 69044 | 2936 36769 | 50 | |
| | 20 | 71 53268 64960+ | 932 82903+ | 255 01500 32275 | 2230 13164+ | 40 | |
| | 30 | 77 27201 47864 | 956 69077+ | 223 79270 19110+ | 1524 14981+ | 30 | |
| | 40 | 83 01158 16941+ | 5 73980 55670 | 192 57746 04129 | 0818 42207+ | 20 | |
| | 50 | 88 75138 72611+ | 5 74004 42681+ | 161 36927 61922 | 31 20112 94830+ | 10 | |
| **13** | 0 | 0,42894 49143 15293 | 028 30111+ | 130 16814 67091+ | 31 19407 72838 | 0 | **47** |
| | 10 | 0,42900 23171 45404+ | 052 17960+ | 098 97406 94253 | 8702 76218+ | 50 | |
| | 20 | 05 97223 63364+ | 076 06228 | 067 78704 18034+ | 7998 04959+ | 40 | |
| | 30 | 11 71299 69593 | 099 94914+ | 036 60706 13075 | 7293 59049 | 30 | |
| | 40 | 17 45399 64507+ | 123 84020+ | 2,33005 43412 54025+ | 6589 38475 | 20 | |
| | 50 | 23 19523 48528 | 147 73545 | 2,32974 26823 15550+ | 5885 43225 | 10 | |
| **14** | 0 | 28 93671 22073 | 171 63489 | 943 10937 72326 | 5181 73287 | 0 | **46** |
| | 10 | 34 67842 85562 | 195 53852 | 911 95755 99039 | 4478 28649 | 50 | |
| | 20 | 40 42038 39414 | 219 44634 | 880 81277 70390 | 3775 09299 | 40 | |
| | 30 | 46 16257 84048 | 243 35835+ | 849 67502 61091 | 3072 15225 | 30 | |
| | 40 | 51 90501 19883+ | 267 27456+ | 818 54430 45866 | 2369 46414+ | 20 | |
| | 50 | 57 64768 47339+ | 291 19496+ | 787 42060 99451+ | 1667 02856 | 10 | |
| **15** | 0 | 63 39059 66836 | 315 11956 | 756 30393 96595+ | 0964 84537 | 0 | **45** |
| | 10 | 69 13374 78792 | 339 04835 | 725 19429 12059 | 31 10262 91445+ | 50 | |
| | 20 | 74 87713 83627 | 362 98134 | 694 09166 20613+ | 31 09561 23569+ | 40 | |
| | 30 | 80 62076 81761 | 386 91852 | 662 99604 97044 | 8859 80897 | 30 | |
| | 40 | 86 36463 73613 | 410 85990 | 631 90745 16146+ | 8158 63416+ | 20 | |
| | 50 | 92 10874 59603+ | 434 80548 | 600 82586 52730+ | 7457 71115 | 10 | |
| **16** | 0 | 0,42997 85309 40151 | 458 75525 | 569 75128 81615+ | 6757 03981 | 0 | **44** |
| | 10 | 0,43003 59768 15676+ | 482 70922+ | 538 68371 77634+ | 6056 62002+ | 50 | |
| | 20 | 09 34250 86599 | 506 66740 | 507 62315 15632 | 5356 45167+ | 40 | |
| | 30 | 15 08757 53338+ | 530 62977 | 476 56958 70464+ | 4656 53464 | 30 | |
| | 40 | 20 83288 16315+ | 554 59634 | 445 52302 17000+ | 3956 86880 | 20 | |
| | 50 | 26 57842 75950 | 578 56711+ | 414 48345 30120+ | 3257 45403+ | 10 | |
| **17** | 0 | 32 32421 32661+ | 602 54209 | 383 45087 84717+ | 2558 29022 | 0 | **43** |
| | 10 | 38 07023 86870 | 626 52126+ | 352 42529 55695 | 1859 37724+ | 50 | |
| | 20 | 43 81650 38997 | 650 50464+ | 321 40670 17970+ | 1160 71499 | 40 | |
| | 30 | 49 56300 89461 | 674 49222+ | 290 39509 46471+ | 31 00462 30332+ | 30 | |
| | 40 | 55 30975 38683+ | 698 48401 | 259 39047 16139 | 30 99764 14214 | 20 | |
| | 50 | 61 05673 87085 | 722 48000 | 228 39283 01924+ | 9066 23131+ | 10 | |
| **18** | 0 | 66 80396 35085 | 746 48019+ | 197 40216 78793+ | 8368 57072+ | 0 | **42** |
| | 10 | 72 55142 83104+ | 770 48459+ | 166 41848 21721 | 7671 16025+ | 50 | |
| | 20 | 78 29913 31564 | 794 49320 | 135 44177 05695+ | 6973 99978+ | 40 | |
| | 30 | 84 04707 80884 | 818 50601+ | 104 47203 05717 | 6277 08919+ | 30 | |
| | 40 | 89 79526 31485 | 842 52303 | 073 50925 96797+ | 5580 42837 | 20 | |
| | 50 | 0,43095 54368 83788+ | 866 54426 | 042 55345 53960+ | 4884 01718+ | 10 | |
| **19** | 0 | 0,43101 29235 38214 | 890 56969+ | 2,32011 60461 52242 | 4187 85552+ | 0 | **41** |
| | 10 | 07 04125 95183+ | 914 59934 | 2,31980 66273 66689 | 3491 94327+ | 50 | |
| | 20 | 12 79040 55117+ | 938 63319 | 949 72781 72362 | 2796 28030+ | 40 | |
| | 30 | 18 53979 18436+ | 962 67125+ | 918 79985 44331 | 2100 86651 | 30 | |
| | 40 | 24 28941 85562 | 5 74986 71353 | 887 87884 57680+ | 1405 70176 | 20 | |
| | 50 | 30 03928 56915 | 5 75010 76001+ | 856 96478 87504+ | 30 90710 78594 | 10 | |
| **20** | 0 | 0,43135 78939 32916+ | | 2,31826 05768 08910+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

# 23°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,43135 78939 32916+ | 5 75034 81071 | 2,31826 05768 08910+ | 30 90016 11893+ | 0 | **40** |
| | 10 | 41 53974 13987+ | 058 86562 | 795 15751 97017 | 30 89321 70062+ | 50 | |
| | 20 | 47 29033 00550 | 082 92474+ | 764 26430 26954+ | 8627 53089 | 40 | |
| | 30 | 53 04115 93024 | 106 98808 | 733 37802 73866 | 7933 60961 | 30 | |
| | 40 | 58 79222 91832 | 131 05563 | 702 49869 12905 | 7239 93667 | 20 | |
| | 50 | 64 54353 97395 | 155 12739+ | 671 62629 19237+ | 6546 51195+ | 10 | |
| **21** | 0 | 70 29509 10134 | 179 20337+ | 640 76082 68042 | 5853 33534+ | 0 | **39** |
| | 10 | 76 04688 30471+ | 203 28357 | 609 90229 34507+ | 5160 40671+ | 50 | |
| | 20 | 81 79891 58828+ | 227 36798 | 579 05068 93836 | 4467 72595+ | 40 | |
| | 30 | 87 55118 95626 | 251 45661 | 548 20601 21240+ | 3775 29294+ | 30 | |
| | 40 | 93 30370 41287 | 275 54945+ | 517 36825 91946 | 3083 10757 | 20 | |
| | 50 | 0,43199 05645 96232+ | 299 64652 | 486 53742 81189 | 2391 16970+ | 10 | |
| **22** | 0 | 0,43204 80945 60884+ | 323 74780 | 455 71351 64219 | 1699 47924 | 0 | **38** |
| | 10 | 10 56269 35664+ | 347 85330+ | 424 89652 16295 | 1008 03605 | 50 | |
| | 20 | 16 31617 20995 | 371 96302+ | 394 08644 12690 | 30 80316 84002+ | 40 | |
| | 30 | 22 06989 17297+ | 396 07697 | 363 28327 28687+ | 30 79625 89104+ | 30 | |
| | 40 | 27 82385 24994+ | 420 19513 | 332 48701 39583 | 8935 18899 | 20 | |
| | 50 | 33 57805 44507+ | 444 31751+ | 301 69766 20683+ | 8244 73375 | 10 | |
| **23** | 0 | 39 33249 76259 | 468 44412+ | 270 91521 47309 | 7554 52520 | 0 | **37** |
| | 10 | 45 08718 20671+ | 492 57495+ | 240 13966 94789 | 6864 56322+ | 50 | |
| | 20 | 50 84210 78167 | 516 71000+ | 209 37102 38467 | 6174 84770+ | 40 | |
| | 30 | 56 59727 49167+ | 540 84928+ | 178 60927 53696 | 5485 37853 | 30 | |
| | 40 | 62 35268 34096 | 564 99278+ | 147 85442 15843 | 4796 15558 | 20 | |
| | 50 | 68 10833 33374+ | 589 14051+ | 117 10646 00284+ | 4107 17874 | 10 | |
| **24** | 0 | 73 86422 47426 | 613 29246+ | 086 36538 82410+ | 3418 44789 | 0 | **36** |
| | 10 | 79 62035 76672+ | 637 44864+ | 055 63120 37621+ | 2729 96291+ | 50 | |
| | 20 | 85 37673 21537 | 661 60905 | 2,31024 90390 41330 | 2041 72369+ | 40 | |
| | 30 | 91 13334 82442 | 685 77368 | 2,30994 18348 68960+ | 1353 73012 | 30 | |
| | 40 | 0,43296 89020 59810 | 709 94254+ | 963 46994 95948+ | 30 70665 98207 | 20 | |
| | 50 | 0,43302 64730 54064+ | 734 11563 | 932 76328 97742 | 30 69978 47942+ | 10 | |
| **25** | 0 | 08 40464 65627+ | 758 29295 | 902 06350 49799+ | 9291 22207+ | 0 | **35** |
| | 10 | 14 16222 94922+ | 782 47450 | 871 37059 27592 | 8604 20990 | 50 | |
| | 20 | 19 92005 42372+ | 806 66028 | 840 68455 06602 | 7917 44278+ | 40 | |
| | 30 | 25 67812 08400 | 830 85028+ | 810 00537 62324 | 7230 92061 | 30 | |
| | 40 | 31 43642 93429 | 855 04453 | 779 33306 70263 | 6544 64326+ | 20 | |
| | 50 | 37 19497 97882 | 879 24300 | 748 66762 05936 | 5858 61063+ | 10 | |
| **26** | 0 | 42 95377 22182 | 903 44570+ | 718 00903 44873 | 5172 82259+ | 0 | **34** |
| | 10 | 48 71280 66752+ | 927 65264+ | 687 35730 62613 | 4487 27904 | 50 | |
| | 20 | 54 47208 32017 | 951 86382 | 656 71243 34709+ | 3801 97984+ | 40 | |
| | 30 | 60 23160 18399 | 5 75976 07922+ | 626 07441 36725 | 3116 92490 | 30 | |
| | 40 | 65 99136 26321+ | 5 76000 29886+ | 595 44324 44235 | 2432 11408+ | 20 | |
| | 50 | 71 75136 56208 | 024 52274+ | 564 81892 32826+ | 1747 54729 | 10 | |
| **27** | 0 | 77 51161 08482+ | 048 75086 | 534 20144 78097+ | 1063 22439+ | 0 | **33** |
| | 10 | 83 27209 83568+ | 072 98321 | 503 59081 55658 | 30 60379 14528+ | 50 | |
| | 20 | 89 03282 81889+ | 097 21979+ | 472 98702 41129+ | 30 59695 30985 | 40 | |
| | 30 | 0,43394 79380 03869 | 121 46062 | 442 39007 10145 | 9011 71796+ | 30 | |
| | 40 | 0,43400 55501 49931+ | 145 70568+ | 411 79995 38348+ | 8328 36952 | 20 | |
| | 50 | 06 31647 20500 | 169 95499 | 381 21667 01396 | 7645 26440+ | 10 | |
| **28** | 0 | 12 07817 15999 | 194 20853+ | 350 64021 74955+ | 6962 40249+ | 0 | **32** |
| | 10 | 17 84011 36852 | 218 46631+ | 320 07059 34706 | 6279 78368 | 50 | |
| | 20 | 23 60229 83484 | 242 72834 | 289 50779 56338 | 5597 40785 | 40 | |
| | 30 | 29 36472 56318 | 266 99460+ | 258 95182 15553 | 4915 27488 | 30 | |
| | 40 | 35 12739 55778+ | 291 26511 | 228 40266 88065 | 4233 38466 | 20 | |
| | 50 | 40 89030 82289+ | 315 53986 | 197 86033 49599 | 3551 73708 | 10 | |
| **29** | 0 | 46 65346 36275+ | 339 81885+ | 167 32481 75891 | 2870 33201+ | 0 | **31** |
| | 10 | 52 41686 18161 | 364 10209 | 136 79611 42689+ | 2189 16935+ | 50 | |
| | 20 | 58 18050 28370+ | 388 38957+ | 106 27422 25754 | 1508 24899 | 40 | |
| | 30 | 63 94438 67327+ | 412 68130 | 075 75914 00855 | 0827 57080+ | 30 | |
| | 40 | 69 70851 35457+ | 436 97727 | 045 25086 43774+ | 30 50147 13467+ | 20 | |
| | 50 | 75 47288 33184+ | 5 76461 27749 | 2,30014 74939 30307 | 30 49466 94050 | 10 | |
| **30** | 0 | 0,43481 23749 60933+ | | 2,29984 25472 36257 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

# 23°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,43481 23749 60933+ | 5 76485 58195+ | 2,29984 25472 36257 | 30 48786 98815+ | 0 | **30** |
| | 10 | 87 00235 19129 | 509 89066+ | 953 76685 37441+ | 8107 27753 | 50 | |
| | 20 | 92 76745 08195+ | 534 20362+ | 923 28578 09689 | 7427 80851 | 40 | |
| | 30 | 0,43498 53279 28557+ | 558 52083 | 892 81150 28838 | 6748 58098 | 30 | |
| | 40 | 0,43504 29837 80641 | 582 84229 | 862 34401 70740 | 6069 59483 | 20 | |
| | 50 | 10 06420 64869+ | 607 16799+ | 831 88332 11256+ | 5390 84994 | 10 | |
| **31** | 0 | 15 83027 81669 | 631 49795 | 801 42941 26262+ | 4712 34620+ | 0 | **29** |
| | 10 | 21 59659 31464+ | 655 83216 | 770 98228 91642 | 4034 08350 | 50 | |
| | 20 | 27 36315 14680+ | 680 17062 | 740 54194 83292 | 3356 06172 | 40 | |
| | 30 | 33 12995 31742 | 704 51333 | 710 10838 77120 | 2678 28075 | 30 | |
| | 40 | 38 89699 83075 | 728 86029 | 679 68160 49045 | 2000 74047 | 20 | |
| | 50 | 44 66428 69104+ | 753 21151 | 649 26159 74998 | 1323 44077+ | 10 | |
| **32** | 0 | 50 43181 90255 | 777 56698 | 618 84836 30920+ | 30 40646 38154+ | 0 | **28** |
| | 10 | 56 19959 46953 | 801 92670+ | 588 44189 92766 | 30 39969 56267 | 50 | |
| | 20 | 61 96761 39623+ | 826 29068+ | 558 04220 36499 | 9292 98403+ | 40 | |
| | 30 | 67 73587 68692 | 850 65892 | 527 64927 38095+ | 8616 64553 | 30 | |
| | 40 | 73 50438 34583+ | 875 03141 | 497 26310 73542+ | 7940 54703+ | 20 | |
| | 50 | 79 27313 37724+ | 899 40815+ | 466 88370 18839 | 7264 68844+ | 10 | |
| **33** | 0 | 85 04212 78540+ | 923 78916 | 436 51105 49994+ | 6589 06964 | 0 | **27** |
| | 10 | 90 81136 57456+ | 948 17442+ | 406 14516 43030+ | 5913 69051 | 50 | |
| | 20 | 0,43596 58084 74899 | 972 56394+ | 375 78602 73979+ | 5238 55094+ | 40 | |
| | 30 | 0,43602 35057 31293+ | 5 76996 95772+ | 345 43364 18885 | 4563 65083 | 30 | |
| | 40 | 08 12054 27066+ | 5 77021 35576+ | 315 08800 53802 | 3888 99005 | 20 | |
| | 50 | 13 89075 62643 | 045 75806+ | 284 74911 54797 | 3214 56849 | 10 | |
| **34** | 0 | 19 66121 38449+ | 070 16462+ | 254 41696 97948 | 2540 38604+ | 0 | **26** |
| | 10 | 25 43191 54912+ | 094 57545 | 224 09156 59344 | 1866 44259+ | 50 | |
| | 20 | 31 20286 12457+ | 118 99053+ | 193 77290 15084 | 1192 73803+ | 40 | |
| | 30 | 36 97405 11511 | 143 40988 | 163 46097 41281 | 30 30519 27224+ | 30 | |
| | 40 | 42 74548 52499 | 167 83349 | 133 15578 14056+ | 30 29846 04511+ | 20 | |
| | 50 | 48 51716 35848 | 192 26136+ | 102 85732 09544+ | 9173 05653+ | 10 | |
| **35** | 0 | 54 28908 61984+ | 216 69350+ | 072 56559 03891 | 8500 30639+ | 0 | **25** |
| | 10 | 60 06125 31334+ | 241 12990+ | 042 28058 73251+ | 7827 79457+ | 50 | |
| | 20 | 65 83366 44325+ | 265 57057+ | 2,29012 00230 93794 | 7155 52096+ | 40 | |
| | 30 | 71 60632 01382+ | 290 01551 | 2,28981 73075 41697+ | 6483 48546 | 30 | |
| | 40 | 77 37922 02933+ | 314 46471 | 951 46591 93151+ | 5811 68794 | 20 | |
| | 50 | 83 15236 49404+ | 338 91818 | 921 20780 24358 | 5140 12829+ | 10 | |
| **36** | 0 | 88 92575 41222+ | 363 37591+ | 890 95640 11528+ | 4468 80641+ | 0 | **24** |
| | 10 | 0,43694 69938 78814 | 387 83792 | 860 71171 30887 | 3797 72218+ | 50 | |
| | 20 | 0,43700 47326 62606 | 412 30419+ | 830 47373 58668+ | 3126 87549+ | 40 | |
| | 30 | 06 24738 93025+ | 436 77474 | 800 24246 71118+ | 2456 26624 | 30 | |
| | 40 | 12 02175 70499+ | 461 24955 | 770 01790 44495 | 1785 89429+ | 20 | |
| | 50 | 17 79636 95454+ | 485 72863+ | 739 80004 55065+ | 1115 75956 | 10 | |
| **37** | 0 | 23 57122 68318+ | 510 21199+ | 709 58888 79109+ | 30 20445 86191+ | 0 | **23** |
| | 10 | 29 34632 89517+ | 534 69962 | 679 38442 92918 | 30 19776 20125+ | 50 | |
| | 20 | 35 12167 59480 | 559 19152 | 649 18666 72792+ | 9106 77746+ | 40 | |
| | 30 | 40 89726 78632 | 583 68769+ | 618 99559 95046 | 8437 59043+ | 30 | |
| | 40 | 46 67310 47401+ | 608 18814+ | 588 81122 36002+ | 7768 64005+ | 20 | |
| | 50 | 52 44918 66216 | 632 69286+ | 558 63353 71997 | 7099 92621 | 10 | |
| **38** | 0 | 58 22551 35502+ | 657 20186+ | 528 46253 79376 | 6431 44879+ | 0 | **22** |
| | 10 | 64 00208 55689 | 681 71513+ | 498 29822 34497 | 5763 20769 | 50 | |
| | 20 | 69 77890 27203 | 706 23268+ | 468 14059 13728 | 5095 20279+ | 40 | |
| | 30 | 75 55596 50471+ | 730 75451 | 437 98963 93448+ | 4427 43399 | 30 | |
| | 40 | 81 33327 25922+ | 755 28061+ | 407 84536 50050 | 3759 90116+ | 20 | |
| | 50 | 87 11082 53984 | 779 81099+ | 377 70776 59933 | 3092 60421+ | 10 | |
| **39** | 0 | 92 88862 35083+ | 804 34565+ | 347 57683 99511+ | 2425 54302+ | 0 | **21** |
| | 10 | 0,43798 66666 69649+ | 828 88459+ | 317 45258 45209 | 1758 71749 | 50 | |
| | 20 | 0,43804 44495 58108+ | 853 42781+ | 287 33499 73460 | 1092 12749 | 40 | |
| | 30 | 10 22349 00890 | 877 97531 | 257 22407 60711 | 30 10425 77292 | 30 | |
| | 40 | 16 00226 98421+ | 902 52709 | 227 11981 83419 | 30 09759 65367 | 20 | |
| | 50 | 21 78129 51130+ | 5 77927 08315+ | 197 02222 18052 | 30 09093 76962+ | 10 | |
| **40** | 0 | 0,43827 56056 59446 | | 2,28166 93128 41089+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

# 23°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,43827 56056 59446 | 5 77951 64349+ | 2,28166 93128 41089+ | 30 08428 12068+ | 0 | **20** |
| | 10 | 33 34008 23795+ | 5 77976 20812+ | 136 84700 29021 | 7762 70672+ | 50 | |
| | 20 | 39 11984 44608 | 5 78000 77703+ | 106 76937 58348+ | 7097 52765 | 40 | |
| | 30 | 44 89985 22311 | 025 35022+ | 076 69840 05583+ | 6432 58334 | 30 | |
| | 40 | 50 68010 57333+ | 049 92770+ | 046 63407 47250 | 5767 87368+ | 20 | |
| | 50 | 56 46060 50104 | 074 50946+ | 2,28016 57639 59881+ | 5103 39858 | 10 | |
| **41** | 0 | 62 24135 01051 | 099 09551+ | 2,27986 52536 20023+ | 4439 15791 | 0 | **19** |
| | 10 | 68 02234 10602+ | 123 68585 | 956 48097 04232+ | 3775 15157 | 50 | |
| | 20 | 73 80357 79187+ | 148 28047+ | 926 44321 89075+ | 3111 37944+ | 40 | |
| | 30 | 79 58506 07234+ | 172 87938 | 896 41210 51131 | 2447 84143 | 30 | |
| | 40 | 85 36678 95173 | 197 48258 | 866 38762 66987+ | 1784 53741+ | 20 | |
| | 50 | 91 14876 43431 | 222 09006+ | 836 36978 13246 | 1121 46729 | 10 | |
| **42** | 0 | 0,43896 93098 52437+ | 246 70184 | 806 35856 66517+ | 30 00458 63094 | 0 | **18** |
| | 10 | 0,43902 71345 22621+ | 271 31790+ | 776 35398 03423 | 29 99796 02826 | 50 | |
| | 20 | 08 49616 54412 | 295 93826 | 746 35602 00597 | 9133 65914+ | 40 | |
| | 30 | 14 27912 48238+ | 320 56291 | 716 36468 34682+ | 8471 52348 | 30 | |
| | 40 | 20 06233 04529 | 345 19184+ | 686 37996 82334+ | 7809 62115+ | 20 | |
| | 50 | 25 84578 23714 | 369 82508 | 656 40187 20219+ | 7147 95206 | 10 | |
| **43** | 0 | 31 62948 06221+ | 394 46260 | 626 43039 25013+ | 6486 51609 | 0 | **17** |
| | 10 | 37 41342 52481+ | 419 10442 | 596 46552 73404 | 5825 31313+ | 50 | |
| | 20 | 43 19761 62923+ | 443 75053 | 566 50727 42090+ | 5164 34308+ | 40 | |
| | 30 | 48 98205 37976+ | 468 40093+ | 536 55563 07782 | 4503 60583+ | 30 | |
| | 40 | 54 76673 78070 | 493 05563+ | 506 61059 47198+ | 3843 10126+ | 20 | |
| | 50 | 60 55166 83633+ | 517 71463 | 476 67216 37072 | 3182 82928 | 10 | |
| **44** | 0 | 66 33684 55096+ | 542 37792+ | 446 74033 54144 | 2522 78976 | 0 | **16** |
| | 10 | 72 12226 92889+ | 567 04551+ | 416 81510 75167+ | 1862 98260+ | 50 | |
| | 20 | 77 90793 97441 | 591 71740+ | 386 89647 76907 | 1203 40770 | 40 | |
| | 30 | 83 69385 69181 | 616 39359 | 356 98444 36137 | 29 90544 06494 | 30 | |
| | 40 | 89 48002 08540 | 641 07407+ | 327 07900 29643 | 29 89884 95421+ | 20 | |
| | 50 | 0,43995 26643 15947+ | 665 75886 | 297 18015 34221+ | 9226 07541+ | 10 | |
| **45** | 0 | 0,44001 05308 91833+ | 690 44794+ | 267 28789 26680 | 8567 42843+ | 0 | **15** |
| | 10 | 06 83999 36627+ | 715 14133 | 237 40221 83836+ | 7909 01316+ | 50 | |
| | 20 | 12 62714 50760+ | 739 83901+ | 207 52312 82520+ | 7250 82949+ | 40 | |
| | 30 | 18 41454 34662 | 764 54100 | 177 65061 99571 | 6592 87732 | 30 | |
| | 40 | 24 20218 88762 | 789 24729+ | 147 78469 11839 | 5935 15653 | 20 | |
| | 50 | 29 99008 13491+ | 813 95788+ | 117 92533 96186 | 5277 66701+ | 10 | |
| **46** | 0 | 35 77822 09280 | 838 67278+ | 088 07256 29484 | 4620 40867+ | 0 | **14** |
| | 10 | 41 56660 76558+ | 863 39198+ | 058 22635 88616+ | 3963 38139 | 50 | |
| | 20 | 47 35524 15756+ | 888 11549 | 2,27028 38672 50477+ | 3306 58506+ | 40 | |
| | 30 | 53 14412 27305+ | 912 84330 | 2,26998 55365 91971 | 2650 01958 | 30 | |
| | 40 | 58 93325 11636 | 937 57542 | 968 72715 90013 | 1993 68483+ | 20 | |
| | 50 | 64 72262 69178 | 962 31184+ | 938 90722 21529+ | 1337 58072 | 10 | |
| **47** | 0 | 70 51225 00362 | 5 78987 05257+ | 909 09384 63457+ | 0681 70712+ | 0 | **13** |
| | 10 | 76 30212 05619+ | 5 79011 79761+ | 879 28702 92745 | 29 80026 06395 | 50 | |
| | 20 | 82 09223 85381 | 036 54696 | 849 48676 86350 | 29 79370 65108 | 40 | |
| | 30 | 87 88260 40077+ | 061 30062 | 819 69306 21242 | 8715 46841 | 30 | |
| | 40 | 93 67321 70139 | 086 05858+ | 789 90590 74401 | 8060 51583 | 20 | |
| | 50 | 0,44099 46407 75997+ | 110 82086 | 760 12530 22818 | 7405 79324 | 10 | |
| **48** | 0 | 0,44105 25518 58084 | 135 58745 | 730 35124 43494+ | 6751 30052+ | 0 | **12** |
| | 10 | 11 04654 16829 | 160 35835 | 700 58373 13442 | 6097 03758 | 50 | |
| | 20 | 16 83814 52663+ | 185 13356 | 670 82276 09684 | 5443 00430 | 40 | |
| | 30 | 22 62999 66019+ | 209 91308 | 641 06833 09254+ | 4789 20057+ | 30 | |
| | 40 | 28 42209 57327+ | 234 69692 | 611 32043 89197 | 4135 62630 | 20 | |
| | 50 | 34 21444 27019+ | 259 48507 | 581 57908 26567 | 3482 28136+ | 10 | |
| **49** | 0 | 40 00703 75526+ | 284 27753+ | 551 84425 98430+ | 2829 16567 | 0 | **11** |
| | 10 | 45 79988 03280 | 309 07431+ | 522 11596 81863+ | 2176 27910+ | 50 | |
| | 20 | 51 59297 10711 | 333 87541 | 492 39420 53953 | 1523 62155+ | 40 | |
| | 30 | 57 38630 98252 | 358 68082 | 462 67896 91797+ | 0871 19292+ | 30 | |
| | 40 | 63 17989 66334+ | 383 49055 | 432 97025 72504+ | 29 70218 99310+ | 20 | |
| | 50 | 68 97373 15389+ | 5 79408 30459+ | 403 26806 73194 | 29 69567 02198+ | 10 | |
| **50** | 0 | 0,44174 76781 45849 | | 2,26373 57239 70995+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

# 23°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,44174 76781 45849 | 5 79433 12296 | 2,26373 57239 70995+ | 29 68915 27946 | 0 | **10** |
| | 10 | 80 56214 58145 | 457 94564+ | 343 88324 43049+ | 8263 76542+ | 50 | |
| | 20 | 86 35672 52709+ | 482 77264+ | 314 20060 66506+ | 7612 47977+ | 40 | |
| | 30 | 92 15155 29974+ | 507 60397 | 284 52448 18529 | 6961 42240 | 30 | |
| | 40 | 0,44197 94662 90371 | 532 43961 | 254 85486 76289 | 6310 59319+ | 20 | |
| | 50 | 0,44203 74195 34332 | 557 27957+ | 225 19176 16970 | 5659 99205 | 10 | |
| **51** | 0 | 09 53752 62289+ | 582 12386 | 195 53516 17764+ | 5009 61887 | 0 | **9** |
| | 10 | 15 33334 74675+ | 606 97247 | 165 88506 55878 | 4359 47353+ | 50 | |
| | 20 | 21 12941 71922+ | 631 82540 | 136 24147 08524 | 3709 55595 | 40 | |
| | 30 | 26 92573 54462 | 656 68265 | 106 60437 52929 | 3059 86600+ | 30 | |
| | 40 | 32 72230 22727+ | 681 54423 | 076 97377 66329 | 2410 40359 | 20 | |
| | 50 | 38 51911 77150+ | 706 41013+ | 047 34967 25970 | 1761 16860+ | 10 | |
| **52** | 0 | 44 31618 18164 | 731 28036 | 2,26017 73206 09109+ | 1112 16094 | 0 | **8** |
| | 10 | 50 11349 46200 | 756 15491+ | 2,25988 12093 93015+ | 29 60463 38049+ | 50 | |
| | 20 | 55 91105 61691+ | 781 03379+ | 958 51630 54965+ | 29 59814 82716 | 40 | |
| | 30 | 61 70886 65071 | 805 91700+ | 928 91815 72249+ | 9166 50083 | 30 | |
| | 40 | 67 50692 56771+ | 830 80454 | 899 32649 22167 | 8518 40140 | 20 | |
| | 50 | 73 30523 37225 | 855 69640 | 869 74130 82027 | 7870 52876+ | 10 | |
| **53** | 0 | 79 10379 06865+ | 880 59259+ | 840 16260 29150+ | 7222 88281+ | 0 | **7** |
| | 10 | 84 90259 66125 | 905 49311+ | 810 59037 40869 | 6575 46345 | 50 | |
| | 20 | 90 70165 15436+ | 930 39797 | 781 02461 94524 | 5928 27056+ | 40 | |
| | 30 | 0,44296 50095 55233+ | 955 30715+ | 751 46533 67467+ | 5281 30405 | 30 | |
| | 40 | 0,44302 30050 85949 | 5 79980 22066+ | 721 91252 37062 | 4634 56380+ | 20 | |
| | 50 | 08 10031 08015+ | 5 80005 13851+ | 692 36617 80681+ | 3988 04972+ | 10 | |
| **54** | 0 | 13 90036 21867 | 030 06069+ | 662 82629 75709 | 3341 76170 | 0 | **6** |
| | 10 | 19 70066 27936 | 054 98720+ | 633 29287 99539 | 2695 69963 | 50 | |
| | 20 | 25 50121 26656+ | 079 91805 | 603 76592 29576+ | 2049 86340+ | 40 | |
| | 30 | 31 30201 18462 | 104 85323 | 574 24542 43236 | 1404 25292 | 30 | |
| | 40 | 37 10306 03785 | 129 79274+ | 544 73138 17944 | 0758 86808 | 20 | |
| | 50 | 42 90435 83059+ | 154 73660 | 515 22379 31136 | 29 50113 70877 | 10 | |
| **55** | 0 | 48 70590 56719+ | 179 68478+ | 485 72265 60259 | 29 49468 77488+ | 0 | **5** |
| | 10 | 54 50770 25198 | 204 63731 | 456 22796 82770+ | 8824 06633 | 50 | |
| | 20 | 60 30974 88928+ | 229 59417 | 426 73972 76137+ | 8179 58299 | 40 | |
| | 30 | 66 11204 48346 | 254 55537 | 397 25793 17838+ | 7535 32477 | 30 | |
| | 40 | 71 91459 03882+ | 279 52091 | 367 78257 85361+ | 6891 29155+ | 20 | |
| | 50 | 77 71738 55973+ | 304 49078+ | 338 31366 56205+ | 6247 48325 | 10 | |
| **56** | 0 | 83 52043 05052 | 329 46500+ | 308 85119 07880+ | 5603 89974+ | 0 | **4** |
| | 10 | 89 32372 51552+ | 354 44356 | 279 39515 17906 | 4960 54094 | 50 | |
| | 20 | 0,44395 12726 95908+ | 379 42646 | 249 94554 63811+ | 4317 40673 | 40 | |
| | 30 | 0,44400 93106 38554+ | 404 41370 | 220 50237 23139 | 3674 49700+ | 30 | |
| | 40 | 06 73510 79924+ | 429 40528+ | 191 06562 73438+ | 3031 81166+ | 20 | |
| | 50 | 12 53940 20452+ | 454 40121 | 161 63530 92271+ | 2389 35061 | 10 | |
| **57** | 0 | 18 34394 60573+ | 479 40148 | 132 21141 57211 | 1747 11373 | 0 | **3** |
| | 10 | 24 14874 00721+ | 504 40609 | 102 79394 45838 | 1105 10092+ | 50 | |
| | 20 | 29 95378 41330+ | 529 41505 | 073 38289 35745+ | 29 40463 31208+ | 40 | |
| | 30 | 35 75907 82835+ | 554 42835+ | 043 97826 04537 | 29 39821 74711+ | 30 | |
| | 40 | 41 56462 25671 | 579 44600 | 2,25014 58004 29825 | 9180 40590+ | 20 | |
| | 50 | 47 37041 70271 | 604 46800 | 2,24985 18823 89234+ | 8539 28835+ | 10 | |
| **58** | 0 | 53 17646 17071 | 629 49434 | 955 80284 60399 | 7898 39436 | 0 | **2** |
| | 10 | 58 98275 66505 | 654 52503+ | 926 42386 20962+ | 7257 72382 | 50 | |
| | 20 | 64 78930 19008+ | 679 56007 | 897 05128 48581 | 6617 27662 | 40 | |
| | 30 | 70 59609 75015+ | 704 59946 | 867 68511 20919 | 5977 05267 | 30 | |
| | 40 | 76 40314 34961+ | 729 64320 | 838 32534 15652 | 5337 05186 | 20 | |
| | 50 | 82 21043 99281+ | 754 69128+ | 808 97197 10466 | 4697 27408+ | 10 | |
| **59** | 0 | 88 01798 68410 | 779 74372+ | 779 62499 83057 | 4057 71925 | 0 | **1** |
| | 10 | 93 82578 42782+ | 804 80051+ | 750 28442 11132+ | 3418 38724 | 50 | |
| | 20 | 0,44499 63383 22834 | 829 86166 | 720 95023 72408 | 2779 27796+ | 40 | |
| | 30 | 0,44505 44213 09000 | 854 92715+ | 691 62244 44612 | 2140 39131 | 30 | |
| | 40 | 11 25068 01715+ | 879 99700 | 662 30104 05481 | 1501 72718 | 20 | |
| | 50 | 17 05948 01415+ | 5 80905 07120+ | 632 98602 32763 | 29 30863 28547 | 10 | |
| **60** | 0 | 0,44522 86853 08536 | | 2,24603 67739 04216 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 66°

# 24°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,44522 86853 08536 | 5 80930 14976 | 2,24603 67739 04216 | 29 30225 06607+ | 0 | **60** |
| | 10 | 28 67783 23512+ | 955 23267+ | 574 37513 97608+ | 29 29587 06889 | 50 | |
| | 20 | 34 48738 46779+ | 5 80980 31994 | 545 07926 90719+ | 8949 29382 | 40 | |
| | 30 | 40 29718 78774 | 5 81005 41156+ | 515 78977 61337+ | 8311 74076 | 30 | |
| | 40 | 46 10724 19930+ | 030 50754+ | 486 50665 87261+ | 7674 40960+ | 20 | |
| | 50 | 51 91754 70685 | 055 60788+ | 457 22991 46301 | 7037 30025 | 10 | |
| **1** | 0 | 57 72810 31473+ | 080 71258 | 427 95954 16276 | 6400 41259+ | 0 | **59** |
| | 10 | 63 53891 02732 | 105 82164 | 398 69553 75016+ | 5763 74654 | 50 | |
| | 20 | 69 34996 84895+ | 130 93505+ | 369 43790 00362 | 5127 30198+ | 40 | |
| | 30 | 75 16127 78401 | 156 05283 | 340 18662 70164 | 4491 07881+ | 30 | |
| | 40 | 80 97283 83683+ | 181 17496+ | 310 94171 62282 | 3855 07694+ | 20 | |
| | 50 | 86 78465 01180 | 206 30146 | 281 70316 54588 | 3219 29625+ | 10 | |
| **2** | 0 | 92 59671 31326 | 231 43232 | 252 47097 24962 | 2583 73665+ | 0 | **58** |
| | 10 | 0,44598 40902 74558 | 256 56754 | 223 24513 51296+ | 1948 39804+ | 50 | |
| | 20 | 0,44604 22159 31312 | 281 70712+ | 194 02565 11492 | 1313 28031 | 40 | |
| | 30 | 10 03441 02024+ | 306 85107+ | 164 81251 83461 | 0678 38336 | 30 | |
| | 40 | 15 84747 87131+ | 331 99938+ | 135 60573 45125 | 29 20043 70708+ | 20 | |
| | 50 | 21 66079 87070 | 357 15206 | 106 40529 74416+ | 29 19409 25139 | 10 | |
| **3** | 0 | 27 47437 02276+ | 382 30910+ | 077 21120 49277+ | 8775 01617 | 0 | **57** |
| | 10 | 33 28819 33187 | 407 47051+ | 048 02345 47660+ | 8141 00132 | 50 | |
| | 20 | 39 10226 80238+ | 432 63629 | 2,24018 84204 47528+ | 7507 20674+ | 40 | |
| | 30 | 44 91659 43867+ | 457 80643+ | 2,23989 66697 26854 | 6873 63234 | 30 | |
| | 40 | 50 73117 24510+ | 482 98094+ | 960 49823 63620+ | 6240 27800 | 20 | |
| | 50 | 56 54600 22605 | 508 15982+ | 931 33583 35820+ | 5607 14363 | 10 | |
| **4** | 0 | 62 36108 38587+ | 533 34307 | 902 17976 21457+ | 4974 22912 | 0 | **56** |
| | 10 | 68 17641 72894+ | 558 53069 | 873 03001 98545+ | 4341 53438 | 50 | |
| | 20 | 73 99200 25963+ | 583 72268 | 843 88660 45107+ | 3709 05930 | 40 | |
| | 30 | 79 80783 98231+ | 608 91904 | 814 74951 39177+ | 3076 80378 | 30 | |
| | 40 | 85 62392 90135+ | 634 11977+ | 785 61874 58799+ | 2444 76772+ | 20 | |
| | 50 | 91 44027 02113 | 659 32487+ | 756 49429 82027 | 1812 95102+ | 10 | |
| **5** | 0 | 0,44697 25686 34600+ | 684 53435+ | 727 37616 86924+ | 1181 35358+ | 0 | **55** |
| | 10 | 0,44703 07370 88036 | 709 74820+ | 698 26435 51566 | 29 10549 97530 | 50 | |
| | 20 | 08 89080 62856+ | 734 96643 | 669 15885 54036 | 29 09918 81607 | 40 | |
| | 30 | 14 70815 59499+ | 760 18903 | 640 05966 72429 | 9287 87580 | 30 | |
| | 40 | 20 52575 78402+ | 785 41600+ | 610 96678 84849 | 8657 15438 | 20 | |
| | 50 | 26 34361 20003 | 810 64735+ | 581 88021 69411+ | 8026 65171 | 10 | |
| **6** | 0 | 32 16171 84738+ | 835 88308+ | 552 79995 04240 | 7396 36770 | 0 | **54** |
| | 10 | 37 98007 73047 | 861 12319 | 523 72598 67470+ | 6766 30223+ | 50 | |
| | 20 | 43 79868 85365+ | 886 36767 | 494 65832 37247 | 6136 45522+ | 40 | |
| | 30 | 49 61755 22133 | 911 61653 | 465 59695 91724+ | 5506 82656+ | 30 | |
| | 40 | 55 43666 83786 | 936 86977+ | 436 54189 09068 | 4877 41615+ | 20 | |
| | 50 | 61 25603 70763 | 962 12739+ | 407 49311 67452+ | 4248 22389+ | 10 | |
| **7** | 0 | 67 07565 83502+ | 5 81987 38939+ | 378 45063 45063 | 3619 24968 | 0 | **53** |
| | 10 | 72 89553 22442 | 5 82012 65577+ | 349 41444 20095 | 2990 49342 | 50 | |
| | 20 | 78 71565 88019 | 037 92653+ | 320 38453 70753 | 2361 95500+ | 40 | |
| | 30 | 84 53603 80673 | 063 20168 | 291 36091 75252+ | 1733 63434 | 30 | |
| | 40 | 90 35667 00841 | 088 48121 | 262 34358 11818+ | 1105 53132 | 20 | |
| | 50 | 0,44796 17755 48962 | 113 76512 | 233 33252 58686 | 29 00477 64585 | 10 | |
| **8** | 0 | 0,44801 99869 25474+ | 139 05341+ | 204 32774 94101 | 28 99849 97783 | 0 | **52** |
| | 10 | 07 82008 30816 | 164 34609+ | 175 32924 96318 | 9222 52715+ | 50 | |
| | 20 | 13 64172 65425+ | 189 64316 | 146 33702 43602+ | 8595 29373 | 40 | |
| | 30 | 19 46362 29742 | 214 94461+ | 117 35107 14229 | 7968 27745+ | 30 | |
| | 40 | 25 28577 24203 | 240 25045 | 088 37138 86484 | 7341 47822+ | 20 | |
| | 50 | 31 10817 49248 | 265 56067+ | 059 39797 38661+ | 6714 89594+ | 10 | |
| **9** | 0 | 36 93083 05315+ | 290 87529 | 030 43082 49067+ | 6088 53051 | 0 | **51** |
| | 10 | 42 75373 92844+ | 316 19429 | 2,23001 46993 96016+ | 5462 38183 | 50 | |
| | 20 | 48 57690 12273+ | 341 51768 | 2,22972 51531 57833+ | 4836 44979+ | 40 | |
| | 30 | 54 40031 64041 | 366 84546 | 943 56695 12854 | 4210 73431 | 30 | |
| | 40 | 60 22398 48587 | 392 17763 | 914 62484 39423 | 3585 23528 | 20 | |
| | 50 | 66 04790 66350 | 5 82417 51419 | 885 68899 15895 | 28 92959 95259+ | 10 | |
| **10** | 0 | 0,44871 87208 17768+ | | 2,22856 75939 20635+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,44871 87208 17768+ | 5 82442 85514 | 2,22856 75939 20635+ | 28 92334 88616+ | 0 | **50** |
| | 10 | 77 69651 03282+ | 468 20048+ | 827 83604 32019 | 1710 03589 | 50 | |
| | 20 | 83 52119 23331 | 493 55022 | 798 91894 28430 | 1085 40166+ | 40 | |
| | 30 | 89 34612 78353 | 518 90435 | 770 00808 88264 | 28 90460 98339+ | 30 | |
| | 40 | 0,44895 17131 68788 | 544 26287+ | 741 10347 89924+ | 28 89836 78097+ | 20 | |
| | 50 | 0,44900 99675 95076 | 569 62579+ | 712 20511 11826+ | 9212 79431+ | 10 | |
| **11** | 0 | 06 82245 57655 | 594 99311 | 683 31298 32395 | 8589 02331+ | 0 | **49** |
| | 10 | 12 64840 56966 | 620 36481+ | 654 42709 30063+ | 7965 46787 | 50 | |
| | 20 | 18 47460 93447+ | 645 74092+ | 625 54743 83276+ | 7342 12788 | 40 | |
| | 30 | 24 30106 67540 | 671 12142+ | 596 67401 70488+ | 6719 00325+ | 30 | |
| | 40 | 30 12777 79682+ | 696 50632+ | 567 80682 70163 | 6096 09389 | 20 | |
| | 50 | 35 95474 30315+ | 721 89562+ | 538 94586 60774 | 5473 39968+ | 10 | |
| **12** | 0 | 41 78196 19878 | 747 28932+ | 510 09113 20805+ | 4850 92054+ | 0 | **48** |
| | 10 | 47 60943 48810+ | 772 68742 | 481 24262 28751 | 4228 65637 | 50 | |
| | 20 | 53 43716 17552+ | 798 08992 | 452 40033 63114 | 3606 60706+ | 40 | |
| | 30 | 59 26514 26544+ | 823 49682 | 423 56427 02407+ | 2984 77252+ | 30 | |
| | 40 | 65 09337 76226+ | 848 90812 | 394 73442 25155+ | 2363 15265 | 20 | |
| | 50 | 70 92186 67038+ | 874 32382 | 365 91079 09890 | 1741 74735+ | 10 | |
| **13** | 0 | 76 75060 99420+ | 899 74392+ | 337 09337 35155 | 1120 55652+ | 0 | **47** |
| | 10 | 82 57960 73813 | 925 16843+ | 308 28216 79502 | 28 80499 58007+ | 50 | |
| | 20 | 88 40885 90656 | 950 59734+ | 279 47717 21495 | 28 79878 81790 | 40 | |
| | 30 | 0,44994 23836 50390+ | 5 82976 03066 | 250 67838 39705 | 9258 26990 | 30 | |
| | 40 | 0,45000 06812 53456+ | 5 83001 46838 | 221 88580 12715 | 8637 93598 | 20 | |
| | 50 | 05 89814 00295 | 026 91051 | 193 09942 19117 | 8017 81604+ | 10 | |
| **14** | 0 | 11 72840 91346 | 052 35704+ | 164 31924 37512 | 7397 90999+ | 0 | **46** |
| | 10 | 17 55893 27050 | 077 80798+ | 135 54526 46513 | 6778 21772+ | 50 | |
| | 20 | 23 38971 07848+ | 103 26333 | 106 77748 24740 | 6158 73915 | 40 | |
| | 30 | 29 22074 34181+ | 128 72309 | 078 01589 50825+ | 5539 47416 | 30 | |
| | 40 | 35 05203 06490+ | 154 18725+ | 049 26050 03409 | 4920 42266+ | 20 | |
| | 50 | 40 88357 25216 | 179 65583 | 2,22020 51129 61143 | 4301 58456+ | 10 | |
| **15** | 0 | 46 71536 90799 | 205 12881+ | 2,21991 76828 02686+ | 3682 95976 | 0 | **45** |
| | 10 | 52 54742 03680+ | 230 60621 | 963 03145 06710+ | 3064 54815+ | 50 | |
| | 20 | 58 37972 64301+ | 256 08802 | 934 30080 51895 | 2446 34965 | 40 | |
| | 30 | 64 21228 73103 | 281 57423+ | 905 57634 16930 | 1828 36415 | 30 | |
| | 40 | 70 04510 30527 | 307 06487 | 876 85805 80515 | 1210 59156 | 20 | |
| | 50 | 75 87817 37014 | 332 55991+ | 848 14595 21359 | 28 70593 03177+ | 10 | |
| **16** | 0 | 81 71149 93005 | 358 05937+ | 819 44002 18181+ | 28 69975 68470+ | 0 | **44** |
| | 10 | 87 54507 98942+ | 383 56324+ | 790 74026 49710+ | 9358 55025 | 50 | |
| | 20 | 93 37891 55267 | 409 07153+ | 762 04667 94685+ | 8741 62831 | 40 | |
| | 30 | 0,45099 21300 62421 | 434 58424 | 733 35926 31854+ | 8124 91879+ | 30 | |
| | 40 | 0,45105 04735 20845 | 460 10136 | 704 67801 39975 | 7508 42160 | 20 | |
| | 50 | 10 88195 30981 | 485 62290 | 676 00292 97815 | 6892 13663 | 10 | |
| **17** | 0 | 16 71680 93271 | 511 14885+ | 647 33400 84152 | 6276 06379 | 0 | **43** |
| | 10 | 22 55192 08156+ | 536 67923 | 618 67124 77772+ | 5660 20298+ | 50 | |
| | 20 | 28 38728 76079 | 562 21402 | 590 01464 57474 | 5044 55411+ | 40 | |
| | 30 | 34 22290 97481+ | 587 75323+ | 561 36420 02063 | 4429 11708 | 30 | |
| | 40 | 40 05878 72804+ | 613 29686+ | 532 71990 90355 | 3813 89179 | 20 | |
| | 50 | 45 89492 02491+ | 638 84492 | 504 08177 01176 | 3198 87814+ | 10 | |
| **18** | 0 | 51 73130 86983+ | 664 39739+ | 475 44978 13361+ | 2584 07604+ | 0 | **42** |
| | 10 | 57 56795 26722+ | 689 95429 | 446 82394 05757 | 1969 48540 | 50 | |
| | 20 | 63 40485 22152 | 715 51561 | 418 20424 57217 | 1355 10611 | 40 | |
| | 30 | 69 24200 73713 | 741 08135+ | 389 59069 46606+ | 0740 93807+ | 30 | |
| | 40 | 75 07941 81848 | 766 65152 | 360 98328 52799 | 28 60126 98120+ | 20 | |
| | 50 | 80 91708 47000 | 792 22611 | 332 38201 54678+ | 28 59513 23540 | 10 | |
| **19** | 0 | 86 75500 69611 | 817 80512+ | 303 78688 31138 | 8899 70056+ | 0 | **41** |
| | 10 | 92 59318 50124 | 843 38857 | 275 19788 61081+ | 8286 37660+ | 50 | |
| | 20 | 0,45198 43161 88981 | 868 97644 | 246 61502 23421 | 7673 26342 | 40 | |
| | 30 | 0,45204 27030 86624+ | 894 56873+ | 218 03828 97079+ | 7060 36091+ | 30 | |
| | 40 | 10 10925 43498 | 920 16545+ | 189 46768 60988 | 6447 66899+ | 20 | |
| | 50 | 15 94845 60043+ | 5 83945 76661 | 160 90320 94088+ | 28 55835 18756+ | 10 | |
| **20** | 0 | 0,45221 78791 36704+ | | 2,21132 34485 75332 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,45221 78791 36704+ | 5 83971 37219 | 2,21132 34485 75332 | 28 55222 91652+ | 0 | **40** |
| | 10 | 27 62762 73923+ | 5 83996 98220 | 103 79262 83679+ | 4610 85578+ | 50 | |
| | 20 | 33 46759 72143+ | 5 84022 59664 | 075 24651 98101 | 3999 00524+ | 40 | |
| | 30 | 39 30782 31807+ | 048 21551 | 046 70652 97576+ | 3387 36480+ | 30 | |
| | 40 | 45 14830 53358+ | 073 83881+ | 2,21018 17265 61096 | 2775 93438 | 20 | |
| | 50 | 50 98904 37239+ | 099 46655 | 2,20989 64489 67658 | 2164 71386+ | 10 | |
| **21** | 0 | 56 83003 83894+ | 125 09871+ | 961 12324 96271+ | 1553 70317 | 0 | **39** |
| | 10 | 62 67128 93766 | 150 73531+ | 932 60771 25954+ | 0942 90219+ | 50 | |
| | 20 | 68 51279 67297+ | 176 37635 | 904 09828 35735+ | 28 50332 31084+ | 40 | |
| | 30 | 74 35456 04933 | 202 02182 | 875 59496 04650+ | 28 49721 92903 | 30 | |
| | 40 | 80 19658 07115 | 227 67172+ | 847 09774 11748 | 9111 75664+ | 20 | |
| | 50 | 86 03885 74287+ | 253 32606+ | 818 60662 36083 | 8501 79360+ | 10 | |
| **22** | 0 | 91 88139 06894 | 278 98484+ | 790 12160 56722+ | 7892 03981 | 0 | **38** |
| | 10 | 0,45297 72418 05378+ | 304 64806 | 761 64268 52741+ | 7282 49516 | 50 | |
| | 20 | 0,45303 56722 70184 | 330 31571 | 733 16986 03225+ | 6673 15956+ | 40 | |
| | 30 | 09 41053 01755 | 355 98780 | 704 70312 87269 | 6064 03293 | 30 | |
| | 40 | 15 25409 00535 | 381 66433 | 676 24248 83975+ | 5455 11516 | 20 | |
| | 50 | 21 09790 66968 | 407 34530 | 647 78793 72459+ | 4846 40616 | 10 | |
| **23** | 0 | 26 94198 01498 | 433 03071 | 619 33947 31843+ | 4237 90583 | 0 | **37** |
| | 10 | 32 78631 04569 | 458 72056 | 590 89709 41260+ | 3629 61408 | 50 | |
| | 20 | 38 63089 76624+ | 484 41485 | 562 46079 79852+ | 3021 53081+ | 40 | |
| | 30 | 44 47574 18109+ | 510 11358+ | 534 03058 26771+ | 2413 65593+ | 30 | |
| | 40 | 50 32084 29468 | 535 81676 | 505 60644 61178 | 1805 98935+ | 20 | |
| | 50 | 56 16620 11144 | 561 52438 | 477 18838 62242+ | 1198 53097 | 10 | |
| **24** | 0 | 62 01181 63582+ | 587 23644+ | 448 77640 09145+ | 28 40591 28069 | 0 | **36** |
| | 10 | 67 85768 87227 | 612 95295+ | 420 37048 81077 | 28 39984 23842 | 50 | |
| | 20 | 73 70381 82522+ | 638 67391 | 391 97064 57235 | 9377 40406+ | 40 | |
| | 30 | 79 55020 49913+ | 664 39931 | 363 57687 16828+ | 8770 77753 | 30 | |
| | 40 | 85 39684 89844+ | 690 12915+ | 335 18916 39075+ | 8164 35872+ | 20 | |
| | 50 | 91 24375 02760 | 715 86345 | 306 80752 03203 | 7558 14755 | 10 | |
| **25** | 0 | 0,45397 09090 89105+ | 741 60219+ | 278 43193 88448 | 6952 14391 | 0 | **35** |
| | 10 | 0,45402 93832 49324+ | 767 34538+ | 250 06241 74057 | 6346 34771+ | 50 | |
| | 20 | 08 78599 83863 | 793 09302+ | 221 69895 39285+ | 5740 75887 | 40 | |
| | 30 | 14 63392 93165+ | 818 84511+ | 193 34154 63399 | 5135 37727+ | 30 | |
| | 40 | 20 48211 77677 | 844 60165+ | 164 99019 25671 | 4530 20284+ | 20 | |
| | 50 | 26 33056 37842+ | 870 36264+ | 136 64489 05386+ | 3925 23548 | 10 | |
| **26** | 0 | 32 17926 74107+ | 896 12809 | 108 30563 81838+ | 3320 47509 | 0 | **34** |
| | 10 | 38 02822 86916 | 921 89798+ | 079 97243 34329+ | 2715 92157+ | 50 | |
| | 20 | 43 87744 76714+ | 947 67233+ | 051 64527 42172 | 2111 57484+ | 40 | |
| | 30 | 49 72692 43948 | 973 45113+ | 2,20023 32415 84687+ | 1507 43480+ | 30 | |
| | 40 | 55 57665 89061+ | 5 84999 23439 | 2,19995 00908 41207 | 0903 50136 | 20 | |
| | 50 | 61 42665 12500+ | 5 85025 02210 | 966 70004 91071 | 28 30299 77442 | 10 | |
| **27** | 0 | 67 27690 14710+ | 050 81427 | 938 39705 13629 | 28 29696 25389 | 0 | **33** |
| | 10 | 73 12740 96137 | 076 61089 | 910 10008 88240 | 9092 93967+ | 50 | |
| | 20 | 78 97817 57226+ | 102 41197 | 881 80915 94272+ | 8489 83168 | 40 | |
| | 30 | 84 82919 98423 | 128 21750+ | 853 52426 11104+ | 7886 92981+ | 30 | |
| | 40 | 90 68048 20174 | 154 02750 | 825 24539 18123+ | 7284 23398 | 20 | |
| | 50 | 0,45496 53202 22924 | 179 84195+ | 796 97254 94725+ | 6681 74409 | 10 | |
| **28** | 0 | 0,45502 38382 07119+ | 205 66086+ | 768 70573 20316+ | 6079 46004+ | 0 | **32** |
| | 10 | 08 23587 73206 | 231 48424 | 740 44493 74311+ | 5477 38176 | 50 | |
| | 20 | 14 08819 21630 | 257 31207+ | 712 19016 36136 | 4875 50913 | 40 | |
| | 30 | 19 94076 52837+ | 283 14437 | 683 94140 85223 | 4273 84207 | 30 | |
| | 40 | 25 79359 67274+ | 308 98112+ | 655 69867 01016 | 3672 38048+ | 20 | |
| | 50 | 31 64668 65386+ | 334 82234+ | 627 46194 62967+ | 3071 12428 | 10 | |
| **29** | 0 | 37 50003 47621 | 360 66802+ | 599 23123 50539+ | 2470 07336+ | 0 | **31** |
| | 10 | 43 35364 14423+ | 386 51817 | 571 00653 43203 | 1869 22764 | 50 | |
| | 20 | 49 20750 66240+ | 412 37278 | 542 78784 20439 | 1268 58702+ | 40 | |
| | 30 | 55 06163 03519 | 438 23185+ | 514 57515 61736+ | 0668 15141+ | 30 | |
| | 40 | 60 91601 26704+ | 464 09540 | 486 36847 46595 | 28 20067 92072 | 20 | |
| | 50 | 66 77065 36244 | 5 85489 96340+ | 458 16779 54523 | 28 19467 89485 | 10 | |
| **30** | 0 | 0,45572 62555 32584+ | | 2,19429 97311 65038 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

# 24°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,45572 62555 32584+ | 5 85515 83588 | 2,19429 97311 65038 | 28 18868 07371 | 0 | **30** |
| | 10 | 78 48071 16172+ | 541 71282 | 401 78443 57667 | 8268 45721 | 50 | |
| | 20 | 84 33612 87454+ | 567 59423 | 373 60175 11946 | 7669 04525+ | 40 | |
| | 30 | 90 19180 46878 | 593 48011 | 345 42506 07420+ | 7069 83775 | 30 | |
| | 40 | 0,45596 04773 94889 | 619 37046 | 317 25436 23646 | 6470 83460+ | 20 | |
| | 50 | 0,45601 90393 31934+ | 645 26527+ | 289 08965 40185 | 5872 03573 | 10 | |
| **31** | 0 | 07 76038 58462+ | 671 16456+ | 260 93093 36612 | 5273 44103 | 0 | **29** |
| | 10 | 13 61709 74919 | 697 06832+ | 232 77819 92509+ | 4675 05041 | 50 | |
| | 20 | 19 47406 81751+ | 722 97656 | 204 63144 87468+ | 4076 86378 | 40 | |
| | 30 | 25 33129 79407+ | 748 88926+ | 176 49068 01090 | 3478 88105 | 30 | |
| | 40 | 31 18878 68334 | 774 80644+ | 148 35589 12985 | 2881 10212+ | 20 | |
| | 50 | 37 04653 48978+ | 800 72810 | 120 22708 02772+ | 2283 52691+ | 10 | |
| **32** | 0 | 42 90454 21788+ | 826 65422+ | 092 10424 50081 | 1686 15532+ | 0 | **28** |
| | 10 | 48 76280 87211 | 852 58483 | 063 98738 34548+ | 1088 98726+ | 50 | |
| | 20 | 54 62133 45694 | 878 51990+ | 035 87649 35822 | 28 10492 02264 | 40 | |
| | 30 | 60 48011 97684+ | 904 45946 | 2,19007 77157 33558 | 28 09895 26136 | 30 | |
| | 40 | 66 33916 43630+ | 930 40349+ | 2,18979 67262 07421+ | 9298 70333+ | 20 | |
| | 50 | 72 19846 83980 | 956 35200+ | 951 57963 37088 | 8702 34847 | 10 | |
| **33** | 0 | 78 05803 19180+ | 5 85982 30499+ | 923 49261 02241 | 8106 19667+ | 0 | **27** |
| | 10 | 83 91785 49680 | 5 86008 26246 | 895 41154 82573 | 7510 24786 | 50 | |
| | 20 | 89 77793 75926 | 034 22441 | 867 33644 57787+ | 6914 50192+ | 40 | |
| | 30 | 0,45695 63827 98367 | 060 19083+ | 839 26730 07594+ | 6318 95879 | 30 | |
| | 40 | 0,45701 49888 17451 | 086 16174+ | 811 20411 11715+ | 5723 61835+ | 20 | |
| | 50 | 07 35974 33625+ | 112 13713+ | 783 14687 49880 | 5128 48053 | 10 | |
| **34** | 0 | 13 22086 47339 | 138 11701 | 755 09559 01827 | 4533 54522+ | 0 | **26** |
| | 10 | 19 08224 59040 | 164 10136+ | 727 05025 47304+ | 3938 81235 | 50 | |
| | 20 | 24 94388 69176+ | 190 09020+ | 699 01086 66069+ | 3344 28181 | 40 | |
| | 30 | 30 80578 78197+ | 216 08353 | 670 97742 37888+ | 2749 95351+ | 30 | |
| | 40 | 36 66794 86550 | 242 08134 | 642 94992 42537 | 2155 82737 | 20 | |
| | 50 | 42 53036 94684 | 268 08363+ | 614 92836 59800 | 1561 90329+ | 10 | |
| **35** | 0 | 48 39305 03047+ | 294 09041+ | 586 91274 69470+ | 0968 18118+ | 0 | **25** |
| | 10 | 54 25599 12088+ | 320 10168 | 558 90306 51352+ | 28 00374 66095+ | 50 | |
| | 20 | 60 11919 22256+ | 346 11743+ | 530 89931 85256+ | 27 99781 34252 | 40 | |
| | 30 | 65 98265 34000 | 372 13768 | 502 90150 51005 | 9188 22577+ | 30 | |
| | 40 | 71 84637 47768 | 398 16241 | 474 90962 28427 | 8595 31064 | 20 | |
| | 50 | 77 71035 64009 | 424 19163 | 446 92366 97363 | 8002 59702+ | 10 | |
| **36** | 0 | 83 57459 83172 | 450 22534 | 418 94364 37660+ | 7410 08483 | 0 | **24** |
| | 10 | 89 43910 05706 | 476 26354+ | 390 96954 29177+ | 6817 77397 | 50 | |
| | 20 | 0,45795 30386 32060 | 502 30623+ | 363 00136 51780+ | 6225 66435+ | 40 | |
| | 30 | 0,45801 16888 62683+ | 528 35342 | 335 03910 85345+ | 5633 75589 | 30 | |
| | 40 | 07 03416 98026 | 554 40510 | 307 08277 09756+ | 5042 04849 | 20 | |
| | 50 | 12 89971 38535+ | 580 46127 | 279 13235 04907+ | 4450 54205+ | 10 | |
| **37** | 0 | 18 76551 84662+ | 606 52193+ | 251 18784 50702 | 3859 23650+ | 0 | **23** |
| | 10 | 24 63158 36855+ | 632 58709 | 223 24925 27051 | 3268 13174+ | 50 | |
| | 20 | 30 49790 95565 | 658 65674+ | 195 31657 13876+ | 2677 22768+ | 40 | |
| | 30 | 36 36449 61239+ | 684 73089+ | 167 38979 91108 | 2086 52423 | 30 | |
| | 40 | 42 23134 34329+ | 710 80954+ | 139 46893 38685 | 1496 02130 | 20 | |
| | 50 | 48 09845 15283+ | 736 89268+ | 111 55397 36555 | 0905 71879+ | 10 | |
| **38** | 0 | 53 96582 04552+ | 762 98033 | 083 64491 64676 | 27 90315 61662+ | 0 | **22** |
| | 10 | 59 83345 02585 | 789 07247 | 055 74176 03013+ | 27 89725 71470+ | 50 | |
| | 20 | 65 70134 09832 | 815 16910+ | 2,18027 84450 31543 | 9136 01294 | 40 | |
| | 30 | 71 56949 26742+ | 841 27024+ | 2,17999 95314 30248+ | 8546 51124+ | 30 | |
| | 40 | 77 43790 53767+ | 867 37588+ | 972 06767 79124 | 7957 20953 | 20 | |
| | 50 | 83 30657 91356 | 893 48602+ | 944 18810 58171 | 7368 10770 | 10 | |
| **39** | 0 | 89 17551 39958+ | 919 60066+ | 916 31442 47401 | 6779 20566+ | 0 | **21** |
| | 10 | 0,45895 04471 00025 | 945 71981 | 888 44663 26835 | 6190 50333+ | 50 | |
| | 20 | 0,45900 91416 72006 | 971 84345+ | 860 58472 76501 | 5602 00062+ | 40 | |
| | 30 | 06 78388 56351+ | 5 86997 97160+ | 832 72870 76438+ | 5013 69744+ | 30 | |
| | 40 | 12 65386 53512+ | 5 87024 10426 | 804 87857 06694 | 4425 59370 | 20 | |
| | 50 | 18 52410 63938+ | 5 87050 24142 | 777 03431 47324 | 27 83837 68930+ | 10 | |
| **40** | 0 | 0,45924 39460 88080+ | | 2,17749 19593 78393+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

# 24°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,45924 39460 88080+ | 5 87076 38308+ | 2,17749 19593 78393+ | 27 83249 98416+ | 0 | **20** |
| | 10 | 30 26537 26389 | 102 52925+ | 721 36343 79977+ | 2662 47819+ | 50 | |
| | 20 | 36 13639 79315 | 128 67993+ | 693 53681 32158 | 2075 17130+ | 40 | |
| | 30 | 42 00768 47308+ | 154 83512 | 665 71606 15027+ | 1488 06340 | 30 | |
| | 40 | 47 87923 30820+ | 180 99481+ | 637 90118 08687+ | 0901 15440 | 20 | |
| | 50 | 53 75104 30302 | 207 15901+ | 610 09216 93247+ | 27 80314 44421 | 10 | |
| **41** | 0 | 59 62311 46203+ | 233 32772+ | 582 28902 48826+ | 27 79727 93273+ | 0 | **19** |
| | 10 | 65 49544 78976 | 259 50095 | 554 49174 55553 | 9141 61990 | 50 | |
| | 20 | 71 36804 29071 | 285 67868 | 526 70032 93563 | 8555 50560 | 40 | |
| | 30 | 77 24089 96939 | 311 86092+ | 498 91477 43003 | 7969 58976 | 30 | |
| | 40 | 83 11401 83031+ | 338 04768 | 471 13507 84027 | 7383 87228 | 20 | |
| | 50 | 88 98739 87799+ | 364 23895 | 443 36123 96799+ | 6798 35307+ | 10 | |
| **42** | 0 | 0,45994 86104 11694+ | 390 43473 | 415 59325 61492 | 6213 03205+ | 0 | **18** |
| | 10 | 0,46000 73494 55167+ | 416 63502+ | 387 83112 58286+ | 5627 90913+ | 50 | |
| | 20 | 06 60911 18670 | 442 83983+ | 360 07484 67373 | 5042 98422 | 40 | |
| | 30 | 12 48354 02653+ | 469 04916 | 332 32441 68951+ | 4458 25722+ | 30 | |
| | 40 | 18 35823 07570 | 495 26300 | 304 57983 43229 | 3873 72805+ | 20 | |
| | 50 | 24 23318 33870 | 521 48136 | 276 84109 70423+ | 3289 39663 | 10 | |
| **43** | 0 | 30 10839 82006 | 547 70423+ | 249 10820 30760 | 2705 26286 | 0 | **17** |
| | 10 | 35 98387 52429+ | 573 93162+ | 221 38115 04474+ | 2121 32665 | 50 | |
| | 20 | 41 85961 45592 | 600 16354 | 193 65993 71809+ | 1537 58791+ | 40 | |
| | 30 | 47 73561 61946 | 626 39997 | 165 94456 13018 | 0954 04656+ | 30 | |
| | 40 | 53 61188 01943 | 652 64092 | 138 23502 08361+ | 27 70370 70251+ | 20 | |
| | 50 | 59 48840 66035 | 678 88639 | 110 53131 38110 | 27 69787 55567+ | 10 | |
| **44** | 0 | 65 36519 54674 | 705 13638 | 082 83343 82542+ | 9204 60595 | 0 | **16** |
| | 10 | 71 24224 68312 | 731 39089+ | 055 14139 21947+ | 8621 85326 | 50 | |
| | 20 | 77 11956 07401+ | 757 64993 | 2,17027 45517 36621+ | 8039 29751+ | 40 | |
| | 30 | 82 99713 72394+ | 783 91349 | 2,16999 77478 06869+ | 7456 93862+ | 30 | |
| | 40 | 88 87497 63743 | 810 18157 | 972 10021 13007 | 6874 77650 | 20 | |
| | 50 | 0,46094 75307 81900+ | 836 45418 | 944 43146 35357 | 6292 81105+ | 10 | |
| **45** | 0 | 0,46100 63144 27318 | 862 73131 | 916 76853 54251+ | 5711 04220 | 0 | **15** |
| | 10 | 06 51007 00449 | 889 01296+ | 889 11142 50031 | 5129 46985 | 50 | |
| | 20 | 12 38896 01746 | 915 29915 | 861 46013 03046 | 4548 09391 | 40 | |
| | 30 | 18 26811 31661 | 941 58986 | 833 81464 93655 | 3966 91430 | 30 | |
| | 40 | 24 14752 90647 | 967 88510 | 806 17498 02225 | 3385 93093 | 20 | |
| | 50 | 30 02720 79157 | 5 87994 18486+ | 778 54112 09132 | 2805 14370+ | 10 | |
| **46** | 0 | 35 90714 97643+ | 5 88020 48916 | 750 91306 94761+ | 2224 55254+ | 0 | **14** |
| | 10 | 41 78735 46560 | 046 79798+ | 723 29082 39507 | 1644 15736 | 50 | |
| | 20 | 47 66782 26358+ | 073 11134 | 695 67438 23771+ | 1063 95806 | 40 | |
| | 30 | 53 54855 37492+ | 099 42922+ | 668 06374 27965+ | 27 60483 95456 | 30 | |
| | 40 | 59 42954 80415+ | 125 75164+ | 640 45890 32509+ | 27 59904 14677 | 20 | |
| | 50 | 65 31080 55580 | 152 07859+ | 612 85986 17832+ | 9324 53460+ | 10 | |
| **47** | 0 | 71 19232 63439+ | 178 41007+ | 585 26661 64372 | 8745 11797+ | 0 | **13** |
| | 10 | 77 07411 04447 | 204 74609+ | 557 67916 52574+ | 8165 89679+ | 50 | |
| | 20 | 82 95615 79056+ | 231 08664+ | 530 09750 62895 | 7586 87097+ | 40 | |
| | 30 | 88 83846 87720+ | 257 43173 | 502 52163 75798 | 7008 04043 | 30 | |
| | 40 | 0,46194 72104 30893+ | 283 78135 | 474 95155 71755 | 6429 40507 | 20 | |
| | 50 | 0,46200 60388 09028 | 310 13550+ | 447 38726 31248 | 5850 96480+ | 10 | |
| **48** | 0 | 06 48698 22578+ | 336 49420 | 419 82875 34767+ | 5272 71955+ | 0 | **12** |
| | 10 | 12 37034 71998+ | 362 85743 | 392 27602 62812 | 4694 66923 | 50 | |
| | 20 | 18 25397 57741 | 389 22519+ | 364 72907 95889 | 4116 81374 | 40 | |
| | 30 | 24 13786 80261 | 415 59750+ | 337 18791 14515 | 3539 15300 | 30 | |
| | 40 | 30 02202 40011 | 441 97435 | 309 65251 99215 | 2961 68692+ | 20 | |
| | 50 | 35 90644 37446 | 468 35573+ | 282 12290 30522+ | 2384 41542+ | 10 | |
| **49** | 0 | 41 79112 73020 | 494 74166+ | 254 59905 88980 | 1807 33841 | 0 | **11** |
| | 10 | 47 67607 47186+ | 521 13213+ | 227 08098 55139 | 1230 45580 | 50 | |
| | 20 | 53 56128 60399+ | 547 52714+ | 199 56868 09559 | 0653 76750+ | 40 | |
| | 30 | 59 44676 13114 | 573 92669+ | 172 06214 32808+ | 27 50077 27343+ | 30 | |
| | 40 | 65 33250 05783+ | 600 33079+ | 144 56137 05465 | 27 49500 97351 | 20 | |
| | 50 | 71 21850 38863 | 5 88626 73943+ | 117 06636 08114 | 27 48924 86763+ | 10 | |
| **50** | 0 | 0,46277 10477 12806+ | | 2,16089 57711 21351 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

# 24°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,46277 10477 12806+ | 5 88653 15262 | 2,16089 57711 21351 | 27 48348 95573 | 0 | **10** |
| | 10 | 82 99130 28068 | 679 57035 | 062 09362 25778 | 7773 23770+ | 50 | |
| | 20 | 88 87809 85103 | 705 99262+ | 034 61589 02007+ | 7197 71347+ | 40 | |
| | 30 | 0,46294 76515 84365+ | 732 41945 | 2,16007 14391 30660 | 6622 38295 | 30 | |
| | 40 | 0,46300 65248 26310+ | 758 85082 | 2,15979 67768 92365+ | 6047 24604+ | 20 | |
| | 50 | 06 54007 11392 | 785 28673+ | 952 21721 67760+ | 5472 30268 | 10 | |
| **51** | 0 | 12 42792 40065+ | 811 72720 | 924 76249 37492+ | 4897 55276 | 0 | **9** |
| | 10 | 18 31604 12786 | 838 17222 | 897 31351 82216+ | 4322 99620 | 50 | |
| | 20 | 24 20442 30007+ | 864 62178+ | 869 87028 82596+ | 3748 63292 | 40 | |
| | 30 | 30 09306 92186 | 891 07590 | 842 43280 19304+ | 3174 46282+ | 30 | |
| | 40 | 35 98197 99776 | 917 53456+ | 815 00105 73021+ | 2600 48583+ | 20 | |
| | 50 | 41 87115 53232+ | 943 99778+ | 787 57505 24438 | 2026 70186 | 10 | |
| **52** | 0 | 47 76059 53011 | 970 46555+ | 760 15478 54252 | 1453 11082 | 0 | **8** |
| | 10 | 53 65029 99567 | 5 88996 93788 | 732 74025 43170 | 0879 71262 | 50 | |
| | 20 | 59 54026 93355 | 5 89023 41476 | 705 33145 71908 | 27 40306 50718 | 40 | |
| | 30 | 65 43050 34831 | 049 89619+ | 677 92839 21190 | 27 39733 49441 | 30 | |
| | 40 | 71 32100 24450+ | 076 38218 | 650 53105 71749 | 9160 67423 | 20 | |
| | 50 | 77 21176 62668+ | 102 87272+ | 623 13945 04326 | 8588 04655 | 10 | |
| **53** | 0 | 83 10279 49941 | 129 36782+ | 595 75356 99671 | 8015 61128 | 0 | **7** |
| | 10 | 88 99408 86723+ | 155 86748 | 568 37341 38543 | 7443 36834+ | 50 | |
| | 20 | 0,46394 88564 73471+ | 182 37170 | 540 99898 01708+ | 6871 31765 | 40 | |
| | 30 | 0,46400 77747 10641+ | 208 88047 | 513 63026 69943+ | 6299 45911 | 30 | |
| | 40 | 06 66955 98688+ | 235 39380+ | 486 26727 24032 | 5727 79264+ | 20 | |
| | 50 | 12 56191 38069 | 261 91169+ | 458 90999 44767+ | 5156 31816+ | 10 | |
| **54** | 0 | 18 45453 29238+ | 288 43415 | 431 55843 12951 | 4585 03559 | 0 | **6** |
| | 10 | 24 34741 72653+ | 314 96116 | 404 21258 09392 | 4013 94482+ | 50 | |
| | 20 | 30 24056 68769+ | 341 49274 | 376 87244 14910 | 3443 04579 | 40 | |
| | 30 | 36 13398 18043+ | 368 02887+ | 349 53801 10331 | 2872 33840 | 30 | |
| | 40 | 42 02766 20931 | 394 56957+ | 322 20928 76491 | 2301 82256+ | 20 | |
| | 50 | 47 92160 77888+ | 421 11484 | 294 88626 94234+ | 1731 49821 | 10 | |
| **55** | 0 | 53 81581 89373 | 447 66467 | 267 56895 44413+ | 1161 36523+ | 0 | **5** |
| | 10 | 59 71029 55840 | 474 21906+ | 240 25734 07890 | 0591 42357 | 50 | |
| | 20 | 65 60503 77746 | 500 77802+ | 212 95142 65533 | 27 30021 67312 | 40 | |
| | 30 | 71 50004 55548+ | 527 34155 | 185 65120 98221 | 27 29452 11380 | 30 | |
| | 40 | 77 39531 89703+ | 553 90964+ | 158 35668 86841 | 8882 74553 | 20 | |
| | 50 | 83 29085 80668 | 580 48230+ | 131 06786 12288 | 8313 56822+ | 10 | |
| **56** | 0 | 89 18666 28898 | 607 05953 | 103 78472 55465+ | 7744 58179+ | 0 | **4** |
| | 10 | 0,46495 08273 34851+ | 633 64133 | 076 50727 97286+ | 7175 78615+ | 50 | |
| | 20 | 0,46500 97906 98984+ | 660 22770 | 049 23552 18671 | 6607 18122+ | 40 | |
| | 30 | 06 87567 21754 | 686 81863+ | 2,15021 96945 00548+ | 6038 76691+ | 30 | |
| | 40 | 12 77254 03617+ | 713 41414+ | 2,14994 70906 23857 | 5470 54314+ | 20 | |
| | 50 | 18 66967 45032 | 740 01422+ | 967 45435 69542+ | 4902 50983 | 10 | |
| **57** | 0 | 24 56707 46454+ | 766 61888 | 940 20533 18559+ | 4334 66688 | 0 | **3** |
| | 10 | 30 46474 08342+ | 793 22810+ | 912 96198 51872 | 3767 01421+ | 50 | |
| | 20 | 36 36267 31152+ | 819 84190+ | 885 72431 50450+ | 3199 55174+ | 40 | |
| | 30 | 42 26087 15343 | 846 46027+ | 858 49231 95275+ | 2632 27939+ | 30 | |
| | 40 | 48 15933 61370+ | 873 08322+ | 831 26599 67336 | 2065 19707+ | 20 | |
| | 50 | 54 05806 69693 | 899 71075 | 804 04534 47629 | 1498 30469+ | 10 | |
| **58** | 0 | 59 95706 40768 | 926 34285 | 776 83036 17159+ | 0931 60218 | 0 | **2** |
| | 10 | 65 85632 75053 | 952 97952+ | 749 62104 56941 | 27 20365 08944 | 50 | |
| | 20 | 71 75585 73005+ | 5 89979 62078 | 722 41739 47997 | 27 19798 76639+ | 40 | |
| | 30 | 77 65565 35084 | 5 90006 26661+ | 695 21940 71357+ | 9232 63295+ | 30 | |
| | 40 | 83 55571 61745+ | 032 91703 | 668 02708 08062 | 8666 68904 | 20 | |
| | 50 | 89 45604 53448 | 059 57202 | 640 84041 39157+ | 8100 93456+ | 10 | |
| **59** | 0 | 0,46595 35664 10650 | 086 23159 | 613 65940 45701 | 7535 36944+ | 0 | **1** |
| | 10 | 0,46601 25750 33809 | 112 89574+ | 586 48405 08756+ | 6969 99359+ | 50 | |
| | 20 | 07 15863 23383+ | 139 56448 | 559 31435 09397 | 6404 80693+ | 40 | |
| | 30 | 13 06002 79831+ | 166 23779+ | 532 15030 28703+ | 5839 80937+ | 30 | |
| | 40 | 18 96169 03611 | 192 91569+ | 504 99190 47765+ | 5275 00083+ | 20 | |
| | 50 | 24 86361 95180+ | 5 90219 59818 | 477 83915 47682 | 27 14710 38123+ | 10 | |
| **60** | 0 | 0,46630 76581 54998+ | | 2,14450 69205 09558+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 65°

# 25°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,46630 76581 54998+ | 5 90246 28524+ | 2,14450 69205 09558+ | 27 14145 95048 | 0 | **60** |
| | 10 | 36 66827 83523 | 272 97690 | 423 55059 14510+ | 3581 70849+ | 50 | |
| | 20 | 42 57100 81213 | 299 67313+ | 396 41477 43661 | 3017 65519+ | 40 | |
| | 30 | 48 47400 48527 | 326 37396 | 369 28459 78141+ | 2453 79049+ | 30 | |
| | 40 | 54 37726 85923 | 353 07937 | 342 16005 99092+ | 1890 11431 | 20 | |
| | 50 | 60 28079 93860 | 379 78937 | 315 04115 87661+ | 1326 62655+ | 10 | |
| **1** | 0 | 66 18459 72797+ | 406 50396 | 287 92789 25006 | 0763 32715+ | 0 | **59** |
| | 10 | 72 08866 23193 | 433 22313+ | 260 82025 92290+ | 27 10200 21601+ | 50 | |
| | 20 | 77 99299 45506+ | 459 94690 | 233 71825 70689 | 27 09637 29306 | 40 | |
| | 30 | 83 89759 40196+ | 486 67525+ | 206 62188 41382+ | 9074 55820+ | 30 | |
| | 40 | 89 80246 07722 | 513 40820 | 179 53113 85562+ | 8512 01136+ | 20 | |
| | 50 | 0,46695 70759 48542+ | 540 14574 | 152 44601 84426 | 7949 65245+ | 10 | |
| **2** | 0 | 0,46701 61299 63116+ | 566 88787 | 125 36652 19180+ | 7387 48139+ | 0 | **58** |
| | 10 | 07 51866 51903+ | 593 63459+ | 098 29264 71041+ | 6825 49809+ | 50 | |
| | 20 | 13 42460 15363 | 620 38591 | 071 22439 21231+ | 6263 70248+ | 40 | |
| | 30 | 19 33080 53954 | 647 14182 | 044 16175 50983 | 5702 09447 | 30 | |
| | 40 | 25 23727 68136 | 673 90233 | 2,14017 10473 41536+ | 5140 67397 | 20 | |
| | 50 | 31 14401 58369 | 700 66743 | 2,13990 05332 74139+ | 4579 44090+ | 10 | |
| **3** | 0 | 37 05102 25112 | 727 43713 | 963 00753 30049 | 4018 39518+ | 0 | **57** |
| | 10 | 42 95829 68825 | 754 21142+ | 935 96734 90530 | 3457 53673+ | 50 | |
| | 20 | 48 86583 89967 | 780 99031+ | 908 93277 36856+ | 2896 86547 | 40 | |
| | 30 | 54 77364 88999 | 807 77380+ | 881 90380 50309+ | 2336 38130+ | 30 | |
| | 40 | 60 68172 66379+ | 834 56189+ | 854 88044 12179 | 1776 08415+ | 20 | |
| | 50 | 66 59007 22569 | 861 35458+ | 827 86268 03763 | 1215 97394+ | 10 | |
| **4** | 0 | 72 49868 58027+ | 888 15187+ | 800 85052 06369 | 0656 05058+ | 0 | **56** |
| | 10 | 78 40756 73215 | 914 95376+ | 773 84396 01310+ | 27 00096 31399+ | 50 | |
| | 20 | 84 31671 68591+ | 941 76025+ | 746 84299 69911 | 26 99536 76409 | 40 | |
| | 30 | 90 22613 44617+ | 968 57135 | 719 84762 93502 | 8977 40079 | 30 | |
| | 40 | 0,46796 13582 01752+ | 5 90995 38705 | 692 85785 53423 | 8418 22401+ | 20 | |
| | 50 | 0,46802 04577 40457+ | 5 91022 20735 | 665 87367 31021+ | 7859 23367+ | 10 | |
| **5** | 0 | 07 95599 61192+ | 049 03225+ | 638 89508 07654 | 7300 42969+ | 0 | **55** |
| | 10 | 13 86648 64418 | 075 86176+ | 611 92207 64684+ | 6741 81198+ | 50 | |
| | 20 | 19 77724 50594+ | 102 69588 | 584 95465 83486 | 6183 38047 | 40 | |
| | 30 | 25 68827 20182+ | 129 53460+ | 557 99282 45439 | 5625 13506+ | 30 | |
| | 40 | 31 59956 73642+ | 156 37793 | 531 03657 31932+ | 5067 07568+ | 20 | |
| | 50 | 37 51113 11435+ | 183 22587 | 504 08590 24364 | 4509 20225 | 10 | |
| **6** | 0 | 43 42296 34022+ | 210 07841+ | 477 14081 04139 | 3951 51468 | 0 | **54** |
| | 10 | 49 33506 41864 | 236 93556+ | 450 20129 52671 | 3394 01289 | 50 | |
| | 20 | 55 24743 35420+ | 263 79733 | 423 26735 51382 | 2836 69679+ | 40 | |
| | 30 | 61 16007 15153+ | 290 66370+ | 396 33898 81702+ | 2279 56632 | 30 | |
| | 40 | 67 07297 81524 | 317 53469 | 369 41619 25070+ | 1722 62138 | 20 | |
| | 50 | 72 98615 34993 | 344 41028+ | 342 49896 62932+ | 1165 86189 | 10 | |
| **7** | 0 | 78 89959 76021+ | 371 29049+ | 315 58730 76743 | 0609 28777 | 0 | **53** |
| | 10 | 84 81331 05071 | 398 17531+ | 288 68121 47966 | 26 90052 89894 | 50 | |
| | 20 | 90 72729 22602+ | 425 06475 | 261 78068 58072 | 26 89496 69532 | 40 | |
| | 30 | 0,46896 64154 29077+ | 451 95880 | 234 88571 88540 | 8940 67682 | 30 | |
| | 40 | 0,46902 55606 24958 | 478 85746+ | 207 99631 20858 | 8384 84336+ | 20 | |
| | 50 | 08 47085 10704+ | 505 76074+ | 181 11246 36521+ | 7829 19487 | 10 | |
| **8** | 0 | 14 38590 86779 | 532 66864+ | 154 23417 17034+ | 7273 73125+ | 0 | **52** |
| | 10 | 20 30123 53643+ | 559 58116 | 127 36143 43909+ | 6718 45244 | 50 | |
| | 20 | 26 21683 11759+ | 586 49829 | 100 49424 98665+ | 6163 35834 | 40 | |
| | 30 | 32 13269 61588+ | 613 42004 | 073 63261 62832 | 5608 44887 | 30 | |
| | 40 | 38 04883 03592+ | 640 34641 | 046 77653 17944+ | 5053 72396 | 20 | |
| | 50 | 43 96523 38233 | 667 27740 | 2,13019 92599 45548+ | 4499 18352 | 10 | |
| **9** | 0 | 49 88190 65973 | 694 21300+ | 2,12993 08100 27196+ | 3944 82747 | 0 | **51** |
| | 10 | 55 79884 87273+ | 721 15323+ | 966 24155 44449+ | 3390 65573 | 50 | |
| | 20 | 61 71606 02597+ | 748 09809 | 939 40764 78876 | 2836 66822 | 40 | |
| | 30 | 67 63354 12406+ | 775 04756+ | 912 57928 12054+ | 2282 86485+ | 30 | |
| | 40 | 73 55129 17162+ | 802 00166 | 885 75645 25569 | 1729 24555+ | 20 | |
| | 50 | 79 46931 17329 | 5 91828 96038+ | 858 93916 01013+ | 26 81175 81024 | 10 | |
| **10** | 0 | 0,46985 38760 13367 | | 2,12832 12740 19990 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

# 25°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,46985 38760 13367 | 5 91855 92373 | 2,12832 12740 19990 | 26 80622 55882+ | 0 | **50** |
| | 10 | 91 30616 05740 | 882 89170 | 805 32117 64107+ | 26 80069 49123+ | 50 | |
| | 20 | 0,46997 22498 94910 | 909 86429+ | 778 52048 14984 | 26 79516 60738+ | 40 | |
| | 30 | 0,47003 14408 81339+ | 936 84152 | 751 72531 54245+ | 8963 90719+ | 30 | |
| | 40 | 09 06345 65491+ | 963 82337 | 724 93567 63526 | 8411 39058+ | 20 | |
| | 50 | 14 98309 47828+ | 5 91990 80985 | 698 15156 24467+ | 7859 05747 | 10 | |
| **11** | 0 | 20 90300 28813+ | 5 92017 80095+ | 671 37297 18720+ | 7306 90777+ | 0 | **49** |
| | 10 | 26 82318 08909 | 044 79669 | 644 59990 27943 | 6754 94141+ | 50 | |
| | 20 | 32 74362 88578+ | 071 79705+ | 617 83235 33801 | 6203 15831+ | 40 | |
| | 30 | 38 66434 68284 | 098 80205+ | 591 07032 17969+ | 5651 55838+ | 30 | |
| | 40 | 44 58533 48489+ | 125 81168 | 564 31380 62131 | 5100 14155 | 20 | |
| | 50 | 50 50659 29657+ | 152 82594 | 537 56280 47976 | 4548 90773 | 10 | |
| **12** | 0 | 56 42812 12251+ | 179 84483 | 510 81731 57203 | 3997 85684+ | 0 | **48** |
| | 10 | 62 34991 96734+ | 206 86836 | 484 07733 71518+ | 3446 98881 | 50 | |
| | 20 | 68 27198 83570+ | 233 89651+ | 457 34286 72637+ | 2896 30354+ | 40 | |
| | 30 | 74 19432 73222 | 260 92931 | 430 61390 42283 | 2345 80097+ | 30 | |
| | 40 | 80 11693 66153+ | 287 96674 | 403 89044 62185+ | 1795 48101+ | 20 | |
| | 50 | 86 03981 62827 | 315 00880+ | 377 17249 14084 | 1245 34358+ | 10 | |
| **13** | 0 | 91 96296 63707+ | 342 05550+ | 350 46003 79725+ | 0695 38860+ | 0 | **47** |
| | 10 | 0,47097 88638 69258+ | 369 10684+ | 323 75308 40865 | 26 70145 61599+ | 50 | |
| | 20 | 0,47103 81007 79943 | 396 16282 | 297 05162 79265+ | 26 69596 02567+ | 40 | |
| | 30 | 09 73403 96225 | 423 22344 | 270 35566 76698 | 9046 61756+ | 30 | |
| | 40 | 15 65827 18569 | 450 28869 | 243 66520 14941+ | 8497 39158+ | 20 | |
| | 50 | 21 58277 47438 | 477 35858+ | 216 98022 75783 | 7948 34765+ | 10 | |
| **14** | 0 | 27 50754 83297 | 504 43312+ | 190 30074 41017+ | 7399 48569 | 0 | **46** |
| | 10 | 33 43259 26609 | 531 51230 | 163 62674 92448+ | 6850 80562 | 50 | |
| | 20 | 39 35790 77839 | 558 59612 | 136 95824 11886+ | 6302 30735+ | 40 | |
| | 30 | 45 28349 37451 | 585 68458 | 110 29521 81151 | 5753 99082 | 30 | |
| | 40 | 51 20935 05909 | 612 77768+ | 083 63767 82068+ | 5205 85594 | 20 | |
| | 50 | 57 13547 83677+ | 639 87543+ | 056 98561 96475 | 4657 90262+ | 10 | |
| **15** | 0 | 63 06187 71221 | 666 97783 | 030 33904 06212+ | 4110 13080 | 0 | **45** |
| | 10 | 68 98854 69004 | 694 08487 | 2,12003 69793 93133 | 3562 54038+ | 50 | |
| | 20 | 74 91548 77491 | 721 19655+ | 2,11977 06231 39094+ | 3015 13130 | 40 | |
| | 30 | 80 84269 97146+ | 748 31288+ | 950 43216 25964+ | 2467 90346+ | 30 | |
| | 40 | 86 77018 28435 | 775 43386+ | 923 80748 35618+ | 1920 85680 | 20 | |
| | 50 | 92 69793 71821+ | 802 55949+ | 897 18827 49938+ | 1373 99123 | 10 | |
| **16** | 0 | 0,47198 62596 27771 | 829 68977 | 870 57453 50815+ | 0827 30667 | 0 | **44** |
| | 10 | 0,47204 55425 96748 | 856 82470 | 843 96626 20148+ | 26 60280 80304+ | 50 | |
| | 20 | 10 48282 79218 | 883 96427+ | 817 36345 39844 | 26 59734 48027 | 40 | |
| | 30 | 16 41166 75645+ | 911 10850 | 790 76610 91817 | 9188 33827 | 30 | |
| | 40 | 22 34077 86495+ | 938 25738 | 764 17422 57990+ | 8642 37696 | 20 | |
| | 50 | 28 27016 12233+ | 965 41091+ | 737 58780 20294+ | 8096 59627 | 10 | |
| **17** | 0 | 34 19981 53325 | 5 92992 56909+ | 711 00683 60667+ | 7550 99611+ | 0 | **43** |
| | 10 | 40 12974 10234+ | 5 93019 73193+ | 684 43132 61056 | 7005 57641+ | 50 | |
| | 20 | 46 05993 83428 | 046 89942+ | 657 86127 03414+ | 6460 33709 | 40 | |
| | 30 | 51 99040 73371 | 074 07157+ | 631 29666 69705+ | 5915 27806+ | 30 | |
| | 40 | 57 92114 80528 | 101 24837+ | 604 73751 41898+ | 5370 39926 | 20 | |
| | 50 | 63 85216 05366 | 128 42983+ | 578 18381 01972+ | 4825 70059+ | 10 | |
| **18** | 0 | 69 78344 48349+ | 155 61595+ | 551 63555 31913 | 4281 18199 | 0 | **42** |
| | 10 | 75 71500 09945 | 182 80672+ | 525 09274 13714 | 3736 84337 | 50 | |
| | 20 | 81 64682 90617+ | 210 00216 | 498 55537 29377 | 3192 68465 | 40 | |
| | 30 | 87 57892 90833+ | 237 20225 | 472 02344 60912 | 2648 70575 | 30 | |
| | 40 | 93 51130 11058+ | 264 40700 | 445 49695 90337 | 2104 90660 | 20 | |
| | 50 | 0,47299 44394 51758+ | 291 61641+ | 418 97590 99677 | 1561 28711+ | 10 | |
| **19** | 0 | 0,47305 37686 13400 | 318 83048+ | 392 46029 70965 | 1017 84722 | 0 | **41** |
| | 10 | 11 31004 96448+ | 346 04922 | 365 95011 86243 | 26 50474 58683+ | 50 | |
| | 20 | 17 24351 01370+ | 373 27261+ | 339 44537 27560 | 26 49931 50587+ | 40 | |
| | 30 | 23 17724 28632 | 400 50068 | 312 94605 76972+ | 9388 60427 | 30 | |
| | 40 | 29 11124 78700 | 427 73340 | 286 45217 16545+ | 8845 88193+ | 20 | |
| | 50 | 35 04552 52040 | 5 93454 97079 | 259 96371 28351+ | 26 48303 33880 | 10 | |
| **20** | 0 | 0,47340 98007 49119 | | 2,11233 48067 94472 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,47340 98007 49119 | 5 93482 21284+ | 2,11233 48067 94472 | 26 47760 97477+ | 0 | **40** |
| | 10 | 46 91489 70403+ | 509 45956+ | 207 00306 96994+ | 7218 78979 | 50 | |
| | 20 | 52 84999 16360 | 536 71095 | 180 53088 18015 | 6676 78376+ | 40 | |
| | 30 | 58 78535 87455 | 563 96700+ | 154 06411 39638+ | 6134 95662 | 30 | |
| | 40 | 64 72099 84155+ | 591 22772+ | 127 60276 43976+ | 5593 30828 | 20 | |
| | 50 | 70 65691 06928 | 618 49311+ | 101 14683 13148+ | 5051 83866 | 10 | |
| **21** | 0 | 76 59309 56239+ | 645 76317+ | 074 69631 29282+ | 4510 54769 | 0 | **39** |
| | 10 | 82 52955 32557 | 673 03790+ | 048 25120 74514 | 3969 43528+ | 50 | |
| | 20 | 88 46628 36347+ | 700 31730+ | 2,11021 81151 30985+ | 3428 50137 | 40 | |
| | 30 | 0,47394 40328 68078 | 727 60137+ | 2,10995 37722 80849 | 2887 74586+ | 30 | |
| | 40 | 0,47400 34056 28216 | 754 89012 | 968 94835 06262+ | 2347 16869+ | 20 | |
| | 50 | 06 27811 17228 | 782 18354 | 942 52487 89393 | 1806 76978 | 10 | |
| **22** | 0 | 12 21593 35581+ | 809 48163 | 916 10681 12415 | 1266 54904+ | 0 | **38** |
| | 10 | 18 15402 83744+ | 836 78439 | 889 69414 57510+ | 0726 50640+ | 50 | |
| | 20 | 24 09239 62183+ | 864 09183 | 863 28688 06870 | 26 40186 64179 | 40 | |
| | 30 | 30 03103 71366+ | 891 40394+ | 836 88501 42691+ | 26 39646 95511+ | 30 | |
| | 40 | 35 96995 11761 | 918 72073+ | 810 48854 47180 | 9107 44631 | 20 | |
| | 50 | 41 90913 83835 | 946 04220+ | 784 09747 02549 | 8568 11529 | 10 | |
| **23** | 0 | 47 84859 88055 | 5 93973 36835 | 757 71178 91020 | 8028 96198 | 0 | **37** |
| | 10 | 53 78833 24890 | 5 94000 69917 | 731 33149 94822 | 7489 98630+ | 50 | |
| | 20 | 59 72833 94807+ | 028 03467+ | 704 95659 96191 | 6951 18818+ | 40 | |
| | 30 | 65 66861 98274+ | 055 37485+ | 678 58708 77372+ | 6412 56754 | 30 | |
| | 40 | 71 60917 35760+ | 082 71972 | 652 22296 20618+ | 5874 12430 | 20 | |
| | 50 | 77 55000 07732+ | 110 06926 | 625 86422 08188+ | 5335 85838 | 10 | |
| **24** | 0 | 83 49110 14658+ | 137 42348+ | 599 51086 22351 | 4797 76970 | 0 | **36** |
| | 10 | 89 43247 57007 | 164 78239+ | 573 16288 45380+ | 4259 85819+ | 50 | |
| | 20 | 0,47495 37412 35246+ | 192 14598+ | 546 82028 59561+ | 3722 12377+ | 40 | |
| | 30 | 0,47501 31604 49845 | 219 51426 | 520 48306 47184 | 3184 56637 | 30 | |
| | 40 | 07 25824 01271 | 246 88722 | 494 15121 90547 | 2647 18590 | 20 | |
| | 50 | 13 20070 89993 | 274 26486 | 467 82474 71957+ | 2109 98228+ | 10 | |
| **25** | 0 | 19 14345 16479 | 301 64719 | 441 50364 73728+ | 1572 95545+ | 0 | **35** |
| | 10 | 25 08646 81198+ | 329 03421 | 415 18791 78183 | 1036 10532+ | 50 | |
| | 20 | 31 02975 84619 | 356 42591 | 388 87755 67650+ | 26 30499 43182+ | 40 | |
| | 30 | 36 97332 27210+ | 383 82230+ | 362 57256 24468 | 26 29962 93487+ | 30 | |
| | 40 | 42 91716 09440+ | 411 22338+ | 336 27293 30980+ | 9426 61439+ | 20 | |
| | 50 | 48 86127 31779 | 438 62915 | 309 97866 69540+ | 8890 47031+ | 10 | |
| **26** | 0 | 54 80565 94694 | 466 03961 | 283 68976 22509+ | 8354 50255 | 0 | **34** |
| | 10 | 60 75031 98655 | 493 45476 | 257 40621 72254+ | 7818 71102+ | 50 | |
| | 20 | 66 69525 44131+ | 520 87460 | 231 12803 01152 | 7283 09566+ | 40 | |
| | 30 | 72 64046 31591+ | 548 29913+ | 204 85519 91585+ | 6747 65639+ | 30 | |
| | 40 | 78 58594 61505 | 575 72836 | 178 58772 25946 | 6212 39313+ | 20 | |
| | 50 | 84 53170 34341 | 603 16228 | 152 32559 86632+ | 5677 30581 | 10 | |
| **27** | 0 | 90 47773 50569 | 630 60089+ | 126 06882 56051+ | 5142 39434+ | 0 | **33** |
| | 10 | 0,47596 42404 10658+ | 658 04420+ | 099 81740 16617 | 4607 65865+ | 50 | |
| | 20 | 0,47602 37062 15079 | 685 49220+ | 073 57132 50751+ | 4073 09867+ | 40 | |
| | 30 | 08 31747 64299+ | 712 94490+ | 047 33059 40884+ | 3538 71432 | 30 | |
| | 40 | 14 26460 58790 | 740 40230+ | 2,10021 09520 69452+ | 3004 50551+ | 20 | |
| | 50 | 20 21200 99020+ | 767 86440 | 2,09994 86516 18901 | 2470 47218+ | 10 | |
| **28** | 0 | 26 15968 85460 | 795 33119 | 968 64045 71682+ | 1936 61425+ | 0 | **32** |
| | 10 | 32 10764 18579+ | 822 80268 | 942 42109 10257 | 1402 93164+ | 50 | |
| | 20 | 38 05586 98847+ | 850 27887+ | 916 20706 17092+ | 0869 42428 | 40 | |
| | 30 | 44 00437 26735 | 877 75976+ | 889 99836 74664 | 26 20336 09208+ | 30 | |
| | 40 | 49 95315 02711+ | 905 24536 | 863 79500 65455+ | 26 19802 93498+ | 20 | |
| | 50 | 55 90220 27247 | 932 73565 | 837 59697 71957 | 9269 95290 | 10 | |
| **29** | 0 | 61 85153 00812+ | 960 23065 | 811 40427 76667 | 8737 14575+ | 0 | **31** |
| | 10 | 67 80113 23877 | 5 94987 73035 | 785 21690 62091+ | 8204 51347+ | 50 | |
| | 20 | 73 75100 96912 | 5 95015 23475+ | 759 03486 10744+ | 7672 05598 | 40 | |
| | 30 | 79 70116 20387+ | 042 74386 | 732 85814 05146+ | 7139 77320 | 30 | |
| | 40 | 85 65158 94773+ | 070 25767+ | 706 68674 27826+ | 6607 66505+ | 20 | |
| | 50 | 91 60229 20541 | 5 95097 77619+ | 680 52066 61321 | 26 16075 73146+ | 10 | |
| **30** | 0 | 0,47697 55326 98160 | | 2,09654 35990 88174+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,47697 55326 98160 | 5 95125 29942 | 2,09654 35990 88174+ | 26 15543 97236+ | 0 | **30** |
| | 10 | 0,47703 50452 28102 | 152 82735+ | 628 20446 90938 | 5012 38767 | 50 | |
| | 20 | 09 45605 10837+ | 180 35999+ | 602 05434 52171 | 4480 97731 | 40 | |
| | 30 | 15 40785 46837 | 207 89734+ | 575 90953 54440 | 3949 74120+ | 30 | |
| | 40 | 21 35993 36571 | 235 43940+ | 549 77003 80319+ | 3418 67928 | 20 | |
| | 50 | 27 31228 80511+ | 262 98617 | 523 63585 12391+ | 2887 79146 | 10 | |
| **31** | 0 | 33 26491 79128+ | 290 53765 | 497 50697 33246 | 2357 07766+ | 0 | **29** |
| | 10 | 39 21782 32894 | 318 09384+ | 471 38340 25479 | 1826 53783 | 50 | |
| | 20 | 45 17100 42278 | 345 65474+ | 445 26513 71696+ | 1296 17186+ | 40 | |
| | 30 | 51 12446 07753 | 373 22036+ | 419 15217 54509+ | 0765 97971 | 30 | |
| | 40 | 57 07819 29789+ | 400 79069+ | 393 04451 56539 | 26 10235 96127+ | 20 | |
| | 50 | 63 03220 08858+ | 428 36574 | 366 94215 60411+ | 26 09706 11649+ | 10 | |
| **32** | 0 | 68 98648 45432+ | 455 94549+ | 340 84509 48762 | 9176 44529 | 0 | **28** |
| | 10 | 74 94104 39982 | 483 52997 | 314 75333 04233 | 8646 94758 | 50 | |
| | 20 | 80 89587 92979 | 511 11916 | 288 66686 09475 | 8117 62330 | 40 | |
| | 30 | 86 85099 04895+ | 538 71307 | 262 58568 47145 | 7588 47237 | 30 | |
| | 40 | 92 80637 76202+ | 566 31169+ | 236 50979 99908 | 7059 49471 | 20 | |
| | 50 | 0,47798 76204 07372 | 593 91504 | 210 43920 50437 | 6530 69025 | 10 | |
| **33** | 0 | 0,47804 71797 98876 | 621 52310+ | 184 37389 81412 | 6002 05891+ | 0 | **27** |
| | 10 | 10 67419 51186+ | 649 13588+ | 158 31387 75520 | 5473 60063 | 50 | |
| | 20 | 16 63068 64775 | 676 75339 | 132 25914 15457+ | 4945 31531+ | 40 | |
| | 30 | 22 58745 40114 | 704 37561+ | 106 20968 83926 | 4417 20290 | 30 | |
| | 40 | 28 54449 77675+ | 732 00256 | 080 16551 63636 | 3889 26330+ | 20 | |
| | 50 | 34 50181 77931+ | 759 63423 | 054 12662 37305+ | 3361 49646 | 10 | |
| **34** | 0 | 40 45941 41354+ | 787 27062+ | 028 09300 87659+ | 2833 90229 | 0 | **26** |
| | 10 | 46 41728 68417 | 814 91174 | 2,09002 06466 97431 | 2306 48071+ | 50 | |
| | 20 | 52 37543 59591 | 842 55758 | 2,08976 04160 49359+ | 1779 23166+ | 40 | |
| | 30 | 58 33386 15349 | 870 20814+ | 950 02381 26193+ | 1252 15506 | 30 | |
| | 40 | 64 29256 36163+ | 897 86344 | 924 01129 10687+ | 0725 25083 | 20 | |
| | 50 | 70 25154 22507+ | 925 52346 | 898 00403 85604 | 26 00198 51890 | 10 | |
| **35** | 0 | 76 21079 74853+ | 953 18820+ | 872 00205 33714 | 25 99671 95919+ | 0 | **25** |
| | 10 | 82 17032 93674 | 5 95980 85768 | 846 00533 37794+ | 9145 57164 | 50 | |
| | 20 | 88 13013 79442 | 5 96008 53188+ | 820 01387 80631 | 8619 35615+ | 40 | |
| | 30 | 0,47894 09022 32630+ | 036 21082 | 794 02768 45015+ | 8093 31267+ | 30 | |
| | 40 | 0,47900 05058 53712+ | 063 89448 | 768 04675 13748 | 7567 44111+ | 20 | |
| | 50 | 06 01122 43160+ | 091 58287+ | 742 07107 69636+ | 7041 74141 | 10 | |
| **36** | 0 | 11 97214 01448 | 119 27600+ | 716 10065 95495+ | 6516 21348 | 0 | **24** |
| | 10 | 17 93333 29048+ | 146 97386 | 690 13549 74147+ | 5990 85725+ | 50 | |
| | 20 | 23 89480 26434+ | 174 67645+ | 664 17558 88422 | 5465 67265+ | 40 | |
| | 30 | 29 85654 94080 | 202 38378 | 638 22093 21157 | 4940 65960+ | 30 | |
| | 40 | 35 81857 32458 | 230 09584 | 612 27152 55196+ | 4415 81804 | 20 | |
| | 50 | 41 78087 42042 | 257 81263+ | 586 32736 73392+ | 3891 14787+ | 10 | |
| **37** | 0 | 47 74345 23305+ | 285 53416+ | 560 38845 58605 | 3366 64904 | 0 | **23** |
| | 10 | 53 70630 76722 | 313 26043+ | 534 45478 93701 | 2842 32146+ | 50 | |
| | 20 | 59 66944 02765+ | 340 99144 | 508 52636 61554+ | 2318 16507 | 40 | |
| | 30 | 65 63285 01909 | 368 72718 | 482 60318 45048 | 1794 17978 | 30 | |
| | 40 | 71 59653 74627+ | 396 46766+ | 456 68524 27069+ | 1270 36553 | 20 | |
| | 50 | 77 56050 21393+ | 424 21288+ | 430 77253 90517 | 0746 72223+ | 10 | |
| **38** | 0 | 83 52474 42682 | 451 96284+ | 404 86507 18293+ | 25 90223 24982+ | 0 | **22** |
| | 10 | 89 48926 38966+ | 479 71754+ | 378 96283 93311 | 25 89699 94823 | 50 | |
| | 20 | 0,47995 45406 10721+ | 507 47699 | 353 06583 98488 | 9176 81737 | 40 | |
| | 30 | 0,48001 41913 58420+ | 535 24117+ | 327 17407 16751 | 8653 85717+ | 30 | |
| | 40 | 07 38448 82538 | 563 01010+ | 301 28753 31033+ | 8131 06757 | 20 | |
| | 50 | 13 35011 83548+ | 590 78377+ | 275 40622 24276+ | 7608 44848 | 10 | |
| **39** | 0 | 19 31602 61926 | 618 56219+ | 249 53013 79428+ | 7085 99983+ | 0 | **21** |
| | 10 | 25 28221 18145+ | 646 34535+ | 223 65927 79445 | 6563 72155+ | 50 | |
| | 20 | 31 24867 52681 | 674 13326 | 197 79364 07289+ | 6041 61357+ | 40 | |
| | 30 | 37 21541 66007 | 701 92591+ | 171 93322 45932 | 5519 67581+ | 30 | |
| | 40 | 43 18243 58598+ | 729 72331+ | 146 07802 78351 | 4997 90820 | 20 | |
| | 50 | 49 14973 30930 | 5 96757 52546+ | 120 22804 87531 | 25 84476 31066 | 10 | |
| **40** | 0 | 0,48055 11730 83476+ | | 2,08094 38328 56465 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

# 25°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,48055 11730 83476+ | 5 96785 33236 | 2,08094 38328 56465 | 25 83954 88312 | 0 | **20** |
| | 10 | 61 08516 16712+ | 813 14400+ | 068 54373 68153 | 3433 62551 | 50 | |
| | 20 | 67 05329 31113+ | 840 96040+ | 042 70940 05602 | 2912 53775 | 40 | |
| | 30 | 73 02170 27153+ | 868 78155 | 2,08016 88027 51827 | 2391 61977+ | 30 | |
| | 40 | 78 99039 05308+ | 896 60745 | 2,07991 05635 89849+ | 1870 87150+ | 20 | |
| | 50 | 84 95935 66053+ | 924 43810 | 965 23765 02699 | 1350 29286+ | 10 | |
| **41** | 0 | 90 92860 09863 | 952 27350 | 939 42414 73412+ | 0829 88379 | 0 | **19** |
| | 10 | 0,48096 89812 37213+ | 5 96980 11365+ | 913 61584 85034 | 25 80309 64420 | 50 | |
| | 20 | 0,48102 86792 48579 | 5 97007 95857 | 887 81275 20614 | 25 79789 57402+ | 40 | |
| | 30 | 08 83800 44436 | 035 80823+ | 862 01485 63211+ | 9269 67318+ | 30 | |
| | 40 | 14 80836 25259 | 063 66265+ | 836 22215 95893 | 8749 94162 | 20 | |
| | 50 | 20 77899 91524+ | 091 52183 | 810 43466 01731 | 8230 37924+ | 10 | |
| **42** | 0 | 26 74991 43707+ | 119 38576+ | 784 65235 63806+ | 7710 98599+ | 0 | **18** |
| | 10 | 32 72110 82284 | 147 25445+ | 758 87524 65207 | 7191 76179 | 50 | |
| | 20 | 38 69258 07730 | 175 12790+ | 733 10332 89028 | 6672 70656 | 40 | |
| | 30 | 44 66433 20520+ | 203 00611+ | 707 33660 18371+ | 6153 82023+ | 30 | |
| | 40 | 50 63636 21132 | 230 88908+ | 681 57506 36348 | 5635 10274 | 20 | |
| | 50 | 56 60867 10040+ | 258 77681+ | 655 81871 26074 | 5116 55400 | 10 | |
| **43** | 0 | 62 58125 87722+ | 286 66930+ | 630 06754 70674 | 4598 17394+ | 0 | **17** |
| | 10 | 68 55412 54653 | 314 56656 | 604 32156 53279+ | 4079 96250 | 50 | |
| | 20 | 74 52727 11308+ | 342 46857+ | 578 58076 57029+ | 3561 91959+ | 40 | |
| | 30 | 80 50069 58166 | 370 37535+ | 552 84514 65070+ | 3044 04515+ | 30 | |
| | 40 | 86 47439 95701+ | 398 28689+ | 527 11470 60555 | 2526 33910+ | 20 | |
| | 50 | 92 44838 24391 | 426 20320+ | 501 38944 26644+ | 2008 80138 | 10 | |
| **44** | 0 | 0,48198 42264 44711+ | 454 12427+ | 475 66935 46506+ | 1491 43190 | 0 | **16** |
| | 10 | 0,48204 39718 57139 | 482 05011+ | 449 95444 03317 | 0974 23059+ | 50 | |
| | 20 | 10 37200 62150+ | 509 98072 | 424 24469 80257+ | 25 70457 19739 | 40 | |
| | 30 | 16 34710 60222+ | 537 91609+ | 398 54012 60518+ | 25 69940 33222 | 30 | |
| | 40 | 22 32248 51832 | 565 85623+ | 372 84072 27296 | 9423 63501 | 20 | |
| | 50 | 28 29814 37455+ | 593 80115 | 347 14648 63795+ | 8907 10568 | 10 | |
| **45** | 0 | 34 27408 17570+ | 621 75083 | 321 45741 53227+ | 8390 74416+ | 0 | **15** |
| | 10 | 40 25029 92653+ | 649 70528 | 295 77350 78811 | 7874 55039 | 50 | |
| | 20 | 46 22679 63181+ | 677 66450 | 270 09476 23772 | 7358 52428+ | 40 | |
| | 30 | 52 20357 29631+ | 705 62849+ | 244 42117 71343+ | 6842 66577+ | 30 | |
| | 40 | 58 18062 92481 | 733 59726 | 218 75275 04766 | 6326 97479 | 20 | |
| | 50 | 64 15796 52207 | 761 57080 | 193 08948 07287 | 5811 45125+ | 10 | |
| **46** | 0 | 70 13558 09287+ | 789 54911+ | 167 43136 62161 | 5296 09510+ | 0 | **14** |
| | 10 | 76 11347 64199 | 817 53220+ | 141 77840 52650+ | 4780 90626 | 50 | |
| | 20 | 82 09165 17419+ | 845 52007 | 116 13059 62025 | 4265 88465 | 40 | |
| | 30 | 88 07010 69426 | 873 51271 | 090 48793 73560 | 3751 03020 | 30 | |
| | 40 | 0,48294 04884 20697 | 901 51012+ | 064 85042 70540 | 3236 34285 | 20 | |
| | 50 | 0,48300 02785 71709+ | 929 51232 | 039 21806 36255 | 2721 82251+ | 10 | |
| **47** | 0 | 06 00715 22941+ | 957 51929 | 2,07013 59084 54003+ | 2207 46912+ | 0 | **13** |
| | 10 | 11 98672 74870+ | 5 97985 53104+ | 2,06987 96877 07091 | 1693 28261+ | 50 | |
| | 20 | 17 96658 27974+ | 5 98013 54757+ | 962 35183 78829+ | 1179 26291 | 40 | |
| | 30 | 23 94671 82732 | 041 56888+ | 936 74004 52538+ | 0665 40993+ | 30 | |
| | 40 | 29 92713 39620+ | 069 59498 | 911 13339 11545 | 25 60151 72362+ | 20 | |
| | 50 | 35 90782 99118+ | 097 62585 | 885 53187 39182+ | 25 59638 20390 | 10 | |
| **48** | 0 | 41 88880 61703+ | 125 66151 | 859 93549 18792+ | 9124 85069+ | 0 | **12** |
| | 10 | 47 87006 27854+ | 153 70195 | 834 34424 33723 | 8611 66393+ | 50 | |
| | 20 | 53 85159 98049+ | 181 74717+ | 808 75812 67329+ | 8098 64354+ | 40 | |
| | 30 | 59 83341 72766+ | 209 79718 | 783 17714 02975 | 7585 78946+ | 30 | |
| | 40 | 65 81551 52485 | 237 85197+ | 757 60128 24028+ | 7073 10161 | 20 | |
| | 50 | 71 79789 37682+ | 265 91155+ | 732 03055 13867+ | 6560 57992 | 10 | |
| **49** | 0 | 77 78055 28838 | 293 97592 | 706 46494 55875+ | 6048 22431+ | 0 | **11** |
| | 10 | 83 76349 26430 | 322 04507+ | 680 90446 33443+ | 5536 03473 | 50 | |
| | 20 | 89 74671 30938 | 350 11902 | 655 34910 29971 | 5024 01109 | 40 | |
| | 30 | 0,48395 73021 42839+ | 378 19775 | 629 79886 28862 | 4512 15332 | 30 | |
| | 40 | 0,48401 71399 62614+ | 406 28127 | 604 25374 13530 | 4000 46136 | 20 | |
| | 50 | 07 69805 90742 | 5 98434 36958 | 578 71373 67394 | 25 53488 93512+ | 10 | |
| **50** | 0 | 0,48413 68240 27700 | | 2,06553 17884 73881+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

# 25°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,48413 68240 27700 | 5 98462 46268+ | 2,06553 17884 73881+ | 25 52977 57455+ | 0 | **10** |
| | 10 | 19 66702 73968+ | 490 56058 | 527 64907 16426 | 2466 37957+ | 50 | |
| | 20 | 25 65193 30026+ | 518 66326+ | 502 12440 78468+ | 1955 35011 | 40 | |
| | 30 | 31 63711 96353 | 546 77074+ | 476 60485 43457+ | 1444 48609+ | 30 | |
| | 40 | 37 62258 73427+ | 574 88302 | 451 09040 94848 | 0933 78745+ | 20 | |
| | 50 | 43 60833 61729+ | 603 00008+ | 425 58107 16102+ | 25 50423 25412 | 10 | |
| **51** | 0 | 49 59436 61738 | 631 12195 | 400 07683 90690 | 25 49912 88602 | 0 | **9** |
| | 10 | 55 58067 73933 | 659 24861 | 374 57771 02088 | 9402 68308+ | 50 | |
| | 20 | 61 56726 98794+ | 687 38006+ | 349 08368 33779+ | 8892 64524 | 40 | |
| | 30 | 67 55414 36801 | 715 51632 | 323 59475 69255+ | 8382 77242 | 30 | |
| | 40 | 73 54129 88433 | 743 65737+ | 298 11092 92013+ | 7873 06455 | 20 | |
| | 50 | 79 52873 54170+ | 771 80322+ | 272 63219 85558+ | 7363 52156 | 10 | |
| **52** | 0 | 85 51645 34493 | 799 95387+ | 247 15856 33402+ | 6854 14337+ | 0 | **8** |
| | 10 | 91 50445 29880+ | 828 10932+ | 221 69002 19065 | 6344 92993+ | 50 | |
| | 20 | 0,48497 49273 40813 | 856 26958 | 196 22657 26072 | 5835 88116 | 40 | |
| | 30 | 0,48503 48129 67771 | 884 43463 | 170 76821 37956 | 5326 99698 | 30 | |
| | 40 | 09 47014 11234 | 912 60449 | 145 31494 38258 | 4818 27733 | 20 | |
| | 50 | 15 45926 71683 | 940 77915 | 119 86676 10525 | 4309 72213+ | 10 | |
| **53** | 0 | 21 44867 49598 | 968 95861 | 094 42366 38311 | 3801 33133 | 0 | **7** |
| | 10 | 27 43836 45459 | 5 98997 14288 | 068 98565 05178+ | 3293 10483+ | 50 | |
| | 20 | 33 42833 59747 | 5 99025 33195+ | 043 55271 94695 | 2785 04258+ | 40 | |
| | 30 | 39 41858 92942+ | 053 52583+ | 2,06018 12486 90436+ | 2277 14451+ | 30 | |
| | 40 | 45 40912 45526 | 081 72452 | 2,05992 70209 75985 | 1769 41054+ | 20 | |
| | 50 | 51 39994 17978 | 109 92801+ | 967 28440 34930+ | 1261 84061 | 10 | |
| **54** | 0 | 57 39104 10779 | 138 13631+ | 941 87178 50870 | 0754 43463+ | 0 | **6** |
| | 10 | 63 38242 24411 | 166 34942+ | 916 46424 07406 | 25 40247 19255+ | 50 | |
| | 20 | 69 37408 59353+ | 194 56735 | 891 06176 88150+ | 25 39740 11430 | 40 | |
| | 30 | 75 36603 16088+ | 222 79008 | 865 66436 76720+ | 9233 19980 | 30 | |
| | 40 | 81 35825 95096 | 251 01762 | 840 27203 56740+ | 8726 44898 | 20 | |
| | 50 | 87 35076 96858+ | 279 24997+ | 814 88477 11842+ | 8219 86177+ | 10 | |
| **55** | 0 | 93 34356 21856 | 307 48714 | 789 50257 25665 | 7713 43811 | 0 | **5** |
| | 10 | 0,48599 33663 70570 | 335 72912 | 764 12543 81854+ | 7207 17791+ | 50 | |
| | 20 | 0,48605 32999 43482+ | 363 97591+ | 738 75336 64062+ | 6701 08113 | 40 | |
| | 30 | 11 32363 41074 | 392 22752+ | 713 38635 55949+ | 6195 14767+ | 30 | |
| | 40 | 17 31755 63826+ | 420 48395 | 688 02440 41182+ | 5689 37748 | 20 | |
| | 50 | 23 31176 12221+ | 448 74519 | 662 66751 03434+ | 5183 77048 | 10 | |
| **56** | 0 | 29 30624 86740+ | 477 01124+ | 637 31567 26386+ | 4678 32660+ | 0 | **4** |
| | 10 | 35 30101 87865 | 505 28212 | 611 96888 93726+ | 4173 04578 | 50 | |
| | 20 | 41 29607 16077 | 533 55781+ | 586 62715 89148+ | 3667 92794 | 40 | |
| | 30 | 47 29140 71858+ | 561 83832+ | 561 29047 96354+ | 3162 97301+ | 30 | |
| | 40 | 53 28702 55691 | 590 12365+ | 535 95884 99053 | 2658 18093 | 20 | |
| | 50 | 59 28292 68056+ | 618 41381 | 510 63226 80960 | 2153 55162+ | 10 | |
| **57** | 0 | 65 27911 09437+ | 646 70878+ | 485 31073 25797+ | 1649 08502+ | 0 | **3** |
| | 10 | 71 27557 80316 | 675 00858 | 459 99424 17295 | 1144 78105+ | 50 | |
| | 20 | 77 27232 81173+ | 703 31319+ | 434 68279 39189+ | 0640 63965+ | 40 | |
| | 30 | 83 26936 12493+ | 731 62263+ | 409 37638 75224 | 25 30136 66075 | 30 | |
| | 40 | 89 26667 74757 | 759 93690+ | 384 07502 09149 | 25 29632 84427+ | 20 | |
| | 50 | 0,48695 26427 68447+ | 788 25599+ | 358 77869 24721+ | 9129 19015+ | 10 | |
| **58** | 0 | 0,48701 26215 94046+ | 816 57991 | 333 48740 05706 | 8625 69832+ | 0 | **2** |
| | 10 | 07 26032 52037+ | 844 90865 | 308 20114 35873+ | 8122 36871 | 50 | |
| | 20 | 13 25877 42902+ | 873 24222 | 282 91991 99002+ | 7619 20125 | 40 | |
| | 30 | 19 25750 67124 | 901 58061+ | 257 64372 78877+ | 7116 19586+ | 30 | |
| | 40 | 25 25652 25186 | 929 92384 | 232 37256 59291 | 6613 35249+ | 20 | |
| | 50 | 31 25582 17570 | 958 27189+ | 207 10643 24041+ | 6110 67106+ | 10 | |
| **59** | 0 | 37 25540 44759 | 5 99986 62478 | 181 84532 56935+ | 5608 15150+ | 0 | **1** |
| | 10 | 43 25527 07237 | 6 00014 98249+ | 156 58924 41784+ | 5105 79375+ | 50 | |
| | 20 | 49 25542 05486+ | 043 34504 | 131 33818 62409+ | 4603 59773+ | 40 | |
| | 30 | 55 25585 39990 | 071 71241+ | 106 09215 02636 | 4101 56338 | 30 | |
| | 40 | 61 25657 11231+ | 100 08462+ | 080 85113 46298 | 3599 69062+ | 20 | |
| | 50 | 67 25757 19694+ | 6 00128 46167 | 055 61513 77235+ | 25 23097 97939+ | 10 | |
| **60** | 0 | 0,48773 25885 65861+ | | 2,05030 38415 79296 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 64°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,48773 25885 65861+ | 6 00156 84355 | 2,05030 38415 79296 | 25 22596 42962 | 0 | **60** |
| | 10 | 79 26042 50216+ | 185 23026 | 2,05005 15819 36334 | 2095 04124 | 50 | |
| | 20 | 85 26227 73242+ | 213 62181 | 2,04979 93724 32210 | 1593 81418 | 40 | |
| | 30 | 91 26441 35423+ | 242 01819+ | 954 72130 50792 | 1092 74837 | 30 | |
| | 40 | 0,48797 26683 37243 | 270 41941+ | 929 51037 75955 | 0591 84374+ | 20 | |
| | 50 | 0,48803 26953 79184+ | 298 82547+ | 904 30445 91580+ | 25 20091 10023+ | 10 | |
| **1** | 0 | 09 27252 61732+ | 327 23637+ | 879 10354 81557 | 25 19590 51777 | 0 | **59** |
| | 10 | 15 27579 85370 | 355 65211+ | 853 90764 29780 | 9090 09628 | 50 | |
| | 20 | 21 27935 50581+ | 384 07269 | 828 71674 20152 | 8589 83570 | 40 | |
| | 30 | 27 28319 57850+ | 412 49811 | 803 53084 36582+ | 8089 73596 | 30 | |
| | 40 | 33 28732 07661+ | 440 92837 | 778 34994 62986+ | 7589 79699 | 20 | |
| | 50 | 39 29173 00498+ | 469 36347 | 753 17404 83287+ | 7090 01872+ | 10 | |
| **2** | 0 | 45 29642 36845+ | 497 80341+ | 728 00314 81415 | 6590 40109 | 0 | **58** |
| | 10 | 51 30140 17187+ | 526 24820+ | 702 83724 41306 | 6090 94402+ | 50 | |
| | 20 | 57 30666 42008 | 554 69784 | 677 67633 46904 | 5591 64745+ | 40 | |
| | 30 | 63 31221 11791+ | 583 15231+ | 652 52041 82158+ | 5092 51131+ | 30 | |
| | 40 | 69 31804 27023+ | 611 61164 | 627 36949 31027 | 4593 53553+ | 20 | |
| | 50 | 75 32415 88187+ | 640 07581 | 602 22355 77473+ | 4094 72004+ | 10 | |
| **3** | 0 | 81 33055 95768+ | 668 54483 | 577 08261 05469 | 3596 06478 | 0 | **57** |
| | 10 | 87 33724 50251 | 697 01869+ | 551 94664 98991 | 3097 56967+ | 50 | |
| | 20 | 93 34421 52120+ | 725 49740+ | 526 81567 42023+ | 2599 23465+ | 40 | |
| | 30 | 0,48899 35147 01861 | 753 98097 | 501 68968 18558+ | 2101 05965 | 30 | |
| | 40 | 0,48905 35900 99958 | 782 46938+ | 476 56867 12593 | 1603 04460 | 20 | |
| | 50 | 11 36683 46896+ | 810 96265 | 451 45264 08133 | 1105 18943+ | 10 | |
| **4** | 0 | 17 37494 43161+ | 839 46076+ | 426 34158 89189+ | 0607 49408+ | 0 | **56** |
| | 10 | 23 38333 89238 | 867 96373+ | 401 23551 39781+ | 25 10109 95848 | 50 | |
| | 20 | 29 39201 85611+ | 896 47155+ | 376 13441 43933+ | 25 09612 58255 | 40 | |
| | 30 | 35 40098 32767 | 924 98423 | 351 03828 85678 | 9115 36624 | 30 | |
| | 40 | 41 41023 31190+ | 953 50176 | 325 94713 49054+ | 8618 30946+ | 20 | |
| | 50 | 47 41976 81366+ | 6 00982 02414+ | 300 86095 18108 | 8121 41217 | 10 | |
| **5** | 0 | 53 42958 83781 | 6 01010 55139 | 275 77973 76891 | 7624 67428 | 0 | **55** |
| | 10 | 59 43969 38920 | 039 08348+ | 250 70349 09462+ | 7128 09573 | 50 | |
| | 20 | 65 45008 47268+ | 067 62044 | 225 63220 99889+ | 6631 67645+ | 40 | |
| | 30 | 71 46076 09313 | 096 16225+ | 200 56589 32244 | 6135 41638 | 30 | |
| | 40 | 77 47172 25538+ | 124 70893 | 175 50453 90605+ | 5639 31544+ | 20 | |
| | 50 | 83 48296 96431 | 153 26046 | 150 44814 59061 | 5143 37358 | 10 | |
| **6** | 0 | 89 49450 22477 | 181 81685 | 125 39671 21703+ | 4647 59071 | 0 | **54** |
| | 10 | 0,48995 50632 04162+ | 210 37810+ | 100 35023 62632 | 4151 96678 | 50 | |
| | 20 | 0,49001 51842 41973 | 238 94422 | 075 30871 65954 | 3656 50171 | 40 | |
| | 30 | 07 53081 36395 | 267 51520 | 050 27215 15783 | 3161 19544+ | 30 | |
| | 40 | 13 54348 87915 | 296 09104 | 025 24053 96238+ | 2666 04790+ | 20 | |
| | 50 | 19 55644 97019 | 324 67174+ | 2,04000 21387 91448 | 2171 05903+ | 10 | |
| **7** | 0 | 25 56969 64193+ | 353 25731+ | 2,03975 19216 85544+ | 1676 22875+ | 0 | **53** |
| | 10 | 31 58322 89925+ | 381 84775 | 950 17540 62669 | 1181 55700+ | 50 | |
| | 20 | 37 59704 74700+ | 410 44305+ | 925 16359 06968 | 0687 04372 | 40 | |
| | 30 | 43 61115 19006 | 439 04322 | 900 15672 02596 | 25 00192 68882+ | 30 | |
| | 40 | 49 62554 23328 | 467 64826 | 875 15479 33713+ | 24 99698 49226 | 20 | |
| | 50 | 55 64021 88154 | 496 25816+ | 850 15780 84487 | 9204 45395+ | 10 | |
| **8** | 0 | 61 65518 13970 | 524 87293+ | 825 16576 39091+ | 8710 57384 | 0 | **52** |
| | 10 | 67 67043 01264 | 553 49258 | 800 17865 81707+ | 8216 85185+ | 50 | |
| | 20 | 73 68596 50522 | 582 11709+ | 775 19648 96522+ | 7723 28792+ | 40 | |
| | 30 | 79 70178 62231+ | 610 74648 | 750 21925 67730 | 7229 88198+ | 30 | |
| | 40 | 85 71789 36879+ | 639 38074 | 725 24695 79531+ | 6736 63397 | 20 | |
| | 50 | 91 73428 74953+ | 668 01987 | 700 27959 16135 | 6243 54381 | 10 | |
| **9** | 0 | 0,49097 75096 76940+ | 696 66387+ | 675 31715 61753+ | 5750 61144+ | 0 | **51** |
| | 10 | 0,49103 76793 43328 | 725 31275 | 650 35965 00609+ | 5257 83680 | 50 | |
| | 20 | 09 78518 74603 | 753 96650+ | 625 40707 16929+ | 4765 21981 | 40 | |
| | 30 | 15 80272 71253+ | 782 62513+ | 600 45941 94949 | 4272 76041 | 30 | |
| | 40 | 21 82055 33767 | 811 28864 | 575 51669 18908 | 3780 45853+ | 20 | |
| | 50 | 27 83866 62631 | 6 01839 95702+ | 550 57888 73054+ | 24 93288 31411 | 10 | |
| **10** | 0 | 0,49133 85706 58333 | | 2,03525 64600 41643 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,49133 85706 58333 | 6 01868 63028+ | 2,03525 64600 41643 | 24 92796 32708 | 0 | **50** |
| | 10 | 39 87575 21361+ | 897 30842+ | 500 71804 08935 | 2304 49737 | 50 | |
| | 20 | 45 89472 52204 | 925 99144 | 475 79499 59198 | 1812 82491+ | 40 | |
| | 30 | 51 91398 51348 | 954 67934 | 450 87686 76706+ | 1321 30965 | 30 | |
| | 40 | 57 93353 19282 | 6 01983 37212 | 425 96365 45741+ | 0829 95150+ | 20 | |
| | 50 | 63 95336 56494 | 6 02012 06978 | 401 05535 50590+ | 24 90338 75042 | 10 | |
| **11** | 0 | 69 97348 63472+ | 040 77232+ | 376 15196 75548+ | 24 89847 70632 | 0 | **49** |
| | 10 | 75 99389 40705 | 069 47975+ | 351 25349 04916+ | 9356 81914+ | 50 | |
| | 20 | 82 01458 88680+ | 098 19206+ | 326 35992 23002 | 8866 08882+ | 40 | |
| | 30 | 88 03557 07886+ | 126 90926 | 301 47126 14119+ | 8375 51529+ | 30 | |
| | 40 | 0,49194 05683 98812+ | 155 63134 | 276 58750 62590 | 7885 09849 | 20 | |
| | 50 | 0,49200 07839 61946+ | 184 35830+ | 251 70865 52741+ | 7394 83834 | 10 | |
| **12** | 0 | 06 10023 97777 | 213 09016 | 226 83470 68907+ | 6904 73478 | 0 | **48** |
| | 10 | 12 12237 06793 | 241 82690 | 201 96565 95429+ | 6414 78774 | 50 | |
| | 20 | 18 14478 89483 | 270 56853 | 177 10151 16655+ | 5924 99716+ | 40 | |
| | 30 | 24 16749 46336 | 299 31504+ | 152 24226 16939 | 5435 36298 | 30 | |
| | 40 | 30 19048 77840+ | 328 06645+ | 127 38790 80641 | 4945 88512 | 20 | |
| | 50 | 36 21376 84486 | 356 82275+ | 102 53844 92129+ | 4456 56351+ | 10 | |
| **13** | 0 | 42 23733 66761+ | 385 58394+ | 077 69388 35777+ | 3967 39811 | 0 | **47** |
| | 10 | 48 26119 25155+ | 414 35002+ | 052 85420 95966+ | 3478 38883 | 50 | |
| | 20 | 54 28533 60158 | 443 12100 | 028 01942 57084 | 2989 53561 | 40 | |
| | 30 | 60 30976 72258 | 471 89686+ | 2,03003 18953 03523 | 2500 83838+ | 30 | |
| | 40 | 66 33448 61944+ | 500 67762+ | 2,02978 36452 19685 | 2012 29708+ | 20 | |
| | 50 | 72 35949 29707 | 529 46328+ | 953 54439 89976 | 1523 91165+ | 10 | |
| **14** | 0 | 78 38478 76035+ | 558 25383+ | 928 72915 98810+ | 1035 68202 | 0 | **46** |
| | 10 | 84 41037 01419 | 587 04928+ | 903 91880 30609 | 0547 60811+ | 50 | |
| | 20 | 90 43624 06347 | 615 84963 | 879 11332 69797+ | 24 80059 68987+ | 40 | |
| | 30 | 0,49296 46239 91310 | 644 65487 | 854 31273 00810 | 24 79571 92723+ | 30 | |
| | 40 | 0,49302 48884 56797 | 673 46501+ | 829 51701 08086+ | 9084 32013 | 20 | |
| | 50 | 08 51558 03298+ | 702 28005+ | 804 72616 76074 | 8596 86849 | 10 | |
| **15** | 0 | 14 54260 31304 | 731 09999+ | 779 94019 89225 | 8109 57225+ | 0 | **45** |
| | 10 | 20 56991 41303+ | 759 92484 | 755 15910 31999+ | 7622 43135+ | 50 | |
| | 20 | 26 59751 33787+ | 788 75458 | 730 38287 88864 | 7135 44572+ | 40 | |
| | 30 | 32 62540 09245+ | 817 58922+ | 705 61152 44291 | 6648 61530+ | 30 | |
| | 40 | 38 65357 68168+ | 846 42877+ | 680 84503 82760+ | 6161 94002 | 20 | |
| | 50 | 44 68204 11046 | 875 27323 | 656 08341 88758+ | 5675 41981+ | 10 | |
| **16** | 0 | 50 71079 38369 | 904 12258+ | 631 32666 46777 | 5189 05461+ | 0 | **44** |
| | 10 | 56 73983 50627+ | 932 97685 | 606 57477 41316 | 4702 84435+ | 50 | |
| | 20 | 62 76916 48312+ | 961 83601+ | 581 82774 56880 | 4216 78897+ | 40 | |
| | 30 | 68 79878 31914 | 6 02990 70009 | 557 08557 77982+ | 3730 88841 | 30 | |
| | 40 | 74 82869 01923 | 6 03019 56907+ | 532 34826 89141+ | 3245 14259 | 20 | |
| | 50 | 80 85888 58830+ | 048 44296+ | 507 61581 74882 | 2759 55145+ | 10 | |
| **17** | 0 | 86 88937 03126+ | 077 32176+ | 482 88822 19737 | 2274 11493+ | 0 | **43** |
| | 10 | 92 92014 35303 | 106 20547 | 458 16548 08243+ | 1788 83296+ | 50 | |
| | 20 | 0,49398 95120 55850 | 135 09409 | 433 44759 24947 | 1303 70548 | 40 | |
| | 30 | 0,49404 98255 65259+ | 163 98762+ | 408 73455 54399+ | 0818 73241+ | 30 | |
| | 40 | 11 01419 64021+ | 192 88606+ | 384 02636 81158 | 24 70333 91371 | 20 | |
| | 50 | 17 04612 52628 | 221 78942 | 359 32302 89787 | 24 69849 24929 | 10 | |
| **18** | 0 | 23 07834 31570+ | 250 69769 | 334 62453 64858 | 9364 73910 | 0 | **42** |
| | 10 | 29 11085 01339 | 279 61087 | 309 93088 90948 | 8880 38306+ | 50 | |
| | 20 | 35 14364 62426+ | 308 52897 | 285 24208 52641+ | 8396 18113 | 40 | |
| | 30 | 41 17673 15323+ | 337 45198+ | 260 55812 34528+ | 7912 13322+ | 30 | |
| | 40 | 47 21010 60521+ | 366 37991 | 235 87900 21206 | 7428 23928+ | 20 | |
| | 50 | 53 24376 98513 | 395 31276 | 211 20471 97277+ | 6944 49924+ | 10 | |
| **19** | 0 | 59 27772 29789 | 424 25052+ | 186 53527 47353+ | 6460 91304 | 0 | **41** |
| | 10 | 65 31196 54841 | 453 19320+ | 161 87066 56049+ | 5977 48060+ | 50 | |
| | 20 | 71 34649 74162 | 482 14081 | 137 21089 07989 | 5494 20187+ | 40 | |
| | 30 | 77 38131 88242+ | 511 09333 | 112 55594 87801+ | 5011 07679 | 30 | |
| | 40 | 83 41642 97576 | 540 05077+ | 087 90583 80122+ | 4528 10528 | 20 | |
| | 50 | 89 45183 02653+ | 6 03569 01314 | 063 26055 69594+ | 24 64045 28728 | 10 | |
| **20** | 0 | 0,49495 48752 03967+ | | 2,02038 62010 40866+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,49495 48752 03967+ | 6 03597 98042+ | 2,02038 62010 40866+ | 24 63562 62272+ | 0 | **40** |
| | 10 | 0,49501 52350 02010 | 626 95264 | 2,02013 98447 78594 | 3080 11156 | 50 | |
| | 20 | 07 55976 97274 | 655 92977 | 2,01989 35367 67438 | 2597 75370+ | 40 | |
| | 30 | 13 59632 90251 | 684 91183 | 964 72769 92067+ | 2115 54910+ | 30 | |
| | 40 | 19 63317 81434 | 713 89881+ | 940 10654 37157 | 1633 49769+ | 20 | |
| | 50 | 25 67031 71315+ | 742 89072+ | 915 49020 87387+ | 1151 59941 | 10 | |
| **21** | 0 | 31 70774 60388 | 771 88756 | 890 87869 27446+ | 0669 85418+ | 0 | **39** |
| | 10 | 37 74546 49144 | 800 88932+ | 866 27199 42028 | 24 60188 26195 | 50 | |
| | 20 | 43 78347 38076+ | 829 89602 | 841 67011 15833 | 24 59706 82265 | 40 | |
| | 30 | 49 82177 27678+ | 858 90764 | 817 07304 33568 | 9225 53621+ | 30 | |
| | 40 | 55 86036 18442+ | 887 92419 | 792 48078 79946+ | 8744 40258+ | 20 | |
| | 50 | 61 89924 10861+ | 916 94567+ | 767 89334 39688 | 8263 42169 | 10 | |
| **22** | 0 | 67 93841 05429 | 945 97208+ | 743 31070 97519+ | 7782 59346+ | 0 | **38** |
| | 10 | 73 97787 02637+ | 6 03975 00343 | 718 73288 38173 | 7301 91785+ | 50 | |
| | 20 | 80 01762 02980+ | 6 04004 03971 | 694 15986 46387+ | 6821 39478+ | 40 | |
| | 30 | 86 05766 06951+ | 033 08092 | 669 59165 06909 | 6341 02420 | 30 | |
| | 40 | 92 09799 15043+ | 062 12706+ | 645 02824 04489 | 5860 80603 | 20 | |
| | 50 | 0,49598 13861 27750 | 091 17814+ | 620 46963 23886 | 5380 74021+ | 10 | |
| **23** | 0 | 0,49604 17952 45564+ | 120 23416+ | 595 91582 49864+ | 4900 82668+ | 0 | **37** |
| | 10 | 10 22072 68981 | 149 29511+ | 571 36681 67196 | 4421 06538 | 50 | |
| | 20 | 16 26221 98492+ | 178 36100+ | 546 82260 60658 | 3941 45623+ | 40 | |
| | 30 | 22 30400 34593 | 207 43183+ | 522 28319 15034+ | 3461 99919 | 30 | |
| | 40 | 28 34607 77776+ | 236 50760 | 497 74857 15115+ | 2982 69417+ | 20 | |
| | 50 | 34 38844 28536+ | 265 58830+ | 473 21874 45698+ | 2503 54113 | 10 | |
| **24** | 0 | 40 43109 87367 | 294 67395+ | 448 69370 91585+ | 2024 53998+ | 0 | **36** |
| | 10 | 46 47404 54762+ | 323 76454 | 424 17346 37587 | 1545 69068+ | 50 | |
| | 20 | 52 51728 31216+ | 352 86007 | 399 65800 68518 | 1066 99316+ | 40 | |
| | 30 | 58 56081 17223+ | 381 96054 | 375 14733 69202 | 0588 44735+ | 30 | |
| | 40 | 64 60463 13277+ | 411 06595+ | 350 64145 24466+ | 24 50110 05319+ | 20 | |
| | 50 | 70 64874 19873+ | 440 17631+ | 326 14035 19147 | 24 49631 81062 | 10 | |
| **25** | 0 | 76 69314 37505 | 469 29162 | 301 64403 38085+ | 9153 71956+ | 0 | **35** |
| | 10 | 82 73783 66667 | 498 41187 | 277 15249 66128+ | 8675 77997+ | 50 | |
| | 20 | 88 78282 07854 | 527 53706+ | 252 66573 88131 | 8197 99177+ | 40 | |
| | 30 | 0,49694 82809 61560 | 556 66720+ | 228 18375 88953+ | 7720 35491 | 30 | |
| | 40 | 0,49700 87366 28281 | 585 80229+ | 203 70655 53462+ | 7242 86931 | 20 | |
| | 50 | 06 91952 08510+ | 614 94233+ | 179 23412 66531+ | 6765 53491+ | 10 | |
| **26** | 0 | 12 96567 02744 | 644 08732+ | 154 76647 13040 | 6288 35166+ | 0 | **34** |
| | 10 | 19 01211 11476+ | 673 23726 | 130 30358 77873+ | 5811 31949 | 50 | |
| | 20 | 25 05884 35202+ | 702 39215 | 105 84547 45925 | 5334 43832+ | 40 | |
| | 30 | 31 10586 74417+ | 731 55199 | 081 39213 02092 | 4857 70811+ | 30 | |
| | 40 | 37 15318 29616+ | 760 71678 | 056 94355 31280+ | 4381 12879 | 20 | |
| | 50 | 43 20079 01294+ | 789 88652+ | 032 49974 18401+ | 3904 70029+ | 10 | |
| **27** | 0 | 49 24868 89947 | 819 06122+ | 2,01008 06069 48372 | 3428 42255+ | 0 | **33** |
| | 10 | 55 29687 96070 | 848 24088 | 2,00983 62641 06116+ | 2952 29551+ | 50 | |
| | 20 | 61 34536 20157+ | 877 42549 | 959 19688 76565 | 2476 31911 | 40 | |
| | 30 | 67 39413 62706+ | 906 61505+ | 934 77212 44654 | 2000 49327+ | 30 | |
| | 40 | 73 44320 24212 | 935 80957+ | 910 35211 95326+ | 1524 81795 | 20 | |
| | 50 | 79 49256 05169+ | 965 00905+ | 885 93687 13532 | 1049 29306+ | 10 | |
| **28** | 0 | 85 54221 06074+ | 6 04994 21349 | 861 52637 84225+ | 0573 91856+ | 0 | **32** |
| | 10 | 91 59215 27423+ | 6 05023 42288+ | 837 12063 92368+ | 24 40098 69438+ | 50 | |
| | 20 | 0,49797 64238 69712+ | 052 63724+ | 812 71965 22930 | 24 39623 62046 | 40 | |
| | 30 | 0,49803 69291 33437 | 081 85656 | 788 32341 60884 | 9148 69673 | 30 | |
| | 40 | 09 74373 19093 | 111 08084 | 763 93192 91211 | 8673 92313 | 20 | |
| | 50 | 15 79484 27176+ | 140 31008 | 739 54518 98898 | 8199 29959+ | 10 | |
| **29** | 0 | 21 84624 58184+ | 169 54428 | 715 16319 68938+ | 7724 82606+ | 0 | **31** |
| | 10 | 27 89794 12612+ | 198 78344+ | 690 78594 86332+ | 7250 50247+ | 50 | |
| | 20 | 33 94992 90957 | 228 02757+ | 666 41344 36084+ | 6776 32876+ | 40 | |
| | 30 | 40 00220 93714+ | 257 27667+ | 642 04568 03208 | 6302 30487 | 30 | |
| | 40 | 46 05478 21382 | 286 53073+ | 617 68265 72721 | 5828 43073 | 20 | |
| | 50 | 52 10764 74455+ | 6 05315 78976 | 593 32437 29648 | 24 35354 70628 | 10 | |
| **30** | 0 | 0,49858 16080 53431+ | | 2,00568 97082 59020 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,49858 16080 53431+ | 6 05345 05375+ | 2,00568 97082 59020 | 24 34881 13146 | 0 | **30** |
| | 10 | 64 21425 58807 | 374 32272 | 544 62201 45874 | 4407 70620 | 50 | |
| | 20 | 70 26799 91079+ | 403 59665+ | 520 27793 75254 | 3934 43044+ | 40 | |
| | 30 | 76 32203 50744+ | 432 87555+ | 495 93859 32209+ | 3461 30413 | 30 | |
| | 40 | 82 37636 38300 | 462 15942+ | 471 60398 01796+ | 2988 32719 | 20 | |
| | 50 | 88 43098 54242+ | 491 44827 | 447 27409 69077 | 2515 49957 | 10 | |
| **31** | 0 | 0,49894 48589 99069+ | 520 74208+ | 422 94894 19120+ | 2042 82120 | 0 | **29** |
| | 10 | 0,49900 54110 73278 | 550 04087 | 398 62851 37000+ | 1570 29202 | 50 | |
| | 20 | 06 59660 77365 | 579 34463+ | 374 31281 07798+ | 1097 91196+ | 40 | |
| | 30 | 12 65240 11828+ | 608 65337 | 350 00183 16602 | 0625 68098 | 30 | |
| | 40 | 18 70848 77165 | 637 96708 | 325 69557 48504 | 24 30153 59899+ | 20 | |
| | 50 | 24 76486 73873 | 667 28576+ | 301 39403 88604+ | 24 29681 66595 | 10 | |
| **32** | 0 | 30 82154 02449+ | 696 60942+ | 277 09722 22009+ | 9209 88178+ | 0 | **28** |
| | 10 | 36 87850 63392 | 725 93806+ | 252 80512 33831 | 8738 24643+ | 50 | |
| | 20 | 42 93576 57198+ | 755 27168 | 228 51774 09187+ | 8266 75984 | 40 | |
| | 30 | 48 99331 84366+ | 784 61027+ | 204 23507 33204 | 7795 42193+ | 30 | |
| | 40 | 55 05116 45394 | 813 95385 | 179 95711 91010+ | 7324 23266 | 20 | |
| | 50 | 61 10930 40779+ | 843 30241 | 155 68387 67744+ | 6853 19195 | 10 | |
| **33** | 0 | 67 16773 71020 | 872 65594+ | 131 41534 48549+ | 6382 29975 | 0 | **27** |
| | 10 | 73 22646 36614+ | 902 01446 | 107 15152 18574+ | 5911 55599 | 50 | |
| | 20 | 79 28548 38060+ | 931 37796 | 082 89240 62975+ | 5440 96061 | 40 | |
| | 30 | 85 34479 75857 | 960 74644+ | 058 63799 66914+ | 4970 51355+ | 30 | |
| | 40 | 91 40440 50501+ | 6 05990 11991+ | 034 38829 15559 | 4500 21475 | 20 | |
| | 50 | 0,49997 46430 62493 | 6 06019 49836+ | 2,00010 14328 94084 | 4030 06414+ | 10 | |
| **34** | 0 | 0,50003 52450 12329+ | 048 88180+ | 1,99985 90298 87669+ | 3560 06167+ | 0 | **26** |
| | 10 | 09 58499 00509+ | 078 27022+ | 961 66738 81502 | 3090 20727 | 50 | |
| | 20 | 15 64577 27532+ | 107 66364 | 937 43648 60775 | 2620 50088 | 40 | |
| | 30 | 21 70684 93896 | 137 06203+ | 913 21028 10686+ | 2150 94244 | 30 | |
| | 40 | 27 76822 00100 | 166 46542+ | 888 98877 16443 | 1681 53188 | 20 | |
| | 50 | 33 82988 46642+ | 195 87380 | 864 77195 63255 | 1212 26915 | 10 | |
| **35** | 0 | 39 89184 34022+ | 225 28717 | 840 55983 36340 | 0743 15418 | 0 | **25** |
| | 10 | 45 95409 62739 | 254 70552+ | 816 35240 20922 | 24 20274 18691 | 50 | |
| | 20 | 52 01664 33291+ | 284 12887+ | 792 14966 02231 | 24 19805 36728 | 40 | |
| | 30 | 58 07948 46179 | 313 55721+ | 767 95160 65503 | 9336 69523 | 30 | |
| | 40 | 64 14262 01900+ | 342 99055 | 743 75823 95980 | 8868 17069+ | 20 | |
| | 50 | 70 20605 00956 | 372 42888 | 719 56955 78910+ | 8399 79361+ | 10 | |
| **36** | 0 | 76 26977 43843+ | 401 87220 | 695 38555 99549 | 7931 56393 | 0 | **24** |
| | 10 | 82 33379 31064 | 431 32052 | 671 20624 43156 | 7463 48157+ | 50 | |
| | 20 | 88 39810 63116 | 460 77383+ | 647 03160 94998+ | 6995 54649 | 40 | |
| | 30 | 0,50094 46271 40499 | 490 23214+ | 622 86165 40349+ | 6527 75861+ | 30 | |
| | 40 | 0,50100 52761 63714 | 519 69545+ | 598 69637 64488 | 6060 11788+ | 20 | |
| | 50 | 06 59281 33259+ | 549 16376+ | 574 53577 52699+ | 5592 62424+ | 10 | |
| **37** | 0 | 12 65830 49635+ | 578 63707 | 550 37984 90275 | 5125 27763 | 0 | **23** |
| | 10 | 18 72409 13342+ | 608 11537+ | 526 22859 62512 | 4658 07797+ | 50 | |
| | 20 | 24 79017 24880 | 637 59868+ | 502 08201 54714+ | 4191 02522+ | 40 | |
| | 30 | 30 85654 84748+ | 667 08699 | 477 94010 52192 | 3724 11931+ | 30 | |
| | 40 | 36 92321 93447+ | 696 58030+ | 453 80286 40260 | 3257 36018+ | 20 | |
| | 50 | 42 99018 51478 | 726 07862 | 429 67029 04241+ | 2790 74777+ | 10 | |
| **38** | 0 | 49 05744 59340 | 755 58193+ | 405 54238 29463+ | 2324 28202+ | 0 | **22** |
| | 10 | 55 12500 17533+ | 785 09026 | 381 41914 01261 | 1857 96287 | 50 | |
| | 20 | 61 19285 26559 | 814 60358+ | 357 30056 04974+ | 1391 79025 | 40 | |
| | 30 | 67 26099 86917+ | 844 12192 | 333 18664 25949+ | 0925 76410+ | 30 | |
| | 40 | 73 32943 99109+ | 873 64526 | 309 07738 49539 | 24 10459 88437 | 20 | |
| | 50 | 79 39817 63635+ | 903 17361 | 284 97278 61102 | 24 09994 15099+ | 10 | |
| **39** | 0 | 85 46720 80996+ | 932 70696+ | 260 87284 46002+ | 9528 56390+ | 0 | **21** |
| | 10 | 91 53653 51693 | 962 24533 | 236 77755 89612 | 9063 12305 | 50 | |
| | 20 | 0,50197 60615 76226 | 6 06991 78870+ | 212 68692 77307 | 8597 82836+ | 40 | |
| | 30 | 0,50203 67607 55097 | 6 07021 33709+ | 188 60094 94471 | 8132 67978+ | 30 | |
| | 40 | 09 74628 88806 | 050 89049 | 164 51962 26492 | 7667 67725+ | 20 | |
| | 50 | 15 81679 77855 | 6 07080 44890 | 140 44294 58766+ | 24 07202 82071+ | 10 | |
| **40** | 0 | 0,50221 88760 22745 | | 1,99116 37091 76695 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,50221 88760 22745 | 6 07110 01232+ | 1,99116 37091 76695 | 24 06738 11010 | 0 | **20** |
| | 10 | 27 95870 23977+ | 139 58076 | 092 30353 65685 | 6273 54535 | 50 | |
| | 20 | 34 03009 82053+ | 169 15421 | 068 24080 11150 | 5809 12641 | 40 | |
| | 30 | 40 10178 97474+ | 198 73267+ | 044 18270 98509 | 5344 85321 | 30 | |
| | 40 | 46 17377 70742+ | 228 31616 | 1,99020 12926 13188 | 4880 72569+ | 20 | |
| | 50 | 52 24606 02358+ | 257 90466 | 1,98996 08045 40618 | 4416 74380+ | 10 | |
| **41** | 0 | 58 31863 92824 | 287 49817+ | 972 03628 66237+ | 3952 90748 | 0 | **19** |
| | 10 | 64 39151 42641+ | 317 09671 | 947 99675 75489+ | 3489 21665+ | 50 | |
| | 20 | 70 46468 52313 | 346 70026+ | 923 96186 53824 | 3025 67127+ | 40 | |
| | 30 | 76 53815 22339+ | 376 30884 | 899 93160 86697 | 2562 27127 | 30 | |
| | 40 | 82 61191 53223 | 405 92243+ | 875 90598 59569+ | 2099 01659 | 20 | |
| | 50 | 88 68597 45466+ | 435 54105 | 851 88499 57910+ | 1635 90717+ | 10 | |
| **42** | 0 | 0,50294 76032 99571+ | 465 16469 | 827 86863 67193 | 1172 94295+ | 0 | **18** |
| | 10 | 0,50300 83498 16040 | 494 79335 | 803 85690 72897+ | 0710 12387+ | 50 | |
| | 20 | 06 90992 95375 | 524 42703+ | 779 84980 60510 | 24 00247 44988 | 40 | |
| | 30 | 12 98517 38078+ | 554 06574+ | 755 84733 15522 | 23 99784 92090 | 30 | |
| | 40 | 19 06071 44652+ | 583 70947+ | 731 84948 23432 | 9322 53688 | 20 | |
| | 50 | 25 13655 15600+ | 613 35824 | 707 85625 69744 | 8860 29776 | 10 | |
| **43** | 0 | 31 21268 51424 | 643 01202+ | 683 86765 39968 | 8398 20348 | 0 | **17** |
| | 10 | 37 28911 52626+ | 672 67084 | 659 88367 19620 | 7936 25397+ | 50 | |
| | 20 | 43 36584 19710+ | 702 33468+ | 635 90430 94222+ | 7474 44919+ | 40 | |
| | 30 | 49 44286 53179 | 732 00355+ | 611 92956 49303 | 7012 78907 | 30 | |
| | 40 | 55 52018 53534+ | 761 67745+ | 587 95943 70396+ | 6551 27354 | 20 | |
| | 50 | 61 59780 21280 | 791 35639 | 563 99392 43042 | 6089 90255+ | 10 | |
| **44** | 0 | 67 67571 56919 | 821 04035+ | 540 03302 52787 | 5628 67604+ | 0 | **16** |
| | 10 | 73 75392 60954+ | 850 72935 | 516 07673 85182+ | 5167 59395+ | 50 | |
| | 20 | 79 83243 33889+ | 880 42338 | 492 12506 25787 | 4706 65622 | 40 | |
| | 30 | 85 91123 76227+ | 910 12244 | 468 17799 60165 | 4245 86279 | 30 | |
| | 40 | 91 99033 88472 | 939 82654 | 444 23553 73886 | 3785 21359+ | 20 | |
| | 50 | 0,50398 06973 71126 | 969 53567 | 420 29768 52526+ | 3324 70858 | 10 | |
| **45** | 0 | 0,50404 14943 24693 | 6 07999 24984 | 396 36443 81668+ | 2864 34768+ | 0 | **15** |
| | 10 | 10 22942 49677 | 6 08028 96904+ | 372 43579 46900 | 2404 13085 | 50 | |
| | 20 | 16 30971 46582 | 058 69329 | 348 51175 33815 | 1944 05801+ | 40 | |
| | 30 | 22 39030 15911 | 088 42257 | 324 59231 28013+ | 1484 12911+ | 30 | |
| | 40 | 28 47118 58168 | 118 15689 | 300 67747 15102 | 1024 34410 | 20 | |
| | 50 | 34 55236 73857 | 147 89625 | 276 76722 80691+ | 0564 70290+ | 10 | |
| **46** | 0 | 40 63384 63482 | 177 64065+ | 252 86158 10401 | 23 90105 20547+ | 0 | **14** |
| | 10 | 46 71562 27547+ | 207 39009+ | 228 96052 89853+ | 23 89645 85174+ | 50 | |
| | 20 | 52 79769 66557 | 237 14458 | 205 06407 04679+ | 9186 64165+ | 40 | |
| | 30 | 58 88006 81015 | 266 90410+ | 181 17220 40514 | 8727 57514+ | 30 | |
| | 40 | 64 96273 71425+ | 296 66868 | 157 28492 82999+ | 8268 65216+ | 20 | |
| | 50 | 71 04570 38293+ | 326 43829+ | 133 40224 17783 | 7809 87264 | 10 | |
| **47** | 0 | 77 12896 82123 | 356 21295+ | 109 52414 30519 | 7351 23652+ | 0 | **13** |
| | 10 | 83 21253 03418+ | 385 99266+ | 085 65063 06866 | 6892 74375+ | 50 | |
| | 20 | 89 29639 02685 | 415 77741+ | 061 78170 32490+ | 6434 39427 | 40 | |
| | 30 | 0,50495 38054 80426+ | 445 56722 | 037 91735 93063+ | 5976 18801 | 30 | |
| | 40 | 0,50501 46500 37148+ | 475 36207 | 1,98014 05759 74262+ | 5518 12492 | 20 | |
| | 50 | 07 54975 73355+ | 505 16197 | 1,97990 20241 61771 | 5060 20493+ | 10 | |
| **48** | 0 | 13 63480 89552+ | 534 96691+ | 966 35181 41277+ | 4602 42799+ | 0 | **12** |
| | 10 | 19 72015 86244 | 564 77691+ | 942 50578 98478 | 4144 79405 | 50 | |
| | 20 | 25 80580 63935+ | 594 59197 | 918 66434 19073 | 3687 30303 | 40 | |
| | 30 | 31 89175 23132+ | 624 41207 | 894 82746 88770 | 3229 95488+ | 30 | |
| | 40 | 37 97799 64340 | 654 23723 | 870 99516 93281+ | 2772 74955 | 20 | |
| | 50 | 44 06453 88062+ | 684 06744 | 847 16744 18326+ | 2315 68696+ | 10 | |
| **49** | 0 | 50 15137 94806+ | 713 90270+ | 823 34428 49630 | 1858 76707+ | 0 | **11** |
| | 10 | 56 23851 85077 | 743 74302+ | 799 52569 72922+ | 1401 98982 | 50 | |
| | 20 | 62 32595 59379+ | 773 58840 | 775 71167 73940 | 0945 35514+ | 40 | |
| | 30 | 68 41369 18219+ | 803 43883+ | 751 90222 38425+ | 0488 86298 | 30 | |
| | 40 | 74 50172 62103 | 833 29432+ | 728 09733 52127+ | 23 80032 51327+ | 20 | |
| | 50 | 80 59005 91536 | 6 08863 15487+ | 704 29701 00800 | 23 79576 30597 | 10 | |
| **50** | 0 | 0,50586 67869 07023+ | | 1,97680 50124 70203 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 26°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,50586 67869 07023+ | 6 08893 02048+ | 1,97680 50124 70203 | 23 79120 24100+ | 0 | **10** |
| | 10 | 92 76762 09072 | 922 89115+ | 656 71004 46103 | 8664 31832 | 50 | |
| | 20 | 0,50598 85684 98187+ | 952 76688+ | 632 92340 14271 | 8208 53785+ | 40 | |
| | 30 | 0,50604 94637 74875+ | 6 08982 64767+ | 609 14131 60485+ | 7752 89955+ | 30 | |
| | 40 | 11 03620 39643 | 6 09012 53353 | 585 36378 70530 | 7297 40336 | 20 | |
| | 50 | 17 12632 92996 | 042 42444+ | 561 59081 30194+ | 6842 04921 | 10 | |
| **51** | 0 | 23 21675 35440+ | 072 32042+ | 537 82239 25273+ | 6386 83705 | 0 | **9** |
| | 10 | 29 30747 67483 | 102 22147 | 514 05852 41568+ | 5931 76681+ | 50 | |
| | 20 | 35 39849 89630+ | 132 12758+ | 490 29920 64887 | 5476 83845 | 40 | |
| | 30 | 41 48982 02388+ | 162 03876 | 466 54443 81042 | 5022 05190 | 30 | |
| | 40 | 47 58144 06264+ | 191 95500+ | 442 79421 75852+ | 4567 40710 | 20 | |
| | 50 | 53 67336 01765 | 221 87631+ | 419 04854 35142+ | 4112 90399+ | 10 | |
| **52** | 0 | 59 76557 89396+ | 251 80269+ | 395 30741 44743 | 3658 54252+ | 0 | **8** |
| | 10 | 65 85809 69666+ | 281 73414+ | 371 57082 90491 | 3204 32263 | 50 | |
| | 20 | 71 95091 43081 | 311 67066+ | 347 83878 58228 | 2750 24426 | 40 | |
| | 30 | 78 04403 10147+ | 341 61226 | 324 11128 33802 | 2296 30734+ | 30 | |
| | 40 | 84 13744 71373+ | 371 55892 | 300 38832 03067+ | 1842 51183+ | 20 | |
| | 50 | 90 23116 27265+ | 401 51065+ | 276 66989 51884+ | 1388 85766+ | 10 | |
| **53** | 0 | 0,50696 32517 78331 | 431 46746+ | 252 95600 66117+ | 0935 34478+ | 0 | **7** |
| | 10 | 0,50702 41949 25077+ | 461 42934+ | 229 24665 31639+ | 0481 97313 | 50 | |
| | 20 | 08 51410 68012+ | 491 39630+ | 205 54183 34326+ | 23 70028 74264 | 40 | |
| | 30 | 14 60902 07642+ | 521 36833+ | 181 84154 60062+ | 23 69575 65326+ | 30 | |
| | 40 | 20 70423 44476+ | 551 34544+ | 158 14578 94736 | 9122 70494 | 20 | |
| | 50 | 26 79974 79021 | 581 32763+ | 134 45456 24242 | 8669 89761 | 10 | |
| **54** | 0 | 32 89556 11784+ | 611 31490 | 110 76786 34480+ | 8217 23122 | 0 | **6** |
| | 10 | 38 99167 43274+ | 641 30724 | 087 08569 11359 | 7764 70570 | 50 | |
| | 20 | 45 08808 73998+ | 671 30466+ | 063 40804 40788+ | 7312 32100+ | 40 | |
| | 30 | 51 18480 04465 | 701 30716+ | 039 73492 08688 | 6860 07707 | 30 | |
| | 40 | 57 28181 35181+ | 731 31475 | 1,97016 06632 00981 | 6407 97384 | 20 | |
| | 50 | 63 37912 66656+ | 761 32741+ | 1,96992 40224 03597 | 5956 01125+ | 10 | |
| **55** | 0 | 69 47673 99398+ | 791 34516+ | 968 74268 02471+ | 5504 18926 | 0 | **5** |
| | 10 | 75 57465 33915 | 821 36800 | 945 08763 83545+ | 5052 50779 | 50 | |
| | 20 | 81 67286 70714+ | 851 39591+ | 921 43711 32766+ | 4600 96679+ | 40 | |
| | 30 | 87 77138 10306 | 881 42891+ | 897 79110 36087 | 4149 56621+ | 30 | |
| | 40 | 93 87019 53197+ | 911 46700 | 874 14960 79465+ | 3698 30599 | 20 | |
| | 50 | 0,50799 96930 99898 | 941 51017+ | 850 51262 48867 | 3247 18606 | 10 | |
| **56** | 0 | 0,50806 06872 50915+ | 6 09971 55843+ | 826 88015 30261 | 2796 20637+ | 0 | **4** |
| | 10 | 12 16844 06759 | 6 10001 61178+ | 803 25219 09623+ | 2345 36687 | 50 | |
| | 20 | 18 26845 67938 | 031 67022+ | 779 62873 72936+ | 1894 66749 | 40 | |
| | 30 | 24 36877 34960 | 061 73375 | 756 00979 06187+ | 1444 10818 | 30 | |
| | 40 | 30 46939 08335+ | 091 80237 | 732 39534 95369+ | 0993 68887+ | 20 | |
| | 50 | 36 57030 88572+ | 121 87608 | 708 78541 26482 | 0543 40952+ | 10 | |
| **57** | 0 | 42 67152 76180+ | 151 95488 | 685 17997 85529 | 23 60093 27007 | 0 | **3** |
| | 10 | 48 77304 71668+ | 182 03877+ | 661 57904 58522 | 23 59643 27045+ | 50 | |
| | 20 | 54 87486 75546 | 212 12776+ | 637 98261 31476+ | 9193 41061+ | 40 | |
| | 30 | 60 97698 88322 | 242 22184+ | 614 39067 90415+ | 8743 69049+ | 30 | |
| | 40 | 67 07941 10507 | 272 32102+ | 590 80324 21365+ | 8294 11004+ | 20 | |
| | 50 | 73 18213 42609 | 302 42529+ | 567 22030 10361+ | 7844 66919+ | 10 | |
| **58** | 0 | 79 28515 85138+ | 332 53466+ | 543 64185 43442 | 7395 36790 | 0 | **2** |
| | 10 | 85 38848 38605+ | 362 64913+ | 520 06790 06652 | 6946 20609+ | 50 | |
| | 20 | 91 49211 03519 | 392 76870 | 496 49843 86042+ | 6497 18372+ | 40 | |
| | 30 | 0,50897 59603 80389 | 422 89336+ | 472 93346 67670 | 6048 30073 | 30 | |
| | 40 | 0,50903 70026 69725+ | 453 02313 | 449 37298 37597 | 5599 55705+ | 20 | |
| | 50 | 09 80479 72038+ | 483 15799+ | 425 81698 81891 | 5150 95264+ | 10 | |
| **59** | 0 | 15 90962 87838+ | 513 29796+ | 402 26547 86626+ | 4702 48744 | 0 | **1** |
| | 10 | 22 01476 17635 | 543 44303+ | 378 71845 37882+ | 4254 16138+ | 50 | |
| | 20 | 28 12019 61938+ | 573 59320+ | 355 17591 21744 | 3805 97442 | 40 | |
| | 30 | 34 22593 21259 | 603 74848+ | 331 63785 24302 | 3357 92648+ | 30 | |
| | 40 | 40 33196 96107+ | 633 90886+ | 308 10427 31653+ | 2910 01753 | 20 | |
| | 50 | 46 43830 86993+ | 6 10664 07435 | 284 57517 29900 | 23 52462 24749+ | 10 | |
| **60** | 0 | 0,50952 54494 94429 | | 1,96261 05055 05150+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 63°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,50952 54494 94429 | 6 10694 24494+ | 1,96261 05055 05150+ | 23 52014 61632 | 0 | **60** |
| | 10 | 58 65189 18923 | 724 42064+ | 237 53040 43518+ | 1567 12395+ | 50 | |
| | 20 | 64 75913 60987+ | 754 60145 | 214 01473 31123 | 1119 77033+ | 40 | |
| | 30 | 70 86668 21132+ | 784 78736+ | 190 50353 54089+ | 0672 55540+ | 30 | |
| | 40 | 76 97452 99869+ | 814 97839+ | 166 99680 98548+ | 23 50225 47911+ | 20 | |
| | 50 | 83 08267 97708+ | 845 17453 | 143 49455 50637+ | 23 49778 54140 | 10 | |
| **1** | 0 | 89 19113 15161+ | 875 37577+ | 119 99676 96497+ | 9331 74220+ | 0 | **59** |
| | 10 | 0,50995 29988 52739 | 905 58213+ | 096 50345 22277+ | 8885 08147 | 50 | |
| | 20 | 0,51001 40894 10952 | 935 79360+ | 073 01460 14130 | 8438 55914+ | 40 | |
| | 30 | 07 51829 90312+ | 966 01019 | 049 53021 58215+ | 7992 17517 | 30 | |
| | 40 | 13 62795 91331+ | 6 10996 23188+ | 026 05029 40698+ | 7545 92949 | 20 | |
| | 50 | 19 73792 14520 | 6 11026 45870 | 1,96002 57483 47749 | 7099 82204+ | 10 | |
| **2** | 0 | 25 84818 60390 | 056 69063 | 1,95979 10383 65544+ | 6653 85278 | 0 | **58** |
| | 10 | 31 95875 29453 | 086 92767+ | 955 63729 80266+ | 6208 02164 | 50 | |
| | 20 | 38 06962 22220 | 117 16983+ | 932 17521 78102 | 5762 32856+ | 40 | |
| | 30 | 44 18079 39203+ | 147 41711+ | 908 71759 45245+ | 5316 77350 | 30 | |
| | 40 | 50 29226 80915+ | 177 66951+ | 885 26442 67895+ | 4871 35639 | 20 | |
| | 50 | 56 40404 47867 | 207 92703+ | 861 81571 32256+ | 4426 07717+ | 10 | |
| **3** | 0 | 62 51612 40570+ | 238 18967+ | 838 37145 24539+ | 3980 93580 | 0 | **57** |
| | 10 | 68 62850 59538 | 268 45743+ | 814 93164 30959+ | 3535 93220+ | 50 | |
| | 20 | 74 74119 05281+ | 298 73031+ | 791 49628 37738+ | 3091 06634+ | 40 | |
| | 30 | 80 85417 78313 | 329 00832+ | 768 06537 31104+ | 2646 33815 | 30 | |
| | 40 | 86 96746 79145+ | 359 29145 | 744 63890 97289+ | 2201 74757 | 20 | |
| | 50 | 93 08106 08290+ | 389 57970+ | 721 21689 22532+ | 1757 29454+ | 10 | |
| **4** | 0 | 0,51099 19495 66261 | 419 87308+ | 697 79931 93078 | 1312 97902+ | 0 | **56** |
| | 10 | 0,51105 30915 53569+ | 450 17159 | 674 38618 95175 | 0868 80095 | 50 | |
| | 20 | 11 42365 70728+ | 480 47522 | 650 97750 15080 | 23 40424 76026+ | 40 | |
| | 30 | 17 53846 18250+ | 510 78398 | 627 57325 39053+ | 23 39980 85691 | 30 | |
| | 40 | 23 65356 96648 | 541 09786+ | 604 17344 53362+ | 9537 09083+ | 20 | |
| | 50 | 29 76898 06434+ | 571 41688 | 580 77807 44279 | 9093 46197+ | 10 | |
| **5** | 0 | 35 88469 48123 | 601 74103 | 557 38713 98081+ | 8649 97028 | 0 | **55** |
| | 10 | 42 00071 22226 | 632 07030+ | 534 00064 01053+ | 8206 61569+ | 50 | |
| | 20 | 48 11703 29256+ | 662 40471+ | 510 61857 39484+ | 7763 39816 | 40 | |
| | 30 | 54 23365 69728 | 692 74425+ | 487 24093 99668+ | 7320 31762 | 30 | |
| | 40 | 60 35058 44153+ | 723 08893 | 463 86773 67906+ | 6877 37401+ | 20 | |
| | 50 | 66 46781 53046 | 753 43873+ | 440 49896 30505 | 6434 56730 | 10 | |
| **6** | 0 | 72 58534 96920 | 783 79368 | 417 13461 73775 | 5991 89741 | 0 | **54** |
| | 10 | 78 70318 76288 | 814 15376 | 393 77469 84034 | 5549 36429 | 50 | |
| | 20 | 84 82132 91663+ | 844 51897 | 370 41920 47605 | 5106 96788+ | 40 | |
| | 30 | 90 93977 43561 | 874 88932+ | 347 06813 50816+ | 4664 70814 | 30 | |
| | 40 | 0,51197 05852 32493 | 905 26481+ | 323 72148 80002+ | 4222 58500 | 20 | |
| | 50 | 0,51203 17757 58974+ | 935 64544 | 300 37926 21503 | 3780 59840+ | 10 | |
| **7** | 0 | 09 29693 23518+ | 966 03121 | 277 04145 61662+ | 3338 74830 | 0 | **53** |
| | 10 | 15 41659 26639+ | 6 11996 42211+ | 253 70806 86832+ | 2897 03463+ | 50 | |
| | 20 | 21 53655 68851 | 6 12026 81816+ | 230 37909 83369 | 2455 45734+ | 40 | |
| | 30 | 27 65682 50667+ | 057 21935+ | 207 05454 37634+ | 2014 01638+ | 30 | |
| | 40 | 33 77739 72603 | 087 62569 | 183 73440 35996 | 1572 71169 | 20 | |
| | 50 | 39 89827 35172 | 118 03716+ | 160 41867 64827+ | 1131 54320+ | 10 | |
| **8** | 0 | 46 01945 38888+ | 148 45378+ | 137 10736 10507 | 0690 51088 | 0 | **52** |
| | 10 | 52 14093 84267 | 178 87555+ | 113 80045 59419 | 23 30249 61465+ | 50 | |
| | 20 | 58 26272 71822+ | 209 30246+ | 090 49795 97953+ | 23 29808 85447+ | 40 | |
| | 30 | 64 38482 02069 | 239 73452+ | 067 19987 12505+ | 9368 23029 | 30 | |
| | 40 | 70 50721 75521 | 270 17173 | 043 90618 89476+ | 8927 74203+ | 20 | |
| | 50 | 76 62991 92694 | 300 61408+ | 1,95020 61691 15273 | 8487 38966 | 10 | |
| **9** | 0 | 82 75292 54102+ | 331 06158+ | 1,94997 33203 76307 | 8047 17311 | 0 | **51** |
| | 10 | 88 87623 60261 | 361 51424 | 974 05156 58996+ | 7607 09232+ | 50 | |
| | 20 | 0,51294 99985 11685 | 391 97204+ | 950 77549 49763+ | 7167 14725+ | 40 | |
| | 30 | 0,51301 12377 08889+ | 422 43500 | 927 50382 35038+ | 6727 33784 | 30 | |
| | 40 | 07 24799 52389+ | 452 90310+ | 904 23655 01254+ | 6287 66403 | 20 | |
| | 50 | 13 37252 42700 | 6 12483 37636+ | 880 97367 34851+ | 23 25848 12576 | 10 | |
| **10** | 0 | 0,51319 49735 80337 | | 1,94857 71519 22275+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,51319 49735 80337 | 6 12513 85478 | 1,94857 71519 22275+ | 23 25408 72298+ | 0 | **50** |
| | 10 | 25 62249 65815 | 544 33835 | 834 46110 49976+ | 4969 45564+ | 50 | |
| | 20 | 31 74793 99650 | 574 82707+ | 811 21141 04412 | 4530 32368+ | 40 | |
| | 30 | 37 87368 82357+ | 605 32095+ | 787 96610 72043+ | 4091 32705+ | 30 | |
| | 40 | 43 99974 14453 | 635 81999+ | 764 72519 39338 | 3652 46569 | 20 | |
| | 50 | 50 12609 96452 | 666 32419 | 741 48866 92769 | 3213 73954 | 10 | |
| **11** | 0 | 56 25276 28871 | 696 83354 | 718 25653 18815+ | 2775 14855 | 0 | **49** |
| | 10 | 62 37973 12225 | 727 34805+ | 695 02878 03960+ | 2336 69266 | 50 | |
| | 20 | 68 50700 47031 | 757 86773 | 671 80541 34694+ | 1898 37182+ | 40 | |
| | 30 | 74 63458 33804 | 788 39256+ | 648 58642 97512 | 1460 18598 | 30 | |
| | 40 | 80 76246 73060 | 818 92256 | 625 37182 78914 | 1022 13507+ | 20 | |
| | 50 | 86 89065 65316+ | 849 45772 | 602 16160 65406 | 0584 21905+ | 10 | |
| **12** | 0 | 93 01915 11088+ | 879 99804+ | 578 95576 43500+ | 23 20146 43786+ | 0 | **48** |
| | 10 | 0,51399 14795 10892+ | 910 54353 | 555 75429 99714 | 23 19708 79145 | 50 | |
| | 20 | 0,51405 27705 65245+ | 941 09418 | 532 55721 20569 | 9271 27975 | 40 | |
| | 30 | 11 40646 74664 | 6 12971 65000 | 509 36449 92594 | 8833 90271+ | 30 | |
| | 40 | 17 53618 39664 | 6 13002 21098+ | 486 17616 02322+ | 8396 66029 | 20 | |
| | 50 | 23 66620 60762 | 032 77713+ | 462 99219 36293 | 7959 55242 | 10 | |
| **13** | 0 | 29 79653 38476 | 063 34845+ | 439 81259 81051 | 7522 57905 | 0 | **47** |
| | 10 | 35 92716 73321+ | 093 92494+ | 416 63737 23146+ | 7085 74012 | 50 | |
| | 20 | 42 05810 65816 | 124 50660+ | 393 46651 49134 | 6649 03558+ | 40 | |
| | 30 | 48 18935 16476+ | 155 09343+ | 370 30002 45575+ | 6212 46538+ | 30 | |
| | 40 | 54 32090 25820 | 185 68543+ | 347 13789 99037 | 5776 02946 | 20 | |
| | 50 | 60 45275 94363+ | 216 28261 | 323 98013 96091 | 5339 72776+ | 10 | |
| **14** | 0 | 66 58492 22624+ | 246 88495+ | 300 82674 23314 | 4903 56024 | 0 | **46** |
| | 10 | 72 71739 11120 | 277 49247+ | 277 67770 67290 | 4467 52683+ | 50 | |
| | 20 | 78 85016 60367+ | 308 10517 | 254 53303 14606+ | 4031 62748+ | 40 | |
| | 30 | 84 98324 70884+ | 338 72304 | 231 39271 51858 | 3595 86215 | 30 | |
| | 40 | 91 11663 43189 | 369 34609 | 208 25675 65643 | 3160 23076 | 20 | |
| | 50 | 0,51497 25032 77797+ | 399 97431+ | 185 12515 42567 | 2724 73327 | 10 | |
| **15** | 0 | 0,51503 38432 75229 | 430 60771+ | 161 99790 69239+ | 2289 36962+ | 0 | **45** |
| | 10 | 09 51863 36000+ | 461 24629+ | 138 87501 32277 | 1854 13977 | 50 | |
| | 20 | 15 65324 60630 | 491 89005+ | 115 75647 18300 | 1419 04365 | 40 | |
| | 30 | 21 78816 49635+ | 522 53899+ | 092 64228 13935 | 0984 08121 | 30 | |
| | 40 | 27 92339 03535 | 553 19311+ | 069 53244 05814 | 0549 25239+ | 20 | |
| | 50 | 34 05892 22846+ | 583 85242 | 046 42694 80575 | 23 10114 55715 | 10 | |
| **16** | 0 | 40 19476 08088+ | 614 51690+ | 023 32580 24860 | 23 09679 99542 | 0 | **44** |
| | 10 | 46 33090 59779+ | 645 18657+ | 1,94000 22900 25318 | 9245 56715+ | 50 | |
| | 20 | 52 46735 78437 | 675 86143 | 1,93977 13654 68602 | 8811 27230 | 40 | |
| | 30 | 58 60411 64580 | 706 54147 | 954 04843 41372 | 8377 11080 | 30 | |
| | 40 | 64 74118 18727 | 737 22669+ | 930 96466 30292 | 7943 08260 | 20 | |
| | 50 | 70 87855 41396+ | 767 91710+ | 907 88523 22032 | 7509 18764+ | 10 | |
| **17** | 0 | 77 01623 33107 | 798 61270+ | 884 81014 03268 | 7075 42588 | 0 | **43** |
| | 10 | 83 15421 94377+ | 829 31349+ | 861 73938 60680 | 6641 79725 | 50 | |
| | 20 | 89 29251 25727 | 860 01947 | 838 67296 80955 | 6208 30171 | 40 | |
| | 30 | 0,51595 43111 27674+ | 890 73064 | 815 61088 50784 | 5774 93919+ | 30 | |
| | 40 | 0,51601 57002 00738 | 921 44699+ | 792 55313 56864+ | 5341 70965+ | 20 | |
| | 50 | 07 70923 45438 | 952 16854+ | 769 49971 85899 | 4908 61304 | 10 | |
| **18** | 0 | 13 84875 62292+ | 6 13982 89529 | 746 45063 24595+ | 4475 64928+ | 0 | **42** |
| | 10 | 19 98858 51821 | 6 14013 62722+ | 723 40587 59666+ | 4042 81835 | 50 | |
| | 20 | 26 12872 14543+ | 044 36435 | 700 36544 77831+ | 3610 12017 | 40 | |
| | 30 | 32 26916 50978+ | 075 10667+ | 677 32934 65814+ | 3177 55470 | 30 | |
| | 40 | 38 40991 61646+ | 105 85419+ | 654 29757 10344+ | 2745 12188 | 20 | |
| | 50 | 44 55097 47066 | 136 60691 | 631 27011 98156+ | 2312 82165+ | 10 | |
| **19** | 0 | 50 69234 07757 | 167 36482+ | 608 24699 15991+ | 1880 65397+ | 0 | **41** |
| | 10 | 56 83401 44239+ | 198 12793+ | 585 22818 50594 | 1448 61878+ | 50 | |
| | 20 | 62 97599 57033+ | 228 89625 | 562 21369 88715+ | 1016 71603 | 40 | |
| | 30 | 69 11828 46658 | 259 66976 | 539 20353 17113 | 0584 94565+ | 30 | |
| | 40 | 75 26088 13634 | 290 44847 | 516 19768 22547 | 23 00153 30761+ | 20 | |
| | 50 | 81 40378 58480+ | 6 14321 23238 | 493 19614 91786 | 22 99721 80184+ | 10 | |
| **20** | 0 | 0,51687 54699 81718+ | | 1,93470 19893 11601+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,51687 54699 81718+ | 6 14352 02149+ | 1,93470 19893 11601+ | 22 99290 42829+ | 0 | **40** |
| | 10 | 93 69051 83868 | 382 81581 | 447 20602 68771+ | 8859 18691+ | 50 | |
| | 20 | 0,51699 83434 65449+ | 413 61533 | 424 21743 50080 | 8428 07765 | 40 | |
| | 30 | 0,51705 97848 26982+ | 444 42006 | 401 23315 42314+ | 7997 10044+ | 30 | |
| | 40 | 12 12292 68988+ | 475 22999 | 378 25318 32270 | 7566 25524+ | 20 | |
| | 50 | 18 26767 91987 | 506 04512+ | 355 27752 06745+ | 7135 54200 | 10 | |
| **21** | 0 | 24 41273 96499+ | 536 86547 | 332 30616 52545+ | 6704 96065+ | 0 | **39** |
| | 10 | 30 55810 83046+ | 567 69102 | 309 33911 56480 | 6274 51115+ | 50 | |
| | 20 | 36 70378 52149 | 598 52178 | 286 37637 05364+ | 5844 19345 | 40 | |
| | 30 | 42 84977 04327 | 629 35775 | 263 41792 86019+ | 5414 00748 | 30 | |
| | 40 | 48 99606 40102 | 660 19893 | 240 46378 85271+ | 4983 95320 | 20 | |
| | 50 | 55 14266 59995+ | 691 04532+ | 217 51394 89951+ | 4554 03055 | 10 | |
| **22** | 0 | 61 28957 64527+ | 721 89692+ | 194 56840 86897 | 4124 23948 | 0 | **38** |
| | 10 | 67 43679 54220+ | 752 75374 | 171 62716 62949 | 3694 57993+ | 50 | |
| | 20 | 73 58432 29594+ | 783 61577 | 148 69022 04955+ | 3265 05186 | 40 | |
| | 30 | 79 73215 91171+ | 814 48301+ | 125 75756 99769+ | 2835 65521 | 30 | |
| | 40 | 85 88030 39473 | 845 35547+ | 102 82921 34248+ | 2406 38992 | 20 | |
| | 50 | 92 02875 75020+ | 876 23315 | 079 90514 95256+ | 1977 25595 | 10 | |
| **23** | 0 | 0,51798 17751 98335+ | 907 11604 | 056 98537 69662 | 1548 25323+ | 0 | **37** |
| | 10 | 0,51804 32659 09939+ | 938 00415 | 034 06989 44338+ | 1119 38172+ | 50 | |
| | 20 | 10 47597 10354 | 968 89747+ | 1,93011 15870 06166 | 0690 64137 | 40 | |
| | 30 | 16 62566 00102 | 6 14999 79602+ | 1,92988 25179 42029 | 22 90262 03211+ | 30 | |
| | 40 | 22 77565 79704 | 6 15030 69979 | 965 34917 38817+ | 22 89833 55391 | 20 | |
| | 50 | 28 92596 49683 | 061 60877+ | 942 45083 83426+ | 9405 20669+ | 10 | |
| **24** | 0 | 35 07658 10561 | 092 52298+ | 919 55678 62757 | 8976 99042 | 0 | **36** |
| | 10 | 41 22750 62859+ | 123 44242 | 896 66701 63715 | 8548 90503+ | 50 | |
| | 20 | 47 37874 07101+ | 154 36707+ | 873 78152 73211+ | 8120 95049 | 40 | |
| | 30 | 53 53028 43808+ | 185 29695 | 850 90031 78162+ | 7693 12672 | 30 | |
| | 40 | 59 68213 73504 | 216 23205+ | 828 02338 65490+ | 7265 43368 | 20 | |
| | 50 | 65 83429 96709+ | 247 17238+ | 805 15073 22122+ | 6837 87132 | 10 | |
| **25** | 0 | 71 98677 13948 | 278 11794 | 782 28235 34990+ | 6410 43958 | 0 | **35** |
| | 10 | 78 13955 25742 | 309 06872+ | 759 41824 91032+ | 5983 13841 | 50 | |
| | 20 | 84 29264 32615 | 340 02473+ | 736 55841 77191 | 5555 96776 | 40 | |
| | 30 | 90 44604 35088+ | 370 98598 | 713 70285 80415 | 5128 92757+ | 30 | |
| | 40 | 0,51896 59975 33686+ | 401 95245 | 690 85156 87657+ | 4702 01780+ | 20 | |
| | 50 | 0,51902 75377 28931 | 432 92415 | 668 00454 85877 | 4275 23839 | 10 | |
| **26** | 0 | 08 90810 21346 | 463 90108+ | 645 16179 62038 | 3848 58928 | 0 | **34** |
| | 10 | 15 06274 11454+ | 494 88325 | 622 32331 03110 | 3422 07043 | 50 | |
| | 20 | 21 21768 99779+ | 525 87064+ | 599 48908 96067+ | 2995 68177+ | 40 | |
| | 30 | 27 37294 86844 | 556 86328 | 576 65913 27889+ | 2569 42327+ | 30 | |
| | 40 | 33 52851 73171+ | 587 86114+ | 553 83343 85562+ | 2143 29486+ | 20 | |
| | 50 | 39 68439 59286 | 618 86424+ | 531 01200 56075+ | 1717 29650+ | 10 | |
| **27** | 0 | 45 84058 45711 | 649 87258+ | 508 19483 26425+ | 1291 42813 | 0 | **33** |
| | 10 | 51 99708 32969+ | 680 88616 | 485 38191 83612+ | 0865 68969+ | 50 | |
| | 20 | 58 15389 21585+ | 711 90497+ | 462 57326 14643 | 0440 08115 | 40 | |
| | 30 | 64 31101 12083 | 742 92903 | 439 76886 06528 | 22 80014 60243+ | 30 | |
| | 40 | 70 46844 04985+ | 773 95832 | 416 96871 46284+ | 22 79589 25350 | 20 | |
| | 50 | 76 62618 00817+ | 804 99285+ | 394 17282 20934+ | 9164 03429+ | 10 | |
| **28** | 0 | 82 78423 00103 | 836 03262+ | 371 38118 17505 | 8738 94477 | 0 | **32** |
| | 10 | 88 94259 03365+ | 867 07764+ | 348 59379 23028 | 8313 98486+ | 50 | |
| | 20 | 0,51995 10126 11130 | 898 12790 | 325 81065 24542 | 7889 15453 | 40 | |
| | 30 | 0,52001 26024 23920 | 929 18340+ | 303 03176 09089 | 7464 45371+ | 30 | |
| | 40 | 07 41953 42260+ | 960 24415 | 280 25711 63717+ | 7039 88237 | 20 | |
| | 50 | 13 57913 66676 | 6 15991 31014+ | 257 48671 75480+ | 6615 44044 | 10 | |
| **29** | 0 | 19 73904 97690 | 6 16022 38138+ | 234 72056 31436+ | 6191 12787 | 0 | **31** |
| | 10 | 25 89927 35828+ | 053 45787 | 211 95865 18649+ | 5766 94461 | 50 | |
| | 20 | 32 05980 81615+ | 084 53960+ | 189 20098 24188+ | 5342 89061 | 40 | |
| | 30 | 38 22065 35576 | 115 62658+ | 166 44755 35128 | 4918 96581+ | 30 | |
| | 40 | 44 38180 98234+ | 146 71882 | 143 69836 38546+ | 4495 17017 | 20 | |
| | 50 | 50 54327 70116+ | 6 16177 81630 | 120 95341 21529 | 22 74071 50363+ | 10 | |
| **30** | 0 | 0,52056 70505 51746+ | | 1,92098 21269 71166 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,52056 70505 51746+ | 6 16208 91903+ | 1,92098 21269 71166 | 22 73647 96614+ | 0 | **30** |
| | 10 | 62 86714 43649+ | 240 02702 | 075 47621 74551+ | 3224 55765 | 50 | |
| | 20 | 69 02954 46351+ | 271 14025+ | 052 74397 18786+ | 2801 27810+ | 40 | |
| | 30 | 75 19225 60377+ | 302 25875 | 030 01595 90976 | 2378 12745 | 30 | |
| | 40 | 81 35527 86252 | 333 38249+ | 1,92007 29217 78231 | 1955 10564 | 20 | |
| | 50 | 87 51861 24501+ | 364 51149+ | 1,91984 57262 67667 | 1532 21262 | 10 | |
| **31** | 0 | 93 68225 75651+ | 395 64575+ | 961 85730 46405 | 1109 44833+ | 0 | **29** |
| | 10 | 0,52099 84621 40226+ | 426 78527 | 939 14621 01571+ | 0686 81273+ | 50 | |
| | 20 | 0,52106 01048 18753+ | 457 93004 | 916 43934 20298 | 22 70264 30577+ | 40 | |
| | 30 | 12 17506 11757+ | 489 08007 | 893 73669 89720+ | 22 69841 92739 | 30 | |
| | 40 | 18 33995 19765 | 520 23536 | 871 03827 96981+ | 9419 67754 | 20 | |
| | 50 | 24 50515 43301 | 551 39591 | 848 34408 29227+ | 8997 55616+ | 10 | |
| **32** | 0 | 30 67066 82892 | 582 56172+ | 825 65410 73611 | 8575 56322 | 0 | **28** |
| | 10 | 36 83649 39064+ | 613 73279+ | 802 96835 17288+ | 8153 69865 | 50 | |
| | 20 | 43 00263 12344 | 644 90913 | 780 28681 47423+ | 7731 96240+ | 40 | |
| | 30 | 49 16908 03257 | 676 09073 | 757 60949 51183+ | 7310 35442+ | 30 | |
| | 40 | 55 33584 12330+ | 707 27759+ | 734 93639 15740+ | 6888 87467 | 20 | |
| | 50 | 61 50291 40090 | 738 46972+ | 712 26750 28273+ | 6467 52308+ | 10 | |
| **33** | 0 | 67 67029 87062 | 769 66712 | 689 60282 75965+ | 6046 29961+ | 0 | **27** |
| | 10 | 73 83799 53774 | 800 86978 | 666 94236 46004 | 5625 20421 | 50 | |
| | 20 | 80 00600 40752 | 832 07771 | 644 28611 25583 | 5204 23681+ | 40 | |
| | 30 | 86 17432 48523 | 863 29090+ | 621 63407 01901+ | 4783 39738+ | 30 | |
| | 40 | 92 34295 77613+ | 894 50937+ | 598 98623 62162+ | 4362 68587 | 20 | |
| | 50 | 0,52198 51190 28551 | 925 73311 | 576 34260 93576 | 3942 10221 | 10 | |
| **34** | 0 | 0,52204 68116 01862 | 956 96212 | 553 70318 83355 | 3521 64636 | 0 | **26** |
| | 10 | 10 85072 98074 | 6 16988 19640 | 531 06797 18719 | 3101 31826 | 50 | |
| | 20 | 17 02061 17714 | 6 17019 43595 | 508 43695 86893 | 2681 11787 | 40 | |
| | 30 | 23 19080 61309 | 050 68077+ | 485 81014 75105+ | 2261 04513+ | 30 | |
| | 40 | 29 36131 29386+ | 081 93087+ | 463 18753 70592 | 1841 10000 | 20 | |
| | 50 | 35 53213 22474+ | 113 18625 | 440 56912 60592 | 1421 28241+ | 10 | |
| **35** | 0 | 41 70326 41099+ | 144 44690 | 417 95491 32350+ | 1001 59233+ | 0 | **25** |
| | 10 | 47 87470 85789+ | 175 71283 | 395 34489 73117 | 0582 02969+ | 50 | |
| | 20 | 54 04646 57072+ | 206 98403+ | 372 73907 70147+ | 22 60162 59446 | 40 | |
| | 30 | 60 21853 55476 | 238 26052 | 350 13745 10701+ | 22 59743 28656+ | 30 | |
| | 40 | 66 39091 81528 | 269 54228 | 327 54001 82045 | 9324 10597 | 20 | |
| | 50 | 72 56361 35756 | 300 82932+ | 304 94677 71448 | 8905 05261+ | 10 | |
| **36** | 0 | 78 73662 18688+ | 332 12165 | 282 35772 66186+ | 8486 12645 | 0 | **24** |
| | 10 | 84 90994 30853+ | 363 41925+ | 259 77286 53541+ | 8067 32743 | 50 | |
| | 20 | 91 08357 72779 | 394 72214 | 237 19219 20798 | 7648 65550 | 40 | |
| | 30 | 0,52297 25752 44993 | 426 03031+ | 214 61570 55248 | 7230 11061 | 30 | |
| | 40 | 0,52303 43178 48024+ | 457 34377 | 192 04340 44187 | 6811 69270+ | 20 | |
| | 50 | 09 60635 82401 | 488 66251 | 169 47528 74916+ | 6393 40174 | 10 | |
| **37** | 0 | 15 78124 48652 | 519 98653+ | 146 91135 34742+ | 5975 23766 | 0 | **23** |
| | 10 | 21 95644 47305+ | 551 31585 | 124 35160 10976 | 5557 20041+ | 50 | |
| | 20 | 28 13195 78890+ | 582 65045 | 101 79602 90934+ | 5139 28995+ | 40 | |
| | 30 | 34 30778 43935+ | 613 99034 | 079 24463 61939 | 4721 50623 | 30 | |
| | 40 | 40 48392 42969 | 645 33551+ | 056 69742 11316 | 4303 84918+ | 20 | |
| | 50 | 46 66037 76521 | 676 68598+ | 034 15438 26397+ | 3886 31877 | 10 | |
| **38** | 0 | 52 83714 45119+ | 708 04174+ | 1,91011 61551 94520+ | 3468 91494 | 0 | **22** |
| | 10 | 59 01422 49293+ | 739 40279+ | 1,90989 08083 03026+ | 3051 63764 | 50 | |
| | 20 | 65 19161 89573 | 770 76913+ | 966 55031 39262+ | 2634 48681+ | 40 | |
| | 30 | 71 36932 66487 | 802 14077+ | 944 02396 90581 | 2217 46242 | 30 | |
| | 40 | 77 54734 80564 | 833 51770+ | 921 50179 44339 | 1800 56440+ | 20 | |
| | 50 | 83 72568 32334+ | 864 89993 | 898 98378 87899 | 1383 79271+ | 10 | |
| **39** | 0 | 89 90433 22327+ | 896 28745 | 876 46995 08627+ | 0967 14730 | 0 | **21** |
| | 10 | 0,52396 08329 51073 | 927 68027 | 853 96027 93897+ | 0550 62811+ | 50 | |
| | 20 | 0,52402 26257 19099+ | 959 07838+ | 831 45477 31086 | 22 50134 23510 | 40 | |
| | 30 | 08 44216 26938+ | 6 17990 48180 | 808 95343 07576 | 22 49717 96821 | 30 | |
| | 40 | 14 62206 75118 | 6 18021 89051+ | 786 45625 10755 | 9301 82740 | 20 | |
| | 50 | 20 80228 64169+ | 6 18053 30452+ | 763 96323 28015 | 22 48885 81260+ | 10 | |
| **40** | 0 | 0,52426 98281 94622 | | 1,90741 47437 46754+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,52426 98281 94622 | 6 18084 72384 | 1,90741 47437 46754+ | 22 48469 92379 | 0 | **20** |
| | 10 | 33 16366 67006 | 116 14845+ | 718 98967 54375+ | 8054 16089+ | 50 | |
| | 20 | 39 34482 81851+ | 147 57837+ | 696 50913 38286 | 7638 52387 | 40 | |
| | 30 | 45 52630 39689 | 179 01359+ | 674 03274 85899 | 7223 01266+ | 30 | |
| | 40 | 51 70809 41048+ | 210 45412 | 651 56051 84632+ | 6807 62723+ | 20 | |
| | 50 | 57 89019 86460+ | 241 89995 | 629 09244 21909 | 6392 36752+ | 10 | |
| **41** | 0 | 64 07261 76456 | 273 35109 | 606 62851 85156+ | 5977 23348+ | 0 | **19** |
| | 10 | 70 25535 11564+ | 304 80753 | 584 16874 61808 | 5562 22506+ | 50 | |
| | 20 | 76 43839 92318 | 336 26928+ | 561 71312 39301+ | 5147 34221+ | 40 | |
| | 30 | 82 62176 19246 | 367 73634 | 539 26165 05080 | 4732 58488 | 30 | |
| | 40 | 88 80543 92880+ | 399 20871 | 516 81432 46592 | 4317 95302 | 20 | |
| | 50 | 0,52494 98943 13751+ | 430 68639 | 494 37114 51290 | 3903 44657+ | 10 | |
| **42** | 0 | 0,52501 17373 82390 | 462 16938 | 471 93211 06633 | 3489 06550 | 0 | **18** |
| | 10 | 07 35835 99328 | 493 65768 | 449 49722 00083 | 3074 80974 | 50 | |
| | 20 | 13 54329 65096 | 525 15129 | 427 06647 19109 | 2660 67925 | 40 | |
| | 30 | 19 72854 80225 | 556 65022 | 404 63986 51183+ | 2246 67398 | 30 | |
| | 40 | 25 91411 45247 | 588 15446 | 382 21739 83785+ | 1832 79388 | 20 | |
| | 50 | 32 09999 60693 | 619 66401+ | 359 79907 04397+ | 1419 03889+ | 10 | |
| **43** | 0 | 38 28619 27094+ | 651 17889 | 337 38488 00508+ | 1005 40897+ | 0 | **17** |
| | 10 | 44 47270 44983+ | 682 69907+ | 314 97482 59611 | 0591 90407+ | 50 | |
| | 20 | 50 65953 14891 | 714 22458+ | 292 56890 69203 | 22 40178 52414+ | 40 | |
| | 30 | 56 84667 37349+ | 745 75541 | 270 16712 16789 | 22 39765 26913 | 30 | |
| | 40 | 63 03413 12890 | 777 29155 | 247 76946 89876 | 9352 13898 | 20 | |
| | 50 | 69 22190 42045+ | 808 83301+ | 225 37594 75977+ | 8939 13365+ | 10 | |
| **44** | 0 | 75 40999 25347 | 840 37980 | 202 98655 62612+ | 8526 25309 | 0 | **16** |
| | 10 | 81 59839 63327 | 871 93191 | 180 60129 37303 | 8113 49725 | 50 | |
| | 20 | 87 78711 56518 | 903 48933+ | 158 22015 87578+ | 7700 86607+ | 40 | |
| | 30 | 0,52593 97615 05451+ | 935 05209 | 135 84315 00971 | 7288 35951+ | 30 | |
| | 40 | 0,52600 16550 10660+ | 966 62016+ | 113 47026 65019 | 6875 97753 | 20 | |
| | 50 | 06 35516 72677 | 6 18998 19357 | 091 10150 67266+ | 6463 72006 | 10 | |
| **45** | 0 | 12 54514 92034 | 6 19029 77229+ | 068 73686 95260+ | 6051 58706 | 0 | **15** |
| | 10 | 18 73544 69263+ | 061 35635 | 046 37635 36554+ | 5639 57847+ | 50 | |
| | 20 | 24 92606 04899 | 092 94573+ | 024 01995 78707 | 5227 69426+ | 40 | |
| | 30 | 31 11698 99472+ | 124 54044+ | 1,90001 66768 09280+ | 4815 93437 | 30 | |
| | 40 | 37 30823 53517 | 156 14048+ | 1,89979 31952 15843+ | 4404 29875 | 20 | |
| | 50 | 43 49979 67565+ | 187 74585+ | 956 97547 85968+ | 3992 78734+ | 10 | |
| **46** | 0 | 49 69167 42151 | 219 35656 | 934 63555 07234 | 3581 40011+ | 0 | **14** |
| | 10 | 55 88386 77806+ | 250 97259 | 912 29973 67222+ | 3170 13700+ | 50 | |
| | 20 | 62 07637 75066 | 282 59395+ | 889 96803 53522 | 2758 99796+ | 40 | |
| | 30 | 68 26920 34461+ | 314 22065+ | 867 64044 53725 | 2347 98295 | 30 | |
| | 40 | 74 46234 56527 | 345 85269 | 845 31696 55430 | 1937 09190+ | 20 | |
| | 50 | 80 65580 41796 | 377 49006 | 822 99759 46239+ | 1526 32478+ | 10 | |
| **47** | 0 | 86 84957 90802 | 409 13276+ | 800 68233 13761 | 1115 68154 | 0 | **13** |
| | 10 | 93 04367 04078+ | 440 78080+ | 778 37117 45607+ | 0705 16211+ | 50 | |
| | 20 | 0,52699 23807 82159 | 472 43418+ | 756 06412 29396 | 22 30294 76646+ | 40 | |
| | 30 | 0,52705 43280 25578 | 504 09290+ | 733 76117 52749+ | 22 29884 49454+ | 30 | |
| | 40 | 11 62784 34868+ | 535 75696+ | 711 46233 03295 | 9474 34629+ | 20 | |
| | 50 | 17 82320 10564+ | 567 42636 | 689 16758 68665+ | 9064 32167+ | 10 | |
| **48** | 0 | 24 01887 53200+ | 599 10110 | 666 87694 36498 | 8654 42063 | 0 | **12** |
| | 10 | 30 21486 63310+ | 630 78118 | 644 59039 94434+ | 8244 64311+ | 50 | |
| | 20 | 36 41117 41429 | 662 46660+ | 622 30795 30123 | 7834 98908 | 40 | |
| | 30 | 42 60779 88089+ | 694 15737+ | 600 02960 31215 | 7425 45847+ | 30 | |
| | 40 | 48 80474 03826+ | 725 85348+ | 577 75534 85368 | 7016 05124+ | 20 | |
| | 50 | 55 00199 89175 | 757 55494 | 555 48518 80243 | 6606 76735 | 10 | |
| **49** | 0 | 61 19957 44669 | 789 26174+ | 533 21912 03508 | 6197 60673+ | 0 | **11** |
| | 10 | 67 39746 70844 | 820 97389+ | 510 95714 42834+ | 5788 56935+ | 50 | |
| | 20 | 73 59567 68233+ | 852 69139+ | 488 69925 85899 | 5379 65515+ | 40 | |
| | 30 | 79 79420 37373 | 884 41424 | 466 44546 20383+ | 4970 86409+ | 30 | |
| | 40 | 85 99304 78797 | 916 14244 | 444 19575 33974 | 4562 19611+ | 20 | |
| | 50 | 92 19220 93041 | 6 19947 87598+ | 421 95013 14362+ | 22 24153 65117+ | 10 | |
| **50** | 0 | 0,52798 39168 80639+ | | 1,89399 70859 49245 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 27°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,52798 39168 80639+ | 6 19979 61488+ | 1,89399 70859 49245 | 22 23745 22922 | 0 | **10** |
| | 10 | 0,52804 59148 42128 | 6 20011 35913+ | 377 47114 26323 | 3336 93020+ | 50 | |
| | 20 | 10 79159 78041+ | 043 10874 | 355 23777 33303 | 2928 75408 | 40 | |
| | 30 | 16 99202 88915+ | 074 86369+ | 333 00848 57895 | 2520 70079 | 30 | |
| | 40 | 23 19277 75285 | 106 62401 | 310 78327 87816 | 2112 77029+ | 20 | |
| | 50 | 29 39384 37686 | 138 38967+ | 288 56215 10786 | 1704 96254+ | 10 | |
| **51** | 0 | 35 59522 76653+ | 170 16070 | 266 34510 14532 | 1297 27748+ | 0 | **9** |
| | 10 | 41 79692 92723+ | 201 93708 | 244 13212 86783 | 0889 71507+ | 50 | |
| | 20 | 47 99894 86431 | 233 71882 | 221 92323 15276 | 0482 27525+ | 40 | |
| | 30 | 54 20128 58313 | 265 50591+ | 199 71840 87750+ | 22 20074 95798+ | 30 | |
| | 40 | 60 40394 08905 | 297 29837+ | 177 51765 91952 | 22 19667 76321 | 20 | |
| | 50 | 66 60691 38742 | 329 09619 | 155 32098 15630+ | 9260 69089 | 10 | |
| **52** | 0 | 72 81020 48361+ | 360 89937 | 133 12837 46542 | 8853 74097 | 0 | **8** |
| | 10 | 79 01381 38298+ | 392 70791+ | 110 93983 72445 | 8446 91340 | 50 | |
| | 20 | 85 21774 09090 | 424 52182 | 088 75536 81105 | 8040 20813+ | 40 | |
| | 30 | 91 42198 61272 | 456 34109 | 066 57496 60291+ | 7633 62512 | 30 | |
| | 40 | 0,52897 62654 95380+ | 488 16572 | 044 39862 97779+ | 7227 16431+ | 20 | |
| | 50 | 0,52903 83143 11953 | 519 99572 | 022 22635 81348 | 6820 82567 | 10 | |
| **53** | 0 | 10 03663 11525 | 551 83108+ | 1,89000 05814 98781 | 6414 60913 | 0 | **7** |
| | 10 | 16 24214 94633+ | 583 67182 | 1,88977 89400 37867+ | 6008 51465+ | 50 | |
| | 20 | 22 44798 61815+ | 615 51792 | 955 73391 86402+ | 5602 54219 | 40 | |
| | 30 | 28 65414 13607+ | 647 36939 | 933 57789 32183+ | 5196 69168+ | 30 | |
| | 40 | 34 86061 50547 | 679 22623+ | 911 42592 63015 | 4790 96309+ | 20 | |
| | 50 | 41 06740 73170 | 711 08844+ | 889 27801 66705+ | 4385 35637+ | 10 | |
| **54** | 0 | 47 27451 82014+ | 742 95602+ | 867 13416 31067+ | 3979 87147+ | 0 | **6** |
| | 10 | 53 48194 77617+ | 774 82898 | 844 99436 43920+ | 3574 50834 | 50 | |
| | 20 | 59 68969 60515+ | 806 70731 | 822 85861 93086+ | 3169 26692+ | 40 | |
| | 30 | 65 89776 31246+ | 838 59101+ | 800 72692 66394 | 2764 14718+ | 30 | |
| | 40 | 72 10614 90348 | 870 48009 | 778 59928 51675 | 2359 14907 | 20 | |
| | 50 | 78 31485 38357 | 902 37454+ | 756 47569 36768 | 1954 27253 | 10 | |
| **55** | 0 | 84 52387 75812 | 934 27437+ | 734 35615 09515 | 1549 51752 | 0 | **5** |
| | 10 | 90 73322 03249+ | 966 17958+ | 712 24065 57763 | 1144 88399 | 50 | |
| | 20 | 0,52996 94288 21208 | 6 20998 09017 | 690 12920 69364 | 0740 37188+ | 40 | |
| | 30 | 0,53003 15286 30225 | 6 21030 00613+ | 668 02180 32175+ | 22 10335 98117 | 30 | |
| | 40 | 09 36316 30838+ | 061 92748+ | 645 91844 34058+ | 22 09931 71178+ | 20 | |
| | 50 | 15 57378 23587 | 093 85421 | 623 81912 62880 | 9527 56369 | 10 | |
| **56** | 0 | 21 78472 09008 | 125 78632 | 601 72385 06511 | 9123 53683 | 0 | **4** |
| | 10 | 27 99597 87639+ | 157 72381 | 579 63261 52827+ | 8719 63116+ | 50 | |
| | 20 | 34 20755 60020+ | 189 66668+ | 557 54541 89711 | 8315 84664 | 40 | |
| | 30 | 40 41945 26689 | 221 61494+ | 535 46226 05047 | 7912 18321 | 30 | |
| | 40 | 46 63166 88183+ | 253 56859 | 513 38313 86726 | 7508 64082+ | 20 | |
| | 50 | 52 84420 45042+ | 285 52762 | 491 30805 22644 | 7105 21944 | 10 | |
| **57** | 0 | 59 05705 97804+ | 317 49204 | 469 23700 00700 | 6701 91900 | 0 | **3** |
| | 10 | 65 27023 47008+ | 349 46184+ | 447 16998 08800 | 6298 73946+ | 50 | |
| | 20 | 71 48372 93192+ | 381 43704 | 425 10699 34853+ | 5895 68078+ | 40 | |
| | 30 | 77 69754 36896+ | 413 41762 | 403 04803 66775 | 5492 74291 | 30 | |
| | 40 | 83 91167 78658+ | 445 40359+ | 380 99310 92483+ | 5089 92579+ | 20 | |
| | 50 | 90 12613 19018+ | 477 39496 | 358 94220 99904 | 4687 22939 | 10 | |
| **58** | 0 | 0,53096 34090 58514+ | 509 39172 | 336 89533 76965 | 4284 65364+ | 0 | **2** |
| | 10 | 0,53102 55599 97686+ | 541 39387 | 314 85249 11600+ | 3882 19852 | 50 | |
| | 20 | 08 77141 37073+ | 573 40141+ | 292 81366 91748+ | 3479 86395+ | 40 | |
| | 30 | 14 98714 77215 | 605 41435+ | 270 77887 05353 | 3077 64991+ | 30 | |
| | 40 | 21 20320 18650+ | 637 43269 | 248 74809 40361+ | 2675 55634 | 20 | |
| | 50 | 27 41957 61919+ | 669 45642 | 226 72133 84727+ | 2273 58319+ | 10 | |
| **59** | 0 | 33 63627 07561 | 701 48555 | 204 69860 26408 | 1871 73042 | 0 | **1** |
| | 10 | 39 85328 56116 | 733 52007+ | 182 67988 53366 | 1469 99798 | 50 | |
| | 20 | 46 07062 08123+ | 765 56000 | 160 66518 53568 | 1068 38581+ | 40 | |
| | 30 | 52 28827 64123+ | 797 60532+ | 138 65450 14987 | 0666 89388+ | 30 | |
| | 40 | 58 50625 24656 | 829 65605 | 116 64783 25598+ | 22 00265 52213+ | 20 | |
| | 50 | 64 72454 90261 | 6 21861 71218 | 094 64517 73385 | 21 99864 27053 | 10 | |
| **60** | 0 | 0,53170 94316 61478+ | | 1,88072 64653 46332 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 62°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,53170 94316 61478+ | 6 21893 77371 | 1,88072 64653 46332 | 21 99463 13901 | 0 | **60** |
| | 10 | 77 16210 38849+ | 925 84064 | 050 65190 32431 | 9062 12753+ | 50 | |
| | 20 | 83 38136 22913+ | 957 91298 | 028 66128 19677+ | 8661 23605 | 40 | |
| | 30 | 89 60094 14211+ | 6 21989 99072 | 1,88006 67466 96072+ | 8260 46452 | 30 | |
| | 40 | 0,53195 82084 13283+ | 6 22022 07387 | 1,87984 69206 49620+ | 7859 81288+ | 20 | |
| | 50 | 0,53202 04106 20670+ | 054 16242+ | 962 71346 68332 | 7459 28110 | 10 | |
| **1** | 0 | 08 26160 36912+ | 086 25638+ | 940 73887 40222 | 7058 86912+ | 0 | **59** |
| | 10 | 14 48246 62551 | 118 35575+ | 918 76828 53309+ | 6658 57690+ | 50 | |
| | 20 | 20 70364 98126+ | 150 46053+ | 896 80169 95619 | 6258 40439+ | 40 | |
| | 30 | 26 92515 44180 | 182 57072+ | 874 83911 55179+ | 5858 35155 | 30 | |
| | 40 | 33 14698 01252+ | 214 68632+ | 852 88053 20024+ | 5458 41831+ | 20 | |
| | 50 | 39 36912 69885+ | 246 80734 | 830 92594 78193 | 5058 60465+ | 10 | |
| **2** | 0 | 45 59159 50619 | 278 93376+ | 808 97536 17727+ | 4658 91051 | 0 | **58** |
| | 10 | 51 81438 43995+ | 311 06560+ | 787 02877 26676+ | 4259 33584 | 50 | |
| | 20 | 58 03749 50556 | 343 20285+ | 765 08617 93092+ | 3859 88060 | 40 | |
| | 30 | 64 26092 70842 | 375 34552+ | 743 14758 05032+ | 3460 54473+ | 30 | |
| | 40 | 70 48468 05394+ | 407 49361 | 721 21297 50559+ | 3061 32820 | 20 | |
| | 50 | 76 70875 54755+ | 439 64711+ | 699 28236 17739 | 2662 23095+ | 10 | |
| **3** | 0 | 82 93315 19467 | 471 80603+ | 677 35573 94644 | 2263 25294+ | 0 | **57** |
| | 10 | 89 15787 00070 | 503 97037 | 655 43310 69349+ | 1864 39412 | 50 | |
| | 20 | 0,53295 38290 97107+ | 536 14013 | 633 51446 29937+ | 1465 65444+ | 40 | |
| | 30 | 0,53301 60827 11120+ | 568 31531 | 611 59980 64493 | 1067 03386+ | 30 | |
| | 40 | 07 83395 42651+ | 600 49591 | 589 68913 61106+ | 0668 53233 | 20 | |
| | 50 | 14 05995 92242 | 632 68193 | 567 78245 07873+ | 21 90270 14980 | 10 | |
| **4** | 0 | 20 28628 60435+ | 664 87337+ | 545 87974 92893+ | 21 89871 88622+ | 0 | **56** |
| | 10 | 26 51293 47773 | 697 07024+ | 523 98103 04270+ | 9473 74156 | 50 | |
| | 20 | 32 73990 54797+ | 729 27254 | 502 08629 30115 | 9075 71575 | 40 | |
| | 30 | 38 96719 82051+ | 761 48026 | 480 19553 58540 | 8677 80876 | 30 | |
| | 40 | 45 19481 30077 | 793 69340+ | 458 30875 77664 | 8280 02053+ | 20 | |
| | 50 | 51 42274 99417+ | 825 91198 | 436 42595 75610+ | 7882 35103 | 10 | |
| **5** | 0 | 57 65100 90615+ | 858 13598 | 414 54713 40508 | 7484 80019+ | 0 | **55** |
| | 10 | 63 87959 04213+ | 890 36541 | 392 67228 60488 | 7087 36799 | 50 | |
| | 20 | 70 10849 40755 | 922 60027 | 370 80141 23689+ | 6690 05436+ | 40 | |
| | 30 | 76 33772 00782 | 954 84056+ | 348 93451 18253 | 6292 85927 | 30 | |
| | 40 | 82 56726 84838+ | 6 22987 08628+ | 327 07158 32326 | 5895 78266 | 20 | |
| | 50 | 88 79713 93467 | 6 23019 33744+ | 305 21262 54059+ | 5498 82449+ | 10 | |
| **6** | 0 | 0,53395 02733 27211+ | 051 59403 | 283 35763 71610+ | 5101 98472 | 0 | **54** |
| | 10 | 0,53401 25784 86614+ | 083 85605+ | 261 50661 73138+ | 4705 26329 | 50 | |
| | 20 | 07 48868 72220 | 116 12351+ | 239 65956 46810 | 4308 66015+ | 40 | |
| | 30 | 13 71984 84571+ | 148 39641 | 217 81647 80794 | 3912 17527+ | 30 | |
| | 40 | 19 95133 24212+ | 180 67474 | 195 97735 63266+ | 3515 80860+ | 20 | |
| | 50 | 26 18313 91686+ | 212 95851 | 174 14219 82406 | 3119 56009 | 10 | |
| **7** | 0 | 32 41526 87537+ | 245 24772 | 152 31100 26397 | 2723 42969 | 0 | **53** |
| | 10 | 38 64772 12309+ | 277 54236+ | 130 48376 83428+ | 2327 41735 | 50 | |
| | 20 | 44 88049 66546 | 309 84245+ | 108 66049 41693 | 1931 52303+ | 40 | |
| | 30 | 51 11359 50791+ | 342 14798+ | 086 84117 89389+ | 1535 74669 | 30 | |
| | 40 | 57 34701 65590 | 374 45895+ | 065 02582 14720+ | 1140 08827+ | 20 | |
| | 50 | 63 58076 11485+ | 406 77537 | 043 21442 05893 | 0744 54773+ | 10 | |
| **8** | 0 | 69 81482 89022+ | 439 09722+ | 1,87021 40697 51119 | 21 80349 12503 | 0 | **52** |
| | 10 | 76 04921 98745 | 471 42453 | 1,86999 60348 38616 | 21 79953 82011+ | 50 | |
| | 20 | 82 28393 41198 | 503 75728 | 977 80394 56604+ | 9558 63293+ | 40 | |
| | 30 | 88 51897 16926 | 536 09547+ | 956 00835 93311 | 9163 56345+ | 30 | |
| | 40 | 0,53494 75433 26473+ | 568 43911+ | 934 21672 36965+ | 8768 61162 | 20 | |
| | 50 | 0,53500 99001 70385 | 600 78820+ | 912 42903 75803+ | 8373 77738+ | 10 | |
| **9** | 0 | 07 22602 49205+ | 633 14274+ | 890 64529 98065 | 7979 06070+ | 0 | **51** |
| | 10 | 13 46235 63480 | 665 50273+ | 868 86550 91994+ | 7584 46153+ | 50 | |
| | 20 | 19 69901 13753+ | 697 86817+ | 847 08966 45841+ | 7189 97982+ | 40 | |
| | 30 | 25 93599 00570+ | 730 23906+ | 825 31776 47858+ | 6795 61553+ | 30 | |
| | 40 | 32 17329 24477+ | 762 61541 | 803 54980 86305+ | 6401 36861 | 20 | |
| | 50 | 38 41091 86018+ | 6 23794 99721 | 781 78579 49444 | 21 76007 23901+ | 10 | |
| **10** | 0 | 0,53544 64886 85739 | | 1,86760 02572 25543 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,53544 64886 85739 | 6 23827 38446 | 1,86760 02572 25543 | 21 75613 22669 | 0 | **50** |
| | 10 | 50 88714 24185 | 859 77716+ | 738 26959 02873+ | 5219 33160 | 50 | |
| | 20 | 57 12574 01902 | 892 17533 | 716 51739 69713+ | 4825 55370 | 40 | |
| | 30 | 63 36466 19434+ | 924 57895 | 694 76914 14343+ | 4431 89293 | 30 | |
| | 40 | 69 60390 77329+ | 956 98803 | 673 02482 25050+ | 4038 34926 | 20 | |
| | 50 | 75 84347 76132+ | 6 23989 40256+ | 651 28443 90124+ | 3644 92263+ | 10 | |
| **11** | 0 | 82 08337 16389 | 6 24021 82256 | 629 54798 97861 | 3251 61301 | 0 | **49** |
| | 10 | 88 32358 98645 | 054 24801+ | 607 81547 36560+ | 2858 42034 | 50 | |
| | 20 | 0,53594 56413 23446+ | 086 67893+ | 586 08688 94526+ | 2465 34457+ | 40 | |
| | 30 | 0,53600 80499 91339+ | 119 11531+ | 564 36223 60069 | 2072 38567+ | 30 | |
| | 40 | 07 04619 02871 | 151 55715+ | 542 64151 21501 | 1679 54359+ | 20 | |
| | 50 | 13 28770 58586+ | 184 00446 | 520 92471 67141+ | 1286 81828+ | 10 | |
| **12** | 0 | 19 52954 59032+ | 216 45723+ | 499 21184 85313+ | 0894 20969+ | 0 | **48** |
| | 10 | 25 77171 04756 | 248 91547 | 477 50290 64343+ | 0501 71779 | 50 | |
| | 20 | 32 01419 96303 | 281 37917+ | 455 79788 92564+ | 21 70109 34251+ | 40 | |
| | 30 | 38 25701 34220+ | 313 84834+ | 434 09679 58313 | 21 69717 08383 | 30 | |
| | 40 | 44 50015 19054+ | 346 32298 | 412 39962 49930 | 9324 94168+ | 20 | |
| | 50 | 50 74361 51353 | 378 80309 | 390 70637 55762 | 8932 91603+ | 10 | |
| **13** | 0 | 56 98740 31662 | 411 28867 | 369 01704 64158+ | 8541 00683+ | 0 | **47** |
| | 10 | 63 23151 60528+ | 443 77971+ | 347 33163 63475+ | 8149 21403+ | 50 | |
| | 20 | 69 47595 38500+ | 476 27623+ | 325 65014 42071+ | 7757 53760 | 40 | |
| | 30 | 75 72071 66124 | 508 77823 | 303 97256 88311+ | 7365 97747+ | 30 | |
| | 40 | 81 96580 43947 | 541 28569+ | 282 29890 90564 | 6974 53361+ | 20 | |
| | 50 | 88 21121 72517 | 573 79864 | 260 62916 37202+ | 6583 20598 | 10 | |
| **14** | 0 | 0,53694 45695 52380+ | 606 31705+ | 238 96333 16604+ | 6191 99452 | 0 | **46** |
| | 10 | 0,53700 70301 84086 | 638 84094+ | 217 30141 17152+ | 5800 89919 | 50 | |
| | 20 | 06 94940 68180+ | 671 37031+ | 195 64340 27234 | 5409 91994 | 40 | |
| | 30 | 13 19612 05212 | 703 90516 | 173 98930 35239+ | 5019 05673+ | 30 | |
| | 40 | 19 44315 95728+ | 736 44549 | 152 33911 29566+ | 4628 30952 | 20 | |
| | 50 | 25 69052 40277 | 768 99129+ | 130 69282 98614+ | 4237 67825 | 10 | |
| **15** | 0 | 31 93821 39406+ | 801 54258 | 109 05045 30789+ | 3847 16288+ | 0 | **45** |
| | 10 | 38 18622 93664+ | 834 09934+ | 087 41198 14501 | 3456 76338 | 50 | |
| | 20 | 44 43457 03599 | 866 66159+ | 065 77741 38163 | 3066 47968 | 40 | |
| | 30 | 50 68323 69758+ | 899 22933 | 044 14674 90195 | 2676 31175 | 30 | |
| | 40 | 56 93222 92691+ | 931 80254+ | 022 51998 59020 | 2286 25954 | 20 | |
| | 50 | 63 18154 72946 | 964 38124+ | 1,86000 89712 33066 | 1896 32300+ | 10 | |
| **16** | 0 | 69 43119 11071 | 6 24996 96543+ | 1,85979 27816 00765+ | 1506 50209+ | 0 | **44** |
| | 10 | 75 68116 07614 | 6 25029 55511 | 957 66309 50556 | 1116 79677+ | 50 | |
| | 20 | 81 93145 63125 | 062 15027 | 936 05192 70878+ | 0727 20699 | 40 | |
| | 30 | 88 18207 78152 | 094 75092 | 914 44465 50179+ | 21 60337 73270 | 30 | |
| | 40 | 0,53794 43302 53244 | 127 35706 | 892 84127 76909+ | 21 59948 37386 | 20 | |
| | 50 | 0,53800 68429 88949+ | 159 96868+ | 871 24179 39523+ | 9559 13042 | 10 | |
| **17** | 0 | 06 93589 85818+ | 192 58581 | 849 64620 26481 | 9170 00234 | 0 | **43** |
| | 10 | 13 18782 44399 | 225 20842 | 828 05450 26247 | 8780 98957 | 50 | |
| | 20 | 19 44007 65241 | 257 83652+ | 806 46669 27290 | 8392 09207 | 40 | |
| | 30 | 25 69265 48893+ | 290 47012+ | 784 88277 18082+ | 8003 30979 | 30 | |
| | 40 | 31 94555 95906 | 323 10921+ | 763 30273 87103+ | 7614 64269 | 20 | |
| | 50 | 38 19879 06827+ | 355 75380+ | 741 72659 22834+ | 7226 09072 | 10 | |
| **18** | 0 | 44 45234 82208 | 388 40389 | 720 15433 13762+ | 6837 65383+ | 0 | **42** |
| | 10 | 50 70623 22597 | 421 05947 | 698 58595 48379 | 6449 33199+ | 50 | |
| | 20 | 56 96044 28544 | 453 72055 | 677 02146 15179+ | 6061 12515 | 40 | |
| | 30 | 63 21498 00599+ | 486 38713 | 655 46085 02664+ | 5673 03325+ | 30 | |
| | 40 | 69 46984 39312+ | 519 05921 | 633 90411 99339 | 5285 05627 | 20 | |
| | 50 | 75 72503 45233+ | 551 73679 | 612 35126 93712 | 4897 19414 | 10 | |
| **19** | 0 | 81 98055 18912 | 584 41987 | 590 80229 74297+ | 4509 44683+ | 0 | **41** |
| | 10 | 88 23639 60899+ | 617 10845+ | 569 25720 29614+ | 4121 81429+ | 50 | |
| | 20 | 0,53894 49256 71744+ | 649 80254 | 547 71598 48185 | 3734 29648+ | 40 | |
| | 30 | 0,53900 74906 51999 | 682 50213+ | 526 17864 18536+ | 3346 89335+ | 30 | |
| | 40 | 07 00589 02212 | 715 20723 | 504 64517 29201 | 2959 60486 | 20 | |
| | 50 | 13 26304 22935 | 6 25747 91783 | 483 11557 68715 | 21 52572 43096 | 10 | |
| **20** | 0 | 0,53919 52052 14718 | | 1,85461 58985 25619 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,53919 52052 14718 | 6 25780 63394 | 1,85461 58985 25619 | 21 52185 37160+ | 0 | **40** |
| | 10 | 25 77832 78112 | 813 35556 | 440 06799 88458+ | 1798 42675+ | 50 | |
| | 20 | 32 03646 13668 | 846 08268+ | 418 55001 45783 | 1411 59636 | 40 | |
| | 30 | 38 29492 21936+ | 878 81532 | 397 03589 86147 | 1024 88038 | 30 | |
| | 40 | 44 55371 03468 | 911 55346+ | 375 52564 98109+ | 0638 27876+ | 20 | |
| | 50 | 50 81282 58814+ | 944 29712 | 354 01926 70233 | 21 50251 79147+ | 10 | |
| **21** | 0 | 57 07226 88527 | 6 25977 04629 | 332 51674 91085+ | 21 49865 41846 | 0 | **39** |
| | 10 | 63 33203 93156 | 6 26009 80097+ | 311 01809 49239+ | 9479 15968 | 50 | |
| | 20 | 69 59213 73253 | 042 56117 | 289 52330 33271+ | 9093 01509 | 40 | |
| | 30 | 75 85256 29370 | 075 32688 | 268 03237 31762 | 8706 98464+ | 30 | |
| | 40 | 82 11331 62058 | 108 09810+ | 246 54530 33297+ | 8321 06830 | 20 | |
| | 50 | 88 37439 71869 | 140 87485 | 225 06209 26467 | 7935 26601 | 10 | |
| **22** | 0 | 0,53994 63580 59354 | 173 65711 | 203 58273 99866 | 7549 57773 | 0 | **38** |
| | 10 | 0,54000 89754 25065 | 206 44489 | 182 10724 42093 | 7164 00341+ | 50 | |
| | 20 | 07 15960 69554+ | 239 23819 | 160 63560 41751+ | 6778 54302+ | 40 | |
| | 30 | 13 42199 93373+ | 272 03701 | 139 16781 87449 | 6393 19651 | 30 | |
| | 40 | 19 68471 97074 | 304 84135 | 117 70388 67798 | 6007 96382+ | 20 | |
| | 50 | 25 94776 81209 | 337 65121 | 096 24380 71415+ | 5622 84493 | 10 | |
| **23** | 0 | 32 21114 46330 | 370 46659+ | 074 78757 86922+ | 5237 83978 | 0 | **37** |
| | 10 | 38 47484 92989+ | 403 28750+ | 053 33520 02944+ | 4852 94832+ | 50 | |
| | 20 | 44 73888 21740 | 436 11393+ | 031 88667 08112 | 4468 17053 | 40 | |
| | 30 | 51 00324 33133+ | 468 94589+ | 1,85010 44198 91059 | 4083 50634 | 30 | |
| | 40 | 57 26793 27723 | 501 78338 | 1,84989 00115 40425 | 3698 95572 | 20 | |
| | 50 | 63 53295 06061 | 534 62639 | 967 56416 44853 | 3314 51861+ | 10 | |
| **24** | 0 | 69 79829 68700 | 567 47493 | 946 13101 92991+ | 2930 19499+ | 0 | **36** |
| | 10 | 76 06397 16193+ | 600 32900 | 924 70171 73492 | 2545 98480+ | 50 | |
| | 20 | 82 32997 49093+ | 633 18860 | 903 27625 75011+ | 2161 88800 | 40 | |
| | 30 | 88 59630 67953+ | 666 05373 | 881 85463 86211+ | 1777 90454+ | 30 | |
| | 40 | 0,54094 86296 73326+ | 698 92439 | 860 43685 95757 | 1394 03438+ | 20 | |
| | 50 | 0,54101 12995 65766 | 731 80058+ | 839 02291 92318+ | 1010 27748+ | 10 | |
| **25** | 0 | 07 39727 45824+ | 764 68231+ | 817 61281 64570 | 0626 63379+ | 0 | **35** |
| | 10 | 13 66492 14056 | 797 56957+ | 796 20655 01190 | 21 40243 10327+ | 50 | |
| | 20 | 19 93289 71013+ | 830 46237+ | 774 80411 90863 | 21 39859 68587+ | 40 | |
| | 30 | 26 20120 17251 | 863 36071 | 753 40552 22275+ | 9476 38155+ | 30 | |
| | 40 | 32 46983 53322 | 896 26458 | 732 01075 84120 | 9093 19027 | 20 | |
| | 50 | 38 73879 79780 | 929 17398+ | 710 61982 65093 | 8710 11197+ | 10 | |
| **26** | 0 | 45 00808 97178+ | 962 08893+ | 689 23272 53895+ | 8327 14663 | 0 | **34** |
| | 10 | 51 27771 06072 | 6 26995 00942 | 667 84945 39232+ | 7944 29418+ | 50 | |
| | 20 | 57 54766 07014 | 6 27027 93545 | 646 47001 09814 | 7561 55460 | 40 | |
| | 30 | 63 81794 00559 | 060 86702 | 625 09439 54353+ | 7178 92783 | 30 | |
| | 40 | 70 08854 87261 | 093 80413 | 603 72260 61570+ | 6796 41383 | 20 | |
| | 50 | 76 35948 67674 | 126 74678+ | 582 35464 20187+ | 6414 01256 | 10 | |
| **27** | 0 | 82 63075 42353 | 159 69498+ | 560 99050 18931+ | 6031 72397 | 0 | **33** |
| | 10 | 88 90235 11851+ | 192 64873 | 539 63018 46534 | 5649 54802 | 50 | |
| | 20 | 0,54195 17427 76724 | 225 60802 | 518 27368 91732 | 5267 48466+ | 40 | |
| | 30 | 0,54201 44653 37526 | 258 57285+ | 496 92101 43265+ | 4885 53386+ | 30 | |
| | 40 | 07 71911 94812 | 291 54324 | 475 57215 89879 | 4503 69556+ | 20 | |
| | 50 | 13 99203 49136 | 324 51917+ | 454 22712 20322+ | 4121 96973+ | 10 | |
| **28** | 0 | 20 26528 01053+ | 357 50066 | 432 88590 23349 | 3740 35632 | 0 | **32** |
| | 10 | 26 53885 51119 | 390 48769 | 411 54849 87717 | 3358 85528+ | 50 | |
| | 20 | 32 81275 99888+ | 423 48027+ | 390 21491 02188+ | 2977 46658 | 40 | |
| | 30 | 39 08699 47916 | 456 47841+ | 368 88513 55530+ | 2596 19016+ | 30 | |
| | 40 | 45 36155 95757 | 489 48210+ | 347 55917 36514 | 2215 02599+ | 20 | |
| | 50 | 51 63645 43967+ | 522 49134+ | 326 23702 33914+ | 1833 97402+ | 10 | |
| **29** | 0 | 57 91167 93102+ | 555 50614+ | 304 91868 36512 | 1453 03421 | 0 | **31** |
| | 10 | 64 18723 43717 | 588 52650 | 283 60415 33091 | 1072 20651+ | 50 | |
| | 20 | 70 46311 96367 | 621 55241 | 262 29343 12439+ | 0691 49088+ | 40 | |
| | 30 | 76 73933 51608 | 654 58388 | 240 98651 63351 | 21 30310 88728+ | 30 | |
| | 40 | 83 01588 09996+ | 687 62091 | 219 68340 74623 | 21 29930 39566+ | 20 | |
| | 50 | 89 29275 72087+ | 6 27720 66349+ | 198 38410 35056+ | 21 29550 01598+ | 10 | |
| **30** | 0 | 0,54295 56996 38437 | | 1,84177 08860 33458 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,54295 56996 38437 | 6 27753 71164+ | 1,84177 08860 33458 | 21 29169 74820 | 0 | **30** |
| | 10 | 0,54301 84750 09601 | 786 76535 | 155 79690 58638 | 8789 59227 | 50 | |
| | 20 | 08 12536 86136+ | 819 82462 | 134 50900 99411+ | 8409 54814+ | 40 | |
| | 30 | 14 40356 68598+ | 852 88945+ | 113 22491 44597 | 8029 61578+ | 30 | |
| | 40 | 20 68209 57544 | 885 95985+ | 091 94461 83018 | 7649 79515 | 20 | |
| | 50 | 26 96095 53529+ | 919 03581+ | 070 66812 03503 | 7270 08619+ | 10 | |
| **31** | 0 | 33 24014 57111 | 952 11734+ | 049 39541 94883+ | 6890 48887 | 0 | **29** |
| | 10 | 39 51966 68845 | 6 27985 20443+ | 028 12651 45996+ | 6511 00314 | 50 | |
| | 20 | 45 79951 89289 | 6 28018 29710 | 1,84006 86140 45682+ | 6131 62895+ | 40 | |
| | 30 | 52 07970 18998+ | 051 39533 | 1,83985 60008 82787 | 5752 36627+ | 30 | |
| | 40 | 58 36021 58531+ | 084 49913 | 964 34256 46159+ | 5373 21506 | 20 | |
| | 50 | 64 64106 08444+ | 117 60849+ | 943 08883 24653+ | 4994 17526 | 10 | |
| **32** | 0 | 70 92223 69294 | 150 72344 | 921 83889 07127+ | 4615 24683+ | 0 | **28** |
| | 10 | 77 20374 41638 | 183 84395 | 900 59273 82443+ | 4236 42974+ | 50 | |
| | 20 | 83 48558 26033 | 216 97003+ | 879 35037 39469 | 3857 72394 | 40 | |
| | 30 | 89 76775 23036+ | 250 10169+ | 858 11179 67075 | 3479 12938 | 30 | |
| | 40 | 0,54396 05025 33206 | 283 23893 | 836 87700 54137 | 3100 64602 | 20 | |
| | 50 | 0,54402 33308 57098+ | 316 38173+ | 815 64599 89535 | 2722 27382+ | 10 | |
| **33** | 0 | 08 61624 95272+ | 349 53012+ | 794 41877 62152+ | 2344 01274 | 0 | **27** |
| | 10 | 14 89974 48284+ | 382 68408+ | 773 19533 60878+ | 1965 86273 | 50 | |
| | 20 | 21 18357 16693+ | 415 84362+ | 751 97567 74606 | 1587 82374+ | 40 | |
| | 30 | 27 46773 01056 | 449 00875 | 730 75979 92231 | 1209 89575 | 30 | |
| | 40 | 33 75222 01931 | 482 17945 | 709 54770 02656+ | 0832 07869+ | 20 | |
| | 50 | 40 03704 19875+ | 515 35573 | 688 33937 94786+ | 0454 37254+ | 10 | |
| **34** | 0 | 46 32219 55448+ | 548 53759 | 667 13483 57532+ | 21 20076 77724+ | 0 | **26** |
| | 10 | 52 60768 09207+ | 581 72504 | 645 93406 79808 | 21 19699 29276+ | 50 | |
| | 20 | 58 89349 81711+ | 614 91807 | 624 73707 50531+ | 9321 91905 | 40 | |
| | 30 | 65 17964 73518+ | 648 11668 | 603 54385 58626+ | 8944 65606+ | 30 | |
| | 40 | 71 46612 85186+ | 681 32088 | 582 35440 93019+ | 8567 50376+ | 20 | |
| | 50 | 77 75294 17275 | 714 53067 | 561 16873 42643 | 8190 46211 | 10 | |
| **35** | 0 | 84 04008 70341+ | 747 74604 | 539 98682 96432 | 7813 53105 | 0 | **25** |
| | 10 | 90 32756 44945+ | 780 96700 | 518 80869 43327 | 7436 71055 | 50 | |
| | 20 | 0,54496 61537 41646 | 814 19355+ | 497 63432 72272 | 7060 00056 | 40 | |
| | 30 | 0,54502 90351 61001 | 847 42569+ | 476 46372 72216 | 6683 40104 | 30 | |
| | 40 | 09 19199 03570+ | 880 66342+ | 455 29689 32112 | 6306 91195 | 20 | |
| | 50 | 15 48079 69913 | 913 90674+ | 434 13382 40917 | 5930 53324 | 10 | |
| **36** | 0 | 21 76993 60587+ | 947 15566+ | 412 97451 87593 | 5554 26487+ | 0 | **24** |
| | 10 | 28 05940 76154 | 6 28980 41017 | 391 81897 61105+ | 5178 10681 | 50 | |
| | 20 | 34 34921 17171 | 6 29013 67027+ | 370 66719 50424 | 4802 05900 | 40 | |
| | 30 | 40 63934 84198+ | 046 93597+ | 349 51917 44524 | 4426 12140+ | 30 | |
| | 40 | 46 92981 77796 | 080 20727 | 328 37491 32383+ | 4050 29398 | 20 | |
| | 50 | 53 22061 98523 | 113 48416+ | 307 23441 02985+ | 3674 57668+ | 10 | |
| **37** | 0 | 59 51175 46939+ | 146 76665+ | 286 09766 45317 | 3298 96947 | 0 | **23** |
| | 10 | 65 80322 23605 | 180 05474+ | 264 96467 48370 | 2923 47230+ | 50 | |
| | 20 | 72 09502 29079 | 213 34843+ | 243 83544 01139+ | 2548 08513+ | 40 | |
| | 30 | 78 38715 63922+ | 246 64772+ | 222 70995 92626 | 2172 80792+ | 30 | |
| | 40 | 84 67962 28695 | 279 95261+ | 201 58823 11833+ | 1797 64063 | 20 | |
| | 50 | 90 97242 23956+ | 313 26311 | 180 47025 47771 | 1422 58320+ | 10 | |
| **38** | 0 | 0,54597 26555 50267+ | 346 57921 | 159 35602 89450+ | 1047 63561 | 0 | **22** |
| | 10 | 0,54603 55902 08188+ | 379 90091 | 138 24555 25889 | 0672 79780+ | 50 | |
| | 20 | 09 85281 98279+ | 413 22822 | 117 13882 46108+ | 21 10298 06974+ | 40 | |
| | 30 | 16 14695 21101+ | 446 56113+ | 096 03584 39134 | 21 09923 45138+ | 30 | |
| | 40 | 22 44141 77215 | 479 89965+ | 074 93660 93995 | 9548 94269 | 20 | |
| | 50 | 28 73621 67180+ | 513 24378+ | 053 84111 99726+ | 9174 54360+ | 10 | |
| **39** | 0 | 35 03134 91559 | 546 59352+ | 032 74937 45365+ | 8800 25410 | 0 | **21** |
| | 10 | 41 32681 50911+ | 579 94887+ | 1,83011 66137 19955+ | 8426 07413 | 50 | |
| | 20 | 47 62261 45798+ | 613 30983 | 1,82990 57711 12542+ | 8052 00364+ | 40 | |
| | 30 | 53 91874 76782 | 646 67640+ | 969 49659 12178+ | 7678 04261 | 30 | |
| | 40 | 60 21521 44422 | 680 04858+ | 948 41981 07917+ | 7304 19098 | 20 | |
| | 50 | 66 51201 49281 | 6 29713 42638+ | 927 34676 88819+ | 21 06930 44871+ | 10 | |
| **40** | 0 | 0,54672 80914 91919 | | 1,82906 27746 43948 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,54672 80914 91919 | 6 29746 80979+ | 1,82906 27746 43948 | 21 06556 81576+ | 0 | **20** |
| | 10 | 79 10661 72898+ | 780 19882 | 885 21189 62371+ | 6183 29210 | 50 | |
| | 20 | 85 40441 92781 | 813 59346+ | 864 15006 33161+ | 5809 87767 | 40 | |
| | 30 | 91 70255 52127+ | 846 99372+ | 843 09196 45394+ | 5436 57243+ | 30 | |
| | 40 | 0,54698 00102 51500 | 880 39960+ | 822 03759 88151 | 5063 37635 | 20 | |
| | 50 | 0,54704 29982 91460+ | 913 81110 | 800 98696 50516+ | 4690 28937+ | 10 | |
| **41** | 0 | 10 59896 72570+ | 947 22822 | 779 94006 21579 | 4317 31146+ | 0 | **19** |
| | 10 | 16 89843 95392+ | 6 29980 65095+ | 758 89688 90432 | 3944 44258+ | 50 | |
| | 20 | 23 19824 60488 | 6 30014 07931+ | 737 85744 46173+ | 3571 68268+ | 40 | |
| | 30 | 29 49838 68419+ | 047 51330 | 716 82172 77905 | 3199 03173 | 30 | |
| | 40 | 35 79886 19749+ | 080 95290+ | 695 78973 74732 | 2826 48967 | 20 | |
| | 50 | 42 09967 15040 | 114 39813+ | 674 76147 25765 | 2454 05647 | 10 | |
| **42** | 0 | 48 40081 54853+ | 147 84899 | 653 73693 20118 | 2081 73208+ | 0 | **18** |
| | 10 | 54 70229 39752+ | 181 30547+ | 632 71611 46910 | 1709 51647 | 50 | |
| | 20 | 61 00410 70299+ | 214 76758 | 611 69901 95263 | 1337 40958+ | 40 | |
| | 30 | 67 30625 47058 | 248 23532 | 590 68564 54304+ | 0965 41139 | 30 | |
| | 40 | 73 60873 70590 | 281 70868+ | 569 67599 13165 | 0593 52184+ | 20 | |
| | 50 | 79 91155 41458+ | 315 18768 | 548 67005 60980+ | 21 00221 74090+ | 10 | |
| **43** | 0 | 86 21470 60226+ | 348 67231 | 527 66783 86890 | 20 99850 06852+ | 0 | **17** |
| | 10 | 92 51819 27457 | 382 16256+ | 506 66933 80038 | 9478 50466+ | 50 | |
| | 20 | 0,54798 82201 43714 | 415 65846 | 485 67455 29571 | 9107 04928+ | 40 | |
| | 30 | 0,54805 12617 09560 | 449 15998+ | 464 68348 24642+ | 8735 70234+ | 30 | |
| | 40 | 11 43066 25558 | 482 66714+ | 443 69612 54408 | 8364 46380 | 20 | |
| | 50 | 17 73548 92272+ | 516 17994 | 422 71248 08028 | 7993 33360+ | 10 | |
| **44** | 0 | 24 04065 10266 | 549 69837 | 401 73254 74667+ | 7622 31172+ | 0 | **16** |
| | 10 | 30 34614 80103 | 583 22243+ | 380 75632 43494+ | 7251 39811+ | 50 | |
| | 20 | 36 65198 02346+ | 616 75214+ | 359 78381 03683 | 6880 59273+ | 40 | |
| | 30 | 42 95814 77561 | 650 28749 | 338 81500 44410 | 6509 89553+ | 30 | |
| | 40 | 49 26465 06310 | 683 82847+ | 317 84990 54856 | 6139 30648+ | 20 | |
| | 50 | 55 57148 89157+ | 717 37510 | 296 88851 24207+ | 5768 82553+ | 10 | |
| **45** | 0 | 61 87866 26667+ | 750 92737 | 275 93082 41654 | 5398 45265 | 0 | **15** |
| | 10 | 68 18617 19404+ | 784 48528 | 254 97683 96389 | 5028 18778+ | 50 | |
| | 20 | 74 49401 67932+ | 818 04883+ | 234 02655 77610+ | 4658 03089+ | 40 | |
| | 30 | 80 80219 72816 | 851 61803+ | 213 07997 74521 | 4287 98194 | 30 | |
| | 40 | 87 11071 34619+ | 885 19288 | 192 13709 76327 | 3918 04088+ | 20 | |
| | 50 | 93 41956 53907 | 918 77337 | 171 19791 72238+ | 3548 20768 | 10 | |
| **46** | 0 | 0,54899 72875 31244 | 952 35951 | 150 26243 51470+ | 3178 48228+ | 0 | **14** |
| | 10 | 0,54906 03827 67195 | 6 30985 95129+ | 129 33065 03242 | 2808 86466 | 50 | |
| | 20 | 12 34813 62324 | 6 31019 54873 | 108 40256 16776 | 2439 35477 | 40 | |
| | 30 | 18 65833 17197 | 053 15181+ | 087 47816 81299 | 2069 95256 | 30 | |
| | 40 | 24 96886 32378+ | 086 76055 | 066 55746 86043 | 1700 65800 | 20 | |
| | 50 | 31 27973 08434 | 120 37494 | 045 64046 20243+ | 1331 47104 | 10 | |
| **47** | 0 | 37 59093 45928 | 153 99498 | 024 72714 73139 | 0962 39164+ | 0 | **13** |
| | 10 | 43 90247 45426 | 187 62067+ | 1,82003 81752 33975 | 0593 41977 | 50 | |
| | 20 | 50 21435 07493+ | 221 25202+ | 1,81982 91158 91997+ | 20 90224 55537+ | 40 | |
| | 30 | 56 52656 32696+ | 254 88903 | 962 00934 36460 | 20 89855 79842 | 30 | |
| | 40 | 62 83911 21599+ | 288 53169+ | 941 11078 56618 | 9487 14886 | 20 | |
| | 50 | 69 15199 74769 | 322 18001 | 920 21591 41732 | 9118 60665+ | 10 | |
| **48** | 0 | 75 46521 92770 | 355 83399 | 899 32472 81066+ | 8750 17177 | 0 | **12** |
| | 10 | 81 77877 76169 | 389 49362+ | 878 43722 63889+ | 8381 84415 | 50 | |
| | 20 | 88 09267 25531+ | 423 15892+ | 857 55340 79474 | 8013 62377 | 40 | |
| | 30 | 0,54994 40690 41424 | 456 82988 | 836 67327 17097+ | 7645 51057+ | 30 | |
| | 40 | 0,55000 72147 24412 | 490 50650 | 815 79681 66040 | 7277 50453 | 20 | |
| | 50 | 07 03637 75062 | 524 18878+ | 794 92404 15587 | 6909 60559 | 10 | |
| **49** | 0 | 13 35161 93940+ | 557 87673 | 774 05494 55028 | 6541 81372 | 0 | **11** |
| | 10 | 19 66719 81613+ | 591 57034 | 753 18952 73655+ | 6174 12888 | 50 | |
| | 20 | 25 98311 38648 | 625 26962 | 732 32778 60768 | 5806 55102 | 40 | |
| | 30 | 32 29936 65609+ | 658 97456 | 711 46972 05666 | 5439 08010 | 30 | |
| | 40 | 38 61595 63066 | 692 68517+ | 690 61532 97656 | 5071 71608+ | 20 | |
| | 50 | 44 93288 31583 | 6 31726 40145+ | 669 76461 26047+ | 20 84704 45893 | 10 | |
| **50** | 0 | 0,55051 25014 71728+ | | 1,81648 91756 80154+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 28°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,55051 25014 71728+ | 6 31760 12340 | 1,81648 91756 80154+ | 20 84337 30860 | 0 | **10** |
| | 10 | 57 56774 84069 | 793 85102 | 628 07419 49294+ | 3970 26504+ | 50 | |
| | 20 | 63 88568 69171 | 827 58431 | 607 23449 22790+ | 3603 32822+ | 40 | |
| | 30 | 70 20396 27602 | 861 32327+ | 586 39845 89967+ | 3236 49810+ | 30 | |
| | 40 | 76 52257 59929+ | 895 06791 | 565 56609 40157 | 2869 77464 | 20 | |
| | 50 | 82 84152 66720+ | 928 81822 | 544 73739 62693 | 2503 15779 | 10 | |
| **51** | 0 | 89 16081 48542+ | 962 57420+ | 523 91236 46914+ | 2136 64751+ | 0 | **9** |
| | 10 | 0,55095 48044 05963 | 6 31996 33586+ | 503 09099 82163 | 1770 24377 | 50 | |
| | 20 | 0,55101 80040 39549+ | 6 32030 10320 | 482 27329 57786 | 1403 94652 | 40 | |
| | 30 | 08 12070 49870 | 063 87621+ | 461 45925 63134 | 1037 75571+ | 30 | |
| | 40 | 14 44134 37491+ | 097 65491 | 440 64887 87562+ | 0671 67132+ | 20 | |
| | 50 | 20 76232 02983 | 131 43928+ | 419 84216 20430 | 20 80305 69330+ | 10 | |
| **52** | 0 | 27 08363 46911 | 165 22933+ | 399 03910 51099+ | 20 79939 82161 | 0 | **8** |
| | 10 | 33 40528 69845 | 199 02507 | 378 23970 68938+ | 9574 05620+ | 50 | |
| | 20 | 39 72727 72352 | 232 82649 | 357 44396 63318 | 9208 39704+ | 40 | |
| | 30 | 46 04960 55001 | 266 63359 | 336 65188 23613+ | 8842 84409 | 30 | |
| | 40 | 52 37227 18360 | 300 44637+ | 315 86345 39204 | 8477 39730+ | 20 | |
| | 50 | 58 69527 62997+ | 334 26484+ | 295 07867 99473+ | 8112 05664 | 10 | |
| **53** | 0 | 65 01861 89481+ | 368 08900 | 274 29755 93809+ | 7746 82206 | 0 | **7** |
| | 10 | 71 34229 98381+ | 401 91884 | 253 52009 11603+ | 7381 69352 | 50 | |
| | 20 | 77 66631 90265+ | 435 75437 | 232 74627 42251+ | 7016 67098+ | 40 | |
| | 30 | 83 99067 65703 | 469 59559 | 211 97610 75153 | 6651 75441+ | 30 | |
| | 40 | 90 31537 25262 | 503 44250 | 191 20958 99711+ | 6286 94376 | 20 | |
| | 50 | 0,55196 64040 69512 | 537 29510 | 170 44672 05335+ | 5922 23898+ | 10 | |
| **54** | 0 | 0,55202 96577 99022 | 571 15339 | 149 68749 81437 | 5557 64005+ | 0 | **6** |
| | 10 | 09 29149 14361 | 605 01737+ | 128 93192 17431+ | 5193 14692 | 50 | |
| | 20 | 15 61754 16098+ | 638 88705 | 108 17999 02739+ | 4828 75954+ | 40 | |
| | 30 | 21 94393 04803+ | 672 76242 | 087 43170 26785 | 4464 47788+ | 30 | |
| | 40 | 28 27065 81045+ | 706 64349 | 066 68705 78996+ | 4100 30190+ | 20 | |
| | 50 | 34 59772 45394+ | 740 53025 | 045 94605 48806 | 3736 23156 | 10 | |
| **55** | 0 | 40 92512 98419+ | 774 42271 | 025 20869 25650 | 3372 26681+ | 0 | **5** |
| | 10 | 47 25287 40691 | 808 32087 | 1,81004 47496 98969 | 3008 40762 | 50 | |
| | 20 | 53 58095 72777+ | 842 22472+ | 1,80983 74488 58206+ | 2644 65394+ | 40 | |
| | 30 | 59 90937 95250+ | 876 13428+ | 963 01843 92812+ | 2281 00574 | 30 | |
| | 40 | 66 23814 08678+ | 910 04954 | 942 29562 92238 | 1917 46297+ | 20 | |
| | 50 | 72 56724 13633 | 943 97050 | 921 57645 45941 | 1554 02560 | 10 | |
| **56** | 0 | 78 89668 10683 | 6 32977 89716+ | 900 86091 43380+ | 1190 69358 | 0 | **4** |
| | 10 | 85 22646 00399+ | 6 33011 82953 | 880 14900 74022+ | 0827 46687+ | 50 | |
| | 20 | 91 55657 83352 | 045 76760 | 859 44073 27335 | 0464 34544 | 40 | |
| | 30 | 0,55297 88703 60112 | 079 71137+ | 838 73608 92791 | 20 70101 32924 | 30 | |
| | 40 | 0,55304 21783 31249+ | 113 66086 | 818 03507 59867 | 20 69738 41823 | 20 | |
| | 50 | 10 54896 97335+ | 147 61605 | 797 33769 18044 | 9375 61237+ | 10 | |
| **57** | 0 | 16 88044 58940 | 181 57694+ | 776 64393 56807 | 9012 91163 | 0 | **3** |
| | 10 | 23 21226 16635 | 215 54355+ | 755 95380 65644 | 8650 31595+ | 50 | |
| | 20 | 29 54441 70990 | 249 51587 | 735 26730 34048+ | 8287 82531 | 40 | |
| | 30 | 35 87691 22577 | 283 49390 | 714 58442 51517 | 7925 43966 | 30 | |
| | 40 | 42 20974 71967 | 317 47764 | 693 90517 07551 | 7563 15896 | 20 | |
| | 50 | 48 54292 19731 | 351 46709+ | 673 22953 91655 | 7200 98317 | 10 | |
| **58** | 0 | 54 87643 66440+ | 385 46226 | 652 55752 93338 | 6838 91225 | 0 | **2** |
| | 10 | 61 21029 12666+ | 419 46314+ | 631 88914 02113 | 6476 94616 | 50 | |
| | 20 | 67 54448 58980+ | 453 46974 | 611 22437 07497 | 6115 08486+ | 40 | |
| | 30 | 73 87902 05954+ | 487 48205+ | 590 56321 99010+ | 5753 32831+ | 30 | |
| | 40 | 80 21389 54160+ | 521 50009 | 569 90568 66179 | 5391 67647+ | 20 | |
| | 50 | 86 54911 04169 | 555 52384 | 549 25176 98531+ | 5030 12930+ | 10 | |
| **59** | 0 | 92 88466 56553 | 589 55331 | 528 60146 85601 | 4668 68677 | 0 | **1** |
| | 10 | 0,55399 22056 11884 | 623 58850 | 507 95478 16924+ | 4307 34882 | 50 | |
| | 20 | 0,55405 55679 70734 | 657 62941 | 487 31170 82042+ | 3946 11542 | 40 | |
| | 30 | 11 89337 33675 | 691 67604+ | 466 67224 70500+ | 3584 98653 | 30 | |
| | 40 | 18 23029 01280 | 725 72840+ | 446 03639 71847+ | 3223 96211 | 20 | |
| | 50 | 24 56754 74120+ | 6 33759 78648+ | 425 40415 75636 | 20 62863 04212+ | 10 | |
| **60** | 0 | 0,55430 90514 52769 | | 1,80404 77552 71424 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 61°

# 29°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,55430 90514 52769 | 6 33793 85029+ | 1,80404 77552 71424 | 20 62502 22652+ | 0 | **60** |
| | 10 | 37 24308 37798 | 827 91982+ | 384 15050 48771+ | 2141 51527+ | 50 | |
| | 20 | 43 58136 29781 | 861 99508+ | 363 52908 97244 | 1780 90833+ | 40 | |
| | 30 | 49 91998 29289+ | 896 07607+ | 342 91128 06410+ | 1420 40567 | 30 | |
| | 40 | 56 25894 36897 | 930 16279 | 322 29707 65843+ | 1060 00723 | 20 | |
| | 50 | 62 59824 53176 | 964 25523+ | 301 68647 65120 | 0699 71298+ | 10 | |
| **1** | 0 | 68 93788 78700 | 6 33998 35341+ | 281 07947 93821+ | 20 60339 52289 | 0 | **59** |
| | 10 | 75 27787 14041+ | 6 34032 45732+ | 260 47608 41532+ | 20 59979 43690+ | 50 | |
| | 20 | 81 61819 59773+ | 066 56696+ | 239 87628 97842 | 9619 45499+ | 40 | |
| | 30 | 87 95886 16470 | 100 68234 | 219 28009 52343 | 9259 57711 | 30 | |
| | 40 | 0,55494 29986 84704 | 134 80345 | 198 68749 94631+ | 8899 80322 | 20 | |
| | 50 | 0,55500 64121 65049 | 168 93029+ | 178 09850 14309+ | 8540 13328+ | 10 | |
| **2** | 0 | 06 98290 58078+ | 203 06287+ | 157 51310 00981 | 8180 56726 | 0 | **58** |
| | 10 | 13 32493 64366 | 237 20119+ | 136 93129 44255 | 7821 10511 | 50 | |
| | 20 | 19 66730 84485+ | 271 34525 | 116 35308 33744 | 7461 74679 | 40 | |
| | 30 | 26 01002 19010+ | 305 49504+ | 095 77846 59065 | 7102 49226+ | 30 | |
| | 40 | 32 35307 68515+ | 339 65058+ | 075 20744 09838+ | 6743 34149+ | 20 | |
| | 50 | 38 69647 33573+ | 373 81186 | 054 64000 75689+ | 6384 29443+ | 10 | |
| **3** | 0 | 45 04021 14760 | 407 97888 | 034 07616 46245+ | 6025 35105+ | 0 | **57** |
| | 10 | 51 38429 12647+ | 442 15164 | 1,80013 51591 11140 | 5666 51130+ | 50 | |
| | 20 | 57 72871 27812 | 476 33014+ | 1,79992 95924 60009+ | 5307 77515+ | 40 | |
| | 30 | 64 07347 60826+ | 510 51440 | 972 40616 82494 | 4949 14256 | 30 | |
| | 40 | 70 41858 12266+ | 544 70439+ | 951 85667 68238 | 4590 61348 | 20 | |
| | 50 | 76 76402 82705+ | 578 90013+ | 931 31077 06890 | 4232 18788 | 10 | |
| **4** | 0 | 83 10981 72719+ | 613 10163 | 910 76844 88102 | 3873 86571+ | 0 | **56** |
| | 10 | 89 45594 82882 | 647 30886+ | 890 22971 01530+ | 3515 64695 | 50 | |
| | 20 | 0,55595 80242 13769 | 681 52185+ | 869 69455 36835+ | 3157 53154 | 40 | |
| | 30 | 0,55602 14923 65954+ | 715 74059+ | 849 16297 83681 | 2799 51945+ | 30 | |
| | 40 | 08 49639 40014 | 749 96508+ | 828 63498 31735+ | 2441 61064+ | 20 | |
| | 50 | 14 84389 36522+ | 784 19533 | 808 11056 70671 | 2083 80508 | 10 | |
| **5** | 0 | 21 19173 56055+ | 818 43132+ | 787 58972 90163 | 1726 10271+ | 0 | **55** |
| | 10 | 27 53991 99188 | 852 67307+ | 767 07246 79892 | 1368 50351 | 50 | |
| | 20 | 33 88844 66495+ | 886 92058 | 746 55878 29541 | 1011 00742+ | 40 | |
| | 30 | 40 23731 58553+ | 921 17384 | 726 04867 28798+ | 0653 61443 | 30 | |
| | 40 | 46 58652 75937+ | 955 43286 | 705 54213 67355+ | 20 50296 32447+ | 20 | |
| | 50 | 52 93608 19223+ | 6 34989 69764 | 685 03917 34908 | 20 49939 13752+ | 10 | |
| **6** | 0 | 59 28597 88987+ | 6 35023 96817+ | 664 53978 21156 | 9582 05354 | 0 | **54** |
| | 10 | 65 63621 85804+ | 058 24447 | 644 04396 15802 | 9225 07248 | 50 | |
| | 20 | 71 98680 10251+ | 092 52652+ | 623 55171 08554 | 8868 19431 | 40 | |
| | 30 | 78 33772 62904 | 126 81434+ | 603 06302 89123 | 8511 41898+ | 30 | |
| | 40 | 84 68899 44338+ | 161 10792+ | 582 57791 47224 | 8154 74647 | 20 | |
| | 50 | 91 04060 55130+ | 195 40727 | 562 09636 72577 | 7798 17672+ | 10 | |
| **7** | 0 | 0,55697 39255 95857+ | 229 71237+ | 541 61838 54904+ | 7441 70971 | 0 | **53** |
| | 10 | 0,55703 74485 67095+ | 264 02325 | 521 14396 83933 | 7085 34539 | 50 | |
| | 20 | 10 09749 69420+ | 298 33989+ | 500 67311 49394+ | 6729 08371+ | 40 | |
| | 30 | 16 45048 03409+ | 332 66230 | 480 20582 41023 | 6372 92466 | 30 | |
| | 40 | 22 80380 69640 | 366 99048 | 459 74209 48557 | 6016 86817+ | 20 | |
| | 50 | 29 15747 68687+ | 401 32442+ | 439 28192 61739+ | 5660 91422+ | 10 | |
| **8** | 0 | 35 51149 01130 | 435 66414 | 418 82531 70317 | 5305 06277 | 0 | **52** |
| | 10 | 41 86584 67544 | 470 00963 | 398 37226 64040 | 4949 31377+ | 50 | |
| | 20 | 48 22054 68507 | 504 36089 | 377 92277 32662+ | 4593 66719+ | 40 | |
| | 30 | 54 57559 04596 | 538 71792 | 357 47683 65942+ | 4238 12300 | 30 | |
| | 40 | 60 93097 76388 | 573 08073 | 337 03445 53643 | 3882 68114 | 20 | |
| | 50 | 67 28670 84461 | 607 44931 | 316 59562 85529 | 3527 34158 | 10 | |
| **9** | 0 | 73 64278 29392 | 641 82367 | 296 16035 51371 | 3172 10428+ | 0 | **51** |
| | 10 | 79 99920 11759 | 676 20380+ | 275 72863 40942+ | 2816 96921+ | 50 | |
| | 20 | 86 35596 32139 | 710 58971+ | 255 30046 44021 | 2461 93632+ | 40 | |
| | 30 | 92 71306 91110+ | 744 98141 | 234 87584 50388+ | 2107 00558+ | 30 | |
| | 40 | 0,55799 07051 89251+ | 779 37888 | 214 45477 49830+ | 1752 17694+ | 20 | |
| | 50 | 0,55805 42831 27139+ | 6 35813 78213 | 194 03725 32135+ | 20 41397 45038 | 10 | |
| **10** | 0 | 0,55811 78645 05352+ | | 1,79173 62327 87098 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 60°

# 29°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,55811 78645 05352+ | 6 35848 19116+ | 1,79173 62327 87098 | 20 41042 82584 | 0 | **50** |
| | 10 | 18 14493 24469 | 882 60598 | 153 21285 04513+ | 0688 30329+ | 50 | |
| | 20 | 24 50375 85067 | 917 02658 | 132 80596 74184+ | 20 40333 88269+ | 40 | |
| | 30 | 30 86292 87725 | 951 45296+ | 112 40262 85914+ | 20 39979 56401+ | 30 | |
| | 40 | 37 22244 33021+ | 6 35985 88513+ | 092 00283 29513 | 9625 34720+ | 20 | |
| | 50 | 43 58230 21535 | 6 36020 32309 | 071 60657 94792+ | 9271 23223 | 10 | |
| **11** | 0 | 49 94250 53844 | 054 76683+ | 051 21386 71569+ | 8917 21905+ | 0 | **49** |
| | 10 | 56 30305 30527+ | 089 21636+ | 030 82469 49664 | 8563 30763+ | 50 | |
| | 20 | 62 66394 52164 | 123 67168+ | 1,79010 43906 18900+ | 8209 49793+ | 40 | |
| | 30 | 69 02518 19332+ | 158 13280 | 1,78990 05696 69106+ | 7855 78992 | 30 | |
| | 40 | 75 38676 32612+ | 192 59970 | 969 67840 90114+ | 7502 18354+ | 20 | |
| | 50 | 81 74868 92582+ | 227 07239+ | 949 30338 71760+ | 7148 67877 | 10 | |
| **12** | 0 | 88 11095 99822 | 261 55088 | 928 93190 03883+ | 6795 27556+ | 0 | **48** |
| | 10 | 0,55894 47357 54910 | 296 03516+ | 908 56394 76327 | 6441 97388 | 50 | |
| | 20 | 0,55900 83653 58426+ | 330 52524 | 888 19952 78939 | 6088 77369 | 40 | |
| | 30 | 07 19984 10950+ | 365 02111+ | 867 83864 01570 | 5735 67494+ | 30 | |
| | 40 | 13 56349 13061+ | 399 52278 | 847 48128 34075+ | 5382 67761+ | 20 | |
| | 50 | 19 92748 65340 | 434 03025 | 827 12745 66314 | 5029 78165+ | 10 | |
| **13** | 0 | 26 29182 68365 | 468 54351+ | 806 77715 88149 | 4676 98702+ | 0 | **47** |
| | 10 | 32 65651 22716 | 503 06258 | 786 43038 89446 | 4324 29369+ | 50 | |
| | 20 | 39 02154 28974 | 537 58744+ | 766 08714 60076+ | 3971 70162+ | 40 | |
| | 30 | 45 38691 87719 | 572 11811+ | 745 74742 89914 | 3619 21077 | 30 | |
| | 40 | 51 75263 99530+ | 606 65458+ | 725 41123 68837+ | 3266 82109+ | 20 | |
| | 50 | 58 11870 64989 | 641 19686 | 705 07856 86728 | 2914 53256 | 10 | |
| **14** | 0 | 64 48511 84674+ | 675 74493+ | 684 74942 33471+ | 2562 34513+ | 0 | **46** |
| | 10 | 70 85187 59168+ | 710 29882 | 664 42379 98958+ | 2210 25877 | 50 | |
| | 20 | 77 21897 89050+ | 744 85851 | 644 10169 73081+ | 1858 27343+ | 40 | |
| | 30 | 83 58642 74901+ | 779 42401 | 623 78311 45738 | 1506 38908+ | 30 | |
| | 40 | 89 95422 17302+ | 813 99531+ | 603 46805 06829+ | 1154 60568+ | 20 | |
| | 50 | 0,55996 32236 16834 | 848 57243 | 583 15650 46261 | 0802 92320 | 10 | |
| **15** | 0 | 0,56002 69084 74077 | 883 15535+ | 562 84847 53941 | 0451 34159 | 0 | **45** |
| | 10 | 09 05967 89612+ | 917 74409 | 542 54396 19782 | 20 30099 86081+ | 50 | |
| | 20 | 15 42885 64021+ | 952 33864 | 522 24296 33700+ | 20 29748 48083+ | 40 | |
| | 30 | 21 79837 97886 | 6 36986 93900+ | 501 94547 85617+ | 9397 20161+ | 30 | |
| | 40 | 28 16824 91786 | 6 37021 54518 | 481 65150 65456 | 9046 02311+ | 20 | |
| | 50 | 34 53846 46304 | 056 15717 | 461 36104 63144+ | 8694 94530 | 10 | |
| **16** | 0 | 40 90902 62021 | 090 77497+ | 441 07409 68614+ | 8343 96813 | 0 | **44** |
| | 10 | 47 27993 39518+ | 125 39860 | 420 79065 71801+ | 7993 09156+ | 50 | |
| | 20 | 53 65118 79379 | 160 02804 | 400 51072 62645 | 7642 31557 | 40 | |
| | 30 | 60 02278 82183 | 194 66330+ | 380 23430 31088 | 7291 64010+ | 30 | |
| | 40 | 66 39473 48513+ | 229 30438+ | 359 96138 67078 | 6941 06513 | 20 | |
| | 50 | 72 76702 78951+ | 263 95128+ | 339 69197 60565 | 6590 59061 | 10 | |
| **17** | 0 | 79 13966 74080 | 298 60400+ | 319 42607 01504 | 6240 21651 | 0 | **43** |
| | 10 | 85 51265 34481 | 333 26255+ | 299 16366 79853 | 5889 94278+ | 50 | |
| | 20 | 91 88598 60736 | 367 92692 | 278 90476 85574+ | 5539 76940 | 40 | |
| | 30 | 0,56098 25966 53428+ | 402 59711+ | 258 64937 08634+ | 5189 69631+ | 30 | |
| | 40 | 0,56104 63369 13140 | 437 27313+ | 238 39747 39003 | 4839 72350 | 20 | |
| | 50 | 11 00806 40453+ | 471 95498 | 218 14907 66653 | 4489 85091 | 10 | |
| **18** | 0 | 17 38278 35951+ | 506 64265+ | 197 90417 81562 | 4140 07850+ | 0 | **42** |
| | 10 | 23 75785 00217 | 541 33615+ | 177 66277 73711+ | 3790 40625+ | 50 | |
| | 20 | 30 13326 33832+ | 576 03548+ | 157 42487 33086 | 3440 83411+ | 40 | |
| | 30 | 36 50902 37381 | 610 74065 | 137 19046 49674+ | 3091 36205 | 30 | |
| | 40 | 42 88513 11446 | 645 45164 | 116 95955 13470 | 2741 99002 | 20 | |
| | 50 | 49 26158 56610 | 680 16846+ | 096 73213 14467+ | 2392 71799+ | 10 | |
| **19** | 0 | 55 63838 73456+ | 714 89112+ | 076 50820 42668+ | 2043 54592+ | 0 | **41** |
| | 10 | 62 01553 62569 | 749 61961+ | 056 28776 88075+ | 1694 47378 | 50 | |
| | 20 | 68 39303 24530+ | 784 35394+ | 036 07082 40697+ | 1345 50152+ | 40 | |
| | 30 | 74 77087 59925 | 819 09411 | 1,78015 85736 90545 | 0996 62911+ | 30 | |
| | 40 | 81 14906 69336 | 853 84011 | 1,77995 64740 27633+ | 0647 85651+ | 20 | |
| | 50 | 87 52760 53347 | 6 37888 59195 | 975 44092 41982+ | 20 20299 18368+ | 10 | |
| **20** | 0 | 0,56193 90649 12541+ | | 1,77955 23793 23613+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 60°

# 29°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,56193 90649 12541+ | 6 37923 34962+ | 1,77955 23793 23613+ | 20 19950 61059+ | 0 | **40** |
| | 10 | 0,56200 28572 47504 | 958 11314+ | 935 03842 62554 | 9602 13720 | 50 | |
| | 20 | 06 66530 58818+ | 6 37992 88250+ | 914 84240 48834+ | 9253 76346+ | 40 | |
| | 30 | 13 04523 47069 | 6 38027 65770+ | 894 64986 72488 | 8905 48935 | 30 | |
| | 40 | 19 42551 12839 | 062 43874+ | 874 46081 23553 | 8557 31482 | 20 | |
| | 50 | 25 80613 56714 | 097 22563+ | 854 27523 92071+ | 8209 23983+ | 10 | |
| **21** | 0 | 32 18710 79277+ | 132 01836+ | 834 09314 68088 | 7861 26436 | 0 | **39** |
| | 10 | 38 56842 81114 | 166 81694+ | 813 91453 41652 | 7513 38835+ | 50 | |
| | 20 | 44 95009 62808+ | 201 62137 | 793 73940 02816 | 7165 61178+ | 40 | |
| | 30 | 51 33211 24945+ | 236 43164 | 773 56774 41637+ | 6817 93461+ | 30 | |
| | 40 | 57 71447 68109+ | 271 24776+ | 753 39956 48176 | 6470 35680 | 20 | |
| | 50 | 64 09718 92885+ | 306 06973+ | 733 23486 12496 | 6122 87830+ | 10 | |
| **22** | 0 | 70 48024 99859 | 340 89755+ | 713 07363 24665+ | 5775 49909+ | 0 | **38** |
| | 10 | 76 86365 89614+ | 375 73122+ | 692 91587 74756 | 5428 21913+ | 50 | |
| | 20 | 83 24741 62737+ | 410 57075+ | 672 76159 52842+ | 5081 03838 | 40 | |
| | 30 | 89 63152 19812+ | 445 41613 | 652 61078 49004+ | 4733 95679+ | 30 | |
| | 40 | 0,56296 01597 61425+ | 480 26736+ | 632 46344 53325 | 4386 97434+ | 20 | |
| | 50 | 0,56302 40077 88162 | 515 12445+ | 612 31957 55890+ | 4040 09099+ | 10 | |
| **23** | 0 | 08 78593 00607+ | 549 98740 | 592 17917 46791+ | 3693 30670 | 0 | **37** |
| | 10 | 15 17142 99347+ | 584 85620 | 572 04224 16121+ | 3346 62142+ | 50 | |
| | 20 | 21 55727 84967+ | 619 73086 | 551 90877 53979 | 3000 03514 | 40 | |
| | 30 | 27 94347 58053+ | 654 61138 | 531 77877 50465 | 2653 54780 | 30 | |
| | 40 | 34 33002 19191+ | 689 49776 | 511 65223 95685 | 2307 15936+ | 20 | |
| | 50 | 40 71691 68968 | 724 39000+ | 491 52916 79748+ | 1960 86981 | 10 | |
| **24** | 0 | 47 10416 07968 | 759 28810+ | 471 40955 92767+ | 1614 67908+ | 0 | **36** |
| | 10 | 53 49175 36779 | 794 19207+ | 451 29341 24859 | 1268 58716 | 50 | |
| | 20 | 59 87969 55986+ | 829 10190+ | 431 18072 66143 | 0922 59399+ | 40 | |
| | 30 | 66 26798 66177 | 864 01760 | 411 07150 06743+ | 0576 69955+ | 30 | |
| | 40 | 72 65662 67937 | 898 93916+ | 390 96573 36788 | 20 10230 90380 | 20 | |
| | 50 | 79 04561 61853 | 933 86659 | 370 86342 46408 | 20 09885 20669+ | 10 | |
| **25** | 0 | 85 43495 48512+ | 6 38968 79989 | 350 76457 25739 | 9539 60820 | 0 | **35** |
| | 10 | 91 82464 28501+ | 6 39003 73905+ | 330 66917 64919 | 9194 10828 | 50 | |
| | 20 | 0,56398 21468 02407 | 038 68409 | 310 57723 54091 | 8848 70689+ | 40 | |
| | 30 | 0,56404 60506 70816 | 073 63500 | 290 48874 83401+ | 8503 40401+ | 30 | |
| | 40 | 10 99580 34316 | 108 59177+ | 270 40371 43000 | 8158 19959+ | 20 | |
| | 50 | 17 38688 93493+ | 143 55443 | 250 32213 23040 | 7813 09360+ | 10 | |
| **26** | 0 | 23 77832 48936+ | 178 52295+ | 230 24400 13680 | 7468 08600 | 0 | **34** |
| | 10 | 30 17011 01232 | 213 49735+ | 210 16932 05079+ | 7123 17675 | 50 | |
| | 20 | 36 56224 50967+ | 248 47763 | 190 09808 87404+ | 6778 36581+ | 40 | |
| | 30 | 42 95472 98730+ | 283 46378+ | 170 03030 50823 | 6433 65315+ | 30 | |
| | 40 | 49 34756 45109 | 318 45581+ | 149 96596 85507 | 6089 03874 | 20 | |
| | 50 | 55 74074 90690+ | 353 45372+ | 129 90507 81633 | 5744 52253 | 10 | |
| **27** | 0 | 62 13428 36063 | 388 45751+ | 109 84763 29380+ | 5400 10448+ | 0 | **33** |
| | 10 | 68 52816 81814+ | 423 46718+ | 089 79363 18932 | 5055 78456+ | 50 | |
| | 20 | 74 92240 28532+ | 458 48273+ | 069 74307 40475+ | 4711 56274+ | 40 | |
| | 30 | 81 31698 76806 | 493 50417 | 049 69595 84201 | 4367 43898 | 30 | |
| | 40 | 87 71192 27223 | 528 53148+ | 029 65228 40303 | 4023 41323+ | 20 | |
| | 50 | 0,56494 10720 80371+ | 563 56468+ | 1,77009 61204 98979+ | 3679 48547 | 10 | |
| **28** | 0 | 0,56500 50284 36840 | 598 60377+ | 1,76989 57525 50433 | 3335 65565 | 0 | **32** |
| | 10 | 06 89882 97217+ | 633 64875 | 969 54189 84867+ | 2991 92374 | 50 | |
| | 20 | 13 29516 62092+ | 668 69961 | 949 51197 92493+ | 2648 28970+ | 40 | |
| | 30 | 19 69185 32053+ | 703 75636 | 929 48549 63523 | 2304 75350 | 30 | |
| | 40 | 26 08889 07689+ | 738 81900 | 909 46244 88173 | 1961 31510 | 20 | |
| | 50 | 32 48627 89589+ | 773 88753 | 889 44283 56663+ | 1617 97445+ | 10 | |
| **29** | 0 | 38 88401 78342+ | 808 96195 | 869 42665 59217+ | 1274 73154 | 0 | **31** |
| | 10 | 45 28210 74537+ | 844 04226+ | 849 41390 86064 | 0931 58631 | 50 | |
| | 20 | 51 68054 78763+ | 879 12847 | 829 40459 27433 | 0588 53873 | 40 | |
| | 30 | 58 07933 91610+ | 914 22057 | 809 39870 73560 | 20 00245 58877 | 30 | |
| | 40 | 64 47848 13667+ | 949 31856+ | 789 39625 14683 | 19 99902 73638+ | 20 | |
| | 50 | 70 87797 45524 | 6 39984 42246 | 769 39722 41045 | 19 99559 98154 | 10 | |
| **30** | 0 | 0,56577 27781 87770 | | 1,76749 40162 42891 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,56577 27781 87770 | 6 40019 53225 | 1,76749 40162 42891 | 19 99217 32420 | 0 | **30** |
| | 10 | 83 67801 40995 | 054 64793+ | 729 40945 10471 | 8874 76433 | 50 | |
| | 20 | 90 07856 05788+ | 089 76952+ | 709 42070 34038 | 8532 30189 | 40 | |
| | 30 | 0,56596 47945 82741 | 124 89701 | 689 43538 03849 | 8189 93684+ | 30 | |
| | 40 | 0,56602 88070 72442 | 160 03040 | 669 45348 10164+ | 7847 66916 | 20 | |
| | 50 | 09 28230 75481+ | 195 16969 | 649 47500 43249 | 7505 49879+ | 10 | |
| **31** | 0 | 15 68425 92450+ | 230 31488 | 629 49994 93369+ | 7163 42571+ | 0 | **29** |
| | 10 | 22 08656 23938+ | 265 46598 | 609 52831 50798 | 6821 44988 | 50 | |
| | 20 | 28 48921 70536+ | 300 62298 | 589 56010 05810 | 6479 57126+ | 40 | |
| | 30 | 34 89222 32835 | 335 78589 | 569 59530 48683+ | 6137 78982 | 30 | |
| | 40 | 41 29558 11424 | 370 95470+ | 549 63392 69701+ | 5796 10551+ | 20 | |
| | 50 | 47 69929 06894+ | 406 12943 | 529 67596 59150 | 5454 51831+ | 10 | |
| **32** | 0 | 54 10335 19837+ | 441 31006 | 509 72142 07319 | 5113 02818 | 0 | **28** |
| | 10 | 60 50776 50843+ | 476 49660+ | 489 77029 04501 | 4771 63507 | 50 | |
| | 20 | 66 91253 00504 | 511 68905+ | 469 82257 40994 | 4430 33896 | 40 | |
| | 30 | 73 31764 69409+ | 546 88742 | 449 87827 07098 | 4089 13980+ | 30 | |
| | 40 | 79 72311 58152 | 582 09170 | 429 93737 93117+ | 3748 03757 | 20 | |
| | 50 | 86 12893 67322 | 617 30189 | 409 99989 89360+ | 3407 03222 | 10 | |
| **33** | 0 | 92 53510 97511 | 652 51800 | 390 06582 86138+ | 3066 12371+ | 0 | **27** |
| | 10 | 0,56698 94163 49311 | 687 74002 | 370 13516 73767 | 2725 31202+ | 50 | |
| | 20 | 0,56705 34851 23313 | 722 96796 | 350 20791 42564+ | 2384 59711 | 40 | |
| | 30 | 11 75574 20109 | 758 20182 | 330 28406 82854 | 2043 97893 | 30 | |
| | 40 | 18 16332 40291 | 793 44159+ | 310 36362 84961 | 1703 45745+ | 20 | |
| | 50 | 24 57125 84450+ | 828 68729 | 290 44659 39215 | 1363 03265 | 10 | |
| **34** | 0 | 30 97954 53179+ | 863 93890+ | 270 53296 35950+ | 1022 70447 | 0 | **26** |
| | 10 | 37 38818 47070 | 899 19644+ | 250 62273 65503+ | 0682 47288+ | 50 | |
| | 20 | 43 79717 66714+ | 934 45990+ | 230 71591 18214+ | 0342 33786 | 40 | |
| | 30 | 50 20652 12705 | 6 40969 72929 | 210 81248 84428+ | 19 90002 29935+ | 30 | |
| | 40 | 56 61621 85633+ | 6 41005 00460 | 190 91246 54493 | 19 89662 35733+ | 20 | |
| | 50 | 63 02626 86093+ | 040 28583+ | 171 01584 18759+ | 9322 51176+ | 10 | |
| **35** | 0 | 69 43667 14677 | 075 57299+ | 151 12261 67583 | 8982 76261 | 0 | **25** |
| | 10 | 75 84742 71976+ | 110 86608+ | 131 23278 91322 | 8643 10983 | 50 | |
| | 20 | 82 25853 58584+ | 146 16510 | 111 34635 80339+ | 8303 55339 | 40 | |
| | 30 | 88 66999 75095 | 181 47005 | 091 46332 25000+ | 7964 09325+ | 30 | |
| | 40 | 0,56795 08181 22099+ | 216 78092+ | 071 58368 15675 | 7624 72939 | 20 | |
| | 50 | 0,56801 49398 00192+ | 252 09773+ | 051 70743 42736+ | 7285 46175+ | 10 | |
| **36** | 0 | 07 90650 09966 | 287 42047+ | 031 83457 96561 | 6946 29032 | 0 | **24** |
| | 10 | 14 31937 52013+ | 322 74915+ | 1,76011 96511 67529 | 6607 21504 | 50 | |
| | 20 | 20 73260 26929 | 358 08376+ | 1,75992 09904 46025 | 6268 23589 | 40 | |
| | 30 | 27 14618 35305 | 393 42431 | 972 23636 22436 | 5929 35282+ | 30 | |
| | 40 | 33 56011 77736 | 428 77079 | 952 37706 87153 | 5590 56581+ | 20 | |
| | 50 | 39 97440 54815 | 464 12321 | 932 52116 30571+ | 5251 87482+ | 10 | |
| **37** | 0 | 46 38904 67136 | 499 48156+ | 912 66864 43089 | 4913 27981 | 0 | **23** |
| | 10 | 52 80404 15292+ | 534 84586+ | 892 81951 15108+ | 4574 78074 | 50 | |
| | 20 | 59 21938 99879 | 570 21610 | 872 97376 37034 | 4236 37758 | 40 | |
| | 30 | 65 63509 21489+ | 605 59228 | 853 13139 99276 | 3898 07029+ | 30 | |
| | 40 | 72 05114 80717+ | 640 97440+ | 833 29241 92246+ | 3559 85884+ | 20 | |
| | 50 | 78 46755 78157+ | 676 36247 | 813 45682 06362 | 3221 74320 | 10 | |
| **38** | 0 | 84 88432 14404+ | 711 75647+ | 793 62460 32042 | 2883 72331+ | 0 | **22** |
| | 10 | 91 30143 90052 | 747 15643 | 773 79576 59710+ | 2545 79916 | 50 | |
| | 20 | 0,56897 71891 05695+ | 782 56233+ | 753 97030 79794+ | 2207 97070+ | 40 | |
| | 30 | 0,56904 13673 61928+ | 817 97418 | 734 14822 82724 | 1870 23790 | 30 | |
| | 40 | 10 55491 59347 | 853 39198 | 714 32952 58934 | 1532 60072 | 20 | |
| | 50 | 16 97344 98544+ | 888 81572+ | 694 51419 98862 | 1195 05913 | 10 | |
| **39** | 0 | 23 39233 80117 | 924 24542 | 674 70224 92949 | 0857 61309 | 0 | **21** |
| | 10 | 29 81158 04659 | 959 68107 | 654 89367 31640 | 0520 26256 | 50 | |
| | 20 | 36 23117 72766 | 6 41995 12267 | 635 08847 05384 | 19 80183 00751+ | 40 | |
| | 30 | 42 65112 85033 | 6 42030 57022 | 615 28664 04632+ | 19 79845 84791 | 30 | |
| | 40 | 49 07143 42055 | 066 02373 | 595 48818 19841+ | 9508 78371+ | 20 | |
| | 50 | 55 49209 44428 | 6 42101 48319 | 575 69309 41469+ | 19 79171 81489 | 10 | |
| **40** | 0 | 0,56961 91310 92747 | | 1,75555 90137 59980+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 60°

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,56961 91310 92747 | 6 42136 94861 | 1,75555 90137 59980+ | 19 78834 94140+ | 0 | **20** |
| | 10 | 68 33447 87608 | 172 41998+ | 536 11302 65840 | 8498 16322 | 50 | |
| | 20 | 74 75620 29607 | 207 89732 | 516 32804 49518 | 8161 48030 | 40 | |
| | 30 | 81 17828 19339 | 243 38061+ | 496 54643 01488 | 7824 89261 | 30 | |
| | 40 | 87 60071 57400+ | 278 86987 | 476 76818 12227 | 7488 40011+ | 20 | |
| | 50 | 0,56994 02350 44387+ | 314 36508+ | 456 99329 72215+ | 7152 00277+ | 10 | |
| **41** | 0 | 0,57000 44664 80896 | 349 86626+ | 437 22177 71937+ | 6815 70056+ | 0 | **19** |
| | 10 | 06 87014 67522+ | 385 37340+ | 417 45362 01881+ | 6479 49344 | 50 | |
| | 20 | 13 29400 04863 | 420 88651 | 397 68882 52537+ | 6143 38136+ | 40 | |
| | 30 | 19 71820 93513+ | 456 40558 | 377 92739 14401 | 5807 36430+ | 30 | |
| | 40 | 26 14277 34071+ | 491 93061+ | 358 16931 77970+ | 5471 44223 | 20 | |
| | 50 | 32 56769 27133 | 527 46162 | 338 41460 33747+ | 5135 61510 | 10 | |
| **42** | 0 | 38 99296 73295 | 562 99859 | 318 66324 72237 | 4799 88288 | 0 | **18** |
| | 10 | 45 41859 73154 | 598 54153 | 298 91524 83949 | 4464 24554 | 50 | |
| | 20 | 51 84458 27307 | 634 09044 | 279 17060 59395 | 4128 70303+ | 40 | |
| | 30 | 58 27092 36351 | 669 64532+ | 259 42931 89092 | 3793 25533 | 30 | |
| | 40 | 64 69762 00883+ | 705 20618 | 239 69138 63558+ | 3457 90240 | 20 | |
| | 50 | 71 12467 21501+ | 740 77300+ | 219 95680 73318+ | 3122 64420 | 10 | |
| **43** | 0 | 77 55207 98802 | 776 34581 | 200 22558 08898+ | 2787 48070 | 0 | **17** |
| | 10 | 83 97984 33383 | 811 92458+ | 180 49770 60828 | 2452 41186+ | 50 | |
| | 20 | 90 40796 25841+ | 847 50933+ | 160 77318 19642 | 2117 43765+ | 40 | |
| | 30 | 0,57096 83643 76775 | 883 10006+ | 141 05200 75876+ | 1782 55803+ | 30 | |
| | 40 | 0,57103 26526 86781+ | 918 69677+ | 121 33418 20073 | 1447 77297+ | 20 | |
| | 50 | 09 69445 56459+ | 954 29946+ | 101 61970 42775 | 1113 08243+ | 10 | |
| **44** | 0 | 16 12399 86405+ | 6 42989 90813 | 081 90857 34531+ | 0778 48638+ | 0 | **16** |
| | 10 | 22 55389 77218+ | 6 43025 52278 | 062 20078 85893+ | 0443 98478 | 50 | |
| | 20 | 28 98415 29496+ | 061 14341 | 042 49634 87415 | 19 70109 57759+ | 40 | |
| | 30 | 35 41476 43837+ | 096 77002+ | 022 79525 29655+ | 19 69775 26479 | 30 | |
| | 40 | 41 84573 20839+ | 132 40262 | 1,75003 09750 03176 | 9441 04633+ | 20 | |
| | 50 | 48 27705 61102 | 168 04120+ | 1,74983 40308 98543 | 9106 92218+ | 10 | |
| **45** | 0 | 54 70873 65222+ | 203 68577+ | 963 71202 06324+ | 8772 89231 | 0 | **15** |
| | 10 | 61 14077 33799+ | 239 33633 | 944 02429 17093 | 8438 95668 | 50 | |
| | 20 | 67 57316 67432+ | 274 99287+ | 924 33990 21425+ | 8105 11525 | 40 | |
| | 30 | 74 00591 66720 | 310 65540+ | 904 65885 09900 | 7771 36799+ | 30 | |
| | 40 | 80 43902 32260+ | 346 32393 | 884 98113 73101 | 7437 71487 | 20 | |
| | 50 | 86 87248 64654 | 381 99844+ | 865 30676 01613+ | 7104 15585 | 10 | |
| **46** | 0 | 93 30630 64498+ | 417 67895 | 845 63571 86029 | 6770 69089 | 0 | **14** |
| | 10 | 0,57199 74048 32393+ | 453 36545 | 825 96801 16939+ | 6437 31996+ | 50 | |
| | 20 | 0,57206 17501 68939 | 489 05794+ | 806 30363 84943+ | 6104 04303 | 40 | |
| | 30 | 12 60990 74733+ | 524 75643+ | 786 64259 80640+ | 5770 86005+ | 30 | |
| | 40 | 19 04515 50377 | 560 46092 | 766 98488 94634+ | 5437 77101 | 20 | |
| | 50 | 25 48075 96469 | 596 17140+ | 747 33051 17534 | 5104 77585 | 10 | |
| **47** | 0 | 31 91672 13609 | 631 88788+ | 727 67946 39949 | 4771 87454+ | 0 | **13** |
| | 10 | 38 35304 02397+ | 667 61036+ | 708 03174 52494 | 4439 06706+ | 50 | |
| | 20 | 44 78971 63434 | 703 33884 | 688 38735 45787+ | 4106 35336+ | 40 | |
| | 30 | 51 22674 97318 | 739 07332+ | 668 74629 10451 | 3773 73342 | 30 | |
| | 40 | 57 66414 04650+ | 774 81380+ | 649 10855 37109+ | 3441 20718+ | 20 | |
| | 50 | 64 10188 86031 | 810 56029 | 629 47414 16391 | 3108 77463+ | 10 | |
| **48** | 0 | 70 53999 42060 | 846 31278 | 609 84305 38927+ | 2776 43573 | 0 | **12** |
| | 10 | 76 97845 73338+ | 882 07127+ | 590 21528 95354+ | 2444 19043 | 50 | |
| | 20 | 83 41727 80466 | 917 83578 | 570 59084 76311+ | 2112 03871+ | 40 | |
| | 30 | 89 85645 64044 | 953 60628+ | 550 96972 72440 | 1779 98053+ | 30 | |
| | 40 | 0,57296 29599 24673 | 6 43989 38280+ | 531 35192 74386+ | 1448 01586+ | 20 | |
| | 50 | 0,57302 73588 62953 | 6 44025 16533 | 511 73744 72800+ | 1116 14466+ | 10 | |
| **49** | 0 | 09 17613 79486 | 060 95386+ | 492 12628 58334 | 0784 36690 | 0 | **11** |
| | 10 | 15 61674 74872+ | 096 74841+ | 472 51844 21644 | 0452 68254 | 50 | |
| | 20 | 22 05771 49714 | 132 54897 | 452 91391 53390 | 19 60121 09154+ | 40 | |
| | 30 | 28 49904 04611+ | 168 35554+ | 433 31270 44235+ | 19 59789 59388+ | 30 | |
| | 40 | 34 94072 40165+ | 204 16813 | 413 71480 84846+ | 9458 18952+ | 20 | |
| | 50 | 41 38276 56979 | 6 44239 98673+ | 394 12022 65894+ | 19 59126 87842+ | 10 | |
| **50** | 0 | 0,57347 82516 55652 | | 1,74374 52895 78052 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 60°

# 29°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,57347 82516 55652 | 6 44275 81135 | 1,74374 52895 78052 | 19 58795 66055+ | 0 | **10** |
| | 10 | 54 26792 36787 | 311 64198+ | 354 94100 11996+ | 8464 53588 | 50 | |
| | 20 | 60 71104 00986 | 347 47864 | 335 35635 58408+ | 8133 50436+ | 40 | |
| | 30 | 67 15451 48849+ | 383 32131 | 315 77502 07972 | 7802 56597 | 30 | |
| | 40 | 73 59834 80981 | 419 17000+ | 296 19699 51375 | 7471 72067 | 20 | |
| | 50 | 80 04253 97981+ | 455 02472 | 276 62227 79308 | 7140 96842+ | 10 | |
| **51** | 0 | 86 48709 00453 | 490 88545+ | 257 05086 82465 | 6810 30920 | 0 | **9** |
| | 10 | 92 93199 88998+ | 526 75221+ | 237 48276 51545 | 6479 74296+ | 50 | |
| | 20 | 0,57399 37726 64220 | 562 62499+ | 217 91796 77248+ | 6149 26968 | 40 | |
| | 30 | 0,57405 82289 26720 | 598 50380+ | 198 35647 50280+ | 5818 88931+ | 30 | |
| | 40 | 12 26887 77100+ | 634 38864 | 178 79828 61349+ | 5488 60183 | 20 | |
| | 50 | 18 71522 15964+ | 670 27950+ | 159 24340 01166+ | 5158 40719+ | 10 | |
| **52** | 0 | 25 16192 43915 | 706 17639+ | 139 69181 60447 | 4828 30537 | 0 | **8** |
| | 10 | 31 60898 61554+ | 742 07931+ | 120 14353 29910 | 4498 29633 | 50 | |
| | 20 | 38 05640 69486 | 777 98826+ | 100 59855 00277 | 4168 38003+ | 40 | |
| | 30 | 44 50418 68312 | 813 90324+ | 081 05686 62273+ | 3838 55645 | 30 | |
| | 40 | 50 95232 58637 | 849 82426 | 061 51848 06628+ | 3508 82554 | 20 | |
| | 50 | 57 40082 41062+ | 885 75130+ | 041 98339 24074 | 3179 18727+ | 10 | |
| **53** | 0 | 63 84968 16193+ | 921 68439 | 022 45160 05346+ | 2849 64162 | 0 | **7** |
| | 10 | 70 29889 84632 | 957 62350+ | 1,74002 92310 41185 | 2520 18853+ | 50 | |
| | 20 | 76 74847 46982+ | 6 44993 56866 | 1,73983 39790 22331+ | 2190 82798+ | 40 | |
| | 30 | 83 19841 03848+ | 6 45029 51985 | 963 87599 39533 | 1861 55994+ | 30 | |
| | 40 | 89 64870 55833 | 065 47707+ | 944 35737 83538 | 1532 38437+ | 20 | |
| | 50 | 0,57496 09936 03541 | 101 44034+ | 924 84205 45100+ | 1203 30124+ | 10 | |
| **54** | 0 | 0,57502 55037 47575+ | 137 40965+ | 905 33002 14976 | 0874 31051 | 0 | **6** |
| | 10 | 09 00174 88540+ | 173 38500+ | 885 82127 83925 | 0545 41214+ | 50 | |
| | 20 | 15 45348 27041 | 209 36639+ | 866 31582 42710 | 19 50216 60611+ | 40 | |
| | 30 | 21 90557 63680+ | 245 35383 | 846 81365 82098+ | 19 49887 89238+ | 30 | |
| | 40 | 28 35802 99063+ | 281 34731 | 827 31477 92860 | 9559 27092 | 20 | |
| | 50 | 34 81084 33795 | 317 34683+ | 807 81918 65768 | 9230 74168+ | 10 | |
| **55** | 0 | 41 26401 68478+ | 353 35241 | 788 32687 91599+ | 8902 30464+ | 0 | **5** |
| | 10 | 47 71755 03719+ | 389 36403 | 768 83785 61135 | 8573 95977 | 50 | |
| | 20 | 54 17144 40122+ | 425 38169+ | 749 35211 65157+ | 8245 70702+ | 40 | |
| | 30 | 60 62569 78292 | 461 40541+ | 729 86965 94455+ | 7917 54637 | 30 | |
| | 40 | 67 08031 18833+ | 497 43518+ | 710 39048 39818+ | 7589 47778 | 20 | |
| | 50 | 73 53528 62352 | 533 47100 | 690 91458 92040+ | 7261 50121 | 10 | |
| **56** | 0 | 79 99062 09452 | 569 51287+ | 671 44197 41919 | 6933 61664 | 0 | **4** |
| | 10 | 86 44631 60739+ | 605 56080 | 651 97263 80255+ | 6605 82402 | 50 | |
| | 20 | 92 90237 16819+ | 641 61478 | 632 50657 97853+ | 6278 12333 | 40 | |
| | 30 | 0,57599 35878 78297+ | 677 67481+ | 613 04379 85520+ | 5950 51452+ | 30 | |
| | 40 | 0,57605 81556 45779 | 713 74091 | 593 58429 34068 | 5622 99758 | 20 | |
| | 50 | 12 27270 19870 | 749 81306 | 574 12806 34310 | 5295 57245+ | 10 | |
| **57** | 0 | 18 73020 01176 | 785 89127 | 554 67510 77064 | 4968 23912 | 0 | **3** |
| | 10 | 25 18805 90302+ | 821 97553+ | 535 22542 53152+ | 4640 99753+ | 50 | |
| | 20 | 31 64627 87856 | 858 06586+ | 515 77901 53398+ | 4313 84767+ | 40 | |
| | 30 | 38 10485 94442+ | 894 16225+ | 496 33587 68631 | 3986 78950 | 30 | |
| | 40 | 44 56380 10668+ | 930 26471 | 476 89600 89681+ | 3659 82297+ | 20 | |
| | 50 | 51 02310 37139 | 6 45966 37322+ | 457 45941 07384 | 3332 94806+ | 10 | |
| **58** | 0 | 57 48276 74462 | 6 46002 48781 | 438 02608 12577+ | 3006 16474+ | 0 | **2** |
| | 10 | 63 94279 23242+ | 038 60845+ | 418 59601 96103 | 2679 47297+ | 50 | |
| | 20 | 70 40317 84088+ | 074 73517 | 399 16922 48805+ | 2352 87272 | 40 | |
| | 30 | 76 86392 57605+ | 110 86795+ | 379 74569 61533 | 2026 36395 | 30 | |
| | 40 | 83 32503 44400+ | 147 00680+ | 360 32543 25138+ | 1699 94662+ | 20 | |
| | 50 | 89 78650 45081 | 183 15172+ | 340 90843 30475+ | 1373 62072 | 10 | |
| **59** | 0 | 0,57696 24833 60253+ | 219 30271+ | 321 49469 68403+ | 1047 38619+ | 0 | **1** |
| | 10 | 0,57702 71052 90525 | 255 45978 | 302 08422 29784 | 0721 24301+ | 50 | |
| | 20 | 09 17308 36503 | 291 62291+ | 282 67701 05482+ | 0395 19115 | 40 | |
| | 30 | 15 63599 98794+ | 327 79212+ | 263 27305 86367+ | 19 40069 23056+ | 30 | |
| | 40 | 22 09927 78007+ | 363 96741 | 243 87236 63311 | 19 39743 36123 | 20 | |
| | 50 | 28 56291 74748+ | 6 46400 14877+ | 224 47493 27188 | 19 39417 58310+ | 10 | |
| **60** | 0 | 0,57735 02691 89626 | | 1,73205 08075 68877+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 60°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,57735 02691 89626 | 6 46436 33621 | 1,73205 08075 68877+ | 19 39091 89616 | 0 | **60** |
| | 10 | 41 49128 23247 | 472 52973 | 185 68983 79261+ | 8766 30036 | 50 | |
| | 20 | 47 95600 76219+ | 508 72932+ | 166 30217 49225+ | 8440 79567 | 40 | |
| | 30 | 54 42109 49152 | 544 93500 | 146 91776 69658+ | 8115 38206 | 30 | |
| | 40 | 60 88654 42652 | 581 14675+ | 127 53661 31453 | 7790 05949 | 20 | |
| | 50 | 67 35235 57327 | 617 36459+ | 108 15871 25503+ | 7464 82793+ | 10 | |
| **1** | 0 | 73 81852 93786+ | 653 58851+ | 088 78406 42710 | 7139 68735+ | 0 | **59** |
| | 10 | 80 28506 52638 | 689 81852 | 069 41266 73974+ | 6814 63772 | 50 | |
| | 20 | 86 75196 34490 | 726 05461 | 050 04452 10202+ | 6489 67899+ | 40 | |
| | 30 | 93 21922 39951 | 762 29678+ | 030 67962 42302+ | 6164 81115 | 30 | |
| | 40 | 0,57799 68684 69629+ | 798 54505 | 1,73011 31797 61188 | 5840 03414 | 20 | |
| | 50 | 0,57806 15483 24135 | 834 79940+ | 1,72991 95957 57773+ | 5515 34794+ | 10 | |
| **2** | 0 | 12 62318 04075 | 871 05984+ | 972 60442 22979 | 5190 75252+ | 0 | **58** |
| | 10 | 19 09189 10059+ | 907 32637+ | 953 25251 47727 | 4866 24784+ | 50 | |
| | 20 | 25 56096 42697+ | 943 59900 | 933 90385 22942 | 4541 83387+ | 40 | |
| | 30 | 32 03040 02597+ | 6 46979 87771+ | 914 55843 39554+ | 4217 51058 | 30 | |
| | 40 | 38 50019 90369 | 6 47016 16252+ | 895 21625 88496+ | 3893 27793 | 20 | |
| | 50 | 44 97036 06621+ | 052 45342+ | 875 87732 60703+ | 3569 13588+ | 10 | |
| **3** | 0 | 51 44088 51964 | 088 75042+ | 856 54163 47114+ | 3245 08442 | 0 | **57** |
| | 10 | 57 91177 27006+ | 125 05352 | 837 20918 38673 | 2921 12349 | 50 | |
| | 20 | 64 38302 32358+ | 161 36271 | 817 87997 26324 | 2597 25307 | 40 | |
| | 30 | 70 85463 68630 | 197 67800+ | 798 55400 01016+ | 2273 47313 | 30 | |
| | 40 | 77 32661 36430 | 233 99939+ | 779 23126 53703+ | 1949 78362+ | 20 | |
| | 50 | 83 79895 36369+ | 270 32688+ | 759 91176 75341 | 1626 18453+ | 10 | |
| **4** | 0 | 90 27165 69058 | 306 66047+ | 740 59550 56887+ | 1302 67581+ | 0 | **56** |
| | 10 | 0,57896 74472 35105+ | 343 00017 | 721 28247 89306+ | 0979 25743+ | 50 | |
| | 20 | 0,57903 21815 35122+ | 379 34597 | 701 97268 63562+ | 0655 92937 | 40 | |
| | 30 | 09 69194 69719+ | 415 69787 | 682 66612 70626 | 0332 69157+ | 30 | |
| | 40 | 16 16610 39506+ | 452 05588 | 663 36280 01468+ | 19 30009 54402 | 20 | |
| | 50 | 22 64062 45094+ | 488 41999+ | 644 06270 47066+ | 19 29686 48668 | 10 | |
| **5** | 0 | 29 11550 87094+ | 524 79022 | 624 76583 98398+ | 9363 51951 | 0 | **55** |
| | 10 | 35 59075 66116 | 561 16655 | 605 47220 46447+ | 9040 64248+ | 50 | |
| | 20 | 42 06636 82771 | 597 54899 | 586 18179 82199+ | 8717 85556+ | 40 | |
| | 30 | 48 54234 37670+ | 633 93754+ | 566 89461 96642+ | 8395 15872+ | 30 | |
| | 40 | 55 01868 31425 | 670 33221 | 547 61066 80770+ | 8072 55192+ | 20 | |
| | 50 | 61 49538 64645+ | 706 73298+ | 528 32994 25578 | 7750 03513+ | 10 | |
| **6** | 0 | 67 97245 37944 | 743 13987+ | 509 05244 22064+ | 7427 60832 | 0 | **54** |
| | 10 | 74 44988 51931+ | 779 55288 | 489 77816 61232+ | 7105 27145 | 50 | |
| | 20 | 80 92768 07220 | 815 97200+ | 470 50711 34087+ | 6783 02449 | 40 | |
| | 30 | 87 40584 04420 | 852 39724 | 451 23928 31638+ | 6460 86740+ | 30 | |
| | 40 | 0,57993 88436 44144+ | 888 82860 | 431 97467 44898 | 6138 80016+ | 20 | |
| | 50 | 0,58000 36325 27004 | 925 26607+ | 412 71328 64881+ | 5816 82273+ | 10 | |
| **7** | 0 | 06 84250 53611+ | 961 70967 | 393 45511 82608 | 5494 93508+ | 0 | **53** |
| | 10 | 13 32212 24578+ | 6 47998 15938+ | 374 20016 89099+ | 5173 13717+ | 50 | |
| | 20 | 19 80210 40517 | 6 48034 61522+ | 354 94843 75382 | 4851 42898 | 40 | |
| | 30 | 26 28245 02039+ | 071 07718+ | 335 69992 32484 | 4529 81046+ | 30 | |
| | 40 | 32 76316 09758 | 107 54527 | 316 45462 51437+ | 4208 28159+ | 20 | |
| | 50 | 39 24423 64285 | 144 01948+ | 297 21254 23278 | 3886 84233+ | 10 | |
| **8** | 0 | 45 72567 66233+ | 180 49982 | 277 97367 39044+ | 3565 49265+ | 0 | **52** |
| | 10 | 52 20748 16215+ | 216 98628+ | 258 73801 89779 | 3244 23252+ | 50 | |
| | 20 | 58 68965 14844+ | 253 47888 | 239 50557 66527 | 2923 06190+ | 40 | |
| | 30 | 65 17218 62732 | 289 97760 | 220 27634 60336+ | 2601 98077 | 30 | |
| | 40 | 71 65508 60492+ | 326 48245+ | 201 05032 62259+ | 2280 98908 | 20 | |
| | 50 | 78 13835 08738 | 362 99344 | 181 82751 63352 | 1960 08680+ | 10 | |
| **9** | 0 | 84 62198 08081+ | 399 51055+ | 162 60791 54671+ | 1639 27391 | 0 | **51** |
| | 10 | 91 10597 59137 | 436 03380+ | 143 39152 27280 | 1318 55037 | 50 | |
| | 20 | 0,58097 59033 62517+ | 472 56319 | 124 17833 72243+ | 0997 91614+ | 40 | |
| | 30 | 0,58104 07506 18836+ | 509 09871 | 104 96835 80629 | 0677 37120 | 30 | |
| | 40 | 10 56015 28707+ | 545 64036+ | 085 76158 43509 | 0356 91551 | 20 | |
| | 50 | 17 04560 92744+ | 6 48582 18816 | 066 55801 51958 | 19 20036 54903+ | 10 | |
| **10** | 0 | 0,58123 53143 11560+ | | 1,72047 35764 97054+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,58123 53143 11560+ | 6 48618 74209+ | 1,72047 35764 97054+ | 19 19716 27175 | 0 | **50** |
| | 10 | 30 01761 85770 | 655 30216+ | 028 16048 69879+ | 9396 08361+ | 50 | |
| | 20 | 36 50417 15986+ | 691 86838 | 1,72008 96652 61518+ | 9075 98459+ | 40 | |
| | 30 | 42 99109 02824+ | 728 44073+ | 1,71989 77576 63058+ | 8755 97467 | 30 | |
| | 40 | 49 47837 46898 | 765 01923+ | 970 58820 65592 | 8436 05379+ | 20 | |
| | 50 | 55 96602 48821+ | 801 60387+ | 951 40384 60212+ | 8116 22194+ | 10 | |
| **11** | 0 | 62 45404 09209 | 838 19466 | 932 22268 38018 | 7796 47908 | 0 | **49** |
| | 10 | 68 94242 28675 | 874 79159+ | 913 04471 90110 | 7476 82517+ | 50 | |
| | 20 | 75 43117 07834+ | 911 39467+ | 893 86995 07593 | 7157 26019 | 40 | |
| | 30 | 81 92028 47302 | 948 00390 | 874 69837 81574 | 6837 78410 | 30 | |
| | 40 | 88 40976 47692 | 6 48984 61928 | 855 53000 03164 | 6518 39686+ | 20 | |
| | 50 | 0,58194 89961 09620 | 6 49021 24080+ | 836 36481 63477+ | 6199 09845+ | 10 | |
| **12** | 0 | 0,58201 38982 33700+ | 057 86848 | 817 20282 53632 | 5879 88884 | 0 | **48** |
| | 10 | 07 88040 20548+ | 094 50231 | 798 04402 64748 | 5560 76798+ | 50 | |
| | 20 | 14 37134 70780 | 131 14229+ | 778 88841 87949 | 5241 73586 | 40 | |
| | 30 | 20 86265 85009+ | 167 78843 | 759 73600 14363 | 4922 79243 | 30 | |
| | 40 | 27 35433 63852+ | 204 44072+ | 740 58677 35120 | 4603 93766+ | 20 | |
| | 50 | 33 84638 07925 | 241 09917+ | 721 44073 41353+ | 4285 17152+ | 10 | |
| **13** | 0 | 40 33879 17842 | 277 76378 | 702 29788 24201 | 3966 49399 | 0 | **47** |
| | 10 | 46 83156 94220 | 314 43454+ | 683 15821 74802 | 3647 90501+ | 50 | |
| | 20 | 53 32471 37674+ | 351 11146+ | 664 02173 84300+ | 3329 40457+ | 40 | |
| | 30 | 59 81822 48821 | 387 79455 | 644 88844 43843+ | 3010 99263+ | 30 | |
| | 40 | 66 31210 28276+ | 424 48379+ | 625 75833 44580 | 2692 66916 | 20 | |
| | 50 | 72 80634 76656 | 461 17920+ | 606 63140 77663+ | 2374 43412+ | 10 | |
| **14** | 0 | 79 30095 94576+ | 497 88077+ | 587 50766 34251 | 2056 28749 | 0 | **46** |
| | 10 | 85 79593 82654+ | 534 58851+ | 568 38710 05502 | 1738 22923 | 50 | |
| | 20 | 92 29128 41505+ | 571 30241+ | 549 26971 82579 | 1420 25930+ | 40 | |
| | 30 | 0,58298 78699 71747+ | 608 02248+ | 530 15551 56648+ | 1102 37769 | 30 | |
| | 40 | 0,58305 28307 73996 | 644 74872 | 511 04449 18879+ | 0784 58434+ | 20 | |
| | 50 | 11 77952 48868 | 681 48112+ | 491 93664 60445 | 0466 87924 | 10 | |
| **15** | 0 | 18 27633 96980+ | 718 21970 | 472 83197 72520+ | 19 10149 26235 | 0 | **45** |
| | 10 | 24 77352 18951 | 754 96445 | 453 73048 46286 | 19 09831 73363 | 50 | |
| | 20 | 31 27107 15395+ | 791 71536+ | 434 63216 72922+ | 9514 29306 | 40 | |
| | 30 | 37 76898 86932 | 828 47245+ | 415 53702 43617 | 9196 94060 | 30 | |
| | 40 | 44 26727 34178 | 865 23572 | 396 44505 49557 | 8879 67622 | 20 | |
| | 50 | 50 76592 57750 | 902 00516 | 377 35625 81935 | 8562 49988+ | 10 | |
| **16** | 0 | 57 26494 58266 | 938 78078 | 358 27063 31946+ | 8245 41157 | 0 | **44** |
| | 10 | 63 76433 36344 | 6 49975 56257 | 339 18817 90790 | 7928 41123+ | 50 | |
| | 20 | 70 26408 92601 | 6 50012 35054 | 320 10889 49666+ | 7611 49885 | 40 | |
| | 30 | 76 76421 27655 | 049 14469+ | 301 03277 99781+ | 7294 67438+ | 30 | |
| | 40 | 83 26470 42124+ | 085 94502+ | 281 95983 32342+ | 6977 93781 | 20 | |
| | 50 | 89 76556 36627 | 122 75153+ | 262 89005 38562 | 6661 28908+ | 10 | |
| **17** | 0 | 0,58396 26679 11780+ | 159 56423 | 243 82344 09653+ | 6344 72818+ | 0 | **43** |
| | 10 | 0,58402 76838 68203+ | 196 38311 | 224 75999 36835 | 6028 25507 | 50 | |
| | 20 | 09 27035 06514 | 233 20817 | 205 69971 11328 | 5711 86972 | 40 | |
| | 30 | 15 77268 27331+ | 270 03942 | 186 64259 24356 | 5395 57209 | 30 | |
| | 40 | 22 27538 31273 | 306 87685+ | 167 58863 67147 | 5079 36216 | 20 | |
| | 50 | 28 77845 18958+ | 343 72047+ | 148 53784 30931 | 4763 23988+ | 10 | |
| **18** | 0 | 35 28188 91006 | 380 57028+ | 129 49021 06942+ | 4447 20524+ | 0 | **42** |
| | 10 | 41 78569 48034+ | 417 42628+ | 110 44573 86418 | 4131 25820 | 50 | |
| | 20 | 48 28986 90663 | 454 28847+ | 091 40442 60598 | 3815 39872 | 40 | |
| | 30 | 54 79441 19511 | 491 15686 | 072 36627 20726 | 3499 62677+ | 30 | |
| | 40 | 61 29932 35197 | 528 03143+ | 053 33127 58048+ | 3183 94233 | 20 | |
| | 50 | 67 80460 38340+ | 564 91220+ | 034 29943 63815 | 2868 34536 | 10 | |
| **19** | 0 | 74 31025 29561 | 601 79917 | 1,71015 27075 29279+ | 2552 83582 | 0 | **41** |
| | 10 | 80 81627 09478 | 638 69233 | 1,70996 24522 45697 | 2237 41369 | 50 | |
| | 20 | 87 32265 78711+ | 675 59169 | 977 22285 04328 | 1922 07893+ | 40 | |
| | 30 | 0,58493 82941 37880 | 712 49724+ | 958 20362 96434+ | 1606 83152 | 30 | |
| | 40 | 0,58500 33653 87604+ | 749 40900 | 939 18756 13283 | 1291 67141+ | 20 | |
| | 50 | 06 84403 28504+ | 6 50786 32695+ | 920 17464 46141+ | 19 00976 59858+ | 10 | |
| **20** | 0 | 0,58513 35189 61200 | | 1,70901 16487 86283 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,58513 35189 61200 | 6 50823 25111 | 1,70901 16487 86283 | 19 00661 61300+ | 0 | **40** |
| | 10 | 19 86012 86311 | 860 18147 | 882 15826 24982+ | 0346 71463+ | 50 | |
| | 20 | 26 36873 04457+ | 897 11803 | 863 15479 53519 | 19 00031 90345 | 40 | |
| | 30 | 32 87770 16261 | 934 06079+ | 844 15447 63174 | 18 99717 17941+ | 30 | |
| | 40 | 39 38704 22340+ | 6 50971 00977 | 825 15730 45232 | 9402 54250 | 20 | |
| | 50 | 45 89675 23317+ | 6 51007 96494+ | 806 16327 90982 | 9087 99267+ | 10 | |
| **21** | 0 | 52 40683 19812 | 044 92633+ | 787 17239 91715 | 8773 52990 | 0 | **39** |
| | 10 | 58 91728 12445+ | 081 89392+ | 768 18466 38725 | 8459 15415 | 50 | |
| | 20 | 65 42810 01838 | 118 86773 | 749 20007 23310 | 8144 86539 | 40 | |
| | 30 | 71 93928 88611 | 155 84774+ | 730 21862 36771 | 7830 66359 | 30 | |
| | 40 | 78 45084 73385+ | 192 83397 | 711 24031 70412 | 7516 54872 | 20 | |
| | 50 | 84 96277 56783 | 229 82641 | 692 26515 15540+ | 7202 52074+ | 10 | |
| **22** | 0 | 91 47507 39424 | 266 82506+ | 673 29312 63466 | 6888 57963+ | 0 | **38** |
| | 10 | 0,58597 98774 21930+ | 303 82993 | 654 32424 05502+ | 6574 72535+ | 50 | |
| | 20 | 0,58604 50078 04923+ | 340 84101+ | 635 35849 32967 | 6260 95788 | 40 | |
| | 30 | 11 01418 89025 | 377 85831+ | 616 39588 37179 | 5947 27717+ | 30 | |
| | 40 | 17 52796 74857 | 414 88183+ | 597 43641 09462 | 5633 68320+ | 20 | |
| | 50 | 24 04211 63040+ | 451 91157+ | 578 48007 41141+ | 5320 17594 | 10 | |
| **23** | 0 | 30 55663 54198 | 488 94753+ | 559 52687 23547+ | 5006 75535+ | 0 | **37** |
| | 10 | 37 07152 48951+ | 525 98971+ | 540 57680 48012 | 4693 42141 | 50 | |
| | 20 | 43 58678 47922+ | 563 03811+ | 521 62987 05871 | 4380 17407+ | 40 | |
| | 30 | 50 10241 51734 | 600 09274 | 502 68606 88463+ | 4067 01332 | 30 | |
| | 40 | 56 61841 61008 | 637 15359 | 483 74539 87131+ | 3753 93911+ | 20 | |
| | 50 | 63 13478 76367 | 674 22066+ | 464 80785 93220 | 3440 95142+ | 10 | |
| **24** | 0 | 69 65152 98433+ | 711 29396+ | 445 87344 98077+ | 3128 05022+ | 0 | **36** |
| | 10 | 76 16864 27830+ | 748 37349+ | 426 94216 93055 | 2815 23547+ | 50 | |
| | 20 | 82 68612 65180 | 785 45925+ | 408 01401 69507+ | 2502 50714+ | 40 | |
| | 30 | 89 20398 11105+ | 822 55124 | 389 08899 18793 | 2189 86521 | 30 | |
| | 40 | 0,58695 72220 66229+ | 859 64946 | 370 16709 32272+ | 1877 30963 | 20 | |
| | 50 | 0,58702 24080 31175+ | 896 75391 | 351 24832 01309+ | 1564 84038 | 10 | |
| **25** | 0 | 08 75977 06566+ | 933 86459+ | 332 33267 17271+ | 1252 45742+ | 0 | **35** |
| | 10 | 15 27910 93026 | 6 51970 98151 | 313 42014 71529 | 0940 16073+ | 50 | |
| | 20 | 21 79881 91177 | 6 52008 10466+ | 294 51074 55455 | 0627 95028 | 40 | |
| | 30 | 28 31890 01643 | 045 23405 | 275 60446 60427 | 0315 82602+ | 30 | |
| | 40 | 34 83935 25048+ | 082 36967+ | 256 70130 77824+ | 18 90003 78794+ | 20 | |
| | 50 | 41 36017 62016 | 119 51154 | 237 80126 99030 | 18 89691 83600 | 10 | |
| **26** | 0 | 47 88137 13170 | 156 65964 | 218 90435 15430 | 9379 97016+ | 0 | **34** |
| | 10 | 54 40293 79134 | 193 81398+ | 200 01055 18413+ | 9068 19040+ | 50 | |
| | 20 | 60 92487 60532+ | 230 97457 | 181 11986 99373+ | 8756 49669 | 40 | |
| | 30 | 67 44718 57989+ | 268 14139+ | 162 23230 49704+ | 8444 88899 | 30 | |
| | 40 | 73 96986 72129 | 305 31446+ | 143 34785 60805+ | 8133 36727 | 20 | |
| | 50 | 80 49292 03575+ | 342 49378 | 124 46652 24078+ | 7821 93150+ | 10 | |
| **27** | 0 | 87 01634 52953+ | 379 67934 | 105 58830 30928+ | 7510 58165+ | 0 | **33** |
| | 10 | 0,58793 54014 20887+ | 416 87115 | 086 71319 72762+ | 7199 31770 | 50 | |
| | 20 | 0,58800 06431 08002+ | 454 06920 | 067 84120 40993 | 6888 13959+ | 40 | |
| | 30 | 06 58885 14922+ | 491 27350+ | 048 97232 27033 | 6577 04732 | 30 | |
| | 40 | 13 11376 42273 | 528 48406 | 030 10655 22301 | 6266 04084+ | 20 | |
| | 50 | 19 63904 90679 | 565 70086+ | 1,70011 24389 18216+ | 5955 12012+ | 10 | |
| **28** | 0 | 26 16470 60765+ | 602 92392 | 1,69992 38434 06204 | 5644 28514+ | 0 | **32** |
| | 10 | 32 69073 53157 | 640 15323 | 973 52789 77689+ | 5333 53586 | 50 | |
| | 20 | 39 21713 68480 | 677 38879 | 954 67456 24103+ | 5022 87225 | 40 | |
| | 30 | 45 74391 07359 | 714 63061 | 935 82433 36878+ | 4712 29427+ | 30 | |
| | 40 | 52 27105 70420 | 751 87868+ | 916 97721 07451 | 4401 80191 | 20 | |
| | 50 | 58 79857 58288+ | 789 13301+ | 898 13319 27259+ | 4091 39512+ | 10 | |
| **29** | 0 | 65 32646 71590 | 826 39360+ | 879 29227 87747+ | 3781 07388 | 0 | **31** |
| | 10 | 71 85473 10951 | 863 66045+ | 860 45446 80359 | 3470 83815+ | 50 | |
| | 20 | 78 38336 76996+ | 900 93356+ | 841 61975 96543+ | 3160 68791 | 40 | |
| | 30 | 84 91237 70353 | 938 21294 | 822 78815 27752+ | 2850 62312 | 30 | |
| | 40 | 91 44175 91647 | 6 52975 49857 | 803 95964 65440+ | 2540 64375 | 20 | |
| | 50 | 0,58897 97151 41504 | 6 53012 79047 | 785 13424 01066 | 18 82230 74977 | 10 | |
| **30** | 0 | 0,58904 50164 20551 | | 1,69766 31193 26089 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,58904 50164 20551 | 6 53050 08863+ | 1,69766 31193 26089 | 18 81920 94115 | 0 | **30** |
| | 10 | 11 03214 29414+ | 087 39306 | 747 49272 31974 | 1611 21785+ | 50 | |
| | 20 | 17 56301 68720+ | 124 70375+ | 728 67661 10188+ | 1301 57986 | 40 | |
| | 30 | 24 09426 39096 | 162 02072 | 709 86359 52202 | 0992 02713+ | 30 | |
| | 40 | 30 62588 41168 | 199 34395+ | 691 05367 49489 | 0682 55964 | 20 | |
| | 50 | 37 15787 75563+ | 236 67345+ | 672 24684 93525 | 0373 17735 | 10 | |
| **31** | 0 | 43 69024 42909 | 274 00923 | 653 44311 75789+ | 18 80063 88023+ | 0 | **29** |
| | 10 | 50 22298 43832 | 311 35127+ | 634 64247 87766 | 18 79754 66826+ | 50 | |
| | 20 | 56 75609 78959+ | 348 69959+ | 615 84493 20939+ | 9445 54140+ | 40 | |
| | 30 | 63 28958 48918+ | 386 05418+ | 597 05047 66799 | 9136 49962+ | 30 | |
| | 40 | 69 82344 54337+ | 423 41505+ | 578 25911 16836+ | 8827 54289+ | 20 | |
| | 50 | 76 35767 95843 | 460 78220 | 559 47083 62547 | 8518 67118+ | 10 | |
| **32** | 0 | 82 89228 74063 | 498 15562+ | 540 68564 95429 | 8209 88446 | 0 | **28** |
| | 10 | 89 42726 89625+ | 535 53532+ | 521 90355 06983 | 7901 18269+ | 50 | |
| | 20 | 0,58995 96262 43158 | 572 92130+ | 503 12453 88713+ | 7592 56585+ | 40 | |
| | 30 | 0,59002 49835 35288+ | 610 31357 | 484 34861 32128 | 7284 03391 | 30 | |
| | 40 | 09 03445 66645+ | 647 71211+ | 465 57577 28736+ | 6975 58683+ | 20 | |
| | 50 | 15 57093 37857 | 685 11694 | 446 80601 70053+ | 6667 22459 | 10 | |
| **33** | 0 | 22 10778 49550+ | 722 52805 | 428 03934 47594+ | 6358 94715 | 0 | **27** |
| | 10 | 28 64501 02355+ | 759 94544+ | 409 27575 52879+ | 6050 75448 | 50 | |
| | 20 | 35 18260 96900+ | 797 36913 | 390 51524 77431+ | 5742 64655+ | 40 | |
| | 30 | 41 72058 33813 | 834 79909+ | 371 75782 12776 | 5434 62334 | 30 | |
| | 40 | 48 25893 13722+ | 872 23535+ | 353 00347 50442+ | 5126 68480+ | 20 | |
| | 50 | 54 79765 37258 | 909 67790 | 334 25220 81962 | 4818 83091+ | 10 | |
| **34** | 0 | 61 33675 05048 | 947 12674 | 315 50401 98870+ | 4511 06165 | 0 | **26** |
| | 10 | 67 87622 17722 | 6 53984 58186+ | 296 75890 92705+ | 4203 37697+ | 50 | |
| | 20 | 74 41606 75908+ | 6 54022 04328+ | 278 01687 55008 | 3895 77685+ | 40 | |
| | 30 | 80 95628 80237+ | 059 51100 | 259 27791 77322+ | 3588 26126 | 30 | |
| | 40 | 87 49688 31337+ | 096 98501 | 240 54203 51197 | 3280 83016 | 20 | |
| | 50 | 0,59094 03785 29838+ | 134 46531+ | 221 80922 68180+ | 2973 48353 | 10 | |
| **35** | 0 | 0,59100 57919 76370+ | 171 95192 | 203 07949 19827+ | 2666 22133+ | 0 | **25** |
| | 10 | 07 12091 71562 | 209 44482 | 184 35282 97694 | 2359 04354+ | 50 | |
| | 20 | 13 66301 16044 | 246 94402 | 165 62923 93339+ | 2051 95012+ | 40 | |
| | 30 | 20 20548 10446 | 284 44951+ | 146 90871 98327 | 1744 94105 | 30 | |
| | 40 | 26 74832 55397+ | 321 96131+ | 128 19127 04221+ | 1438 01629 | 20 | |
| | 50 | 33 29154 51529 | 359 47942 | 109 47689 02592+ | 1131 17581+ | 10 | |
| **36** | 0 | 39 83513 99471 | 397 00382+ | 090 76557 85011 | 0824 41958+ | 0 | **24** |
| | 10 | 46 37910 99853+ | 434 53453+ | 072 05733 43052+ | 0517 74758 | 50 | |
| | 20 | 52 92345 53307 | 472 07155 | 053 35215 68294+ | 18 70211 15976+ | 40 | |
| | 30 | 59 46817 60462 | 509 61487+ | 034 65004 52318 | 18 69904 65611 | 30 | |
| | 40 | 66 01327 21949+ | 547 16450 | 1,69015 95099 86707 | 9598 23658+ | 20 | |
| | 50 | 72 55874 38399+ | 584 72044 | 1,68997 25501 63048 | 9291 90116 | 10 | |
| **37** | 0 | 79 10459 10443+ | 622 28269 | 978 56209 72932 | 8985 64980+ | 0 | **23** |
| | 10 | 85 65081 38712+ | 659 85125 | 959 87224 07951 | 8679 48249 | 50 | |
| | 20 | 92 19741 23837+ | 697 42612 | 941 18544 59702+ | 8373 39918 | 40 | |
| | 30 | 0,59198 74438 66449 | 735 00730 | 922 50171 19784+ | 8067 39985 | 30 | |
| | 40 | 0,59205 29173 67179+ | 772 59480 | 903 82103 79799+ | 7761 48446+ | 20 | |
| | 50 | 11 83946 26659+ | 810 18861+ | 885 14342 31353 | 7455 65300 | 10 | |
| **38** | 0 | 18 38756 45521 | 847 78874 | 866 46886 66053 | 7149 90542 | 0 | **22** |
| | 10 | 24 93604 24395 | 885 39519 | 847 79736 75511 | 6844 24169+ | 50 | |
| | 20 | 31 48489 63914 | 923 00795+ | 829 12892 51342 | 6538 66179+ | 40 | |
| | 30 | 38 03412 64709+ | 960 62704 | 810 46353 85162 | 6233 16569+ | 30 | |
| | 40 | 44 58373 27413 | 6 54998 25244+ | 791 80120 68592+ | 5927 75336 | 20 | |
| | 50 | 51 13371 52657+ | 6 55035 88417 | 773 14192 93257 | 5622 42475+ | 10 | |
| **39** | 0 | 57 68407 41074+ | 073 52222 | 754 48570 50781 | 5317 17986 | 0 | **21** |
| | 10 | 64 23480 93296+ | 111 16659 | 735 83253 32795 | 5012 01864 | 50 | |
| | 20 | 70 78592 09955+ | 148 81729 | 717 18241 30931+ | 4706 94106 | 40 | |
| | 30 | 77 33740 91684+ | 186 47431+ | 698 53534 36825+ | 4401 94709+ | 30 | |
| | 40 | 83 88927 39116 | 224 13766+ | 679 89132 42116 | 4097 03671+ | 20 | |
| | 50 | 90 44151 52882+ | 6 55261 80734+ | 661 25035 38444 | 18 63792 20989 | 10 | |
| **40** | 0 | 0,59296 99413 33617 | | 1,68642 61243 17455 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,59296 99413 33617 | 6 55299 48335 | 1,68642 61243 17455 | 18 63487 46659 | 0 | **20** |
| | 10 | 0,59303 54712 81952 | 337 16569 | 623 97755 70796 | 3182 80678 | 50 | |
| | 20 | 10 10049 98521 | 374 85436 | 605 34572 90118+ | 2878 23043+ | 40 | |
| | 30 | 16 65424 83957 | 412 54936 | 586 71694 67075 | 2573 73752 | 30 | |
| | 40 | 23 20837 38893 | 450 25070 | 568 09120 93323 | 2269 32801 | 20 | |
| | 50 | 29 76287 63963 | 487 95837 | 549 46851 60522 | 1965 00187+ | 10 | |
| **41** | 0 | 36 31775 59800 | 525 67237+ | 530 84886 60334+ | 1660 75908 | 0 | **19** |
| | 10 | 42 87301 27037 | 563 39271+ | 512 23225 84427 | 1356 59959+ | 50 | |
| | 20 | 49 42864 66309 | 601 11940 | 493 61869 24467 | 1052 52339+ | 40 | |
| | 30 | 55 98465 78248+ | 638 85241+ | 475 00816 72127+ | 0748 53045 | 30 | |
| | 40 | 62 54104 63490+ | 676 59177+ | 456 40068 19082+ | 0444 62072+ | 20 | |
| | 50 | 69 09781 22668 | 714 33748 | 437 79623 57010 | 18 60140 79419 | 10 | |
| **42** | 0 | 75 65495 56416 | 752 08952 | 419 19482 77591 | 18 59837 05082 | 0 | **18** |
| | 10 | 82 21247 65368 | 789 84790+ | 400 59645 72508+ | 9533 39058+ | 50 | |
| | 20 | 88 77037 50158+ | 827 61263+ | 382 00112 33450 | 9229 81345 | 40 | |
| | 30 | 0,59395 32865 11422+ | 865 38371+ | 363 40882 52105+ | 8926 31938+ | 30 | |
| | 40 | 0,59401 88730 49793+ | 903 16113+ | 344 81956 20167 | 8622 90836+ | 20 | |
| | 50 | 08 44633 65907 | 940 94490+ | 326 23333 29330+ | 8319 58035+ | 10 | |
| **43** | 0 | 15 00574 60398 | 6 55978 73502+ | 307 65013 71294+ | 8016 33533 | 0 | **17** |
| | 10 | 21 56553 33900 | 6 56016 53149+ | 289 06997 37762 | 7713 17325+ | 50 | |
| | 20 | 28 12569 87049+ | 054 33431+ | 270 49284 20436 | 7410 09410+ | 40 | |
| | 30 | 34 68624 20481 | 092 14348+ | 251 91874 11025+ | 7107 09784+ | 30 | |
| | 40 | 41 24716 34829 | 129 95901 | 233 34767 01241 | 6804 18445 | 20 | |
| | 50 | 47 80846 30730 | 167 78088+ | 214 77962 82796 | 6501 35389 | 10 | |
| **44** | 0 | 54 37014 08819 | 205 60912 | 196 21461 47407 | 6198 60613 | 0 | **16** |
| | 10 | 60 93219 69731 | 243 44371 | 177 65262 86794 | 5895 94114+ | 50 | |
| | 20 | 67 49463 14102 | 281 28466 | 159 09366 92680 | 5593 35890 | 40 | |
| | 30 | 74 05744 42568 | 319 13196+ | 140 53773 56790 | 5290 85937 | 30 | |
| | 40 | 80 62063 55764+ | 356 98563 | 121 98482 70853 | 4988 44252+ | 20 | |
| | 50 | 87 18420 54327+ | 394 84565+ | 103 43494 26600+ | 4686 10833 | 10 | |
| **45** | 0 | 0,59493 74815 38893+ | 432 71204+ | 084 88808 15767 | 4383 85676+ | 0 | **15** |
| | 10 | 0,59500 31248 10098 | 470 58479+ | 066 34424 30090+ | 4081 68779 | 50 | |
| | 20 | 06 87718 68577+ | 508 46391 | 047 80342 61311+ | 3779 60138+ | 40 | |
| | 30 | 13 44227 14968+ | 546 34939 | 029 26563 01173 | 3477 59751 | 30 | |
| | 40 | 20 00773 49908 | 584 24124 | 1,68010 73085 41422+ | 3175 67614 | 20 | |
| | 50 | 26 57357 74031+ | 622 13945 | 1,67992 19909 73808 | 2873 83724+ | 10 | |
| **46** | 0 | 33 13979 87976+ | 660 04403 | 973 67035 90083+ | 2572 08080 | 0 | **14** |
| | 10 | 39 70639 92380 | 697 95498+ | 955 14463 82003+ | 2270 40677 | 50 | |
| | 20 | 46 27337 87878+ | 735 87230+ | 936 62193 41326+ | 1968 81512+ | 40 | |
| | 30 | 52 84073 75109 | 773 79600 | 918 10224 59814+ | 1667 30583+ | 30 | |
| | 40 | 59 40847 54708+ | 811 72606+ | 899 58557 29231 | 1365 87887+ | 20 | |
| | 50 | 65 97659 27315 | 849 66250+ | 881 07191 41343+ | 1064 53421 | 10 | |
| **47** | 0 | 72 54508 93565+ | 887 60532 | 862 56126 87922+ | 0763 27181+ | 0 | **13** |
| | 10 | 79 11396 54097 | 925 55451 | 844 05363 60741 | 0462 09165+ | 50 | |
| | 20 | 85 68322 09548 | 6 56963 51007+ | 825 54901 51575+ | 18 50160 99370+ | 40 | |
| | 30 | 92 25285 60555+ | 6 57001 47202 | 807 04740 52204+ | 18 49859 97793+ | 30 | |
| | 40 | 0,59598 82287 07757+ | 039 44034+ | 788 54880 54411 | 9559 04431+ | 20 | |
| | 50 | 0,59605 39326 51792+ | 077 41505 | 770 05321 49979+ | 9258 19281+ | 10 | |
| **48** | 0 | 11 96403 93297+ | 115 39614 | 751 56063 30698 | 8957 42340+ | 0 | **12** |
| | 10 | 18 53519 32911+ | 153 38360+ | 733 07105 88357+ | 8656 73605+ | 50 | |
| | 20 | 25 10672 71272 | 191 37746 | 714 58449 14752 | 8356 13073+ | 40 | |
| | 30 | 31 67864 09018 | 229 37769+ | 696 10093 01678 | 8055 60742 | 30 | |
| | 40 | 38 25093 46787+ | 267 38432 | 677 62037 40936 | 7755 16607+ | 20 | |
| | 50 | 44 82360 85220 | 305 39733 | 659 14282 24328+ | 7454 80667+ | 10 | |
| **49** | 0 | 51 39666 24953 | 343 41673 | 640 66827 43661 | 7154 52918+ | 0 | **11** |
| | 10 | 57 97009 66625+ | 381 44251+ | 622 19672 90742 | 6854 33358+ | 50 | |
| | 20 | 64 54391 10877+ | 419 47469+ | 603 72818 57383+ | 6554 21983+ | 40 | |
| | 30 | 71 11810 58346+ | 457 51326 | 585 26264 35400+ | 6254 18791 | 30 | |
| | 40 | 77 69268 09673 | 495 55822+ | 566 80010 16609+ | 5954 23778 | 20 | |
| | 50 | 84 26763 65495+ | 6 57533 60958 | 548 34055 92831 | 18 45654 36942 | 10 | |
| **50** | 0 | 0,59690 84297 26453 | | 1,67529 88401 55889+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 30°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,59690 84297 26453 | 6 57571 66732+ | 1,67529 88401 55889+ | 18 45354 58279+ | 0 | **10** |
| | 10 | 0,59697 41868 93186 | 609 73147 | 511 43046 97610 | 5054 87787+ | 50 | |
| | 20 | 0,59703 99478 66333 | 647 80201+ | 492 97992 09822+ | 4755 25463+ | 40 | |
| | 30 | 10 57126 46534+ | 685 87895+ | 474 53236 84359 | 4455 71304+ | 30 | |
| | 40 | 17 14812 34429+ | 723 96229 | 456 08781 13054+ | 4156 25307+ | 20 | |
| | 50 | 23 72536 30659 | 762 05203 | 437 64624 87747 | 3856 87469 | 10 | |
| **51** | 0 | 30 30298 35862 | 800 14817 | 419 20768 00278 | 3557 57787 | 0 | **9** |
| | 10 | 36 88098 50679 | 838 25071 | 400 77210 42490+ | 3258 36258+ | 50 | |
| | 20 | 43 45936 75750 | 876 35966 | 382 33952 06232+ | 2959 22879+ | 40 | |
| | 30 | 50 03813 11716 | 914 47501 | 363 90992 83352+ | 2660 17648+ | 30 | |
| | 40 | 56 61727 59216+ | 952 59676+ | 345 48332 65704+ | 2361 20561+ | 20 | |
| | 50 | 63 19680 18893 | 6 57990 72492+ | 327 05971 45143 | 2062 31616 | 10 | |
| **52** | 0 | 69 77670 91385+ | 6 58028 85949+ | 308 63909 13527 | 1763 50809 | 0 | **8** |
| | 10 | 76 35699 77335 | 067 00047+ | 290 22145 62718 | 1464 78137+ | 50 | |
| | 20 | 82 93766 77382+ | 105 14786+ | 271 80680 84580+ | 1166 13599 | 40 | |
| | 30 | 89 51871 92168+ | 143 30166+ | 253 39514 70981+ | 0867 57190 | 30 | |
| | 40 | 0,59796 10015 22335 | 181 46187+ | 234 98647 13791+ | 0569 08908 | 20 | |
| | 50 | 0,59802 68196 68522+ | 219 62850 | 216 58078 04883+ | 18 40270 68750 | 10 | |
| **53** | 0 | 09 26416 31372+ | 257 80154 | 198 17807 36133+ | 18 39972 36713 | 0 | **7** |
| | 10 | 15 84674 11526+ | 295 98099+ | 179 77834 99420+ | 9674 12794 | 50 | |
| | 20 | 22 42970 09626 | 334 16686+ | 161 38160 86626+ | 9375 96990+ | 40 | |
| | 30 | 29 01304 26312+ | 372 35915+ | 142 98784 89636 | 9077 89299 | 30 | |
| | 40 | 35 59676 62228 | 410 55786+ | 124 59707 00337+ | 8779 89717 | 20 | |
| | 50 | 42 18087 18014+ | 448 76299+ | 106 20927 10620+ | 8481 98241 | 10 | |
| **54** | 0 | 48 76535 94314 | 486 97454 | 087 82445 12379+ | 8184 14869 | 0 | **6** |
| | 10 | 55 35022 91768 | 525 19251+ | 069 44260 97510 | 7886 39598 | 50 | |
| | 20 | 61 93548 11019+ | 563 41691 | 051 06374 57912 | 7588 72424+ | 40 | |
| | 30 | 68 52111 52710 | 601 64772+ | 032 68785 85488 | 7291 13345+ | 30 | |
| | 40 | 75 10713 17483 | 639 88497 | 1,67014 31494 72142+ | 6993 62359 | 20 | |
| | 50 | 81 69353 05980 | 678 12864 | 1,66995 94501 09783+ | 6696 19461 | 10 | |
| **55** | 0 | 88 28031 18844 | 716 37874 | 977 57804 90322+ | 6398 84649+ | 0 | **5** |
| | 10 | 0,59894 86747 56718 | 754 63527 | 959 21406 05673 | 6101 57921+ | 50 | |
| | 20 | 0,59901 45502 20245 | 792 89822+ | 940 85304 47751+ | 5804 39273+ | 40 | |
| | 30 | 08 04295 10067+ | 831 16761+ | 922 49500 08478 | 5507 28703 | 30 | |
| | 40 | 14 63126 26829 | 869 44343+ | 904 13992 79775+ | 5210 26207 | 20 | |
| | 50 | 21 21995 71172 | 907 72568+ | 885 78782 53568+ | 4913 31783 | 10 | |
| **56** | 0 | 27 80903 43741 | 946 01437+ | 867 43869 21785+ | 4616 45427+ | 0 | **4** |
| | 10 | 34 39849 45178 | 6 58984 30949+ | 849 09252 76358 | 4319 67138 | 50 | |
| | 20 | 40 98833 76128 | 6 59022 61105+ | 830 74933 09220+ | 4022 96911+ | 40 | |
| | 30 | 47 57856 37233+ | 060 91905+ | 812 40910 12309 | 3726 34745 | 30 | |
| | 40 | 54 16917 29139 | 099 23349 | 794 07183 77564 | 3429 80636 | 20 | |
| | 50 | 60 76016 52488 | 137 55436+ | 775 73753 96928 | 3133 34581 | 10 | |
| **57** | 0 | 67 35154 07924+ | 175 88168 | 757 40620 62347 | 2836 96578 | 0 | **3** |
| | 10 | 73 94329 96092+ | 214 21544 | 739 07783 65769+ | 2540 66623 | 50 | |
| | 20 | 80 53544 17636+ | 252 55564 | 720 75242 99146 | 2244 44714 | 40 | |
| | 30 | 87 12796 73201 | 290 90229 | 702 42998 54432 | 1948 30848 | 30 | |
| | 40 | 0,59993 72087 63430 | 329 25538 | 684 11050 23584 | 1652 25021+ | 20 | |
| | 50 | 0,60000 31416 88967+ | 367 61492 | 665 79397 98562+ | 1356 27232+ | 10 | |
| **58** | 0 | 06 90784 50459+ | 405 98090+ | 647 48041 71330 | 1060 37477+ | 0 | **2** |
| | 10 | 13 50190 48550 | 444 35334 | 629 16981 33852+ | 0764 55754 | 50 | |
| | 20 | 20 09634 83883+ | 482 73222 | 610 86216 78098+ | 0468 82059 | 40 | |
| | 30 | 26 69117 57106 | 521 11755+ | 592 55747 96039+ | 18 30173 16389 | 30 | |
| | 40 | 33 28638 68861+ | 559 50934+ | 574 25574 79650+ | 18 29877 58742+ | 20 | |
| | 50 | 39 88198 19796 | 597 90758+ | 555 95697 20908 | 9582 09115+ | 10 | |
| **59** | 0 | 46 47796 10554 | 636 31228 | 537 66115 11792+ | 9286 67505+ | 0 | **1** |
| | 10 | 53 07432 41782 | 674 72343 | 519 36828 44287+ | 8991 33909+ | 50 | |
| | 20 | 59 67107 14125 | 713 14103+ | 501 07837 10378 | 8696 08324+ | 40 | |
| | 30 | 66 26820 28228 | 751 56510 | 482 79141 02053+ | 8400 90748+ | 30 | |
| | 40 | 72 86571 84738 | 789 99562 | 464 50740 11305 | 8105 81177+ | 20 | |
| | 50 | 79 46361 84300 | 6 59828 43260+ | 446 22634 30127+ | 18 27810 79609+ | 10 | |
| **60** | 0 | 0,60086 06190 27560+ | | 1,66427 94823 50518 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 59°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,60086 06190 27560+ | 6 59866 87604+ | 1,66427 94823 50518 | 18 27515 86041 | 0 | **60** |
| | 10 | 92 66057 15165 | 905 32595 | 409 67307 64477 | 7221 00469+ | 50 | |
| | 20 | 0,60099 25962 47760+ | 943 78232 | 391 40086 64007 | 6926 22892+ | 40 | |
| | 30 | 0,60105 85906 25992+ | 6 59982 24515+ | 373 13160 41115 | 6631 53306 | 30 | |
| | 40 | 12 45888 50508 | 6 60020 71445 | 354 86528 87808+ | 6336 91708+ | 20 | |
| | 50 | 19 05909 21953 | 059 19021+ | 336 60191 96100 | 6042 38096+ | 10 | |
| **1** | 0 | 25 65968 40974+ | 097 67245 | 318 34149 58004 | 5747 92466+ | 0 | **59** |
| | 10 | 32 26066 08219+ | 136 16115 | 300 08401 65537 | 5453 54817 | 50 | |
| | 20 | 38 86202 24334+ | 174 65632 | 281 82948 10720 | 5159 25144 | 40 | |
| | 30 | 45 46376 89967 | 213 15796+ | 263 57788 85576 | 4865 03445+ | 30 | |
| | 40 | 52 06590 05763+ | 251 66608 | 245 32923 82130+ | 4570 89718 | 20 | |
| | 50 | 58 66841 72371 | 290 18066+ | 227 08352 92412+ | 4276 83959 | 10 | |
| **2** | 0 | 65 27131 90437+ | 328 70172+ | 208 84076 08453+ | 3982 86165+ | 0 | **58** |
| | 10 | 71 87460 60610+ | 367 22926+ | 190 60093 22287+ | 3688 96335 | 50 | |
| | 20 | 78 47827 83537 | 405 76328 | 172 36404 25952+ | 3395 14464 | 40 | |
| | 30 | 85 08233 59864+ | 444 30377 | 154 13009 11488+ | 3101 40550+ | 30 | |
| | 40 | 91 68677 90241+ | 482 85074 | 135 89907 70938 | 2807 74591 | 20 | |
| | 50 | 0,60198 29160 75315+ | 521 40419 | 117 67099 96347 | 2514 16583 | 10 | |
| **3** | 0 | 0,60204 89682 15735 | 559 96412 | 099 44585 79764 | 2220 66523 | 0 | **57** |
| | 10 | 11 50242 12147 | 598 53053+ | 081 22365 13241 | 1927 24409 | 50 | |
| | 20 | 18 10840 65200+ | 637 10343 | 063 00437 88831+ | 1633 90238 | 40 | |
| | 30 | 24 71477 75543+ | 675 68281+ | 044 78803 98593+ | 1340 64007 | 30 | |
| | 40 | 31 32153 43825 | 714 26868 | 026 57463 34586+ | 1047 45713+ | 20 | |
| | 50 | 37 92867 70693 | 752 86103+ | 1,66008 36415 88873 | 0754 35354 | 10 | |
| **4** | 0 | 44 53620 56796+ | 791 45987+ | 1,65990 15661 53519 | 0461 32926 | 0 | **56** |
| | 10 | 51 14412 02783+ | 830 06520+ | 971 95200 20593+ | 18 20168 38426+ | 50 | |
| | 20 | 57 75242 09304 | 868 67702+ | 953 75031 82166+ | 18 19875 51853+ | 40 | |
| | 30 | 64 36110 77006+ | 907 29533+ | 935 55156 30313 | 9582 73203 | 30 | |
| | 40 | 70 97018 06540 | 945 92014 | 917 35573 57110 | 9290 02473 | 20 | |
| | 50 | 77 57963 98554 | 6 60984 55143+ | 899 16283 54637 | 8997 39660+ | 10 | |
| **5** | 0 | 84 18948 53697+ | 6 61023 18922+ | 880 97286 14976+ | 8704 84762+ | 0 | **55** |
| | 10 | 90 79971 72620 | 061 83351+ | 862 78581 30214+ | 8412 37776 | 50 | |
| | 20 | 0,60297 41033 55971+ | 100 48429+ | 844 60168 92438 | 8119 98698+ | 40 | |
| | 30 | 0,60304 02134 04401 | 139 14158 | 826 42048 93739+ | 7827 67527+ | 30 | |
| | 40 | 10 63273 18559 | 177 80536 | 808 24221 26212 | 7535 44259+ | 20 | |
| | 50 | 17 24450 99094+ | 216 47564 | 790 06685 81952+ | 7243 28892+ | 10 | |
| **6** | 0 | 23 85667 46658+ | 255 15242 | 771 89442 53060 | 6951 21422+ | 0 | **54** |
| | 10 | 30 46922 61900+ | 293 83570+ | 753 72491 31637+ | 6659 21847+ | 50 | |
| | 20 | 37 08216 45471+ | 332 52549+ | 735 55832 09789+ | 6367 30165 | 40 | |
| | 30 | 43 69548 98020+ | 371 22178+ | 717 39464 79624+ | 6075 46371+ | 30 | |
| | 40 | 50 30920 20199 | 409 92458+ | 699 23389 33253+ | 5783 70464+ | 20 | |
| | 50 | 56 92330 12657+ | 448 63389 | 681 07605 62789 | 5492 02441 | 10 | |
| **7** | 0 | 63 53778 76046 | 487 34970 | 662 92113 60348 | 5200 42298+ | 0 | **53** |
| | 10 | 70 15266 11016 | 526 07202+ | 644 76913 18050 | 4908 90033+ | 50 | |
| | 20 | 76 76792 18218+ | 564 80085+ | 626 62004 28016 | 4617 45644 | 40 | |
| | 30 | 83 38356 98304 | 603 53620 | 608 47386 82372 | 4326 09127 | 30 | |
| | 40 | 89 99960 51924 | 642 27805+ | 590 33060 73244+ | 4034 80480 | 20 | |
| | 50 | 0,60396 61602 79729 | 681 02642+ | 572 19025 92765 | 3743 59699+ | 10 | |
| **8** | 0 | 0,60403 23283 82371+ | 719 78131 | 554 05282 33065+ | 3452 46782+ | 0 | **52** |
| | 10 | 09 85003 60502+ | 758 54271 | 535 91829 86283 | 3161 41727+ | 50 | |
| | 20 | 16 46762 14773+ | 797 31062+ | 517 78668 44555+ | 2870 44530+ | 40 | |
| | 30 | 23 08559 45836 | 836 08506 | 499 65798 00025 | 2579 55189 | 30 | |
| | 40 | 29 70395 54342 | 874 86601+ | 481 53218 44836 | 2288 73700+ | 20 | |
| | 50 | 36 32270 40943+ | 913 65349 | 463 40929 71135 | 1998 00062 | 10 | |
| **9** | 0 | 42 94184 06292+ | 952 44748+ | 445 28931 71073 | 1707 34271 | 0 | **51** |
| | 10 | 49 56136 51041+ | 6 61991 24800+ | 427 17224 36802 | 1416 76324 | 50 | |
| | 20 | 56 18127 75842 | 6 62030 05505 | 409 05807 60478 | 1126 26219 | 40 | |
| | 30 | 62 80157 81347 | 068 86862 | 390 94681 34259 | 0835 83953 | 30 | |
| | 40 | 69 42226 68209 | 107 68871 | 372 83845 50306 | 0545 49522+ | 20 | |
| | 50 | 76 04334 37080 | 6 62146 51533 | 354 73300 00783 | 18 10255 22926 | 10 | |
| **10** | 0 | 0,60482 66480 88613 | | 1,65336 63044 77857+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,60482 66480 88613 | 6 62185 34848 | 1,65336 63044 77857+ | 18 09965 04159+ | 0 | **50** |
| | 10 | 89 28666 23461+ | 224 18816 | 318 53079 73698 | 9674 93221 | 50 | |
| | 20 | 0,60495 90890 42277+ | 263 03437 | 300 43404 80477 | 9384 90107+ | 40 | |
| | 30 | 0,60502 53153 45714+ | 301 88711 | 282 34019 90369+ | 9094 94816 | 30 | |
| | 40 | 09 15455 34425+ | 340 74638+ | 264 24924 95554 | 8805 07343+ | 20 | |
| | 50 | 15 77796 09064 | 379 61219+ | 246 16119 88210 | 8515 27688 | 10 | |
| **11** | 0 | 22 40175 70283+ | 418 48453+ | 228 07604 60522 | 8225 55846+ | 0 | **49** |
| | 10 | 29 02594 18737 | 457 36341+ | 209 99379 04675+ | 7935 91816 | 50 | |
| | 20 | 35 65051 55078+ | 496 24883 | 191 91443 12859+ | 7646 35593+ | 40 | |
| | 30 | 42 27547 79961+ | 535 14078+ | 173 83796 77265+ | 7356 87177 | 30 | |
| | 40 | 48 90082 94040 | 574 03928 | 155 76439 90088+ | 7067 46563 | 20 | |
| | 50 | 55 52656 97968 | 612 94431+ | 137 69372 43526 | 6778 13749 | 10 | |
| **12** | 0 | 62 15269 92399+ | 651 85589+ | 119 62594 29777 | 6488 88732 | 0 | **48** |
| | 10 | 68 77921 77989 | 690 77401+ | 101 56105 41045 | 6199 71509+ | 50 | |
| | 20 | 75 40612 55390 | 729 69867+ | 083 49905 69535+ | 5910 62078+ | 40 | |
| | 30 | 82 03342 25258 | 768 62988+ | 065 43995 07457 | 5621 60437 | 30 | |
| | 40 | 88 66110 88246+ | 807 56764+ | 047 38373 47020 | 5332 66581 | 20 | |
| | 50 | 0,60595 28918 45011 | 846 51194+ | 029 33040 80439 | 5043 80509 | 10 | |
| **13** | 0 | 0,60601 91764 96205+ | 885 46280 | 1,65011 27996 99930 | 4755 02217 | 0 | **47** |
| | 10 | 08 54650 42485+ | 924 42020 | 1,64993 23241 97713 | 4466 31703 | 50 | |
| | 20 | 15 17574 84505+ | 6 62963 38415+ | 975 18775 66010 | 4177 68964+ | 40 | |
| | 30 | 21 80538 22921 | 6 63002 35466 | 957 14597 97045+ | 3889 13998 | 30 | |
| | 40 | 28 43540 58387 | 041 33172 | 939 10708 83048 | 3600 66801 | 20 | |
| | 50 | 35 06581 91559 | 080 31533 | 921 07108 16247 | 3312 27371 | 10 | |
| **14** | 0 | 41 69662 23092 | 119 30550 | 903 03795 88876 | 3023 95705 | 0 | **46** |
| | 10 | 48 32781 53642 | 158 30222+ | 885 00771 93171+ | 2735 71800 | 50 | |
| | 20 | 54 95939 83864 | 197 30550+ | 866 98036 21371+ | 2447 55654 | 40 | |
| | 30 | 61 59137 14415 | 236 31535 | 848 95588 65717+ | 2159 47263+ | 30 | |
| | 40 | 68 22373 45949+ | 275 33175 | 830 93429 18454 | 1871 46626 | 20 | |
| | 50 | 74 85648 79125 | 314 35471+ | 812 91557 71828 | 1583 53739 | 10 | |
| **15** | 0 | 81 48963 14596 | 353 38424 | 794 89974 18088+ | 1295 68600 | 0 | **45** |
| | 10 | 88 12316 53020 | 392 42032+ | 776 88678 49489 | 1007 91205 | 50 | |
| | 20 | 0,60694 75708 95052+ | 431 46298 | 758 87670 58283+ | 0720 21552+ | 40 | |
| | 30 | 0,60701 39140 41350+ | 470 51220 | 740 86950 36731 | 0432 59639+ | 30 | |
| | 40 | 08 02610 92570+ | 509 56798+ | 722 86517 77092 | 18 00145 05462+ | 20 | |
| | 50 | 14 66120 49369 | 548 63034 | 704 86372 71629 | 17 99857 59020 | 10 | |
| **16** | 0 | 21 29669 12403 | 587 69926+ | 686 86515 12609 | 9570 20308 | 0 | **44** |
| | 10 | 27 93256 82329+ | 626 77475+ | 668 86944 92301 | 9282 89325 | 50 | |
| | 20 | 34 56883 59805 | 665 85682 | 650 87662 02976 | 8995 66067 | 40 | |
| | 30 | 41 20549 45487+ | 704 94546 | 632 88666 36909 | 8708 50532+ | 30 | |
| | 40 | 47 84254 40033+ | 744 04067 | 614 89957 86376+ | 8421 42717+ | 20 | |
| | 50 | 54 47998 44100+ | 783 14245+ | 596 91536 43659 | 8134 42620+ | 10 | |
| **17** | 0 | 61 11781 58346 | 822 25082 | 578 93402 01038+ | 7847 50238 | 0 | **43** |
| | 10 | 67 75603 83428 | 861 36576 | 560 95554 50800+ | 7560 65567 | 50 | |
| | 20 | 74 39465 20004 | 900 48727+ | 542 97993 85233+ | 7273 88606 | 40 | |
| | 30 | 81 03365 68731+ | 939 61537+ | 525 00719 96627+ | 6987 19351 | 30 | |
| | 40 | 87 67305 30269 | 6 63978 75005 | 507 03732 77276+ | 6700 57800 | 20 | |
| | 50 | 0,60794 31284 05274 | 6 64017 89131 | 489 07032 19476+ | 6414 03950 | 10 | |
| **18** | 0 | 0,60800 95301 94405+ | 057 03915+ | 471 10618 15527 | 6127 57798 | 0 | **42** |
| | 10 | 07 59358 98320+ | 096 19358 | 453 14490 57729 | 5841 19342 | 50 | |
| | 20 | 14 23455 17678+ | 135 35459 | 435 18649 38387 | 5554 88578+ | 40 | |
| | 30 | 20 87590 53138 | 174 52219 | 417 23094 49808+ | 5268 65505+ | 30 | |
| | 40 | 27 51765 05357 | 213 69637+ | 399 27825 84303 | 4982 50119+ | 20 | |
| | 50 | 34 15978 74994+ | 252 87715 | 381 32843 34183+ | 4696 42418+ | 10 | |
| **19** | 0 | 40 80231 62709+ | 292 06451+ | 363 38146 91765 | 4410 42399+ | 0 | **41** |
| | 10 | 47 44523 69161 | 331 25847 | 345 43736 49365+ | 4124 50060 | 50 | |
| | 20 | 54 08854 95008 | 370 45901+ | 327 49611 99305+ | 3838 65396+ | 40 | |
| | 30 | 60 73225 40909+ | 409 66615+ | 309 55773 33909 | 3552 88407+ | 30 | |
| | 40 | 67 37635 07525 | 448 87989 | 291 62220 45501+ | 3267 19089 | 20 | |
| | 50 | 74 02083 95514 | 6 64488 10022 | 273 68953 26412+ | 17 92981 57439 | 10 | |
| **20** | 0 | 0,60880 66572 05536 | | 1,64255 75971 68973+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,60880 66572 05536 | 6 64527 32714+ | 1,64255 75971 68973+ | 17 92696 03455 | 0 | **40** |
| | 10 | 87 31099 38250+ | 566 56067 | 237 83275 65518+ | 2410 57134 | 50 | |
| | 20 | 0,60893 95665 94317+ | 605 80079+ | 219 90865 08384+ | 2125 18473 | 40 | |
| | 30 | 0,60900 60271 74397 | 645 04751+ | 201 98739 89911 | 1839 87470 | 30 | |
| | 40 | 07 24916 79149 | 684 30084 | 184 06900 02441+ | 1554 64121+ | 20 | |
| | 50 | 13 89601 09233 | 723 56077 | 166 15345 38320 | 1269 48425 | 10 | |
| **21** | 0 | 20 54324 65310 | 762 82730 | 148 24075 89894+ | 0984 40378+ | 0 | **39** |
| | 10 | 27 19087 48040 | 802 10043+ | 130 33091 49516 | 0699 39978+ | 50 | |
| | 20 | 33 83889 58083+ | 841 38017+ | 112 42392 09537+ | 0414 47222+ | 40 | |
| | 30 | 40 48730 96101 | 880 66652+ | 094 51977 62315 | 17 90129 62108 | 30 | |
| | 40 | 47 13611 62753+ | 919 95948 | 076 61848 00207 | 17 89844 84632 | 20 | |
| | 50 | 53 78531 58701+ | 959 25904+ | 058 72003 15575 | 9560 14792 | 10 | |
| **22** | 0 | 60 43490 84606 | 6 64998 56522 | 040 82443 00783 | 9275 52585+ | 0 | **38** |
| | 10 | 67 08489 41128 | 6 65037 87801 | 022 93167 48197+ | 8990 98009+ | 50 | |
| | 20 | 73 73527 28929 | 077 19741 | 1,64005 04176 50188+ | 8706 51061 | 40 | |
| | 30 | 80 38604 48669+ | 116 52342+ | 1,63987 15469 99127+ | 8422 11738 | 30 | |
| | 40 | 87 03721 01012 | 155 85605 | 969 27047 87389+ | 8137 80037+ | 20 | |
| | 50 | 0,60993 68876 86617 | 195 19529+ | 951 38910 07352 | 7853 55956+ | 10 | |
| **23** | 0 | 0,61000 34072 06147 | 234 54116 | 933 51056 51395+ | 7569 39493 | 0 | **37** |
| | 10 | 06 99306 60263 | 273 89364 | 915 63487 11902+ | 7285 30643+ | 50 | |
| | 20 | 13 64580 49627 | 313 25274 | 897 76201 81259 | 7001 29406 | 40 | |
| | 30 | 20 29893 74901 | 352 61846+ | 879 89200 51852+ | 6717 35777+ | 30 | |
| | 40 | 26 95246 36747+ | 391 99080+ | 862 02483 16075 | 6433 49755+ | 20 | |
| | 50 | 33 60638 35828 | 431 36977+ | 844 16049 66319+ | 6149 71337 | 10 | |
| **24** | 0 | 40 26069 72805+ | 470 75536+ | 826 29899 94982 | 5866 00520 | 0 | **36** |
| | 10 | 46 91540 48342 | 510 14758 | 808 44033 94462 | 5582 37300+ | 50 | |
| | 20 | 53 57050 63100 | 549 54642+ | 790 58451 57161+ | 5298 81677+ | 40 | |
| | 30 | 60 22600 17742 | 588 95189+ | 772 73152 75484 | 5015 33647 | 30 | |
| | 40 | 66 88189 12931+ | 628 36399+ | 754 88137 41837+ | 4731 93206+ | 20 | |
| | 50 | 73 53817 49331 | 667 78272+ | 737 03405 48631 | 4448 60354 | 10 | |
| **25** | 0 | 80 19485 27603 | 707 20808+ | 719 18956 88277 | 4165 35086+ | 0 | **35** |
| | 10 | 86 85192 48411+ | 746 64007+ | 701 34791 53190+ | 3882 17401 | 50 | |
| | 20 | 0,61093 50939 12419+ | 786 07870+ | 683 50909 35789+ | 3599 07295 | 40 | |
| | 30 | 0,61100 16725 20289+ | 825 52396+ | 665 67310 28494+ | 3316 04766 | 30 | |
| | 40 | 06 82550 72686 | 864 97586 | 647 83994 23728+ | 3033 09811+ | 20 | |
| | 50 | 13 48415 70272+ | 904 43439+ | 630 00961 13917 | 2750 22428+ | 10 | |
| **26** | 0 | 20 14320 13712 | 943 89957 | 612 18210 91489 | 2467 42614 | 0 | **34** |
| | 10 | 26 80264 03668+ | 6 65983 37138 | 594 35743 48874+ | 2184 70366 | 50 | |
| | 20 | 33 46247 40806+ | 6 66022 84983 | 576 53558 78508+ | 1902 05681+ | 40 | |
| | 30 | 40 12270 25790 | 062 33492+ | 558 71656 72827 | 1619 48558 | 30 | |
| | 40 | 46 78332 59282+ | 101 82666 | 540 90037 24268+ | 1336 98993 | 20 | |
| | 50 | 53 44434 41948+ | 141 32504 | 523 08700 25275+ | 1054 56983+ | 10 | |
| **27** | 0 | 60 10575 74452+ | 180 83006+ | 505 27645 68292+ | 0772 22526+ | 0 | **33** |
| | 10 | 66 76756 57459 | 220 34174 | 487 46873 45766 | 0489 95620 | 50 | |
| | 20 | 73 42976 91633 | 259 86005+ | 469 66383 50146 | 17 80207 76261 | 40 | |
| | 30 | 80 09236 77639 | 299 38502+ | 451 86175 73885 | 17 79925 64447 | 30 | |
| | 40 | 86 75536 16141+ | 338 91664 | 434 06250 09437+ | 9643 60175+ | 20 | |
| | 50 | 0,61193 41875 07805+ | 378 45491 | 416 26606 49262 | 9361 63443+ | 10 | |
| **28** | 0 | 0,61200 08253 53296+ | 417 99983 | 398 47244 85818+ | 9079 74248+ | 0 | **32** |
| | 10 | 06 74671 53279+ | 457 55140+ | 380 68165 11570+ | 8797 92587+ | 50 | |
| | 20 | 13 41129 08420 | 497 10963 | 362 89367 18982+ | 8516 18458+ | 40 | |
| | 30 | 20 07626 19383+ | 536 67451+ | 345 10851 00524 | 8234 51858+ | 30 | |
| | 40 | 26 74162 86835 | 576 24605+ | 327 32616 48665+ | 7952 92785 | 20 | |
| | 50 | 33 40739 11440+ | 615 82425+ | 309 54663 55880+ | 7671 41235 | 10 | |
| **29** | 0 | 40 07354 93865+ | 655 40911 | 291 76992 14645+ | 7389 97206 | 0 | **31** |
| | 10 | 46 74010 34776+ | 695 00062+ | 273 99602 17439+ | 7108 60695+ | 50 | |
| | 20 | 53 40705 34839+ | 734 59880+ | 256 22493 56744 | 6827 31701 | 40 | |
| | 30 | 60 07439 94720 | 774 20364+ | 238 45666 25043 | 6546 10219+ | 30 | |
| | 40 | 66 74214 15084+ | 813 81515 | 220 69120 14823+ | 6264 96248+ | 20 | |
| | 50 | 73 41027 96600 | 6 66853 43332 | 202 92855 18575 | 17 75983 89785+ | 10 | |
| **30** | 0 | 0,61280 07881 39932 | | 1,63185 16871 28789+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,61280 07881 39932 | 6 66893 05815+ | 1,63185 16871 28789+ | 17 75702 90827+ | 0 | **30** |
| | 10 | 86 74774 45747+ | 932 68966 | 167 41168 37962 | 5421 99372 | 50 | |
| | 20 | 0,61293 41707 14713+ | 6 66972 32783 | 149 65746 38590 | 5141 15416+ | 40 | |
| | 30 | 0,61300 08679 47496+ | 6 67011 97267 | 131 90605 23173+ | 4860 38958+ | 30 | |
| | 40 | 06 75691 44763+ | 051 62418 | 114 15744 84215 | 4579 69995 | 20 | |
| | 50 | 13 42743 07182 | 091 28236+ | 096 41165 14219+ | 4299 08524 | 10 | |
| **31** | 0 | 20 09834 35418+ | 130 94722 | 078 66866 05696 | 4018 54542 | 0 | **29** |
| | 10 | 26 76965 30140+ | 170 61875 | 060 92847 51154 | 3738 08046+ | 50 | |
| | 20 | 33 44135 92015+ | 210 29695+ | 043 19109 43107+ | 3457 69035+ | 40 | |
| | 30 | 40 11346 21711 | 249 98184 | 025 45651 74072 | 3177 37506 | 30 | |
| | 40 | 46 78596 19895 | 289 67340 | 1,63007 72474 36565+ | 2897 13455+ | 20 | |
| | 50 | 53 45885 87235 | 329 37163+ | 1,62989 99577 23110+ | 2616 96881 | 10 | |
| **32** | 0 | 60 13215 24398+ | 369 07655+ | 972 26960 26229+ | 2336 87780 | 0 | **28** |
| | 10 | 66 80584 32054 | 408 78815+ | 954 54623 38449 | 2056 86150+ | 50 | |
| | 20 | 73 47993 10869+ | 448 50643+ | 936 82566 52299 | 1776 91989 | 40 | |
| | 30 | 80 15441 61513 | 488 23140 | 919 10789 60310 | 1497 05293+ | 30 | |
| | 40 | 86 82929 84653+ | 527 96305+ | 901 39292 55016+ | 1217 26061 | 20 | |
| | 50 | 0,61393 50457 80958+ | 567 70139 | 883 68075 28955+ | 0937 54289 | 10 | |
| **33** | 0 | 0,61400 18025 51097+ | 607 44641 | 865 97137 74666+ | 0657 89975 | 0 | **27** |
| | 10 | 06 85632 95739 | 647 19812+ | 848 26479 84691+ | 0378 33116 | 50 | |
| | 20 | 13 53280 15551 | 686 95652+ | 830 56101 51575+ | 17 70098 83710 | 40 | |
| | 30 | 20 20967 11203+ | 726 72161+ | 812 86002 67865+ | 17 69819 41754 | 30 | |
| | 40 | 26 88693 83365 | 766 49340 | 795 16183 26112 | 9540 07245 | 20 | |
| | 50 | 33 56460 32704+ | 806 27187+ | 777 46643 18866+ | 9260 80181+ | 10 | |
| **34** | 0 | 40 24266 59892 | 846 05704+ | 759 77382 38685+ | 8981 60559+ | 0 | **26** |
| | 10 | 46 92112 65596+ | 885 84891 | 742 08400 78125+ | 8702 48377+ | 50 | |
| | 20 | 53 59998 50487 | 925 64747 | 724 39698 29748 | 8423 43632+ | 40 | |
| | 30 | 60 27924 15234 | 6 67965 45273 | 706 71274 86115 | 8144 46322 | 30 | |
| | 40 | 66 95889 60507 | 6 68005 26468+ | 689 03130 39793 | 7865 56443 | 20 | |
| | 50 | 73 63894 86975+ | 045 08334+ | 671 35264 83350 | 7586 73993+ | 10 | |
| **35** | 0 | 80 31939 95310 | 084 90870 | 653 67678 09356+ | 7307 98970 | 0 | **25** |
| | 10 | 87 00024 86180 | 124 74076+ | 636 00370 10386+ | 7029 31371 | 50 | |
| | 20 | 0,61493 68149 60256 | 164 57952+ | 618 33340 79015+ | 6750 71193 | 40 | |
| | 30 | 0,61500 36314 18209 | 204 42499+ | 600 66590 07822 | 6472 18434 | 30 | |
| | 40 | 07 04518 60708+ | 244 27717 | 583 00117 89388 | 6193 73091 | 20 | |
| | 50 | 13 72762 88425+ | 284 13605 | 565 33924 16297 | 5915 35161+ | 10 | |
| **36** | 0 | 20 41047 02031 | 324 00164 | 547 68008 81135+ | 5637 04643 | 0 | **24** |
| | 10 | 27 09371 02195 | 363 87394 | 530 02371 76492 | 5358 81533 | 50 | |
| | 20 | 33 77734 89589 | 403 75295 | 512 37012 94959 | 5080 65829 | 40 | |
| | 30 | 40 46138 64884 | 443 63867 | 494 71932 29130 | 4802 57527+ | 30 | |
| | 40 | 47 14582 28751 | 483 53110+ | 477 07129 71602+ | 4524 56627 | 20 | |
| | 50 | 53 83065 81861+ | 523 43025+ | 459 42605 14975+ | 4246 63124+ | 10 | |
| **37** | 0 | 60 51589 24887 | 563 33611+ | 441 78358 51851+ | 3968 77017 | 0 | **23** |
| | 10 | 67 20152 58498+ | 603 24869+ | 424 14389 74834+ | 3690 98302+ | 50 | |
| | 20 | 73 88755 83368 | 643 16799+ | 406 50698 76532 | 3413 26978+ | 40 | |
| | 30 | 80 57399 00167+ | 683 09401 | 388 87285 49553+ | 3135 63041+ | 30 | |
| | 40 | 87 26082 09568+ | 723 02674+ | 371 24149 86512 | 2858 06490 | 20 | |
| | 50 | 0,61593 94805 12242+ | 762 96620 | 353 61291 80022 | 2580 57321 | 10 | |
| **38** | 0 | 0,61600 63568 08862+ | 802 91238 | 335 98711 22701 | 2303 15531+ | 0 | **22** |
| | 10 | 07 32371 00100+ | 842 86528 | 318 36408 07169+ | 2025 81119+ | 50 | |
| | 20 | 14 01213 86629 | 882 82491 | 300 74382 26050 | 1748 54082 | 40 | |
| | 30 | 20 70096 69119+ | 922 79126 | 283 12633 71968 | 1471 34417 | 30 | |
| | 40 | 27 39019 48246 | 6 68962 76434 | 265 51162 37551 | 1194 22121 | 20 | |
| | 50 | 34 07982 24680 | 6 69002 74415 | 247 89968 15430 | 0917 17192+ | 10 | |
| **39** | 0 | 40 76984 99095 | 042 73068+ | 230 29050 98237+ | 0640 19628 | 0 | **21** |
| | 10 | 47 46027 72163+ | 082 72395+ | 212 68410 78609+ | 0363 29425+ | 50 | |
| | 20 | 54 15110 44558+ | 122 72395+ | 195 08047 49184+ | 17 60086 46582 | 40 | |
| | 30 | 60 84233 16954 | 162 73068+ | 177 47961 02602+ | 17 59809 71095+ | 30 | |
| | 40 | 67 53395 90022+ | 202 74415 | 159 88151 31507 | 9533 02962+ | 20 | |
| | 50 | 74 22598 64437+ | 6 69242 76435 | 142 28618 28544+ | 17 59256 42181+ | 10 | |
| **40** | 0 | 0,61680 91841 40872+ | | 1,62124 69361 86363 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,61680 91841 40872+ | 6 69282 79129 | 1,62124 69361 86363 | 17 58979 88749 | 0 | **20** |
| | 10 | 87 61124 20001+ | 322 82496+ | 107 10381 97613+ | 8703 42663+ | 50 | |
| | 20 | 0,61694 30447 02498 | 362 86538 | 089 51678 54950+ | 8427 03921 | 40 | |
| | 30 | 0,61700 99809 89036 | 402 91253+ | 071 93251 51029 | 8150 72520+ | 30 | |
| | 40 | 07 69212 80289+ | 442 96643 | 054 35100 78509 | 7874 48458 | 20 | |
| | 50 | 14 38655 76932+ | 483 02706+ | 036 77226 30050+ | 7598 31732 | 10 | |
| **41** | 0 | 21 08138 79639 | 523 09444+ | 019 19627 98318+ | 7322 22339+ | 0 | **19** |
| | 10 | 27 77661 89083+ | 563 16857+ | 1,62001 62305 75979 | 7046 20278 | 50 | |
| | 20 | 34 47225 05941 | 603 24944+ | 1,61984 05259 55701+ | 6770 25544+ | 40 | |
| | 30 | 41 16828 30885+ | 643 33706+ | 966 48489 30156+ | 6494 38137 | 30 | |
| | 40 | 47 86471 64592 | 683 43143 | 948 91994 92019+ | 6218 58053 | 20 | |
| | 50 | 54 56155 07735 | 723 53254+ | 931 35776 33966+ | 5942 85289+ | 10 | |
| **42** | 0 | 61 25878 60989+ | 763 64041+ | 913 79833 48677 | 5667 19844+ | 0 | **18** |
| | 10 | 67 95642 25031 | 803 75503 | 896 24166 28832+ | 5391 61715 | 50 | |
| | 20 | 74 65446 00534 | 843 87640+ | 878 68774 67117+ | 5116 10898 | 40 | |
| | 30 | 81 35289 88174+ | 884 00453 | 861 13658 56219+ | 4840 67392 | 30 | |
| | 40 | 88 05173 88627+ | 924 13941 | 843 58817 88827 | 4565 31194 | 20 | |
| | 50 | 0,61794 75098 02568+ | 6 69964 28105 | 826 04252 57633 | 4290 02301 | 10 | |
| **43** | 0 | 0,61801 45062 30673+ | 6 70004 42944+ | 808 49962 55332 | 4014 80711+ | 0 | **17** |
| | 10 | 08 15066 73618 | 044 58460 | 790 95947 74620+ | 3739 66421+ | 50 | |
| | 20 | 14 85111 32077+ | 084 74651+ | 773 42208 08199 | 3464 59430 | 40 | |
| | 30 | 21 55196 06729 | 124 91519 | 755 88743 48769+ | 3189 59733 | 30 | |
| | 40 | 28 25320 98248 | 165 09062+ | 738 35553 89036 | 2914 67329 | 20 | |
| | 50 | 34 95486 07310+ | 205 27283 | 720 82639 21707 | 2639 82215 | 10 | |
| **44** | 0 | 41 65691 34593+ | 245 46179+ | 703 29999 39492 | 2365 04388+ | 0 | **16** |
| | 10 | 48 35936 80773 | 285 65753 | 685 77634 35103+ | 2090 33847+ | 50 | |
| | 20 | 55 06222 46526 | 325 86003 | 668 25544 01256 | 1815 70588+ | 40 | |
| | 30 | 61 76548 32529 | 366 06929+ | 650 73728 30668 | 1541 14609+ | 30 | |
| | 40 | 68 46914 39458+ | 406 28533+ | 633 22187 16058+ | 1266 65908 | 20 | |
| | 50 | 75 17320 67992 | 446 50814+ | 615 70920 50150+ | 0992 24481 | 10 | |
| **45** | 0 | 81 87767 18806+ | 486 73772+ | 598 19928 25669+ | 0717 90326+ | 0 | **15** |
| | 10 | 88 58253 92579 | 526 97408 | 580 69210 35343 | 0443 63442 | 50 | |
| | 20 | 0,61895 28780 89987 | 567 21721 | 563 18766 71901 | 17 50169 43824+ | 40 | |
| | 30 | 0,61901 99348 11708 | 607 46711 | 545 68597 28076+ | 17 49895 31472 | 30 | |
| | 40 | 08 69955 58419 | 647 72379+ | 528 18701 96604+ | 9621 26381+ | 20 | |
| | 50 | 15 40603 30798+ | 687 98725 | 510 69080 70223 | 9347 28550+ | 10 | |
| **46** | 0 | 22 11291 29523+ | 728 25749 | 493 19733 41672+ | 9073 37976+ | 0 | **14** |
| | 10 | 28 82019 55272+ | 768 53451 | 475 70660 03696 | 8799 54657+ | 50 | |
| | 20 | 35 52788 08723 | 808 81831 | 458 21860 49038+ | 8525 78590+ | 40 | |
| | 30 | 42 23596 90554 | 849 10889 | 440 73334 70448 | 8252 09772+ | 30 | |
| | 40 | 48 94446 01443 | 889 40625+ | 423 25082 60675+ | 7978 48202 | 20 | |
| | 50 | 55 65335 42068+ | 929 71041 | 405 77104 12473+ | 7704 93876 | 10 | |
| **47** | 0 | 62 36265 13109+ | 6 70970 02134+ | 388 29399 18597+ | 7431 46791+ | 0 | **13** |
| | 10 | 69 07235 15244 | 6 71010 33907 | 370 81967 71805+ | 7158 06947 | 50 | |
| | 20 | 75 78245 49151 | 050 66358+ | 353 34809 64859 | 6884 74339 | 40 | |
| | 30 | 82 49296 15509+ | 090 99489 | 335 87924 90519+ | 6611 48965+ | 30 | |
| | 40 | 89 20387 14998+ | 131 33298+ | 318 41313 41554 | 6338 30824 | 20 | |
| | 50 | 0,61995 91518 48297 | 171 67787 | 300 94975 10730 | 6065 19911+ | 10 | |
| **48** | 0 | 0,62002 62690 16084 | 212 02955+ | 283 48909 90818+ | 5792 16226 | 0 | **12** |
| | 10 | 09 33902 19039+ | 252 38803 | 266 03117 74592 | 5519 19765 | 50 | |
| | 20 | 16 05154 57842+ | 292 75330 | 248 57598 54827 | 5246 30525+ | 40 | |
| | 30 | 22 76447 33172 | 333 12537 | 231 12352 24301+ | 4973 48505+ | 30 | |
| | 40 | 29 47780 45709 | 373 50423+ | 213 67378 75795+ | 4700 73702+ | 20 | |
| | 50 | 36 19153 96132+ | 413 88990 | 196 22678 02093+ | 4428 06113+ | 10 | |
| **49** | 0 | 42 90567 85122+ | 454 28236+ | 178 78249 95980 | 4155 45736 | 0 | **11** |
| | 10 | 49 62022 13359 | 494 68163+ | 161 34094 50244 | 3882 92568 | 50 | |
| | 20 | 56 33516 81523 | 535 08771 | 143 90211 57676 | 3610 46606+ | 40 | |
| | 30 | 63 05051 90293+ | 575 50058+ | 126 46601 11069+ | 3338 07849+ | 30 | |
| | 40 | 69 76627 40352 | 615 92026+ | 109 03263 03220+ | 3065 76294 | 20 | |
| | 50 | 76 48243 32378+ | 6 71656 34675+ | 091 60197 26926+ | 17 42793 51937+ | 10 | |
| **50** | 0 | 0,62083 19899 67054 | | 1,61074 17403 74989 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 31°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,62083 19899 67054 | 6 71696 78005 | 1,61074 17403 74989 | 17 42521 34778 | 0 | **10** |
| | 10 | 89 91596 45059 | 737 22015+ | 056 74882 40210+ | 2249 24813 | 50 | |
| | 20 | 0,62096 63333 67074+ | 777 66707 | 039 32633 15398 | 1977 22039 | 40 | |
| | 30 | 0,62103 35111 33781 | 818 12079+ | 021 90655 93359 | 1705 26454+ | 30 | |
| | 40 | 10 06929 45861 | 858 58133+ | 1,61004 48950 66904 | 1433 38057 | 20 | |
| | 50 | 16 78788 03994+ | 899 04869 | 1,60987 07517 28847 | 1161 56843+ | 10 | |
| **51** | 0 | 23 50687 08863+ | 939 52285+ | 969 66355 72004 | 0889 82811+ | 0 | **9** |
| | 10 | 30 22626 61149 | 6 71980 00384 | 952 25465 89192+ | 0618 15958+ | 50 | |
| | 20 | 36 94606 61533 | 6 72020 49164+ | 934 84847 73233+ | 0346 56282+ | 40 | |
| | 30 | 43 66627 10697+ | 060 98626+ | 917 44501 16951 | 17 40075 03781 | 30 | |
| | 40 | 50 38688 09324 | 101 48770+ | 900 04426 13170 | 17 39803 58451 | 20 | |
| | 50 | 57 10789 58094+ | 141 99596+ | 882 64622 54719 | 9532 20290 | 10 | |
| **52** | 0 | 63 82931 57691 | 182 51105 | 865 25090 34429 | 9260 89296 | 0 | **8** |
| | 10 | 70 55114 08796+ | 223 03296 | 847 85829 45133 | 8989 65466 | 50 | |
| | 20 | 77 27337 12092 | 263 56169 | 830 46839 79667 | 8718 48798 | 40 | |
| | 30 | 83 99600 68261 | 304 09725 | 813 08121 30869+ | 8447 39289 | 30 | |
| | 40 | 90 71904 77986 | 344 63963+ | 795 69673 91580+ | 8176 36937 | 20 | |
| | 50 | 0,62197 44249 41949 | 385 18884+ | 778 31497 54643+ | 7905 41739 | 10 | |
| **53** | 0 | 0,62204 16634 60833+ | 425 74489 | 760 93592 12904+ | 7634 53693 | 0 | **7** |
| | 10 | 10 89060 35322+ | 466 30776 | 743 55957 59211+ | 7363 72796+ | 50 | |
| | 20 | 17 61526 66099 | 506 87747 | 726 18593 86415 | 7092 99046+ | 40 | |
| | 30 | 24 34033 53845+ | 547 45400+ | 708 81500 87368+ | 6822 32441 | 30 | |
| | 40 | 31 06580 99246+ | 588 03738 | 691 44678 54927+ | 6551 72977+ | 20 | |
| | 50 | 37 79169 02984 | 628 62759 | 674 08126 81950 | 6281 20653 | 10 | |
| **54** | 0 | 44 51797 65743 | 669 22463+ | 656 71845 61297 | 6010 75466 | 0 | **6** |
| | 10 | 51 24466 88206 | 709 82851+ | 639 35834 85831 | 5740 37413 | 50 | |
| | 20 | 57 97176 71058 | 750 43924 | 622 00094 48418+ | 5470 06492 | 40 | |
| | 30 | 64 69927 14981+ | 791 05680 | 604 64624 41926+ | 5199 82700+ | 30 | |
| | 40 | 71 42718 20661+ | 831 68120+ | 587 29424 59226 | 4929 66036 | 20 | |
| | 50 | 78 15549 88782 | 872 31245 | 569 94494 93189+ | 4659 56496 | 10 | |
| **55** | 0 | 84 88422 20027 | 912 95054 | 552 59835 36693+ | 4389 54078+ | 0 | **5** |
| | 10 | 91 61335 15081+ | 953 59548 | 535 25445 82615 | 4119 58780 | 50 | |
| | 20 | 0,62298 34288 74629 | 6 72994 24726 | 517 91326 23835 | 3849 70599 | 40 | |
| | 30 | 0,62305 07282 99355+ | 6 73034 90589 | 500 57476 53236 | 3579 89532+ | 30 | |
| | 40 | 11 80317 89944+ | 075 57137 | 483 23896 63703+ | 3310 15578+ | 20 | |
| | 50 | 18 53393 47081+ | 116 24370 | 465 90586 48125 | 3040 48734 | 10 | |
| **56** | 0 | 25 26509 71451 | 156 92288 | 448 57545 99391+ | 2770 88996+ | 0 | **4** |
| | 10 | 31 99666 63739 | 197 60891 | 431 24775 10395 | 2501 36364 | 50 | |
| | 20 | 38 72864 24630 | 238 30179+ | 413 92273 74031 | 2231 90834 | 40 | |
| | 30 | 45 46102 54810 | 279 00154 | 396 60041 83197 | 1962 52403+ | 30 | |
| | 40 | 52 19381 54963+ | 319 70813+ | 379 28079 30793+ | 1693 21070+ | 20 | |
| | 50 | 58 92701 25777+ | 360 42159 | 361 96386 09723 | 1423 96832+ | 10 | |
| **57** | 0 | 65 66061 67936+ | 401 14190+ | 344 64962 12890+ | 1154 79687 | 0 | **3** |
| | 10 | 72 39462 82126+ | 441 86907+ | 327 33807 33203 | 0885 69632 | 50 | |
| | 20 | 79 12904 69034 | 482 60311 | 310 02921 63571+ | 0616 66664 | 40 | |
| | 30 | 85 86387 29345 | 523 34400+ | 292 72304 96907+ | 0347 70781 | 30 | |
| | 40 | 92 59910 63745+ | 564 09176+ | 275 41957 26126+ | 17 30078 81981 | 20 | |
| | 50 | 0,62399 33474 72922 | 604 84639 | 258 11878 44145+ | 17 29810 00261 | 10 | |
| **58** | 0 | 0,62406 07079 57561 | 645 60788 | 240 82068 43884 | 9541 25619 | 0 | **2** |
| | 10 | 12 80725 18348+ | 686 37623+ | 223 52527 18265 | 9272 58052 | 50 | |
| | 20 | 19 54411 55972 | 727 15146 | 206 23254 60212+ | 9003 97558+ | 40 | |
| | 30 | 26 28138 71118 | 767 93355+ | 188 94250 62654+ | 8735 44134+ | 30 | |
| | 40 | 33 01906 64473 | 808 72252 | 171 65515 18520 | 8466 97779 | 20 | |
| | 50 | 39 75715 36725 | 849 51835+ | 154 37048 20740+ | 8198 58489 | 10 | |
| **59** | 0 | 46 49564 88560+ | 890 32106+ | 137 08849 62252 | 7930 26262 | 0 | **1** |
| | 10 | 53 23455 20667 | 931 13065 | 119 80919 35990 | 7662 01095+ | 50 | |
| | 20 | 59 97386 33731+ | 6 73971 94710+ | 102 53257 34894+ | 7393 82987 | 40 | |
| | 30 | 66 71358 28442+ | 6 74012 77044+ | 085 25863 51907+ | 7125 71934+ | 30 | |
| | 40 | 73 45371 05486+ | 053 60066 | 067 98737 79972+ | 6857 67935+ | 20 | |
| | 50 | 80 19424 65552+ | 6 74094 43775 | 050 71880 12037+ | 17 26589 70987 | 10 | |
| **60** | 0 | 0,62486 93519 09327+ | | 1,60033 45290 41050+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 58°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,62486 93519 09327+ | 6 74135 28172+ | 1,60033 45290 41050+ | 17 26321 81087 | 0 | **60** |
| | 10 | 0,62493 67654 37500 | 176 13258 | 1,60016 18968 59963+ | 6053 98233 | 50 | |
| | 20 | 0,62500 41830 50758 | 216 99032 | 1,59998 92914 61730+ | 5786 22422+ | 40 | |
| | 30 | 07 16047 49790 | 257 85494 | 981 67128 39308 | 5518 53653 | 30 | |
| | 40 | 13 90305 35284 | 298 72644+ | 964 41609 85655+ | 5250 91922 | 20 | |
| | 50 | 20 64604 07928+ | 339 60484 | 947 16358 93733 | 4983 37227+ | 10 | |
| **1** | 0 | 27 38943 68412+ | 380 49012+ | 929 91375 56505+ | 4715 89567 | 0 | **59** |
| | 10 | 34 13324 17425 | 421 38229+ | 912 66659 66939 | 4448 48937+ | 50 | |
| | 20 | 40 87745 55654+ | 462 28135+ | 895 42211 18001+ | 4181 15337 | 40 | |
| | 30 | 47 62207 83789+ | 503 18730+ | 878 18030 02665 | 3913 88763 | 30 | |
| | 40 | 54 36711 02520 | 544 10015 | 860 94116 13902 | 3646 69213 | 20 | |
| | 50 | 61 11255 12535 | 585 01989 | 843 70469 44689 | 3379 56684+ | 10 | |
| **2** | 0 | 67 85840 14524 | 625 94652 | 826 47089 88004+ | 3112 51175+ | 0 | **58** |
| | 10 | 74 60466 09176 | 666 88005 | 809 23977 36829 | 2845 52683 | 50 | |
| | 20 | 81 35132 97181+ | 707 82048 | 792 01131 84146 | 2578 61205 | 40 | |
| | 30 | 88 09840 79229 | 748 76780+ | 774 78553 22941 | 2311 76739 | 30 | |
| | 40 | 0,62594 84589 56009+ | 789 72203 | 757 56241 46202 | 2044 99282+ | 20 | |
| | 50 | 0,62601 59379 28212+ | 830 68315+ | 740 34196 46919+ | 1778 28833 | 10 | |
| **3** | 0 | 08 34209 96528 | 871 65118+ | 723 12418 18086+ | 1511 65388+ | 0 | **57** |
| | 10 | 15 09081 61646+ | 912 62611+ | 705 90906 52698 | 1245 08945+ | 50 | |
| | 20 | 21 83994 24258 | 953 60795+ | 688 69661 43752+ | 0978 59503 | 40 | |
| | 30 | 28 58947 85053+ | 6 74994 59670 | 671 48682 84249+ | 0712 17057+ | 30 | |
| | 40 | 35 33942 44723+ | 6 75035 59235 | 654 27970 67191+ | 0445 81607+ | 20 | |
| | 50 | 42 08978 03958 | 076 59490+ | 637 07524 85584+ | 17 20179 53149+ | 10 | |
| **4** | 0 | 48 84054 63449 | 117 60437+ | 619 87345 32435 | 17 19913 31682 | 0 | **56** |
| | 10 | 55 59172 23886+ | 158 62075+ | 602 67432 00753 | 9647 17202 | 50 | |
| | 20 | 62 34330 85962 | 199 64404+ | 585 47784 83550+ | 9381 09707+ | 40 | |
| | 30 | 69 09530 50367 | 240 67425+ | 568 28403 73843 | 9115 09196 | 30 | |
| | 40 | 75 84771 17792 | 281 71137 | 551 09288 64647 | 8849 15665 | 20 | |
| | 50 | 82 60052 88929+ | 322 75541 | 533 90439 48982 | 8583 29112 | 10 | |
| **5** | 0 | 89 35375 64470 | 363 80636 | 516 71856 19870 | 8317 49534+ | 0 | **55** |
| | 10 | 0,62696 10739 45106 | 404 86423 | 499 53538 70335+ | 8051 76930+ | 50 | |
| | 20 | 0,62702 86144 31529 | 445 92902 | 482 35486 93404+ | 7786 11297+ | 40 | |
| | 30 | 09 61590 24431+ | 487 00073 | 465 17700 82107 | 7520 52633 | 30 | |
| | 40 | 16 37077 24504+ | 528 07936+ | 448 00180 29474+ | 7255 00934+ | 20 | |
| | 50 | 23 12605 32441 | 569 16492 | 430 82925 28540 | 6989 56199+ | 10 | |
| **6** | 0 | 29 88174 48933+ | 610 25740 | 413 65935 72340+ | 6724 18426 | 0 | **54** |
| | 10 | 36 63784 74673+ | 651 35681 | 396 49211 53914+ | 6458 87611 | 50 | |
| | 20 | 43 39436 10354+ | 692 46314 | 379 32752 66303+ | 6193 63752+ | 40 | |
| | 30 | 50 15128 56668+ | 733 57640+ | 362 16559 02551 | 5928 46848+ | 30 | |
| | 40 | 56 90862 14309 | 774 69659+ | 345 00630 55702+ | 5663 36896 | 20 | |
| | 50 | 63 66636 83968 | 815 82371+ | 327 84967 18807 | 5398 33892+ | 10 | |
| **7** | 0 | 70 42452 66339+ | 856 95776+ | 310 69568 84914+ | 5133 37836 | 0 | **53** |
| | 10 | 77 18309 62116 | 898 09875+ | 293 54435 47078 | 4868 48724 | 50 | |
| | 20 | 83 94207 71991+ | 939 24667+ | 276 39566 98354 | 4603 66554 | 40 | |
| | 30 | 90 70146 96659 | 6 75980 40153 | 259 24963 31800 | 4338 91324 | 30 | |
| | 40 | 0,62797 46127 36811+ | 6 76021 56332 | 242 10624 40476 | 4074 23031 | 20 | |
| | 50 | 0,62804 22148 93144 | 062 73205 | 224 96550 17444+ | 3809 61673 | 10 | |
| **8** | 0 | 10 98211 66349 | 103 90772 | 207 82740 55771+ | 3545 07247+ | 0 | **52** |
| | 10 | 17 74315 57121 | 145 09033 | 190 69195 48524 | 3280 59752+ | 50 | |
| | 20 | 24 50460 66154 | 186 27988 | 173 55914 88771+ | 3016 19185 | 40 | |
| | 30 | 31 26646 94142 | 227 47637+ | 156 42898 69586+ | 2751 85542+ | 30 | |
| | 40 | 38 02874 41779+ | 268 67981+ | 139 30146 84044 | 2487 58823+ | 20 | |
| | 50 | 44 79143 09761 | 309 89020 | 122 17659 25221 | 2223 39024+ | 10 | |
| **9** | 0 | 51 55452 98781 | 351 10753 | 105 05435 86196 | 1959 26144 | 0 | **51** |
| | 10 | 58 31804 09534 | 392 33180+ | 087 93476 60052 | 1695 20179+ | 50 | |
| | 20 | 65 08196 42714+ | 433 56303+ | 070 81781 39872+ | 1431 21128+ | 40 | |
| | 30 | 71 84629 99018 | 474 80121 | 053 70350 18744+ | 1167 28988 | 30 | |
| | 40 | 78 61104 79139 | 516 04634 | 036 59182 89756 | 0903 43756+ | 20 | |
| | 50 | 85 37620 83773 | 6 76557 29842 | 019 48279 45999+ | 17 10639 65431+ | 10 | |
| **10** | 0 | 0,62892 14178 13615 | | 1,59002 37639 80568 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,62892 14178 13615 | 6 76598 55746 | 1,59002 37639 80568 | 17 10375 94010 | 0 | **50** |
| | 10 | 0,62898 90776 69361 | 639 82345 | 1,58985 27263 86558 | 17 10112 29490+ | 50 | |
| | 20 | 0,62905 67416 51706 | 681 09639+ | 968 17151 57067+ | 17 09848 71870 | 40 | |
| | 30 | 12 44097 61345+ | 722 37630 | 951 07302 85197+ | 9585 21146 | 30 | |
| | 40 | 19 20819 98975+ | 763 66316+ | 933 97717 64051+ | 9321 77317 | 20 | |
| | 50 | 25 97583 65292 | 804 95699 | 916 88395 86734+ | 9058 40379+ | 10 | |
| **11** | 0 | 32 74388 60991 | 846 25777+ | 899 79337 46355 | 8795 10332 | 0 | **49** |
| | 10 | 39 51234 86768+ | 887 56552+ | 882 70542 36023 | 8531 87171+ | 50 | |
| | 20 | 46 28122 43320+ | 928 88023+ | 865 62010 48851 | 8268 70896+ | 40 | |
| | 30 | 53 05051 31344 | 6 76970 20191 | 848 53741 77955 | 8005 61503+ | 30 | |
| | 40 | 59 82021 51535+ | 6 77011 53055+ | 831 45736 16451 | 7742 58991 | 20 | |
| | 50 | 66 59033 04591 | 052 86616+ | 814 37993 57460 | 7479 63356+ | 10 | |
| **12** | 0 | 73 36085 91207+ | 094 20874+ | 797 30513 94104 | 7216 74597 | 0 | **48** |
| | 10 | 80 13180 12082 | 135 55829+ | 780 23297 19507 | 6953 92711 | 50 | |
| | 20 | 86 90315 67912 | 176 91482 | 763 16343 26796 | 6691 17695+ | 40 | |
| | 30 | 0,62993 67492 59393+ | 218 27831 | 746 09652 09100+ | 6428 49548+ | 30 | |
| | 40 | 0,63000 44710 87225 | 259 64878 | 729 03223 59552 | 6165 88267+ | 20 | |
| | 50 | 07 21970 52102+ | 301 02622 | 711 97057 71284+ | 5903 33850 | 10 | |
| **13** | 0 | 13 99271 54725 | 342 41064 | 694 91154 37434 | 5640 86294 | 0 | **47** |
| | 10 | 20 76613 95789 | 383 80204 | 677 85513 51140 | 5378 45597 | 50 | |
| | 20 | 27 53997 75993 | 425 20041+ | 660 80135 05543 | 5116 11756+ | 40 | |
| | 30 | 34 31422 96034 | 466 60577 | 643 75018 93786 | 4853 84770+ | 30 | |
| | 40 | 41 08889 56611 | 508 01810+ | 626 70165 09016 | 4591 64636 | 20 | |
| | 50 | 47 86397 58421+ | 549 43742+ | 609 65573 44380 | 4329 51351 | 10 | |
| **14** | 0 | 54 63947 02164 | 590 86372+ | 592 61243 93028+ | 4067 44913+ | 0 | **46** |
| | 10 | 61 41537 88536+ | 632 29701+ | 575 57176 48115 | 3805 45320+ | 50 | |
| | 20 | 68 19170 18238 | 673 73729 | 558 53371 02794+ | 3543 52570 | 40 | |
| | 30 | 74 96843 91967 | 715 18455 | 541 49827 50224+ | 3281 66660 | 30 | |
| | 40 | 81 74559 10422 | 756 63880 | 524 46545 83564+ | 3019 87587+ | 20 | |
| | 50 | 88 52315 74302 | 798 10004 | 507 43525 95977 | 2758 15350+ | 10 | |
| **15** | 0 | 0,63095 30113 84306 | 839 56827 | 490 40767 80626+ | 2496 49946+ | 0 | **45** |
| | 10 | 0,63102 07953 41133+ | 881 04349+ | 473 38271 30680 | 2234 91373 | 50 | |
| | 20 | 08 85834 45483 | 922 52571+ | 456 36036 39307 | 1973 39628 | 40 | |
| | 30 | 15 63756 98054+ | 6 77964 01492+ | 439 34062 99679 | 1711 94709+ | 30 | |
| | 40 | 22 41720 99547 | 6 78005 51113+ | 422 32351 04969+ | 1450 56614+ | 20 | |
| | 50 | 29 19726 50660 | 047 01434 | 405 30900 48355 | 1189 25340+ | 10 | |
| **16** | 0 | 35 97773 52094 | 088 52454+ | 388 29711 23014+ | 0928 00885+ | 0 | **44** |
| | 10 | 42 75862 04548+ | 130 04175 | 371 28783 22129 | 0666 83247+ | 50 | |
| | 20 | 49 53992 08723+ | 171 56595+ | 354 28116 38881+ | 0405 72424 | 40 | |
| | 30 | 56 32163 65319 | 213 09716+ | 337 27710 66457+ | 17 00144 68412 | 30 | |
| | 40 | 63 10376 75035+ | 254 63537+ | 320 27565 98045+ | 16 99883 71210 | 20 | |
| | 50 | 69 88631 38573 | 296 18059 | 303 27682 26835+ | 9622 80815 | 10 | |
| **17** | 0 | 76 66927 56632 | 337 73281+ | 286 28059 46020 | 9361 97225+ | 0 | **43** |
| | 10 | 83 45265 29913+ | 379 29204+ | 269 28697 48795 | 9101 20438+ | 50 | |
| | 20 | 90 23644 59118 | 420 85828+ | 252 29596 28356+ | 8840 50451+ | 40 | |
| | 30 | 0,63197 02065 44946+ | 462 43153+ | 235 30755 77905 | 8579 87262+ | 30 | |
| | 40 | 0,63203 80527 88100 | 504 01179+ | 218 32175 90642 | 8319 30869+ | 20 | |
| | 50 | 10 59031 89279 | 545 59906+ | 201 33856 59772+ | 8058 81270 | 10 | |
| **18** | 0 | 17 37577 49186 | 587 19335 | 184 35797 78502+ | 7798 38461 | 0 | **42** |
| | 10 | 24 16164 68521 | 628 79465+ | 167 37999 40041+ | 7538 02441 | 50 | |
| | 20 | 30 94793 47986+ | 670 40297 | 150 40461 37601 | 7277 73207 | 40 | |
| | 30 | 37 73463 88283+ | 712 01830+ | 133 43183 64393+ | 7017 50757+ | 30 | |
| | 40 | 44 52175 90114 | 753 64066 | 116 46166 13636 | 6757 35089+ | 20 | |
| | 50 | 51 30929 54179+ | 795 27003 | 099 49408 78547 | 6497 26200+ | 10 | |
| **19** | 0 | 58 09724 81183 | 836 90642+ | 082 52911 52346 | 6237 24089 | 0 | **41** |
| | 10 | 64 88561 71825+ | 878 54984+ | 065 56674 28257 | 5977 28752 | 50 | |
| | 20 | 71 67440 26809+ | 920 20028+ | 048 60696 99505 | 5717 40188 | 40 | |
| | 30 | 78 46360 46838 | 6 78961 85775 | 031 64979 59317 | 5457 58393+ | 30 | |
| | 40 | 85 25322 32613 | 6 79003 52224 | 1,58014 69522 00923+ | 5197 83367 | 20 | |
| | 50 | 92 04325 84837 | 6 79045 19376 | 1,57997 74324 17557 | 16 94938 15105+ | 10 | |
| **20** | 0 | 0,63298 83371 04213 | | 1,57980 79386 02451 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,63298 83371 04213 | 6 79086 87230+ | 1,57980 79386 02451 | 16 94678 53607+ | 0 | **40** |
| | 10 | 0,63305 62457 91443+ | 128 55788+ | 963 84707 48843+ | 4418 98870+ | 50 | |
| | 20 | 12 41586 47232 | 170 25049+ | 946 90288 49973 | 4159 50892 | 40 | |
| | 30 | 19 20756 72281+ | 211 95013+ | 929 96128 99081 | 3900 09669+ | 30 | |
| | 40 | 25 99968 67295 | 253 65681 | 913 02228 89412 | 3640 75200+ | 20 | |
| | 50 | 32 79222 32976 | 295 37052 | 896 08588 14211 | 3381 47483+ | 10 | |
| **21** | 0 | 39 58517 70028+ | 337 09126+ | 879 15206 66727+ | 3122 26516 | 0 | **39** |
| | 10 | 46 37854 79155 | 378 81905 | 862 22084 40211+ | 2863 12295 | 50 | |
| | 20 | 53 17233 61060 | 420 55387+ | 845 29221 27916+ | 2604 04819 | 40 | |
| | 30 | 59 96654 16447+ | 462 29573+ | 828 36617 23097+ | 2345 04085 | 30 | |
| | 40 | 66 76116 46021 | 504 04464 | 811 44272 19012 | 2086 10091+ | 20 | |
| | 50 | 73 55620 50485 | 545 80058+ | 794 52186 08921 | 1827 22835 | 10 | |
| **22** | 0 | 80 35166 30543+ | 587 56357+ | 777 60358 86085+ | 1568 42314+ | 0 | **38** |
| | 10 | 87 14753 86901+ | 629 33361 | 760 68790 43771 | 1309 68527 | 50 | |
| | 20 | 0,63393 94383 20262+ | 671 11069+ | 743 77480 75244 | 1051 01470 | 40 | |
| | 30 | 0,63400 74054 31332 | 712 89482 | 726 86429 73774 | 0792 41142 | 30 | |
| | 40 | 07 53767 20814 | 754 68600 | 709 95637 32632 | 0533 87540 | 20 | |
| | 50 | 14 33521 89414 | 796 48423 | 693 05103 45092 | 0275 40662 | 10 | |
| **23** | 0 | 21 13318 37836+ | 838 28950+ | 676 14828 04430+ | 16 90017 00505+ | 0 | **37** |
| | 10 | 27 93156 66787+ | 880 10184 | 659 24811 03925 | 16 89758 67068 | 50 | |
| | 20 | 34 73036 76971+ | 921 92122+ | 642 35052 36857 | 9500 40348 | 40 | |
| | 30 | 41 52958 69093+ | 6 79963 74766+ | 625 45551 96509 | 9242 20342+ | 30 | |
| | 40 | 48 32922 43860 | 6 80005 58116 | 608 56309 76166+ | 8984 07049+ | 20 | |
| | 50 | 55 12928 01976+ | 047 42171+ | 591 67325 69117+ | 8726 00466+ | 10 | |
| **24** | 0 | 61 92975 44148 | 089 26933 | 574 78599 68651 | 8468 00591+ | 0 | **36** |
| | 10 | 68 73064 71081 | 131 12400+ | 557 90131 68060 | 8210 07421+ | 50 | |
| | 20 | 75 53195 83481+ | 172 98574 | 541 01921 60638 | 7952 20955+ | 40 | |
| | 30 | 82 33368 82055+ | 214 85453+ | 524 13969 39682+ | 7694 41190 | 30 | |
| | 40 | 89 13583 67509+ | 256 73040 | 507 26274 98492+ | 7436 68123+ | 20 | |
| | 50 | 0,63495 93840 40549 | 298 61332+ | 490 38838 30369+ | 7179 01753 | 10 | |
| **25** | 0 | 0,63502 74139 01882 | 340 50332 | 473 51659 28616 | 6921 42077 | 0 | **35** |
| | 10 | 09 54479 52214 | 382 40038 | 456 64737 86539+ | 6663 89092+ | 50 | |
| | 20 | 16 34861 92252 | 424 30451 | 439 78073 97447 | 6406 42797+ | 40 | |
| | 30 | 23 15286 22703 | 466 21571 | 422 91667 54649 | 6149 03190 | 30 | |
| | 40 | 29 95752 44274+ | 508 13398+ | 406 05518 51459 | 5891 70267+ | 20 | |
| | 50 | 36 76260 57673 | 550 05933 | 389 19626 81191+ | 5634 44027+ | 10 | |
| **26** | 0 | 43 56810 63605+ | 591 99175 | 372 33992 37164 | 5377 24468 | 0 | **34** |
| | 10 | 50 37402 62780+ | 633 93124 | 355 48615 12696+ | 5120 11586+ | 50 | |
| | 20 | 57 18036 55904+ | 675 87781+ | 338 63495 01110 | 4863 05381 | 40 | |
| | 30 | 63 98712 43686 | 717 83146 | 321 78631 95729 | 4606 05849 | 30 | |
| | 40 | 70 79430 26832 | 759 79219 | 304 94025 89880+ | 4349 12988 | 20 | |
| | 50 | 77 60190 06051 | 801 76000 | 288 09676 76892+ | 4092 26796 | 10 | |
| **27** | 0 | 84 40991 82051 | 843 73489 | 271 25584 50096 | 3835 47271 | 0 | **33** |
| | 10 | 91 21835 55539+ | 885 71686 | 254 41749 02825 | 3578 74410+ | 50 | |
| | 20 | 0,63598 02721 27226 | 927 70592 | 237 58170 28414+ | 3322 08212 | 40 | |
| | 30 | 0,63604 83648 97817+ | 6 80969 70206 | 220 74848 20202 | 3065 48673+ | 30 | |
| | 40 | 11 64618 68023+ | 6 81011 70529 | 203 91782 71528+ | 2808 95793 | 20 | |
| | 50 | 18 45630 38552+ | 053 71560+ | 187 08973 75735+ | 2552 49567+ | 10 | |
| **28** | 0 | 25 26684 10113+ | 095 73301+ | 170 26421 26168+ | 2296 09995 | 0 | **32** |
| | 10 | 32 07779 83414+ | 137 75751 | 153 44125 16173+ | 2039 77073+ | 50 | |
| | 20 | 38 88917 59165+ | 179 78910 | 136 62085 39100 | 1783 50800+ | 40 | |
| | 30 | 45 70097 38075+ | 221 82778 | 119 80301 88300 | 1527 31173+ | 30 | |
| | 40 | 52 51319 20854 | 263 87356 | 102 98774 57126 | 1271 18191 | 20 | |
| | 50 | 59 32583 08209+ | 305 92643 | 086 17503 38935 | 1015 11850 | 10 | |
| **29** | 0 | 66 13889 00852+ | 347 98640 | 069 36488 27085 | 0759 12148+ | 0 | **31** |
| | 10 | 72 95236 99492+ | 390 05346+ | 052 55729 14936+ | 0503 19084+ | 50 | |
| | 20 | 79 76627 04839 | 432 12763 | 035 75225 95852 | 16 80247 32655+ | 40 | |
| | 30 | 86 58059 17602 | 474 20890 | 018 94978 63197 | 16 79991 52859 | 30 | |
| | 40 | 0,63693 39533 38492 | 516 29727 | 1,57002 14987 10338 | 9735 79693 | 20 | |
| | 50 | 0,63700 21049 68219 | 6 81558 39274 | 1,56985 35251 30645+ | 16 79480 13155 | 10 | |
| **30** | 0 | 0,63707 02608 07493 | | 1,56968 55771 17490+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,63707 02608 07493 | 6 81600 49532 | 1,56968 55771 17490+ | 16 79224 53243 | 0 | **30** |
| | 10 | 13 84208 57025 | 642 60500 | 951 76546 64247+ | 8968 99955 | 50 | |
| | 20 | 20 65851 17525 | 684 72179 | 934 97577 64292+ | 8713 53288 | 40 | |
| | 30 | 27 47535 89704 | 726 84569 | 918 18864 11004+ | 8458 13240+ | 30 | |
| | 40 | 34 29262 74273 | 768 97669+ | 901 40405 97764 | 8202 79810 | 20 | |
| | 50 | 41 11031 71943 | 811 11481+ | 884 62203 17954 | 7947 52994 | 10 | |
| **31** | 0 | 47 92842 83424+ | 853 26004+ | 867 84255 64960+ | 7692 32790 | 0 | **29** |
| | 10 | 54 74696 09429 | 895 41239 | 851 06563 32170+ | 7437 19196+ | 50 | |
| | 20 | 61 56591 50668 | 937 57185 | 834 29126 12973+ | 7182 12211 | 40 | |
| | 30 | 68 38529 07853+ | 6 81979 73842+ | 817 51944 00762+ | 6927 11831+ | 30 | |
| | 40 | 75 20508 81696 | 6 82021 91212 | 800 75016 88931 | 6672 18055 | 20 | |
| | 50 | 82 02530 72907+ | 064 09293 | 783 98344 70876+ | 6417 30879+ | 10 | |
| **32** | 0 | 88 84594 82200+ | 106 28086 | 767 21927 39997 | 6162 50303 | 0 | **28** |
| | 10 | 0,63795 66701 10286+ | 148 47591 | 750 45764 89693+ | 5907 76323+ | 50 | |
| | 20 | 0,63802 48849 57878 | 190 67808+ | 733 69857 13370 | 5653 08938 | 40 | |
| | 30 | 09 31040 25686+ | 232 88738+ | 716 94204 04432 | 5398 48145 | 30 | |
| | 40 | 16 13273 14425 | 275 10381 | 700 18805 56287 | 5143 93942 | 20 | |
| | 50 | 22 95548 24805+ | 317 32735+ | 683 43661 62345 | 4889 46326+ | 10 | |
| **33** | 0 | 29 77865 57541+ | 359 55803+ | 666 68772 16018+ | 4635 05296+ | 0 | **27** |
| | 10 | 36 60225 13344+ | 401 79584 | 649 94137 10722 | 4380 70850 | 50 | |
| | 20 | 43 42626 92928+ | 444 04077+ | 633 19756 39872 | 4126 42984 | 40 | |
| | 30 | 50 25070 97006 | 486 29284 | 616 45629 96888 | 3872 21697 | 30 | |
| | 40 | 57 07557 26290+ | 528 55204 | 599 71757 75191 | 3618 06986+ | 20 | |
| | 50 | 63 90085 81494+ | 570 81837+ | 582 98139 68204+ | 3363 98850+ | 10 | |
| **34** | 0 | 70 72656 63332 | 613 09184+ | 566 24775 69354+ | 3109 97286 | 0 | **26** |
| | 10 | 77 55269 72516+ | 655 37245 | 549 51665 72068 | 2856 02291+ | 50 | |
| | 20 | 84 37925 09761 | 697 66019 | 532 78809 69776+ | 2602 13865 | 40 | |
| | 30 | 91 20622 75780+ | 739 95507+ | 516 06207 55911+ | 2348 32003+ | 30 | |
| | 40 | 0,63898 03362 71287+ | 782 25709+ | 499 33859 23908+ | 2094 56705 | 20 | |
| | 50 | 0,63904 86144 96997 | 824 56626 | 482 61764 67203+ | 1840 87967+ | 10 | |
| **35** | 0 | 11 68969 53623 | 866 88256+ | 465 89923 79236 | 1587 25788+ | 0 | **25** |
| | 10 | 18 51836 41880 | 909 20601+ | 449 18336 53447 | 1333 70166 | 50 | |
| | 20 | 25 34745 62481+ | 951 53661+ | 432 47002 83281 | 1080 21098 | 40 | |
| | 30 | 32 17697 16143 | 6 82993 87435+ | 415 75922 62183 | 0826 78582 | 30 | |
| | 40 | 39 00691 03578+ | 6 83036 21925 | 399 05095 83601 | 0573 42615 | 20 | |
| | 50 | 45 83727 25503+ | 078 57129 | 382 34522 40986 | 0320 13196+ | 10 | |
| **36** | 0 | 52 66805 82632+ | 120 93048 | 365 64202 27789+ | 16 70066 90322+ | 0 | **24** |
| | 10 | 59 49926 75680+ | 163 29682+ | 348 94135 37467 | 16 69813 73992 | 50 | |
| | 20 | 66 33090 05362+ | 205 67032 | 332 24321 63475 | 9560 64202 | 40 | |
| | 30 | 73 16295 72394+ | 248 05097 | 315 54760 99273 | 9307 60951 | 30 | |
| | 40 | 79 99543 77491+ | 290 43877+ | 298 85453 38322 | 9054 64236+ | 20 | |
| | 50 | 86 82834 21369 | 332 83374 | 282 16398 74086 | 8801 74055+ | 10 | |
| **37** | 0 | 0,63993 66167 04742+ | 375 23586 | 265 47597 00030 | 8548 90407 | 0 | **23** |
| | 10 | 0,64000 49542 28328+ | 417 64514 | 248 79048 09623 | 8296 13288+ | 50 | |
| | 20 | 07 32959 92843 | 460 06158+ | 232 10751 96334+ | 8043 42697 | 40 | |
| | 30 | 14 16419 99001 | 502 48518+ | 215 42708 53637+ | 7790 78631 | 30 | |
| | 40 | 20 99922 47520 | 544 91595+ | 198 74917 75006+ | 7538 21088+ | 20 | |
| | 50 | 27 83467 39115+ | 587 35389 | 182 07379 53918 | 7285 70066+ | 10 | |
| **38** | 0 | 34 67054 74504 | 629 79898+ | 165 40093 83852 | 7033 25563 | 0 | **22** |
| | 10 | 41 50684 54403 | 672 25125 | 148 73060 58288+ | 6780 87576+ | 50 | |
| | 20 | 48 34356 79528 | 714 71068+ | 132 06279 70712+ | 6528 56104 | 40 | |
| | 30 | 55 18071 50596+ | 757 17729 | 115 39751 14608+ | 6276 31143+ | 30 | |
| | 40 | 62 01828 68325+ | 799 65106+ | 098 73474 83465 | 6024 12693 | 20 | |
| | 50 | 68 85628 33432 | 842 13201+ | 082 07450 70772+ | 5772 00750 | 10 | |
| **39** | 0 | 75 69470 46633+ | 884 62013+ | 065 41678 70022+ | 5519 95312+ | 0 | **21** |
| | 10 | 82 53355 08647 | 927 11543 | 048 76158 74710+ | 5267 96378 | 50 | |
| | 20 | 89 37282 20190+ | 6 83969 61790+ | 032 10890 78332 | 5016 03944+ | 40 | |
| | 30 | 0,64096 21251 81981 | 6 84012 12755+ | 1,56015 45874 74387+ | 4764 18010+ | 30 | |
| | 40 | 0,64103 05263 94736+ | 054 64438+ | 1,55998 81110 56377 | 4512 38572+ | 20 | |
| | 50 | 09 89318 59175 | 6 84097 16839+ | 982 16598 17804+ | 16 64260 65629 | 10 | |
| **40** | 0 | 0,64116 73415 76014+ | | 1,55965 52337 52175+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,64116 73415 76014+ | 6 84139 69958+ | 1,55965 52337 52175+ | 16 64008 99178 | 0 | **20** |
| | 10 | 23 57555 45973 | 182 23796 | 948 88328 52998 | 3757 39216+ | 50 | |
| | 20 | 30 41737 69769+ | 224 78352 | 932 24571 13781 | 3505 85743+ | 40 | |
| | 30 | 37 25962 48121+ | 267 33626+ | 915 61065 28038 | 3254 38755+ | 30 | |
| | 40 | 44 10229 81747+ | 309 89619+ | 898 97810 89282+ | 3002 98251 | 20 | |
| | 50 | 50 94539 71367 | 352 46331 | 882 34807 91031 | 2751 64228 | 10 | |
| **41** | 0 | 57 78892 17698 | 395 03762 | 865 72056 26803 | 2500 36684 | 0 | **19** |
| | 10 | 64 63287 21460 | 437 61912 | 849 09555 90119 | 2249 15617 | 50 | |
| | 20 | 71 47724 83372 | 480 20781 | 832 47306 74502 | 1998 01024+ | 40 | |
| | 30 | 78 32205 04153 | 522 80369 | 815 85308 73477+ | 1746 92904 | 30 | |
| | 40 | 85 16727 84522 | 565 40677 | 799 23561 80573+ | 1495 91254 | 20 | |
| | 50 | 92 01293 25199 | 608 01704+ | 782 62065 89319+ | 1244 96072+ | 10 | |
| **42** | 0 | 0,64198 85901 26903+ | 650 63451+ | 766 00820 93247 | 0994 07356+ | 0 | **18** |
| | 10 | 0,64205 70551 90354+ | 693 25918+ | 749 39826 85890+ | 0743 25104+ | 50 | |
| | 20 | 12 55245 16273 | 735 89105 | 732 79083 60786 | 0492 49313+ | 40 | |
| | 30 | 19 39981 05378 | 778 53012 | 716 18591 11472+ | 16 60241 79982 | 30 | |
| | 40 | 26 24759 58390 | 821 17639+ | 699 58349 31490+ | 16 59991 17108 | 20 | |
| | 50 | 33 09580 76029+ | 863 82987 | 682 98358 14383 | 9740 60688+ | 10 | |
| **43** | 0 | 39 94444 59016 | 906 49055 | 666 38617 53694+ | 9490 10722 | 0 | **17** |
| | 10 | 46 79351 08071 | 949 15843+ | 649 79127 42972+ | 9239 67206 | 50 | |
| | 20 | 53 64300 23914+ | 6 84991 83353 | 633 19887 75766+ | 8989 30138 | 40 | |
| | 30 | 60 49292 07267+ | 6 85034 51583 | 616 60898 45628+ | 8738 99517 | 30 | |
| | 40 | 67 34326 58850+ | 077 20534+ | 600 02159 46111+ | 8488 75339+ | 20 | |
| | 50 | 74 19403 79384+ | 119 90206+ | 583 43670 70772 | 8238 57604 | 10 | |
| **44** | 0 | 81 04523 69591+ | 162 60600+ | 566 85432 13168+ | 7988 46308 | 0 | **16** |
| | 10 | 87 89686 30192 | 205 31715+ | 550 27443 66860 | 7738 41449+ | 50 | |
| | 20 | 0,64294 74891 61907 | 248 03552 | 533 69705 25410+ | 7488 43026+ | 40 | |
| | 30 | 0,64301 60139 65459 | 290 76110 | 517 12216 82384 | 7238 51037 | 30 | |
| | 40 | 08 45430 41569+ | 333 49390 | 500 54978 31347 | 6988 65478 | 20 | |
| | 50 | 15 30763 90959+ | 376 23392 | 483 97989 65869 | 6738 86348 | 10 | |
| **45** | 0 | 22 16140 14352 | 418 98116 | 467 41250 79521 | 6489 13644+ | 0 | **15** |
| | 10 | 29 01559 12468 | 461 73562+ | 450 84761 65877 | 6239 47365+ | 50 | |
| | 20 | 35 87020 86030+ | 504 49730+ | 434 28522 18511+ | 5989 87508+ | 40 | |
| | 30 | 42 72525 35761 | 547 26621+ | 417 72532 31003 | 5740 34072 | 30 | |
| | 40 | 49 58072 62382+ | 590 04235 | 401 16791 96931 | 5490 87053 | 20 | |
| | 50 | 56 43662 66617+ | 632 82571 | 384 61301 09878 | 5241 46450+ | 10 | |
| **46** | 0 | 63 29295 49189 | 675 61630 | 368 06059 63427+ | 4992 12261 | 0 | **14** |
| | 10 | 70 14971 10819 | 718 41412 | 351 51067 51167 | 4742 84483 | 50 | |
| | 20 | 77 00689 52231 | 761 21917 | 334 96324 66683+ | 4493 63114+ | 40 | |
| | 30 | 83 86450 74148+ | 804 03145+ | 318 41831 03569+ | 4244 48153 | 30 | |
| | 40 | 90 72254 77293+ | 846 85097 | 301 87586 55416+ | 3995 39596+ | 20 | |
| | 50 | 0,64397 58101 62390+ | 889 67772 | 285 33591 15820 | 3746 37442+ | 10 | |
| **47** | 0 | 0,64404 43991 30163 | 932 51170+ | 268 79844 78377+ | 3497 41689+ | 0 | **13** |
| | 10 | 11 29923 81333+ | 6 85975 35293 | 252 26347 36688 | 3248 52335 | 50 | |
| | 20 | 18 15899 16626+ | 6 86018 20139+ | 235 73098 84353 | 2999 69376+ | 40 | |
| | 30 | 25 01917 36766 | 061 05709+ | 219 20099 14976+ | 2750 92812 | 30 | |
| | 40 | 31 87978 42476 | 103 92004 | 202 67348 22164+ | 2502 22640 | 20 | |
| | 50 | 38 74082 34480 | 146 79023 | 186 14845 99524+ | 2253 58857+ | 10 | |
| **48** | 0 | 45 60229 13502+ | 189 66766 | 169 62592 40667+ | 2005 01462+ | 0 | **12** |
| | 10 | 52 46418 80268+ | 232 55233+ | 153 10587 39204+ | 1756 50453+ | 50 | |
| | 20 | 59 32651 35502 | 275 44426 | 136 58830 88751+ | 1508 05827+ | 40 | |
| | 30 | 66 18926 79928 | 318 34343 | 120 07322 82924 | 1259 67582+ | 30 | |
| | 40 | 73 05245 14271 | 361 24985 | 103 56063 15341 | 1011 35717 | 20 | |
| | 50 | 79 91606 39255+ | 404 16352 | 087 05051 79624 | 0763 10228+ | 10 | |
| **49** | 0 | 86 78010 55607+ | 447 08444 | 070 54288 69396 | 0514 91114+ | 0 | **11** |
| | 10 | 0,64493 64457 64051+ | 490 01261+ | 054 03773 78281+ | 0266 78373 | 50 | |
| | 20 | 0,64500 50947 65313 | 532 94804+ | 037 53506 99908+ | 16 50018 72002 | 40 | |
| | 30 | 07 37480 60117+ | 575 89073 | 021 03488 27906+ | 16 49770 71999+ | 30 | |
| | 40 | 14 24056 49190+ | 618 84067+ | 1,55004 53717 55907+ | 9522 78363 | 20 | |
| | 50 | 21 10675 33258 | 6 86661 79787+ | 1,54988 04194 77544+ | 16 49274 91090+ | 10 | |
| **50** | 0 | 0,64527 97337 13045 | | 1,54971 54919 86454 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 32°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,64527 97337 13045 | 6 86704 76233+ | 1,54971 54919 86454 | 16 49027 10179+ | 0 | **10** |
| | 10 | 34 84041 89278+ | 747 73405+ | 955 05892 76274+ | 8779 35629 | 50 | |
| | 20 | 41 70789 62684 | 790 71304 | 938 57113 40646 | 8531 67435+ | 40 | |
| | 30 | 48 57580 33988 | 833 69928+ | 922 08581 73210+ | 8284 05597+ | 30 | |
| | 40 | 55 44414 03916+ | 876 69280 | 905 60297 67613 | 8036 50113 | 20 | |
| | 50 | 62 31290 73196+ | 919 69357+ | 889 12261 17500 | 7789 00979+ | 10 | |
| **51** | 0 | 69 18210 42554 | 6 86962 70162 | 872 64472 16520+ | 7541 58195 | 0 | **9** |
| | 10 | 76 05173 12716 | 6 87005 71693+ | 856 16930 58325+ | 7294 21757+ | 50 | |
| | 20 | 82 92178 84410 | 048 73952 | 839 69636 36568+ | 7046 91664+ | 40 | |
| | 30 | 89 79227 58362 | 091 76938 | 823 22589 44904 | 6799 67914 | 30 | |
| | 40 | 0,64596 66319 35300 | 134 80651 | 806 75789 76989+ | 6552 50504+ | 20 | |
| | 50 | 0,64603 53454 15951 | 177 85091 | 790 29237 26485 | 6305 39433 | 10 | |
| **52** | 0 | 10 40632 01042 | 220 90259 | 773 82931 87052+ | 6058 34697+ | 0 | **8** |
| | 10 | 17 27852 91301 | 263 96154+ | 757 36873 52354+ | 5811 36296+ | 50 | |
| | 20 | 24 15116 87455+ | 307 02778 | 740 91062 16058+ | 5564 44227 | 40 | |
| | 30 | 31 02423 90233+ | 350 10129+ | 724 45497 71831+ | 5317 58487+ | 30 | |
| | 40 | 37 89774 00362+ | 393 18208+ | 708 00180 13344 | 5070 79075+ | 20 | |
| | 50 | 44 77167 18571+ | 436 27016 | 691 55109 34268+ | 4824 05989 | 10 | |
| **53** | 0 | 51 64603 45587+ | 479 36552 | 675 10285 28279 | 4577 39226 | 0 | **7** |
| | 10 | 58 52082 82139+ | 522 46816+ | 658 65707 89053 | 4330 78784+ | 50 | |
| | 20 | 65 39605 28956+ | 565 57809+ | 642 21377 10268+ | 4084 24662 | 40 | |
| | 30 | 72 27170 86766 | 608 69531 | 625 77292 85606+ | 3837 76856+ | 30 | |
| | 40 | 79 14779 56297 | 651 81982 | 609 33455 08750 | 3591 35366 | 20 | |
| | 50 | 86 02431 38278+ | 694 95161+ | 592 89863 73384 | 3345 00188 | 10 | |
| **54** | 0 | 92 90126 33440 | 738 09070 | 576 46518 73196 | 3098 71320+ | 0 | **6** |
| | 10 | 0,64699 77864 42510 | 781 23708 | 560 03420 01875+ | 2852 48762 | 50 | |
| | 20 | 0,64706 65645 66218 | 824 39075+ | 543 60567 53113+ | 2606 32509+ | 40 | |
| | 30 | 13 53470 05293+ | 867 55172 | 527 17961 20604 | 2360 22561+ | 30 | |
| | 40 | 20 41337 60465+ | 910 71998+ | 510 75600 98042 | 2114 18915+ | 20 | |
| | 50 | 27 29248 32464+ | 953 89555 | 494 33486 79126+ | 1868 21570 | 10 | |
| **55** | 0 | 34 17202 22019+ | 6 87997 07841 | 477 91618 57556+ | 1622 30522 | 0 | **5** |
| | 10 | 41 05199 29860+ | 6 88040 26857+ | 461 49996 27034+ | 1376 45770 | 50 | |
| | 20 | 47 93239 56718 | 083 46604 | 445 08619 81265 | 1130 67311+ | 40 | |
| | 30 | 54 81323 03322 | 126 67080+ | 428 67489 13953+ | 0884 95144+ | 30 | |
| | 40 | 61 69449 70403 | 169 88288 | 412 26604 18809 | 0639 29267 | 20 | |
| | 50 | 68 57619 58691 | 213 10226 | 395 85964 89542 | 0393 69677 | 10 | |
| **56** | 0 | 75 45832 68916+ | 256 32894+ | 379 45571 19865+ | 16 40148 16372 | 0 | **4** |
| | 10 | 82 34089 01811 | 299 56293+ | 363 05423 03493+ | 16 39902 69350+ | 50 | |
| | 20 | 89 22388 58104+ | 342 80424 | 346 65520 34143 | 9657 28609+ | 40 | |
| | 30 | 0,64796 10731 38528+ | 386 05285+ | 330 25863 05533+ | 9411 94147+ | 30 | |
| | 40 | 0,64802 99117 43814 | 429 30878 | 313 86451 11386 | 9166 65962+ | 20 | |
| | 50 | 09 87546 74692 | 472 57202 | 297 47284 45423+ | 8921 44052 | 10 | |
| **57** | 0 | 16 76019 31894 | 515 84258 | 281 08363 01371 | 8676 28414+ | 0 | **3** |
| | 10 | 23 64535 16152 | 559 12045 | 264 69686 72957 | 8431 19047 | 50 | |
| | 20 | 30 53094 28197 | 602 40564 | 248 31255 53910 | 8186 15948 | 40 | |
| | 30 | 37 41696 68761 | 645 69815 | 231 93069 37962 | 7941 19115 | 30 | |
| | 40 | 44 30342 38575+ | 688 99798 | 215 55128 18847 | 7696 28546+ | 20 | |
| | 50 | 51 19031 38373+ | 732 30513 | 199 17431 90300+ | 7451 44240 | 10 | |
| **58** | 0 | 58 07763 68886+ | 775 61960+ | 182 79980 46061 | 7206 66193 | 0 | **2** |
| | 10 | 64 96539 30846+ | 818 94140 | 166 42773 79867+ | 6961 94404+ | 50 | |
| | 20 | 71 85358 24987 | 862 27052+ | 150 05811 85463+ | 6717 28871 | 40 | |
| | 30 | 78 74220 52039+ | 905 60697+ | 133 69094 56592 | 6472 69592 | 30 | |
| | 40 | 85 63126 12737 | 948 95075+ | 117 32621 87000+ | 6228 16564 | 20 | |
| | 50 | 92 52075 07812+ | 6 88992 30186+ | 100 96393 70436+ | 5983 69785+ | 10 | |
| **59** | 0 | 0,64899 41067 37999 | 6 89035 66030+ | 084 60410 00651+ | 5739 29254 | 0 | **1** |
| | 10 | 0,64906 30103 04029+ | 079 02608 | 068 24670 71397 | 5494 94968+ | 50 | |
| | 20 | 13 19182 06637+ | 122 39918+ | 051 89175 76428+ | 5250 66925+ | 40 | |
| | 30 | 20 08304 46556 | 165 77962+ | 035 53925 09503 | 5006 45124 | 30 | |
| | 40 | 26 97470 24518+ | 209 16740+ | 019 18918 64379+ | 4762 29561 | 20 | |
| | 50 | 33 86679 41258+ | 6 89252 56252 | 1,54002 84156 34818 | 16 34518 20235+ | 10 | |
| **60** | 0 | 0,64940 75931 97510+ | | 1,53986 49638 14583 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 57°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,64940 75931 97510+ | 6 89295 96497+ | 1,53986 49638 14583 | 16 34274 17144 | 0 | **60** |
| | 10 | 47 65227 94008 | 339 37476+ | 970 15363 97438+ | 4030 20286 | 50 | |
| | 20 | 54 54567 31484+ | 382 79190+ | 953 81333 77153 | 3786 29658 | 40 | |
| | 30 | 61 43950 10675 | 426 21638+ | 937 47547 47495 | 3542 45258+ | 30 | |
| | 40 | 68 33376 32313 | 469 64820+ | 921 14005 02236 | 3298 67086 | 20 | |
| | 50 | 75 22845 97134 | 513 08737+ | 904 80706 35150+ | 3054 95137+ | 10 | |
| **1** | 0 | 82 12359 05871+ | 556 53389 | 888 47651 40013 | 2811 29411 | 0 | **59** |
| | 10 | 89 01915 59260+ | 599 98775+ | 872 14840 10602 | 2567 69905 | 50 | |
| | 20 | 0,64995 91515 58036+ | 643 44897 | 855 82272 40697+ | 2324 16617 | 40 | |
| | 30 | 0,65002 81159 02933+ | 686 91753+ | 839 49948 24080+ | 2080 69544+ | 30 | |
| | 40 | 09 70845 94687 | 730 39345+ | 823 17867 54536 | 1837 28686+ | 20 | |
| | 50 | 16 60576 34032+ | 773 87672+ | 806 86030 25849+ | 1593 94040 | 10 | |
| **2** | 0 | 23 50350 21705 | 817 36735 | 790 54436 31809 | 1350 65603+ | 0 | **58** |
| | 10 | 30 40167 58440 | 860 86533+ | 774 23085 66205+ | 1107 43374+ | 50 | |
| | 20 | 37 30028 44973+ | 904 37067+ | 757 91978 22831 | 0864 27351+ | 40 | |
| | 30 | 44 19932 82041 | 947 88337+ | 741 61113 95479+ | 0621 17531+ | 30 | |
| | 40 | 51 09880 70378+ | 6 89991 40343+ | 725 30492 77948 | 0378 13913 | 20 | |
| | 50 | 57 99872 10721+ | 6 90034 93085+ | 709 00114 64035 | 16 30135 16494 | 10 | |
| **3** | 0 | 64 89907 03807 | 078 46564 | 692 69979 47541 | 16 29892 25272 | 0 | **57** |
| | 10 | 71 79985 50371 | 122 00779 | 676 40087 22269 | 9649 40245+ | 50 | |
| | 20 | 78 70107 51150 | 165 55730+ | 660 10437 82023+ | 9406 61412 | 40 | |
| | 30 | 85 60273 06880+ | 209 11418+ | 643 81031 20611 | 9163 88769+ | 30 | |
| | 40 | 92 50482 18299 | 252 67843+ | 627 51867 31841+ | 8921 22316+ | 20 | |
| | 50 | 0,65099 40734 86142+ | 296 25005+ | 611 22946 09525 | 8678 62050 | 10 | |
| **4** | 0 | 0,65106 31031 11148 | 339 82904+ | 594 94267 47475+ | 8436 07968 | 0 | **56** |
| | 10 | 13 21370 94052+ | 383 41541 | 578 65831 39507+ | 8193 60069 | 50 | |
| | 20 | 20 11754 35593+ | 427 00914+ | 562 37637 79438 | 7951 18351 | 40 | |
| | 30 | 27 02181 36508 | 470 61026 | 546 09686 61087 | 7708 82811+ | 30 | |
| | 40 | 33 92651 97533+ | 514 21874+ | 529 81977 78276 | 7466 53448+ | 20 | |
| | 50 | 40 83166 19408+ | 557 83461+ | 513 54511 24827+ | 7224 30260 | 10 | |
| **5** | 0 | 47 73724 02869+ | 601 45786 | 497 27286 94568 | 6982 13243+ | 0 | **55** |
| | 10 | 54 64325 48655+ | 645 08848+ | 481 00304 81324 | 6740 02398 | 50 | |
| | 20 | 61 54970 57504 | 688 72649 | 464 73564 78926+ | 6497 97720+ | 40 | |
| | 30 | 68 45659 30153 | 732 37188+ | 448 47066 81206 | 6255 99209+ | 30 | |
| | 40 | 75 36391 67341+ | 776 02466 | 432 20810 81996+ | 6014 06862 | 20 | |
| | 50 | 82 27167 69807+ | 819 68482 | 415 94796 75134+ | 5772 20677+ | 10 | |
| **6** | 0 | 89 17987 38289 | 863 35237 | 399 69024 54457 | 5530 40652+ | 0 | **54** |
| | 10 | 0,65196 08850 73526 | 907 02730+ | 383 43494 13804+ | 5288 66785+ | 50 | |
| | 20 | 0,65202 99757 76256+ | 950 70963 | 367 18205 47019 | 5046 99074+ | 40 | |
| | 30 | 09 90708 47219+ | 6 90994 39935 | 350 93158 47944 | 4805 37517+ | 30 | |
| | 40 | 16 81702 87154+ | 6 91038 09646 | 334 68353 10426+ | 4563 82112+ | 20 | |
| | 50 | 23 72740 96800+ | 081 80096+ | 318 43789 28314 | 4322 32857 | 10 | |
| **7** | 0 | 30 63822 76897 | 125 51286+ | 302 19466 95457 | 4080 89749 | 0 | **53** |
| | 10 | 37 54948 28183+ | 169 23216 | 285 95386 05708 | 3839 52787 | 50 | |
| | 20 | 44 46117 51400 | 212 95885+ | 269 71546 52921 | 3598 21968+ | 40 | |
| | 30 | 51 37330 47285+ | 256 69295 | 253 47948 30952 | 3356 97291+ | 30 | |
| | 40 | 58 28587 16580 | 300 43444+ | 237 24591 33660+ | 3115 78754+ | 20 | |
| | 50 | 65 19887 60024+ | 344 18334 | 221 01475 54906 | 2874 66354+ | 10 | |
| **8** | 0 | 72 11231 78358+ | 387 93964 | 204 78600 88552 | 2633 60089+ | 0 | **52** |
| | 10 | 79 02619 72322+ | 431 70334+ | 188 55967 28462 | 2392 59958+ | 50 | |
| | 20 | 85 94051 42656+ | 475 47445+ | 172 33574 68503+ | 2151 65958+ | 40 | |
| | 30 | 92 85526 90102 | 519 25297 | 156 11423 02545 | 1910 78088 | 30 | |
| | 40 | 0,65299 77046 15399 | 563 03889+ | 139 89512 24457+ | 1669 96344+ | 20 | |
| | 50 | 0,65306 68609 19288+ | 606 83223+ | 123 67842 28113 | 1429 20726 | 10 | |
| **9** | 0 | 13 60216 02512 | 650 63298 | 107 46413 07387 | 1188 51231 | 0 | **51** |
| | 10 | 20 51866 65810+ | 694 44114+ | 091 25224 56156 | 0947 87856+ | 50 | |
| | 20 | 27 43561 09924+ | 738 25671+ | 075 04276 68299+ | 0707 30601+ | 40 | |
| | 30 | 34 35299 35596+ | 782 07971 | 058 83569 37698 | 0466 79463+ | 30 | |
| | 40 | 41 27081 43567 | 825 91011+ | 042 63102 58234+ | 16 20226 34440+ | 20 | |
| | 50 | 48 18907 34578+ | 6 91869 74794 | 026 42876 23794 | 16 19985 95530 | 10 | |
| **10** | 0 | 0,65355 10777 09372+ | | 1,53010 22890 28264 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,65355 10777 09372+ | 6 91913 59318+ | 1,53010 22890 28264 | 16 19745 62730+ | 0 | **50** |
| | 10 | 62 02690 68691 | 6 91957 44585 | 1,52994 03144 65533+ | 9505 36040 | 50 | |
| | 20 | 68 94648 13276 | 6 92001 30594 | 977 83639 29493+ | 9265 15456 | 40 | |
| | 30 | 75 86649 43870 | 045 17345 | 961 64374 14037+ | 9025 00977 | 30 | |
| | 40 | 82 78694 61215 | 089 04838+ | 945 45349 13060+ | 8784 92601 | 20 | |
| | 50 | 89 70783 66054 | 132 93075 | 929 26564 20459+ | 8544 90325 | 10 | |
| **11** | 0 | 0,65396 62916 59129 | 176 82054 | 913 08019 30134+ | 8304 94148 | 0 | **49** |
| | 10 | 0,65403 55093 41183 | 220 71776 | 896 89714 35986+ | 8065 04067+ | 50 | |
| | 20 | 10 47314 12959 | 264 62241 | 880 71649 31918+ | 7825 20082 | 40 | |
| | 30 | 17 39578 75200 | 308 53449 | 864 53824 11836+ | 7585 42188+ | 30 | |
| | 40 | 24 31887 28649+ | 352 45400+ | 848 36238 69648 | 7345 70386 | 20 | |
| | 50 | 31 24239 74050 | 396 38095+ | 832 18892 99262 | 7106 04671+ | 10 | |
| **12** | 0 | 38 16636 12145+ | 440 31534 | 816 01786 94590+ | 6866 45043+ | 0 | **48** |
| | 10 | 45 09076 43679+ | 484 25716+ | 799 84920 49547 | 6626 91500+ | 50 | |
| | 20 | 52 01560 69396 | 528 20642+ | 783 68293 58046+ | 6387 44039+ | 40 | |
| | 30 | 58 94088 90038+ | 572 16312+ | 767 51906 14007+ | 6148 02658+ | 30 | |
| | 40 | 65 86661 06351 | 616 12726+ | 751 35758 11348+ | 5908 67356+ | 20 | |
| | 50 | 72 79277 19077+ | 660 09885 | 735 19849 43992+ | 5669 38130+ | 10 | |
| **13** | 0 | 79 71937 28962+ | 704 07788 | 719 04180 05862 | 5430 14978+ | 0 | **47** |
| | 10 | 86 64641 36750+ | 748 06435+ | 702 88749 90883+ | 5190 97899+ | 50 | |
| | 20 | 0,65493 57389 43186 | 792 05827+ | 686 73558 92984 | 4951 86890 | 40 | |
| | 30 | 0,65500 50181 49013+ | 836 05964 | 670 58607 06094 | 4712 81949 | 30 | |
| | 40 | 07 43017 54977+ | 880 06846 | 654 43894 24145 | 4473 83074+ | 20 | |
| | 50 | 14 35897 61823+ | 924 08473 | 638 29420 41070+ | 4234 90264 | 10 | |
| **14** | 0 | 21 28821 70296 | 6 92968 10845 | 622 15185 50806+ | 3996 03515+ | 0 | **46** |
| | 10 | 28 21789 81141 | 6 93012 13962 | 606 01189 47291 | 3757 22827 | 50 | |
| | 20 | 35 14801 95103 | 056 17825 | 589 87432 24464 | 3518 48197 | 40 | |
| | 30 | 42 07858 12928+ | 100 22433+ | 573 73913 76266+ | 3279 79623 | 30 | |
| | 40 | 49 00958 35362 | 144 27788 | 557 60633 96643+ | 3041 17103 | 20 | |
| | 50 | 55 94102 63149+ | 188 33888 | 541 47592 79540+ | 2802 60635+ | 10 | |
| **15** | 0 | 62 87290 97038 | 232 40734 | 525 34790 18905 | 2564 10217+ | 0 | **45** |
| | 10 | 69 80523 37772 | 276 48326+ | 509 22226 08687+ | 2325 65848 | 50 | |
| | 20 | 76 73799 86098+ | 320 56665 | 493 09900 42839+ | 2087 27524+ | 40 | |
| | 30 | 83 67120 42763+ | 364 65750 | 476 97813 15315 | 1848 95244+ | 30 | |
| | 40 | 90 60485 08514 | 408 75582 | 460 85964 20070+ | 1610 69007 | 20 | |
| | 50 | 0,65597 53893 84096 | 452 86160+ | 444 74353 51063+ | 1372 48809+ | 10 | |
| **16** | 0 | 0,65604 47346 70256 | 496 97485+ | 428 62981 02254 | 1134 34650 | 0 | **44** |
| | 10 | 11 40843 67741+ | 541 09557+ | 412 51846 67604 | 0896 26526 | 50 | |
| | 20 | 18 34384 77299 | 585 22377 | 396 40950 41078 | 0658 24436+ | 40 | |
| | 30 | 25 27969 99676 | 629 35943+ | 380 30292 16641+ | 0420 28379 | 30 | |
| | 40 | 32 21599 35619+ | 673 50257+ | 364 19871 88262+ | 16 10182 38351 | 20 | |
| | 50 | 39 15272 85877 | 717 65319 | 348 09689 49911 | 16 09944 54351+ | 10 | |
| **17** | 0 | 46 08990 51196 | 761 81128 | 331 99744 95559+ | 9706 76377+ | 0 | **43** |
| | 10 | 53 02752 32324 | 805 97685 | 315 90038 19182 | 9469 04428 | 50 | |
| | 20 | 59 96558 30009 | 850 14990 | 299 80569 14754 | 9231 38500 | 40 | |
| | 30 | 66 90408 44999 | 894 33043 | 283 71337 76254 | 8993 78592 | 30 | |
| | 40 | 73 84302 78042 | 938 51844 | 267 62343 97661+ | 8756 24702 | 20 | |
| | 50 | 80 78241 29886 | 6 93982 71393+ | 251 53587 72959+ | 8518 76828 | 10 | |
| **18** | 0 | 87 72224 01279+ | 6 94026 91691+ | 235 45068 96131 | 8281 34968 | 0 | **42** |
| | 10 | 0,65694 66250 92971 | 071 12738 | 219 36787 61163 | 8043 99120 | 50 | |
| | 20 | 0,65701 60322 05709 | 115 34533+ | 203 28743 62043 | 7806 69282 | 40 | |
| | 30 | 08 54437 40242+ | 159 57078 | 187 20936 92761 | 7569 45452 | 30 | |
| | 40 | 15 48596 97320+ | 203 80371 | 171 13367 47309 | 7332 27627+ | 20 | |
| | 50 | 22 42800 77691+ | 248 04413+ | 155 06035 19681+ | 7095 15807+ | 10 | |
| **19** | 0 | 29 37048 82105+ | 292 29205+ | 138 98940 03874 | 6858 09989 | 0 | **41** |
| | 10 | 36 31341 11311 | 336 54746+ | 122 92081 93885 | 6621 10171 | 50 | |
| | 20 | 43 25677 66057+ | 380 81037+ | 106 85460 83714 | 6384 16350+ | 40 | |
| | 30 | 50 20058 47095 | 425 08078 | 090 79076 67363+ | 6147 28526+ | 30 | |
| | 40 | 57 14483 55173 | 469 35868+ | 074 72929 38837+ | 5910 46696 | 20 | |
| | 50 | 64 08952 91041+ | 6 94513 64409 | 058 67018 92141+ | 16 05673 70857+ | 10 | |
| **20** | 0 | 0,65771 03466 55450+ | | 1,52042 61345 21283+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,65771 03466 55450+ | 6 94557 93699+ | 1,52042 61345 21283+ | 16 05437 01009+ | 0 | **40** |
| | 10 | 77 98024 49150 | 602 23740 | 026 55908 20274 | 5200 37149+ | 50 | |
| | 20 | 84 92626 72890 | 646 54531+ | 1,52010 50707 83125 | 4963 79275 | 40 | |
| | 30 | 91 87273 27421+ | 690 86073 | 1,51994 45744 03849+ | 4727 27385 | 30 | |
| | 40 | 0,65798 81964 13494+ | 735 18365+ | 978 41016 76464+ | 4490 81477 | 20 | |
| | 50 | 0,65805 76699 31860 | 779 51409 | 962 36525 94987+ | 4254 41549 | 10 | |
| **21** | 0 | 12 71478 83269 | 823 85203 | 946 32271 53438+ | 4018 07599+ | 0 | **39** |
| | 10 | 19 66302 68472 | 868 19748+ | 930 28253 45839+ | 3781 79625+ | 50 | |
| | 20 | 26 61170 88220 | 912 55045 | 914 24471 66213+ | 3545 57626 | 40 | |
| | 30 | 33 56083 43265 | 6 94956 91092+ | 898 20926 08587+ | 3309 41598+ | 30 | |
| | 40 | 40 51040 34357+ | 6 95001 27892 | 882 17616 66989 | 3073 31541+ | 20 | |
| | 50 | 47 46041 62249+ | 045 65443 | 866 14543 35447+ | 2837 27452+ | 10 | |
| **22** | 0 | 54 41087 27692+ | 090 03746 | 850 11706 07995 | 2601 29330 | 0 | **38** |
| | 10 | 61 36177 31438+ | 134 42800+ | 834 09104 78665 | 2365 37171 | 50 | |
| | 20 | 68 31311 74239+ | 178 82607+ | 818 06739 41494 | 2129 50975 | 40 | |
| | 30 | 75 26490 56847 | 223 23166+ | 802 04609 90519 | 1893 70739 | 30 | |
| | 40 | 82 21713 80013 | 267 64478 | 786 02716 19780 | 1657 96461+ | 20 | |
| | 50 | 89 16981 44491 | 312 06541+ | 770 01058 23318+ | 1422 28140 | 10 | |
| **23** | 0 | 0,65896 12293 51032+ | 356 49358 | 753 99635 95178+ | 1186 65773 | 0 | **37** |
| | 10 | 0,65903 07650 00390+ | 400 92927 | 737 98449 29405+ | 0951 09358+ | 50 | |
| | 20 | 10 03050 93317+ | 445 37249 | 721 97498 20047 | 0715 58894+ | 40 | |
| | 30 | 16 98496 30566+ | 489 82324 | 705 96782 61152+ | 0480 14378+ | 30 | |
| | 40 | 23 93986 12891 | 534 28152+ | 689 96302 46774 | 0244 75809+ | 20 | |
| | 50 | 30 89520 41043+ | 578 74734 | 673 96057 70965 | 16 00009 43184+ | 10 | |
| **24** | 0 | 37 85099 15777 | 623 22069 | 657 96048 27780 | 15 99774 16502+ | 0 | **36** |
| | 10 | 44 80722 37846 | 667 70157+ | 641 96274 11278 | 9538 95761 | 50 | |
| | 20 | 51 76390 08003+ | 712 18999+ | 625 96735 15517 | 9303 80957+ | 40 | |
| | 30 | 58 72102 27003 | 756 68595+ | 609 97431 34559+ | 9068 72091+ | 30 | |
| | 40 | 65 67858 95599 | 801 18946 | 593 98362 62468 | 8833 69159+ | 20 | |
| | 50 | 72 63660 14544+ | 845 70050 | 577 99528 93308+ | 8598 72160+ | 10 | |
| **25** | 0 | 79 59505 84594+ | 890 21908+ | 562 00930 21148 | 8363 81092 | 0 | **35** |
| | 10 | 86 55396 06503 | 934 74521+ | 546 02566 40056 | 8128 95952+ | 50 | |
| | 20 | 0,65993 51330 81024+ | 6 95979 27888+ | 530 04437 44103 | 7894 16740 | 40 | |
| | 30 | 0,66000 47310 08913 | 6 96023 82011 | 514 06543 27363 | 7659 43452 | 30 | |
| | 40 | 07 43333 90924 | 068 36888 | 498 08883 83911 | 7424 76087 | 20 | |
| | 50 | 14 39402 27811+ | 112 92519+ | 482 11459 07824 | 7190 14643 | 10 | |
| **26** | 0 | 21 35515 20331+ | 157 48906+ | 466 14268 93181+ | 6955 59118 | 0 | **34** |
| | 10 | 28 31672 69238 | 202 06049 | 450 17313 34063+ | 6721 09509+ | 50 | |
| | 20 | 35 27874 75287 | 246 63946+ | 434 20592 24554 | 6486 65816+ | 40 | |
| | 30 | 42 24121 39233 | 291 22599+ | 418 24105 58737 | 6252 28036+ | 30 | |
| | 40 | 49 20412 61832+ | 335 82008 | 402 27853 30700+ | 6017 96168 | 20 | |
| | 50 | 56 16748 43841 | 380 42173 | 386 31835 34533 | 5783 70208 | 10 | |
| **27** | 0 | 63 13128 86014 | 425 03093+ | 370 36051 64324+ | 5549 50155+ | 0 | **33** |
| | 10 | 70 09553 89107 | 469 64770 | 354 40502 14169 | 5315 36008+ | 50 | |
| | 20 | 77 06023 53877 | 514 27202+ | 338 45186 78160+ | 5081 27764+ | 40 | |
| | 30 | 84 02537 81079+ | 558 90391+ | 322 50105 50396 | 4847 25422 | 30 | |
| | 40 | 90 99096 71471 | 603 54337 | 306 55258 24973+ | 4613 28979 | 20 | |
| | 50 | 0,66097 95700 25808 | 648 19039+ | 290 60644 95994+ | 4379 38433+ | 10 | |
| **28** | 0 | 0,66104 92348 44847+ | 692 84498+ | 274 66265 57561 | 4145 53783+ | 0 | **32** |
| | 10 | 11 89041 29346 | 737 50714 | 258 72120 03778 | 3911 75027 | 50 | |
| | 20 | 18 85778 80060 | 782 17687 | 242 78208 28751 | 3678 02162 | 40 | |
| | 30 | 25 82560 97747 | 826 85417 | 226 84530 26589 | 3444 35186+ | 30 | |
| | 40 | 32 79387 83164 | 871 53904+ | 210 91085 91402+ | 3210 74099 | 20 | |
| | 50 | 39 76259 37068+ | 916 23149+ | 194 97875 17303+ | 2977 18897+ | 10 | |
| **29** | 0 | 46 73175 60218 | 6 96960 93152 | 179 04897 98406 | 2743 69579+ | 0 | **31** |
| | 10 | 53 70136 53370 | 6 97005 63912 | 163 12154 28826+ | 2510 26143+ | 50 | |
| | 20 | 60 67142 17282 | 050 35430 | 147 19644 02683+ | 2276 88587 | 40 | |
| | 30 | 67 64192 52712 | 095 07706 | 131 27367 14096 | 2043 56909 | 30 | |
| | 40 | 74 61287 60418 | 139 80740+ | 115 35323 57187 | 1810 31107 | 20 | |
| | 50 | 81 58427 41158+ | 6 97184 54533 | 099 43513 26080 | 15 91577 11179 | 10 | |
| **30** | 0 | 0,66188 55611 95691+ | | 1,51083 51936 14901 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,66188 55611 95691+ | 6 97229 29084 | 1,51083 51936 14901 | 15 91343 97123+ | 0 | **30** |
| | 10 | 0,66195 52841 24775+ | 274 04393+ | 067 60592 17777+ | 1110 88938 | 50 | |
| | 20 | 0,66202 50115 29169 | 318 80461+ | 051 69481 28840 | 0877 86620+ | 40 | |
| | 30 | 09 47434 09630+ | 363 57288+ | 035 78603 42219+ | 0644 90169+ | 30 | |
| | 40 | 16 44797 66919 | 408 34875 | 019 87958 52049+ | 0411 99583+ | 20 | |
| | 50 | 23 42206 01794 | 453 13220 | 1,51003 97546 52466+ | 15 90179 14859+ | 10 | |
| **31** | 0 | 30 39659 15014 | 497 92324+ | 1,50988 07367 37607 | 15 89946 35996 | 0 | **29** |
| | 10 | 37 37157 07338+ | 542 72188+ | 972 17421 01611 | 9713 62991 | 50 | |
| | 20 | 44 34699 79526+ | 587 52812 | 956 27707 38620 | 9480 95843 | 40 | |
| | 30 | 51 32287 32338+ | 632 34195 | 940 38226 42777 | 9248 34549+ | 30 | |
| | 40 | 58 29919 66533+ | 677 16338 | 924 48978 08227 | 9015 79109 | 20 | |
| | 50 | 65 27596 82871 | 721 99241 | 908 59962 29118 | 8783 29519+ | 10 | |
| **32** | 0 | 72 25318 82112 | 766 82904 | 892 71178 99598+ | 8550 85779 | 0 | **28** |
| | 10 | 79 23085 65016 | 811 67327 | 876 82628 13819+ | 8318 47885 | 50 | |
| | 20 | 86 20897 32343 | 856 52510+ | 860 94309 65934+ | 8086 15836+ | 40 | |
| | 30 | 0,66293 18753 84853+ | 901 38455 | 845 06223 50098 | 7853 89631 | 30 | |
| | 40 | 0,66300 16655 23308+ | 946 25160 | 829 18369 60467 | 7621 69267 | 20 | |
| | 50 | 07 14601 48468+ | 6 97991 12625+ | 813 30747 91200 | 7389 54742 | 10 | |
| **33** | 0 | 14 12592 61094 | 6 98036 00852 | 797 43358 36457+ | 7157 46054+ | 0 | **27** |
| | 10 | 21 10628 61946 | 080 89840 | 781 56200 90403 | 6925 43203 | 50 | |
| | 20 | 28 08709 51785+ | 125 79588+ | 765 69275 47200 | 6693 46184+ | 40 | |
| | 30 | 35 06835 31374+ | 170 70099 | 749 82582 01015+ | 6461 54997+ | 30 | |
| | 40 | 42 05006 01473+ | 215 61371 | 733 96120 46018+ | 6229 69640+ | 20 | |
| | 50 | 49 03221 62844 | 260 53404+ | 718 09890 76378 | 5997 90111 | 10 | |
| **34** | 0 | 56 01482 16248+ | 305 46199+ | 702 23892 86267 | 5766 16407+ | 0 | **26** |
| | 10 | 62 99787 62448 | 350 39756+ | 686 38126 69859+ | 5534 48528 | 50 | |
| | 20 | 69 98138 02204+ | 395 34076 | 670 52592 21331+ | 5302 86470+ | 40 | |
| | 30 | 76 96533 36280+ | 440 29157+ | 654 67289 34861 | 5071 30233 | 30 | |
| | 40 | 83 94973 65438 | 485 25001 | 638 82218 04628 | 4839 79813+ | 20 | |
| | 50 | 90 93458 90439 | 530 21607+ | 622 97378 24814+ | 4608 35210+ | 10 | |
| **35** | 0 | 0,66397 91989 12046+ | 575 18976+ | 607 12769 89604 | 4376 96422 | 0 | **25** |
| | 10 | 0,66404 90564 31023 | 620 17108 | 591 28392 93182 | 4145 63445+ | 50 | |
| | 20 | 11 89184 48131 | 665 16002+ | 575 44247 29736+ | 3914 36280 | 40 | |
| | 30 | 18 87849 64133+ | 710 15660+ | 559 60332 93456+ | 3683 14922+ | 30 | |
| | 40 | 25 86559 79794 | 755 16081 | 543 76649 78534 | 3451 99372+ | 20 | |
| | 50 | 32 85314 95875 | 800 17265+ | 527 93197 79161+ | 3220 89626+ | 10 | |
| **36** | 0 | 39 84115 13140+ | 845 19213 | 512 09976 89535 | 2989 85683+ | 0 | **24** |
| | 10 | 46 82960 32353+ | 890 21924+ | 496 26987 03851+ | 2758 87542 | 50 | |
| | 20 | 53 81850 54277+ | 935 25399+ | 480 44228 16309+ | 2527 95199 | 40 | |
| | 30 | 60 80785 79677 | 6 98980 29638 | 464 61700 21110+ | 2297 08653+ | 30 | |
| | 40 | 67 79766 09315 | 6 99025 34641 | 448 79403 12457 | 2066 27903 | 20 | |
| | 50 | 74 78791 43956+ | 070 40408+ | 432 97336 84554 | 1835 52945+ | 10 | |
| **37** | 0 | 81 77861 84364+ | 115 46940 | 417 15501 31608+ | 1604 83780 | 0 | **23** |
| | 10 | 88 76977 31304+ | 160 54235+ | 401 33896 47828+ | 1374 20403+ | 50 | |
| | 20 | 0,66495 76137 85540 | 205 62296 | 385 52522 27425 | 1143 62815 | 40 | |
| | 30 | 0,66502 75343 47836+ | 250 71121+ | 369 71378 64610 | 0913 11012 | 30 | |
| | 40 | 09 74594 18957+ | 295 80711+ | 353 90465 53598 | 0682 64993 | 20 | |
| | 50 | 16 73889 99669+ | 340 91067 | 338 09782 88605 | 0452 24755+ | 10 | |
| **38** | 0 | 23 73230 90736 | 386 02187 | 322 29330 63849+ | 15 80221 90298+ | 0 | **22** |
| | 10 | 30 72616 92923 | 431 14072+ | 306 49108 73551 | 15 79991 61619 | 50 | |
| | 20 | 37 72048 06996 | 476 26724 | 290 69117 11932 | 9761 38716 | 40 | |
| | 30 | 44 71524 33720 | 521 40140+ | 274 89355 73216 | 9531 21587+ | 30 | |
| | 40 | 51 71045 73860+ | 566 54323 | 259 09824 51628+ | 9301 10231 | 20 | |
| | 50 | 58 70612 28183 | 611 69271 | 243 30523 41397+ | 9071 04645 | 10 | |
| **39** | 0 | 65 70223 97454+ | 656 84985+ | 227 51452 36752+ | 8841 04828 | 0 | **21** |
| | 10 | 72 69880 82440 | 702 01466 | 211 72611 31924+ | 8611 10777+ | 50 | |
| | 20 | 79 69582 83906 | 747 18712+ | 195 94000 21147+ | 8381 22491+ | 40 | |
| | 30 | 86 69330 02618+ | 792 36726 | 180 15618 98656 | 8151 39968+ | 30 | |
| | 40 | 0,66593 69122 39344 | 837 55505+ | 164 37467 58687+ | 7921 63206+ | 20 | |
| | 50 | 0,66600 68959 94850 | 6 99882 75052 | 148 59545 95480+ | 15 77691 92204 | 10 | |
| **40** | 0 | 0,66607 68842 69902 | | 1,50132 81854 03276+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,66607 68842 69902 | 6 99927 95365+ | 1,50132 81854 03276+ | 15 77462 26958+ | 0 | **20** |
| | 10 | 14 68770 65267 | 6 99973 16445+ | 117 04391 76318 | 7232 67468 | 50 | |
| | 20 | 21 68743 81713 | 7 00018 38293 | 101 27159 08850 | 7003 13731+ | 40 | |
| | 30 | 28 68762 20006 | 063 60908 | 085 50155 95118+ | 6773 65746 | 30 | |
| | 40 | 35 68825 80914 | 108 84290 | 069 73382 29372+ | 6544 23510+ | 20 | |
| | 50 | 42 68934 65204 | 154 08440 | 053 96838 05861+ | 6314 87023 | 10 | |
| **41** | 0 | 49 69088 73644 | 199 33357+ | 038 20523 18838+ | 6085 56281 | 0 | **19** |
| | 10 | 56 69288 07001+ | 244 59042+ | 022 44437 62557+ | 5856 31283 | 50 | |
| | 20 | 63 69532 66044 | 289 85496 | 1,50006 68581 31274+ | 5627 12027+ | 40 | |
| | 30 | 70 69822 51540 | 335 12717+ | 1,49990 92954 19247+ | 5397 98511+ | 30 | |
| | 40 | 77 70157 64257+ | 380 40707 | 975 17556 20735+ | 5168 90734+ | 20 | |
| | 50 | 84 70538 04964+ | 425 69465+ | 959 42387 30001 | 4939 88693+ | 10 | |
| **42** | 0 | 91 70963 74430 | 470 98992 | 943 67447 41307+ | 4710 92387+ | 0 | **18** |
| | 10 | 0,66698 71434 73422 | 516 29287+ | 927 92736 48920 | 4482 01814 | 50 | |
| | 20 | 0,66705 71951 02709+ | 561 60351+ | 912 18254 47106 | 4253 16971+ | 40 | |
| | 30 | 12 72512 63061 | 606 92185 | 896 44001 30134+ | 4024 37857+ | 30 | |
| | 40 | 19 73119 55246 | 652 24787+ | 880 69976 92277 | 3795 64471 | 20 | |
| | 50 | 26 73771 80033+ | 697 58159 | 864 96181 27806 | 3566 96809 | 10 | |
| **43** | 0 | 33 74469 38192+ | 742 92300 | 849 22614 30997 | 3338 34871 | 0 | **17** |
| | 10 | 40 75212 30492+ | 788 27210+ | 833 49275 96126 | 3109 78654 | 50 | |
| | 20 | 47 76000 57703 | 833 62891 | 817 76166 17472 | 2881 28157 | 40 | |
| | 30 | 54 76834 20594+ | 878 99341 | 802 03284 89315 | 2652 83377 | 30 | |
| | 40 | 61 77713 19935+ | 924 36561+ | 786 30632 05938 | 2424 44313 | 20 | |
| | 50 | 68 78637 56497 | 7 00969 74551+ | 770 58207 61625 | 2196 10963 | 10 | |
| **44** | 0 | 75 79607 31048+ | 7 01015 13312 | 754 86011 50661+ | 1967 83325+ | 0 | **16** |
| | 10 | 82 80622 44360+ | 060 52843 | 739 14043 67336+ | 1739 61397+ | 50 | |
| | 20 | 89 81682 97203+ | 105 93144+ | 723 42304 05939 | 1511 45178 | 40 | |
| | 30 | 0,66796 82788 90348+ | 151 34217 | 707 70792 60761 | 1283 34665 | 30 | |
| | 40 | 0,66803 83940 24565 | 196 76060 | 691 99509 26096 | 1055 29856+ | 20 | |
| | 50 | 10 85137 00625 | 242 18674 | 676 28453 96239+ | 0827 30750+ | 10 | |
| **45** | 0 | 17 86379 19299 | 287 62059 | 660 57626 65489 | 0599 37345+ | 0 | **15** |
| | 10 | 24 87666 81358 | 333 06215+ | 644 87027 28143+ | 0371 49639+ | 50 | |
| | 20 | 31 88999 87573+ | 378 51143+ | 629 16655 78504 | 15 70143 67630+ | 40 | |
| | 30 | 38 90378 38716+ | 423 96842+ | 613 46512 10874 | 15 69915 91316+ | 30 | |
| | 40 | 45 91802 35559+ | 469 43313+ | 597 76596 19557+ | 9688 20696 | 20 | |
| | 50 | 52 93271 78873 | 514 90556+ | 582 06907 98861+ | 9460 55767 | 10 | |
| **46** | 0 | 59 94786 69429+ | 560 38571+ | 566 37447 43094+ | 9232 96527+ | 0 | **14** |
| | 10 | 66 96347 08001 | 605 87358+ | 550 68214 46567 | 9005 42976 | 50 | |
| | 20 | 73 97952 95359+ | 651 36918 | 534 99209 03591+ | 8777 95110 | 40 | |
| | 30 | 80 99604 32277+ | 696 87249+ | 519 30431 08481+ | 8550 52928 | 30 | |
| | 40 | 88 01301 19527 | 742 38353+ | 503 61880 55553 | 8323 16428+ | 20 | |
| | 50 | 0,66895 03043 57880+ | 787 90230+ | 487 93557 39124+ | 8095 85609 | 10 | |
| **47** | 0 | 0,66902 04831 48111+ | 833 42880+ | 472 25461 53515+ | 7868 60468+ | 0 | **13** |
| | 10 | 09 06664 90991+ | 878 96303 | 456 57592 93047 | 7641 41004 | 50 | |
| | 20 | 16 08543 87295 | 924 50499 | 440 89951 52043 | 7414 27214+ | 40 | |
| | 30 | 23 10468 37794 | 7 01970 05468 | 425 22537 24829 | 7187 19097+ | 30 | |
| | 40 | 30 12438 43262 | 7 02015 61210+ | 409 55350 05731+ | 6960 16652 | 20 | |
| | 50 | 37 14454 04472+ | 061 17727 | 393 88389 89079+ | 6733 19875 | 10 | |
| **48** | 0 | 44 16515 22199+ | 106 75016+ | 378 21656 69204+ | 6506 28766 | 0 | **12** |
| | 10 | 51 18621 97216 | 152 33080 | 362 55150 40438+ | 6279 43322 | 50 | |
| | 20 | 58 20774 30296+ | 197 91918 | 346 88870 97116+ | 6052 63541+ | 40 | |
| | 30 | 65 22972 22214 | 243 51529+ | 331 22818 33575 | 5825 89423 | 30 | |
| | 40 | 72 25215 73744 | 289 11915+ | 315 56992 44152 | 5599 20964+ | 20 | |
| | 50 | 79 27504 85659+ | 334 73076 | 299 91393 23187+ | 5372 58163+ | 10 | |
| **49** | 0 | 86 29839 58735+ | 380 35011 | 284 26020 65024 | 5146 01019 | 0 | **11** |
| | 10 | 0,66993 32219 93746+ | 425 97720+ | 268 60874 64004+ | 4919 49529 | 50 | |
| | 20 | 0,67000 34645 91467+ | 471 61205+ | 252 95955 14475+ | 4693 03691 | 40 | |
| | 30 | 07 37117 52672+ | 517 25465 | 237 31262 10784+ | 4466 63504 | 30 | |
| | 40 | 14 39634 78137+ | 562 90499+ | 221 66795 47280+ | 4240 28966 | 20 | |
| | 50 | 21 42197 68636+ | 7 02608 56309+ | 206 02555 18314+ | 15 64014 00074+ | 10 | |
| **50** | 0 | 0,67028 44806 24946 | | 1,49190 38541 18240 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 33°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,67028 44806 24946 | 7 02654 22894+ | 1,49190 38541 18240 | 15 63787 76828 | 0 | **10** |
| | 10 | 35 47460 47841 | 699 90255+ | 174 74753 41412 | 3561 59225 | 50 | |
| | 20 | 42 50160 38096+ | 745 58392 | 159 11191 82187 | 3335 47263+ | 40 | |
| | 30 | 49 52905 96488+ | 791 27304+ | 143 47856 34924 | 3109 40941 | 30 | |
| | 40 | 56 55697 23793+ | 836 96993 | 127 84746 93982+ | 2883 40256+ | 20 | |
| | 50 | 63 58534 20786+ | 882 67457+ | 112 21863 53726 | 2657 45208 | 10 | |
| **51** | 0 | 70 61416 88244 | 928 38698+ | 096 59206 08518 | 2431 55793+ | 0 | **9** |
| | 10 | 77 64345 26943 | 7 02974 10716 | 080 96774 52724 | 2205 72011 | 50 | |
| | 20 | 84 67319 37659 | 7 03019 83510 | 065 34568 80713 | 1979 93859 | 40 | |
| | 30 | 91 70339 21168+ | 065 57080+ | 049 72588 86853+ | 1754 21335+ | 30 | |
| | 40 | 0,67098 73404 78249 | 111 31428 | 034 10834 65518 | 1528 54439 | 20 | |
| | 50 | 0,67105 76516 09677 | 157 06552+ | 018 49306 11079+ | 1302 93166+ | 10 | |
| **52** | 0 | 12 79673 16229 | 202 82454 | 1,49002 88003 17912+ | 1077 37517+ | 0 | **8** |
| | 10 | 19 82875 98683 | 248 59132+ | 1,48987 26925 80395 | 0851 87489+ | 50 | |
| | 20 | 26 86124 57815+ | 294 36589 | 971 66073 92905+ | 0626 43081 | 40 | |
| | 30 | 33 89418 94404+ | 340 14823 | 956 05447 49824 | 0401 04290 | 30 | |
| | 40 | 40 92759 09227+ | 385 93834+ | 940 45046 45534 | 15 60175 71114+ | 20 | |
| | 50 | 47 96145 03062 | 431 73624 | 924 84870 74420 | 15 59950 43553 | 10 | |
| **53** | 0 | 54 99576 76686+ | 477 54191+ | 909 24920 30867 | 9725 21603 | 0 | **7** |
| | 10 | 62 03054 30878 | 523 35537 | 893 65195 09264 | 9500 05263+ | 50 | |
| | 20 | 69 06577 66415 | 569 17661 | 878 05695 04000+ | 9274 94532 | 40 | |
| | 30 | 76 10146 84076 | 615 00563+ | 862 46420 09468+ | 9049 89407+ | 30 | |
| | 40 | 83 13761 84639+ | 660 84244+ | 846 87370 20061 | 8824 89887+ | 20 | |
| | 50 | 90 17422 68884 | 706 68704+ | 831 28545 30173+ | 8599 95970 | 10 | |
| **54** | 0 | 0,67197 21129 37588+ | 752 53943 | 815 69945 34203+ | 8375 07653+ | 0 | **6** |
| | 10 | 0,67204 24881 91531+ | 798 39960+ | 800 11570 26549+ | 8150 24936+ | 50 | |
| | 20 | 11 28680 31492 | 844 26757+ | 784 53420 01613 | 7925 47817 | 40 | |
| | 30 | 18 32524 58249 | 890 14333+ | 768 95494 53796+ | 7700 76292+ | 30 | |
| | 40 | 25 36414 72582+ | 936 02689 | 753 37793 77504 | 7476 10362 | 20 | |
| | 50 | 32 40350 75271+ | 7 03981 91824 | 737 80317 67142 | 7251 50023 | 10 | |
| **55** | 0 | 39 44332 67095+ | 7 04027 81739 | 722 23066 17119 | 7026 95274+ | 0 | **5** |
| | 10 | 46 48360 48834+ | 073 72434 | 706 66039 21844+ | 6802 46114 | 50 | |
| | 20 | 53 52434 21268 | 119 63908+ | 691 09236 75730+ | 6578 02540 | 40 | |
| | 30 | 60 56553 85177 | 165 56163+ | 675 52658 73190+ | 6353 64550+ | 30 | |
| | 40 | 67 60719 41340+ | 211 49199 | 659 96305 08640 | 6129 32143+ | 20 | |
| | 50 | 74 64930 90539+ | 257 43015 | 644 40175 76496+ | 5905 05318 | 10 | |
| **56** | 0 | 81 69188 33554 | 303 37611 | 628 84270 71178+ | 5680 84071 | 0 | **4** |
| | 10 | 88 73491 71165+ | 349 32988+ | 613 28589 87107+ | 5456 68401+ | 50 | |
| | 20 | 0,67295 77841 04154 | 395 29146+ | 597 73133 18705+ | 5232 58308 | 40 | |
| | 30 | 0,67302 82236 33300+ | 441 26085+ | 582 17900 60397+ | 5008 53787+ | 30 | |
| | 40 | 09 86677 59386 | 487 23806 | 566 62892 06610 | 4784 54839 | 20 | |
| | 50 | 16 91164 83192 | 533 22307+ | 551 08107 51771 | 4560 61460+ | 10 | |
| **57** | 0 | 23 95698 05499+ | 579 21591 | 535 53546 90310+ | 4336 73650+ | 0 | **3** |
| | 10 | 31 00277 27090+ | 625 21655+ | 519 99210 16660 | 4112 91406+ | 50 | |
| | 20 | 38 04902 48746 | 671 22502+ | 504 45097 25253 | 3889 14727+ | 40 | |
| | 30 | 45 09573 71248+ | 717 24131 | 488 91208 10525+ | 3665 43611 | 30 | |
| | 40 | 52 14290 95379+ | 763 26541+ | 473 37542 66914+ | 3441 78055+ | 20 | |
| | 50 | 59 19054 21920+ | 809 29734 | 457 84100 88859 | 3218 18059+ | 10 | |
| **58** | 0 | 66 23863 51655 | 855 33709+ | 442 30882 70799+ | 2994 63620+ | 0 | **2** |
| | 10 | 73 28718 85364 | 901 38467 | 426 77888 07179+ | 2771 14737 | 50 | |
| | 20 | 80 33620 23831 | 947 44007 | 411 25116 92442+ | 2547 71407 | 40 | |
| | 30 | 87 38567 67838 | 7 04993 50330+ | 395 72569 21035+ | 2324 33629+ | 30 | |
| | 40 | 0,67394 43561 18168+ | 7 05039 57436+ | 380 20244 87406 | 2101 01401+ | 20 | |
| | 50 | 0,67401 48600 75605 | 085 65325+ | 364 68143 86004+ | 1877 74722 | 10 | |
| **59** | 0 | 08 53686 40930+ | 131 73998 | 349 16266 11282+ | 1654 53589 | 0 | **1** |
| | 10 | 15 58818 14928+ | 177 83453+ | 333 64611 57693+ | 1431 38001 | 50 | |
| | 20 | 22 63995 98382 | 223 93693 | 318 13180 19692+ | 1208 27955+ | 40 | |
| | 30 | 29 69219 92075 | 270 04716 | 302 61971 91736+ | 0985 23451+ | 30 | |
| | 40 | 36 74489 96790+ | 316 16522+ | 287 10986 68285+ | 0762 24486+ | 20 | |
| | 50 | 43 79806 13313+ | 7 05362 29113+ | 271 60224 43799 | 15 50539 31059 | 10 | |
| **60** | 0 | 0,67450 85168 42426+ | | 1,48256 09685 12740+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 56°

# 34°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,67450 85168 42426+ | 7 05408 42488 | 1,48256 09685 12740+ | 15 50316 43167 | 0 | **60** |
| | 10 | 57 90576 84915 | 454 56647 | 240 59368 69573+ | 15 50093 60809 | 50 | |
| | 20 | 64 96031 41562 | 500 71590+ | 225 09275 08764+ | 15 49870 83983 | 40 | |
| | 30 | 72 01532 13152+ | 546 87318+ | 209 59404 24781+ | 9648 12687+ | 30 | |
| | 40 | 79 07079 00471+ | 593 03831+ | 194 09756 12094 | 9425 46920 | 20 | |
| | 50 | 86 12672 04302+ | 639 21129 | 178 60330 65173+ | 9202 86679+ | 10 | |
| **1** | 0 | 0,67493 18311 25431+ | 685 39211+ | 163 11127 78494 | 8980 31964 | 0 | **59** |
| | 10 | 0,67500 23996 64643 | 731 58079 | 147 62147 46530 | 8757 82771+ | 50 | |
| | 20 | 07 29728 22722+ | 777 77732 | 132 13389 63758+ | 8535 39100+ | 40 | |
| | 30 | 14 35506 00454+ | 823 98170+ | 116 64854 24658 | 8313 00948+ | 30 | |
| | 40 | 21 41329 98625 | 870 19394+ | 101 16541 23709+ | 8090 68314+ | 20 | |
| | 50 | 28 47200 18019+ | 916 41404 | 085 68450 55395 | 7868 41196+ | 10 | |
| **2** | 0 | 35 53116 59423+ | 7 05962 64199+ | 070 20582 14199 | 7646 19592 | 0 | **58** |
| | 10 | 42 59079 23623 | 7 06008 87781 | 054 72935 94606+ | 7424 03500+ | 50 | |
| | 20 | 49 65088 11404 | 055 12149 | 039 25511 91106 | 7201 92919+ | 40 | |
| | 30 | 56 71143 23553 | 101 37302+ | 023 78309 98186+ | 6979 87847 | 30 | |
| | 40 | 63 77244 60855+ | 147 63243 | 1,48008 31330 10340 | 6757 88281+ | 20 | |
| | 50 | 70 83392 24099 | 193 89970 | 1,47992 84572 22058+ | 6535 94221 | 10 | |
| **3** | 0 | 77 89586 14069 | 240 17484 | 977 38036 27837+ | 6314 05664 | 0 | **57** |
| | 10 | 84 95826 31553 | 286 45784+ | 961 91722 22173+ | 6092 22608+ | 50 | |
| | 20 | 92 02112 77337+ | 332 74872+ | 946 45629 99565 | 5870 45053 | 40 | |
| | 30 | 0,67599 08445 52210 | 379 04747 | 930 99759 54512+ | 5648 72995+ | 30 | |
| | 40 | 0,67606 14824 56957 | 425 35409+ | 915 54110 81517 | 5427 06434 | 20 | |
| | 50 | 13 21249 92366+ | 471 66859 | 900 08683 75083 | 5205 45367 | 10 | |
| **4** | 0 | 20 27721 59225+ | 517 99096+ | 884 63478 29716 | 4983 89792+ | 0 | **56** |
| | 10 | 27 34239 58321+ | 564 32121+ | 869 18494 39923+ | 4762 39709 | 50 | |
| | 20 | 34 40803 90443 | 610 65934+ | 853 73732 00214+ | 4540 95115 | 40 | |
| | 30 | 41 47414 56377 | 657 00535+ | 838 29191 05099+ | 4319 56008 | 30 | |
| | 40 | 48 54071 56912+ | 703 35924+ | 822 84871 49091+ | 4098 22386+ | 20 | |
| | 50 | 55 60774 92837 | 749 72102 | 807 40773 26705+ | 3876 94248+ | 10 | |
| **5** | 0 | 62 67524 64939 | 796 09068 | 791 96896 32457 | 3655 71593 | 0 | **55** |
| | 10 | 69 74320 74007+ | 842 46823 | 776 53240 60864 | 3434 54417 | 50 | |
| | 20 | 76 81163 20830+ | 888 85366+ | 761 09806 06447 | 3213 42720 | 40 | |
| | 30 | 83 88052 06197 | 935 24699 | 745 66592 63727 | 2992 36499+ | 30 | |
| | 40 | 90 94987 30896 | 7 06981 64820+ | 730 23600 27227+ | 2771 35753+ | 20 | |
| | 50 | 0,67698 01968 95716+ | 7 07028 05731+ | 714 80828 91474 | 2550 40481 | 10 | |
| **6** | 0 | 0,67705 08997 01448 | 074 47431+ | 699 38278 50993 | 2329 50679+ | 0 | **54** |
| | 10 | 12 16071 48879+ | 120 89921+ | 683 95949 00313 | 2108 66348 | 50 | |
| | 20 | 19 23192 38800+ | 167 33200+ | 668 53840 33965+ | 1887 87484 | 40 | |
| | 30 | 26 30359 72001+ | 213 77270 | 653 11952 46481+ | 1667 14085+ | 30 | |
| | 40 | 33 37573 49271+ | 260 22129 | 637 70285 32396 | 1446 46152 | 20 | |
| | 50 | 40 44833 71400+ | 306 67778+ | 622 28838 86244 | 1225 83680+ | 10 | |
| **7** | 0 | 47 52140 39179 | 353 14218 | 606 87613 02563+ | 1005 26669+ | 0 | **53** |
| | 10 | 54 59493 53397 | 399 61448 | 591 46607 75893+ | 0784 75118 | 50 | |
| | 20 | 61 66893 14845+ | 446 09468+ | 576 05823 00776 | 0564 29023 | 40 | |
| | 30 | 68 74339 24314 | 492 58280 | 560 65258 71753 | 0343 88383+ | 30 | |
| | 40 | 75 81831 82594 | 539 07882 | 545 24914 83369 | 15 40123 53198 | 20 | |
| | 50 | 82 89370 90476 | 585 58275+ | 529 84791 30171 | 15 39903 23464 | 10 | |
| **8** | 0 | 89 96956 48751+ | 632 09459+ | 514 44888 06707 | 9682 99180 | 0 | **52** |
| | 10 | 0,67797 04588 58211 | 678 61435+ | 499 05205 07527 | 9462 80344+ | 50 | |
| | 20 | 0,67804 12267 19646+ | 725 14202+ | 483 65742 27182+ | 9242 66955+ | 40 | |
| | 30 | 11 19992 33849 | 771 67761 | 468 26499 60227+ | 9022 59011 | 30 | |
| | 40 | 18 27764 01610 | 818 22111+ | 452 87477 01216+ | 8802 56509+ | 20 | |
| | 50 | 25 35582 23721+ | 864 77254 | 437 48674 44706+ | 8582 59449+ | 10 | |
| **9** | 0 | 32 43447 00975+ | 911 33188 | 422 10091 85257 | 8362 67829 | 0 | **51** |
| | 10 | 39 51358 34163+ | 7 07957 89914+ | 406 71729 17428 | 8142 81646 | 50 | |
| | 20 | 46 59316 24078 | 7 08004 47433+ | 391 33586 35782 | 7923 00899 | 40 | |
| | 30 | 53 67320 71512 | 051 05745 | 375 95663 34883 | 7703 25586+ | 30 | |
| | 40 | 60 75371 77257 | 097 64849 | 360 57960 09297 | 7483 55706 | 20 | |
| | 50 | 67 83469 42106 | 7 08144 24746 | 345 20476 53591 | 15 37263 91256 | 10 | |
| **10** | 0 | 0,67874 91613 66851+ | | 1,47329 83212 62334+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,67874 91613 66851+ | 7 08190 85435+ | 1,47329 83212 62334+ | 15 37044 32235+ | 0 | **50** |
| | 10 | 81 99804 52287 | 237 46918+ | 314 46168 30099+ | 6824 78642 | 50 | |
| | 20 | 89 08041 99205+ | 284 09194+ | 299 09343 51457+ | 6605 30473+ | 40 | |
| | 30 | 0,67896 16326 08400 | 330 72264 | 283 72738 20984 | 6385 87729 | 30 | |
| | 40 | 0,67903 24656 80663+ | 377 36126+ | 268 36352 33255 | 6166 50406+ | 20 | |
| | 50 | 10 33034 16790+ | 424 00783+ | 253 00185 82848+ | 5947 18504 | 10 | |
| **11** | 0 | 17 41458 17573+ | 470 66233+ | 237 64238 64344+ | 5727 92019+ | 0 | **49** |
| | 10 | 24 49928 83807+ | 517 32478 | 222 28510 72325 | 5508 70952 | 50 | |
| | 20 | 31 58446 16285+ | 563 99516+ | 206 93002 01373 | 5289 55299+ | 40 | |
| | 30 | 38 67010 15802 | 610 67349+ | 191 57712 46073+ | 5070 45060 | 30 | |
| | 40 | 45 75620 83151+ | 657 35976+ | 176 22642 01014 | 4851 40231+ | 20 | |
| | 50 | 52 84278 19128 | 704 05398+ | 160 87790 60782 | 4632 40813 | 10 | |
| **12** | 0 | 59 92982 24526+ | 750 75615 | 145 53158 19969 | 4413 46802+ | 0 | **48** |
| | 10 | 67 01733 00141+ | 797 46626 | 130 18744 73166+ | 4194 58198 | 50 | |
| | 20 | 74 10530 46767+ | 844 18432+ | 114 84550 14969 | 3975 74997+ | 40 | |
| | 30 | 81 19374 65200 | 890 91034 | 099 50574 39971 | 3756 97200 | 30 | |
| | 40 | 88 28265 56234 | 937 64431 | 084 16817 42771 | 3538 24803+ | 20 | |
| | 50 | 0,67995 37203 20665 | 7 08984 38623 | 068 83279 17967+ | 3319 57806 | 10 | |
| **13** | 0 | 0,68002 46187 59288 | 7 09031 13611 | 053 49959 60162 | 3100 96205+ | 0 | **47** |
| | 10 | 09 55218 72899 | 077 89394+ | 038 16858 63956 | 2882 40001 | 50 | |
| | 20 | 16 64296 62293+ | 124 65974 | 022 83976 23955 | 2663 89190+ | 40 | |
| | 30 | 23 73421 28267+ | 171 43349+ | 1,47007 51312 34764+ | 2445 43772 | 30 | |
| | 40 | 30 82592 71617 | 218 21521+ | 1,46992 18866 90992 | 2227 03744 | 20 | |
| | 50 | 37 91810 93138+ | 265 00489+ | 976 86639 87248 | 2008 69105 | 10 | |
| **14** | 0 | 45 01075 93628 | 311 80254 | 961 54631 18143+ | 1790 39852+ | 0 | **46** |
| | 10 | 52 10387 73882 | 358 60815+ | 946 22840 78291 | 1572 15985 | 50 | |
| | 20 | 59 19746 34697+ | 405 42173+ | 930 91268 62306 | 1353 97501+ | 40 | |
| | 30 | 66 29151 76871 | 452 24328+ | 915 59914 64804+ | 1135 84399+ | 30 | |
| | 40 | 73 38604 01199+ | 499 07280+ | 900 28778 80405 | 0917 76677 | 20 | |
| | 50 | 80 48103 08480 | 545 91030 | 884 97861 03728 | 0699 74333+ | 10 | |
| **15** | 0 | 87 57648 99510 | 592 75576+ | 869 67161 29394+ | 0481 77366 | 0 | **45** |
| | 10 | 0,68094 67241 75086+ | 639 60921 | 854 36679 52028+ | 0263 85773+ | 50 | |
| | 20 | 0,68101 76881 36007+ | 686 47063 | 839 06415 66255+ | 15 30045 99554 | 40 | |
| | 30 | 08 86567 83070+ | 733 34002+ | 823 76369 66701+ | 15 29828 18705+ | 30 | |
| | 40 | 15 96301 17073 | 780 21740+ | 808 46541 47995+ | 9610 43227 | 20 | |
| | 50 | 23 06081 38813+ | 827 10276+ | 793 16931 04768+ | 9392 73116 | 10 | |
| **16** | 0 | 30 15908 49090 | 873 99610+ | 777 87538 31652+ | 9175 08371+ | 0 | **44** |
| | 10 | 37 25782 48701 | 920 89743+ | 762 58363 23281 | 8957 48991 | 50 | |
| | 20 | 44 35703 38444+ | 7 09967 80674+ | 747 29405 74290+ | 8739 94973 | 40 | |
| | 30 | 51 45671 19119 | 7 10014 72404+ | 732 00665 79317 | 8522 46316+ | 30 | |
| | 40 | 58 55685 91523+ | 061 64933+ | 716 72143 33000+ | 8305 03018+ | 20 | |
| | 50 | 65 65747 56457 | 108 58261+ | 701 43838 29982 | 8087 65078+ | 10 | |
| **17** | 0 | 72 75856 14718+ | 155 52388+ | 686 15750 64903+ | 7870 32494 | 0 | **43** |
| | 10 | 79 86011 67107+ | 202 47315 | 670 87880 32409+ | 7653 05263+ | 50 | |
| | 20 | 86 96214 14422+ | 249 43041 | 655 60227 27146 | 7435 83385 | 40 | |
| | 30 | 0,68194 06463 57463+ | 296 39566+ | 640 32791 43761 | 7218 66857+ | 30 | |
| | 40 | 0,68201 16759 97030 | 343 36892 | 625 05572 76903+ | 7001 55678+ | 20 | |
| | 50 | 08 27103 33922 | 390 35017+ | 609 78571 21225 | 6784 49846+ | 10 | |
| **18** | 0 | 15 37493 68939 | 437 33942+ | 594 51786 71378 | 6567 49360+ | 0 | **42** |
| | 10 | 22 47931 02882 | 484 33668+ | 579 25219 22017+ | 6350 54217+ | 50 | |
| | 20 | 29 58415 36550 | 531 34194+ | 563 98868 67800+ | 6133 64416+ | 40 | |
| | 30 | 36 68946 70744+ | 578 35521 | 548 72735 03383+ | 5916 79956 | 30 | |
| | 40 | 43 79525 06265+ | 625 37648 | 533 46818 23428 | 5700 00833+ | 20 | |
| | 50 | 50 90150 43913+ | 672 40576 | 518 21118 22594 | 5483 27048 | 10 | |
| **19** | 0 | 58 00822 84490 | 719 44305+ | 502 95634 95546 | 5266 58597+ | 0 | **41** |
| | 10 | 65 11542 28795 | 766 48835+ | 487 70368 36948+ | 5049 95480+ | 50 | |
| | 20 | 72 22308 77630+ | 813 54167 | 472 45318 41468 | 4833 37695 | 40 | |
| | 30 | 79 33122 31797+ | 860 60300 | 457 20485 03773 | 4616 85239+ | 30 | |
| | 40 | 86 43982 92097+ | 907 67234+ | 441 95868 18533+ | 4400 38112 | 20 | |
| | 50 | 0,68293 54890 59332 | 7 10954 74970+ | 426 71467 80421+ | 15 24183 96311 | 10 | |
| **20** | 0 | 0,68300 65845 34303 | | 1,46411 47283 84111 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 55°

# 34°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,68300 65845 34303 | 7 11001 83509 | 1,46411 47283 84111 | 15 23967 59834+ | 0 | **40** |
| | 10 | 07 76847 17811+ | 048 92849 | 396 23316 24276+ | 3751 28681 | 50 | |
| | 20 | 14 87896 10661 | 096 02991+ | 380 99564 95595+ | 3535 02849 | 40 | |
| | 30 | 21 98992 13652+ | 143 13936 | 365 76029 92746+ | 3318 82336+ | 30 | |
| | 40 | 29 10135 27588+ | 190 25683+ | 350 52711 10409+ | 3102 67142 | 20 | |
| | 50 | 36 21325 53272 | 237 38233+ | 335 29608 43267+ | 2886 57263+ | 10 | |
| **21** | 0 | 43 32562 91505+ | 284 51586 | 320 06721 86004 | 2670 52699+ | 0 | **39** |
| | 10 | 50 43847 43091+ | 331 65741+ | 304 84051 33304 | 2454 53448+ | 50 | |
| | 20 | 57 55179 08833 | 378 80700+ | 289 61596 79855+ | 2238 59508+ | 40 | |
| | 30 | 64 66557 89533 | 425 96462 | 274 39358 20347+ | 2022 70877+ | 30 | |
| | 40 | 71 77983 85995+ | 473 13027+ | 259 17335 49470 | 1806 87554 | 20 | |
| | 50 | 78 89456 99023 | 520 30396+ | 243 95528 61916 | 1591 09537 | 10 | |
| **22** | 0 | 86 00977 29419+ | 567 48569 | 228 73937 52379 | 1375 36823+ | 0 | **38** |
| | 10 | 0,68393 12544 77988+ | 614 67545+ | 213 52562 15555+ | 1159 69413 | 50 | |
| | 20 | 0,68400 24159 45534 | 661 87326 | 198 31402 46142+ | 0944 07303 | 40 | |
| | 30 | 07 35821 32860 | 709 07910+ | 183 10458 38839+ | 0728 50492 | 30 | |
| | 40 | 14 47530 40770+ | 756 29299+ | 167 89729 88347 | 0512 98978+ | 20 | |
| | 50 | 21 59286 70070 | 803 51493 | 152 69216 89368+ | 0297 52761 | 10 | |
| **23** | 0 | 28 71090 21563 | 850 74491 | 137 48919 36607+ | 15 20082 11837 | 0 | **37** |
| | 10 | 35 82940 96053+ | 897 98293+ | 122 28837 24770+ | 15 19866 76205+ | 50 | |
| | 20 | 42 94838 94347 | 945 22901 | 107 08970 48565 | 9651 45864+ | 40 | |
| | 30 | 50 06784 17248 | 7 11992 48314 | 091 89319 02700+ | 9436 20812+ | 30 | |
| | 40 | 57 18776 65562 | 7 12039 74531+ | 076 69882 81888 | 9221 01047+ | 20 | |
| | 50 | 64 30816 40093+ | 087 01555 | 061 50661 80840+ | 9005 86568 | 10 | |
| **24** | 0 | 71 42903 41648+ | 134 29383+ | 046 31655 94272+ | 8790 77372 | 0 | **36** |
| | 10 | 78 55037 71032+ | 181 58018 | 031 12865 16900+ | 8575 73458+ | 50 | |
| | 20 | 85 67219 29050+ | 228 87458+ | 015 94289 43442 | 8360 74825 | 40 | |
| | 30 | 92 79448 16508+ | 276 17704+ | 1,46000 75928 68617 | 8145 81470+ | 30 | |
| | 40 | 0,68499 91724 34213+ | 323 48757 | 1,45985 57782 87147 | 7930 93392+ | 20 | |
| | 50 | 0,68507 04047 82970 | 370 80615+ | 970 39851 93754+ | 7716 10590 | 10 | |
| **25** | 0 | 14 16418 63585+ | 418 13280+ | 955 22135 83164 | 7501 33061+ | 0 | **35** |
| | 10 | 21 28836 76866 | 465 46752 | 940 04634 50103 | 7286 60804+ | 50 | |
| | 20 | 28 41302 23618+ | 512 81030+ | 924 87347 89298+ | 7071 93817+ | 40 | |
| | 30 | 35 53815 04649 | 560 16115+ | 909 70275 95481 | 6857 32099 | 30 | |
| | 40 | 42 66375 20764+ | 607 52008 | 894 53418 63382 | 6642 75647+ | 20 | |
| | 50 | 49 78982 72772 | 654 88707+ | 879 36775 87734+ | 6428 24461+ | 10 | |
| **26** | 0 | 56 91637 61479+ | 702 26214 | 864 20347 63273 | 6213 78538+ | 0 | **34** |
| | 10 | 64 04339 87693+ | 749 64528 | 849 04133 84734+ | 5999 37877 | 50 | |
| | 20 | 71 17089 52221+ | 797 03650 | 833 88134 46857+ | 5785 02476 | 40 | |
| | 30 | 78 29886 55872 | 844 43579+ | 818 72349 44381+ | 5570 72333 | 30 | |
| | 40 | 85 42730 99451+ | 891 84317+ | 803 56778 72048+ | 5356 47447 | 20 | |
| | 50 | 92 55622 83769 | 939 25863 | 788 41422 24601+ | 5142 27815+ | 10 | |
| **27** | 0 | 0,68599 68562 09632 | 7 12986 68217 | 773 26279 96786 | 4928 13438 | 0 | **33** |
| | 10 | 0,68606 81548 77849 | 7 13034 11379 | 758 11351 83348 | 4714 04311+ | 50 | |
| | 20 | 13 94582 89228 | 081 55350 | 742 96637 79036+ | 4500 00435 | 40 | |
| | 30 | 21 07664 44578 | 129 00129+ | 727 82137 78601+ | 4286 01807 | 30 | |
| | 40 | 28 20793 44708 | 176 45718 | 712 67851 76794+ | 4072 08425+ | 20 | |
| | 50 | 35 33969 90426 | 223 92115+ | 697 53779 68369 | 3858 20288+ | 10 | |
| **28** | 0 | 42 47193 82541+ | 271 39322 | 682 39921 48080+ | 3644 37395 | 0 | **32** |
| | 10 | 49 60465 21863+ | 318 87338 | 667 26277 10685+ | 3430 59743 | 50 | |
| | 20 | 56 73784 09201+ | 366 36163+ | 652 12846 50942+ | 3216 87331 | 40 | |
| | 30 | 63 87150 45365 | 413 85798+ | 636 99629 63611+ | 3003 20157 | 30 | |
| | 40 | 71 00564 31163+ | 461 36243 | 621 86626 43455 | 2789 58219 | 20 | |
| | 50 | 78 14025 67406+ | 508 87497+ | 606 73836 85235+ | 2576 01516+ | 10 | |
| **29** | 0 | 85 27534 54904 | 556 39562+ | 591 61260 83719+ | 2362 50046+ | 0 | **31** |
| | 10 | 92 41090 94466+ | 603 92437+ | 576 48898 33672+ | 2149 03808+ | 50 | |
| | 20 | 0,68699 54694 86904 | 651 46123 | 561 36749 29864+ | 1935 62799+ | 40 | |
| | 30 | 0,68706 68346 33027 | 699 00618+ | 546 24813 67065 | 1722 27019 | 30 | |
| | 40 | 13 82045 33645+ | 746 55925 | 531 13091 40045+ | 1508 96465 | 20 | |
| | 50 | 20 95791 89570+ | 7 13794 12042+ | 516 01582 43580+ | 15 11295 71135+ | 10 | |
| **30** | 0 | 0,68728 09586 01613 | | 1,45500 90286 72445 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 55°

# 34°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,68728 09586 01613 | 7 13841 68971 | 1,45500 90286 72445 | 15 11082 51029+ | 0 | **30** |
| | 10 | 35 23427 70584 | 889 26710+ | 485 79204 21415+ | 0869 36144+ | 50 | |
| | 20 | 42 37316 97294+ | 936 85261+ | 470 68334 85271 | 0656 26479 | 40 | |
| | 30 | 49 51253 82556 | 7 13984 44623+ | 455 57678 58792 | 0443 22032 | 30 | |
| | 40 | 56 65238 27179+ | 7 14032 04797+ | 440 47235 36760 | 0230 22801 | 20 | |
| | 50 | 63 79270 31976+ | 079 65783 | 425 37005 13959 | 15 10017 28784+ | 10 | |
| **31** | 0 | 70 93349 97759+ | 127 27580+ | 410 26987 85174+ | 15 09804 39981+ | 0 | **29** |
| | 10 | 78 07477 25340 | 174 90190 | 395 17183 45193 | 9591 56389+ | 50 | |
| | 20 | 85 21652 15530 | 222 53612 | 380 07591 88803+ | 9378 78007+ | 40 | |
| | 30 | 92 35874 69142 | 270 17846 | 364 98213 10796 | 9166 04833+ | 30 | |
| | 40 | 0,68799 50144 86988 | 317 82892+ | 349 89047 05962+ | 8953 36865+ | 20 | |
| | 50 | 0,68806 64462 69880+ | 365 48752 | 334 80093 69097 | 8740 74102 | 10 | |
| **32** | 0 | 13 78828 18632+ | 413 15424 | 319 71352 94995 | 8528 16542 | 0 | **28** |
| | 10 | 20 93241 34057 | 460 82909+ | 304 62824 78453 | 8315 64183 | 50 | |
| | 20 | 28 07702 16966 | 508 51207+ | 289 54509 14270 | 8103 17024 | 40 | |
| | 30 | 35 22210 68174 | 556 20319 | 274 46405 97246 | 7890 75063 | 30 | |
| | 40 | 42 36766 88493 | 603 90244 | 259 38515 22183 | 7678 38298 | 20 | |
| | 50 | 49 51370 78737 | 651 60982+ | 244 30836 83885 | 7466 06728 | 10 | |
| **33** | 0 | 56 66022 39719+ | 699 32535 | 229 23370 77157+ | 7253 80350+ | 0 | **27** |
| | 10 | 63 80721 72255 | 747 04901+ | 214 16116 96807 | 7041 59165 | 50 | |
| | 20 | 70 95468 77156 | 794 78081+ | 199 09075 37642 | 6829 43168+ | 40 | |
| | 30 | 78 10263 55237+ | 842 52076 | 184 02245 94473 | 6617 32360+ | 30 | |
| | 40 | 85 25106 07313+ | 890 26885 | 168 95628 62112+ | 6405 26739 | 20 | |
| | 50 | 92 39996 34198+ | 938 02508+ | 153 89223 35373+ | 6193 26302 | 10 | |
| **34** | 0 | 0,68899 54934 36707 | 7 14985 78946+ | 138 83030 09071+ | 5981 31048 | 0 | **26** |
| | 10 | 0,68906 69920 15653 | 7 15033 56199 | 123 77048 78023+ | 5769 40975+ | 50 | |
| | 20 | 13 84953 71852+ | 081 34267 | 108 71279 37048 | 5557 56082+ | 40 | |
| | 30 | 21 00035 06119+ | 129 13150 | 093 65721 80965+ | 5345 76368 | 30 | |
| | 40 | 28 15164 19269+ | 176 92848 | 078 60376 04597+ | 5134 01829+ | 20 | |
| | 50 | 35 30341 12117+ | 224 73362 | 063 55242 02768 | 4922 32466 | 10 | |
| **35** | 0 | 42 45565 85479+ | 272 54691 | 048 50319 70301+ | 4710 68276 | 0 | **25** |
| | 10 | 49 60838 40170+ | 320 36836 | 033 45609 02026 | 4499 09257 | 50 | |
| | 20 | 56 76158 77006+ | 368 19797 | 018 41109 92769 | 4287 55407+ | 40 | |
| | 30 | 63 91526 96803+ | 416 03574 | 1,45003 36822 37361+ | 4076 06726+ | 30 | |
| | 40 | 71 06943 00377+ | 463 88167 | 1,44988 32746 30634+ | 3864 63212+ | 20 | |
| | 50 | 78 22406 88544+ | 511 73576+ | 973 28881 67422+ | 3653 24862+ | 10 | |
| **36** | 0 | 85 37918 62121+ | 559 59802+ | 958 25228 42560 | 3441 91676 | 0 | **24** |
| | 10 | 92 53478 21924 | 607 46845+ | 943 21786 50883+ | 3230 63651+ | 50 | |
| | 20 | 0,68999 69085 68769+ | 655 34705 | 928 18555 87232 | 3019 40786+ | 40 | |
| | 30 | 0,69006 84741 03474+ | 703 23381+ | 913 15536 46446 | 2808 23079+ | 30 | |
| | 40 | 14 00444 26856 | 751 12875 | 898 12728 23366 | 2597 10529+ | 20 | |
| | 50 | 21 16195 39731 | 799 03186 | 883 10131 12836+ | 2386 03134+ | 10 | |
| **37** | 0 | 28 31994 42917 | 846 94314+ | 868 07745 09702 | 2175 00892+ | 0 | **23** |
| | 10 | 35 47841 37231+ | 894 86260+ | 853 05570 08809 | 1964 03802+ | 50 | |
| | 20 | 42 63736 23492 | 942 79024 | 838 03606 05006+ | 1753 11862+ | 40 | |
| | 30 | 49 79679 02516 | 7 15990 72605+ | 823 01852 93144 | 1542 25070+ | 30 | |
| | 40 | 56 95669 75121+ | 7 16038 67005+ | 808 00310 68073+ | 1331 43425+ | 20 | |
| | 50 | 64 11708 42127 | 086 62223+ | 792 98979 24647+ | 1120 66926 | 10 | |
| **38** | 0 | 71 27795 04350 | 134 58259+ | 777 97858 57722 | 0909 95569+ | 0 | **22** |
| | 10 | 78 43929 62610 | 182 55114+ | 762 96948 62152+ | 0699 29354+ | 50 | |
| | 20 | 85 60112 17724 | 230 52788 | 747 96249 32798 | 0488 68280 | 40 | |
| | 30 | 92 76342 70512 | 278 51280 | 732 95760 64517+ | 0278 12344 | 30 | |
| | 40 | 0,69099 92621 21792 | 326 50591+ | 717 95482 52173+ | 15 00067 61545 | 20 | |
| | 50 | 0,69107 08947 72383+ | 374 50722 | 702 95414 90628 | 14 99857 15881+ | 10 | |
| **39** | 0 | 14 25322 23105 | 422 51671+ | 687 95557 74747 | 9646 75351 | 0 | **21** |
| | 10 | 21 41744 74776+ | 470 53440+ | 672 95910 99396 | 9436 39953 | 50 | |
| | 20 | 28 58215 28217 | 518 56029+ | 657 96474 59443 | 9226 09685 | 40 | |
| | 30 | 35 74733 84246+ | 566 59438 | 642 97248 49758 | 9015 84545+ | 30 | |
| | 40 | 42 91300 43684+ | 614 63666+ | 627 98232 65212+ | 8805 64533+ | 20 | |
| | 50 | 50 07915 07351 | 7 16662 68715 | 612 99427 00679 | 14 98595 49646+ | 10 | |
| **40** | 0 | 0,69157 24577 76066 | | 1,44598 00831 51032+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 55°

# 34°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,69157 24577 76066 | 7 16710 74584 | 1,44598 00831 51032+ | 14 98385 39883+ | 0 | **20** |
| | 10 | 64 41288 50650 | 758 81273 | 583 02446 11148+ | 8175 35243 | 50 | |
| | 20 | 71 58047 31923 | 806 88782+ | 568 04270 75906 | 7965 35722+ | 40 | |
| | 30 | 78 74854 20705+ | 854 97113 | 553 06305 40183 | 7755 41321 | 30 | |
| | 40 | 85 91709 17818+ | 903 06264 | 538 08549 98862 | 7545 52037 | 20 | |
| | 50 | 0,69193 08612 24082+ | 951 16236+ | 523 11004 46825 | 7335 67868+ | 10 | |
| **41** | 0 | 0,69200 25563 40319 | 7 16999 27030 | 508 13668 78956+ | 7125 88814 | 0 | **19** |
| | 10 | 07 42562 67348+ | 7 17047 38644+ | 493 16542 90142+ | 6916 14872 | 50 | |
| | 20 | 14 59610 05993 | 095 51080+ | 478 19626 75270+ | 6706 46040+ | 40 | |
| | 30 | 21 76705 57074 | 143 64338+ | 463 22920 29230 | 6496 82318 | 30 | |
| | 40 | 28 93849 21412+ | 191 78418 | 448 26423 46912 | 6287 23703+ | 20 | |
| | 50 | 36 11040 99830+ | 239 93319+ | 433 30136 23208+ | 6077 70194+ | 10 | |
| **42** | 0 | 43 28280 93150 | 288 09043 | 418 34058 53014+ | 5868 21789+ | 0 | **18** |
| | 10 | 50 45569 02193 | 336 25589 | 403 38190 31225 | 5658 78487+ | 50 | |
| | 20 | 57 62905 27782 | 384 42957+ | 388 42531 52737+ | 5449 40286 | 40 | |
| | 30 | 64 80289 70739+ | 432 61148 | 373 47082 12451+ | 5240 07184 | 30 | |
| | 40 | 71 97722 31887+ | 480 80161+ | 358 51842 05267 | 5030 79180 | 20 | |
| | 50 | 79 15203 12049 | 528 99998 | 343 56811 26087 | 4821 56272 | 10 | |
| **43** | 0 | 86 32732 12047 | 577 20657+ | 328 61989 69815 | 4612 38458+ | 0 | **17** |
| | 10 | 0,69293 50309 32704+ | 625 42140 | 313 67377 31356+ | 4403 25738 | 50 | |
| | 20 | 0,69300 67934 74845 | 673 64446 | 298 72974 05618+ | 4194 18108+ | 40 | |
| | 30 | 07 85608 39291 | 721 87575+ | 283 78779 87510+ | 3985 15568+ | 30 | |
| | 40 | 15 03330 26866+ | 770 11528+ | 268 84794 71942 | 3776 18116+ | 20 | |
| | 50 | 22 21100 38395 | 818 36305+ | 253 91018 53825+ | 3567 25751 | 10 | |
| **44** | 0 | 29 38918 74700+ | 866 61906+ | 238 97451 28074+ | 3358 38470+ | 0 | **16** |
| | 10 | 36 56785 36607 | 914 88331+ | 224 04092 89604 | 3149 56272+ | 50 | |
| | 20 | 43 74700 24938+ | 7 17963 15580+ | 209 10943 33331+ | 2940 79156+ | 40 | |
| | 30 | 50 92663 40519 | 7 18011 43654+ | 194 18002 54175 | 2732 07120+ | 30 | |
| | 40 | 58 10674 84173+ | 059 72552+ | 179 25270 47054+ | 2523 40162+ | 20 | |
| | 50 | 65 28734 56726 | 108 02275+ | 164 32747 06892 | 2314 78281 | 10 | |
| **45** | 0 | 72 46842 59001+ | 156 32823+ | 149 40432 28611 | 2106 21475 | 0 | **15** |
| | 10 | 79 64998 91825+ | 204 64196+ | 134 48326 07136 | 1897 69742 | 50 | |
| | 20 | 86 83203 56022 | 252 96395 | 119 56428 37394 | 1689 23081 | 40 | |
| | 30 | 0,69394 01456 52417 | 301 29418+ | 104 64739 14313 | 1480 81490+ | 30 | |
| | 40 | 0,69401 19757 81835 | 349 63267+ | 089 73258 32822+ | 1272 44968 | 20 | |
| | 50 | 08 38107 45103 | 397 97942+ | 074 81985 87854+ | 1064 13513 | 10 | |
| **46** | 0 | 15 56505 43045 | 446 33443 | 059 90921 74341 | 0855 87123+ | 0 | **14** |
| | 10 | 22 74951 76488 | 494 69769+ | 045 00065 87218 | 0647 65797 | 50 | |
| | 20 | 29 93446 46257+ | 543 06922+ | 030 09418 21421 | 0439 49533+ | 40 | |
| | 30 | 37 11989 53180 | 591 44901+ | 015 18978 71887+ | 0231 38330 | 30 | |
| | 40 | 44 30580 98081+ | 639 83707 | 1,44000 28747 33557+ | 14 90023 32185+ | 20 | |
| | 50 | 51 49220 81788+ | 688 23339 | 1,43985 38724 01372 | 14 89815 31098+ | 10 | |
| **47** | 0 | 58 67909 05127+ | 736 63798 | 970 48908 70273+ | 9607 35067 | 0 | **13** |
| | 10 | 65 86645 68925+ | 785 05084 | 955 59301 35206+ | 9399 44090 | 50 | |
| | 20 | 73 05430 74009+ | 833 47197 | 940 69901 91116+ | 9191 58165 | 40 | |
| | 30 | 80 24264 21206+ | 881 90137+ | 925 80710 32951+ | 8983 77291 | 30 | |
| | 40 | 87 43146 11344 | 930 33905 | 910 91726 55660 | 8776 01466+ | 20 | |
| | 50 | 0,69494 62076 45249 | 7 18978 78500 | 896 02950 54193+ | 8568 30690 | 10 | |
| **48** | 0 | 0,69501 81055 23749 | 7 19027 23923 | 881 14382 23503+ | 8360 64959 | 0 | **12** |
| | 10 | 09 00082 47672 | 075 70174 | 866 26021 58544+ | 8153 04272+ | 50 | |
| | 20 | 16 19158 17846 | 124 17252+ | 851 37868 54272 | 7945 48629+ | 40 | |
| | 30 | 23 38282 35098+ | 172 65160 | 836 49923 05642+ | 7737 98027 | 30 | |
| | 40 | 30 57455 00258+ | 221 13895 | 821 62185 07615+ | 7530 52464+ | 20 | |
| | 50 | 37 76676 14153+ | 269 63459 | 806 74654 55150+ | 7323 11940+ | 10 | |
| **49** | 0 | 44 95945 77612+ | 318 13851+ | 791 87331 43210+ | 7115 76452+ | 0 | **11** |
| | 10 | 52 15263 91464+ | 366 65073 | 777 00215 66758 | 6908 45999+ | 50 | |
| | 20 | 59 34630 56537+ | 415 17123+ | 762 13307 20758+ | 6701 20579+ | 40 | |
| | 30 | 66 54045 73661 | 463 70003 | 747 26606 00179 | 6494 00191+ | 30 | |
| | 40 | 73 73509 43663+ | 512 23712 | 732 40111 99987+ | 6286 84833+ | 20 | |
| | 50 | 80 93021 67375+ | 7 19560 78250 | 717 53825 15153+ | 14 86079 74504 | 10 | |
| **50** | 0 | 0,69588 12582 45625+ | | 1,43702 67745 40649+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 55°

# 34°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,69588 12582 45625+ | 7 19609 33618 | 1,43702 67745 40649+ | 14 85872 69201+ | 0 | **10** |
| | 10 | 0,69595 32191 79243+ | 657 89815+ | 687 81872 71448 | 5665 68924 | 50 | |
| | 20 | 0,69602 51849 69059 | 706 46843 | 672 96207 02524 | 5458 73670+ | 40 | |
| | 30 | 09 71556 15902 | 755 04701 | 658 10748 28853 | 5251 83439 | 30 | |
| | 40 | 16 91311 20603 | 803 63388+ | 643 25496 45414 | 5044 98228 | 20 | |
| | 50 | 24 11114 83991+ | 852 22907 | 628 40451 47186 | 4838 18036 | 10 | |
| **51** | 0 | 31 30967 06898+ | 900 83256 | 613 55613 29150 | 4631 42861+ | 0 | **9** |
| | 10 | 38 50867 90154 | 949 44435+ | 598 70981 86288+ | 4424 72702+ | 50 | |
| | 20 | 45 70817 34589+ | 7 19998 06446 | 583 86557 13586 | 4218 07557+ | 40 | |
| | 30 | 52 90815 41035+ | 7 20046 69287+ | 569 02339 06028+ | 4011 47425+ | 30 | |
| | 40 | 60 10862 10322+ | 095 32960 | 554 18327 58603 | 3804 92304 | 20 | |
| | 50 | 67 30957 43282+ | 143 97464 | 539 34522 66299 | 3598 42192 | 10 | |
| **52** | 0 | 74 51101 40746+ | 192 62799+ | 524 50924 24107 | 3391 97088 | 0 | **8** |
| | 10 | 81 71294 03546 | 241 28966+ | 509 67532 27019 | 3185 56990 | 50 | |
| | 20 | 88 91535 32512+ | 289 95965+ | 494 84346 70029 | 2979 21896+ | 40 | |
| | 30 | 0,69696 11825 28478 | 338 63796+ | 480 01367 48132 | 2772 91806+ | 30 | |
| | 40 | 0,69703 32163 92274+ | 387 32459+ | 465 18594 56325+ | 2566 66717+ | 20 | |
| | 50 | 10 52551 24734 | 436 01955 | 450 36027 89608 | 2360 46628+ | 10 | |
| **53** | 0 | 17 72987 26689 | 484 72283 | 435 53667 42979+ | 2154 31538 | 0 | **7** |
| | 10 | 24 93471 98972 | 533 43443+ | 420 71513 11441+ | 1948 21444 | 50 | |
| | 20 | 32 14005 42415+ | 582 15436+ | 405 89564 89997+ | 1742 16345 | 40 | |
| | 30 | 39 34587 57852 | 630 88263 | 391 07822 73652+ | 1536 16239+ | 30 | |
| | 40 | 46 55218 46115 | 679 61922 | 376 26286 57413 | 1330 21126 | 20 | |
| | 50 | 53 75898 08037 | 728 36414+ | 361 44956 36287 | 1124 31003 | 10 | |
| **54** | 0 | 60 96626 44451+ | 777 11740+ | 346 63832 05283+ | 0918 45869 | 0 | **6** |
| | 10 | 68 17403 56192 | 825 87900 | 331 82913 59415 | 0712 65721+ | 50 | |
| | 20 | 75 38229 44092 | 874 64893 | 317 02200 93693 | 0506 90560 | 40 | |
| | 30 | 82 59104 08985 | 923 42720 | 302 21694 03133 | 0301 20383 | 30 | |
| | 40 | 89 80027 51705 | 7 20972 21381+ | 287 41392 82750 | 14 80095 55188 | 20 | |
| | 50 | 0,69797 00999 73086+ | 7 21021 00876+ | 272 61297 27562+ | 14 79889 94973+ | 10 | |
| **55** | 0 | 0,69804 22020 73963 | 069 81206+ | 257 81407 32588+ | 9684 39739 | 0 | **5** |
| | 10 | 11 43090 55169+ | 118 62370+ | 243 01722 92849+ | 9478 89482 | 50 | |
| | 20 | 18 64209 17540 | 167 44369+ | 228 22244 03368 | 9273 44201 | 40 | |
| | 30 | 25 85376 61909 | 216 27203 | 213 42970 59167 | 9068 03894+ | 30 | |
| | 40 | 33 06592 89112 | 265 10871+ | 198 63902 55272 | 8862 68561+ | 20 | |
| | 50 | 40 27857 99984 | 313 95375+ | 183 85039 86710+ | 8657 38199+ | 10 | |
| **56** | 0 | 47 49171 95359+ | 362 80714+ | 169 06382 48511 | 8452 12807+ | 0 | **4** |
| | 10 | 54 70534 76074 | 411 66889+ | 154 27930 35703+ | 8246 92384 | 50 | |
| | 20 | 61 91946 42963+ | 460 53899+ | 139 49683 43320 | 8041 76927 | 40 | |
| | 30 | 69 13406 96863 | 509 41745+ | 124 71641 66393 | 7836 66435 | 30 | |
| | 40 | 76 34916 38608+ | 558 30427+ | 109 93804 99958 | 7631 60906+ | 20 | |
| | 50 | 83 56474 69036 | 607 19945+ | 095 16173 39051+ | 7426 60340+ | 10 | |
| **57** | 0 | 90 78081 88981+ | 656 10300 | 080 38746 78711 | 7221 64734+ | 0 | **3** |
| | 10 | 0,69897 99737 99281+ | 705 01490+ | 065 61525 13976+ | 7016 74087+ | 50 | |
| | 20 | 0,69905 21443 00772 | 753 93518 | 050 84508 39889 | 6811 88398 | 40 | |
| | 30 | 12 43196 94290 | 802 86382 | 036 07696 51491 | 6607 07664 | 30 | |
| | 40 | 19 64999 80672+ | 851 80083 | 021 31089 43827 | 6402 31884 | 20 | |
| | 50 | 26 86851 60755+ | 900 74621+ | 1,43006 54687 11943 | 6197 61057 | 10 | |
| **58** | 0 | 34 08752 35377 | 949 69996+ | 1,42991 78489 50886 | 5992 95181 | 0 | **2** |
| | 10 | 41 30702 05373+ | 7 21998 66209 | 977 02496 55705+ | 5788 34254 | 50 | |
| | 20 | 48 52700 71582+ | 7 22047 63259+ | 962 26708 21451 | 5583 78275+ | 40 | |
| | 30 | 55 74748 34842 | 096 61147+ | 947 51124 43176 | 5379 27243 | 30 | |
| | 40 | 62 96844 95989+ | 145 59873 | 932 75745 15933 | 5174 81155 | 20 | |
| | 50 | 70 18990 55862+ | 194 59437 | 918 00570 34778 | 4970 40010+ | 10 | |
| **59** | 0 | 77 41185 15299+ | 243 59839 | 903 25599 94767+ | 4766 03808 | 0 | **1** |
| | 10 | 84 63428 75138 | 292 61079 | 888 50833 90959+ | 4561 72545 | 50 | |
| | 20 | 91 85721 36217+ | 341 63158 | 873 76272 18414+ | 4357 46221 | 40 | |
| | 30 | 0,69999 08062 99375+ | 390 66075+ | 859 01914 72193+ | 4153 24833+ | 30 | |
| | 40 | 0,70006 30453 65451 | 439 69832 | 844 27761 47360 | 3949 08382 | 20 | |
| | 50 | 13 52893 35282+ | 7 22488 74427 | 829 53812 38978+ | 14 73744 96864 | 10 | |
| **60** | 0 | 0,70020 75382 09710 | | 1,42814 80067 42114+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 55°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,70020 75382 09710 | 7 22537 79861+ | 1,42814 80067 42114+ | 14 73540 90278 | 0 | **60** |
| | 10 | 27 97919 89571+ | 586 86135 | 800 06526 51836+ | 3336 88623 | 50 | |
| | 20 | 35 20506 75706+ | 635 93248+ | 785 33189 63213+ | 3132 91897+ | 40 | |
| | 30 | 42 43142 68955 | 685 01201 | 770 60056 71316 | 2929 00099 | 30 | |
| | 40 | 49 65827 70156 | 734 09993+ | 755 87127 71217 | 2725 13227 | 20 | |
| | 50 | 56 88561 80149+ | 783 19626 | 741 14402 57990 | 2521 31279+ | 10 | |
| **1** | 0 | 64 11344 99776 | 832 30099 | 726 41881 26710+ | 2317 54255 | 0 | **59** |
| | 10 | 71 34177 29875 | 881 41411+ | 711 69563 72455+ | 2113 82151+ | 50 | |
| | 20 | 78 57058 71286+ | 930 53565 | 696 97449 90304 | 1910 14968 | 40 | |
| | 30 | 85 79989 24851+ | 7 22979 66559 | 682 25539 75336 | 1706 52703 | 30 | |
| | 40 | 0,70093 02968 91410+ | 7 23028 80393+ | 667 53833 22633 | 1502 95354+ | 20 | |
| | 50 | 0,70100 25997 71804 | 077 95069 | 652 82330 27278+ | 1299 42921+ | 10 | |
| **2** | 0 | 07 49075 66873 | 127 10585+ | 638 11030 84357 | 1095 95402 | 0 | **58** |
| | 10 | 14 72202 77459 | 176 26943+ | 623 39934 88955 | 0892 52794+ | 50 | |
| | 20 | 21 95379 04402 | 225 44142+ | 608 69042 36160+ | 0689 15097+ | 40 | |
| | 30 | 29 18604 48545 | 274 62183+ | 593 98353 21063 | 0485 82309+ | 30 | |
| | 40 | 36 41879 10728+ | 323 81066 | 579 27867 38753+ | 0282 54429 | 20 | |
| | 50 | 43 65202 91794 | 373 00790 | 564 57584 84324 | 14 70079 31454+ | 10 | |
| **3** | 0 | 50 88575 92584+ | 422 21356+ | 549 87505 52869+ | 14 69876 13384+ | 0 | **57** |
| | 10 | 58 11998 13941 | 471 42765 | 535 17629 39485+ | 9673 00217 | 50 | |
| | 20 | 65 35469 56706 | 520 65016 | 520 47956 39268+ | 9469 91950+ | 40 | |
| | 30 | 72 58990 21722 | 569 88109+ | 505 78486 47317+ | 9266 88584 | 30 | |
| | 40 | 79 82560 09831+ | 619 12045+ | 491 09219 58733+ | 9063 90116 | 20 | |
| | 50 | 87 06179 21876+ | 668 36824+ | 476 40155 68617+ | 8860 96544 | 10 | |
| **4** | 0 | 0,70194 29847 58701 | 717 62446 | 461 71294 72073+ | 8658 07867+ | 0 | **56** |
| | 10 | 0,70201 53565 21147 | 766 88911 | 447 02636 64206 | 8455 24084+ | 50 | |
| | 20 | 08 77332 10058+ | 816 16219+ | 432 34181 40121+ | 8252 45193+ | 40 | |
| | 30 | 16 01148 26278 | 865 44371+ | 417 65928 94928 | 8049 71193 | 30 | |
| | 40 | 23 25013 70649+ | 914 73367 | 402 97879 23735 | 7847 02081 | 20 | |
| | 50 | 30 48928 44016+ | 7 23964 03206 | 388 30032 21654 | 7644 37856+ | 10 | |
| **5** | 0 | 37 72892 47222+ | 7 24013 33889+ | 373 62387 83797+ | 7441 78518 | 0 | **55** |
| | 10 | 44 96905 81112 | 062 65417 | 358 94946 05279+ | 7239 24064 | 50 | |
| | 20 | 52 20968 46528+ | 111 97788+ | 344 27706 81215+ | 7036 74492+ | 40 | |
| | 30 | 59 45080 44317 | 161 31004+ | 329 60670 06723 | 6834 29802 | 30 | |
| | 40 | 66 69241 75321+ | 210 65065 | 314 93835 76921 | 6631 89991+ | 20 | |
| | 50 | 73 93452 40386+ | 259 99970+ | 300 27203 86929+ | 6429 55059 | 10 | |
| **6** | 0 | 81 17712 40357+ | 309 35721 | 285 60774 31870+ | 6227 25003 | 0 | **54** |
| | 10 | 88 42021 76078+ | 358 72316+ | 270 94547 06867+ | 6024 99822+ | 50 | |
| | 20 | 0,70295 66380 48395 | 408 09757 | 256 28522 07045 | 5822 79515 | 40 | |
| | 30 | 0,70302 90788 58152 | 457 48043+ | 241 62699 27530 | 5620 64080 | 30 | |
| | 40 | 10 15246 06195+ | 506 87175 | 226 97078 63450+ | 5418 53515 | 20 | |
| | 50 | 17 39752 93370+ | 556 27152+ | 212 31660 09935+ | 5216 47819 | 10 | |
| **7** | 0 | 24 64309 20523 | 605 67976 | 197 66443 62116+ | 5014 46990+ | 0 | **53** |
| | 10 | 31 88914 88498+ | 655 09645+ | 183 01429 15126 | 4812 51028 | 50 | |
| | 20 | 39 13569 98144 | 704 52161 | 168 36616 64098 | 4610 59929+ | 40 | |
| | 30 | 46 38274 50305 | 753 95523 | 153 72006 04168 | 4408 73694 | 30 | |
| | 40 | 53 63028 45828 | 803 39731+ | 139 07597 30474 | 4206 92320 | 20 | |
| | 50 | 60 87831 85559 | 852 84786+ | 124 43390 38154 | 4005 15805+ | 10 | |
| **8** | 0 | 68 12684 70346 | 902 30689 | 109 79385 22348+ | 3803 44149 | 0 | **52** |
| | 10 | 75 37587 01035 | 7 24951 77438 | 095 15581 78199+ | 3601 77349+ | 50 | |
| | 20 | 82 62538 78473 | 7 25001 25034+ | 080 51980 00849+ | 3400 15405+ | 40 | |
| | 30 | 89 87540 03507+ | 050 73478 | 065 88579 85444+ | 3198 58314+ | 30 | |
| | 40 | 0,70397 12590 76985+ | 100 22769+ | 051 25381 27130 | 2997 06076 | 20 | |
| | 50 | 0,70404 37690 99755 | 149 72908+ | 036 62384 21054 | 2795 58687+ | 10 | |
| **9** | 0 | 11 62840 72663 | 199 23895 | 021 99588 62366+ | 2594 16148+ | 0 | **51** |
| | 10 | 18 88039 96558+ | 248 75730 | 1,42007 36994 46217+ | 2392 78457 | 50 | |
| | 20 | 26 13288 72288 | 298 28413 | 1,41992 74601 67760+ | 2191 45611+ | 40 | |
| | 30 | 33 38587 00701 | 347 81944 | 978 12410 22148+ | 1990 17610+ | 30 | |
| | 40 | 40 63934 82645 | 397 36324 | 963 50420 04538 | 1788 94452+ | 20 | |
| | 50 | 47 89332 18969 | 7 25446 91552+ | 948 88631 10085+ | 14 61587 76136 | 10 | |
| **10** | 0 | 0,70455 14779 10521 | | 1,41934 27043 33949+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,70455 14779 10521 | 7 25496 47629+ | 1,41934 27043 33949+ | 14 61386 62659+ | 0 | **50** |
| | 10 | 62 40275 58151 | 546 04555+ | 919 65656 71290 | 1185 54021 | 50 | |
| | 20 | 69 65821 62706+ | 595 62331 | 905 04471 17269 | 0984 50219+ | 40 | |
| | 30 | 76 91417 25037+ | 645 20956 | 890 43486 67049+ | 0783 51253+ | 30 | |
| | 40 | 84 17062 45993+ | 694 80430 | 875 82703 15796 | 0582 57121 | 20 | |
| | 50 | 91 42757 26423+ | 744 40753+ | 861 22120 58675 | 0381 67821+ | 10 | |
| **11** | 0 | 0,70498 68501 67177 | 794 01927+ | 846 61738 90853+ | 14 60180 83352 | 0 | **49** |
| | 10 | 0,70505 94295 69104 | 843 63951 | 832 01558 07501+ | 14 59980 03712+ | 50 | |
| | 20 | 13 20139 33055 | 893 26824+ | 817 41578 03789 | 9779 28900 | 40 | |
| | 30 | 20 46032 59879+ | 942 90548+ | 802 81798 74889 | 9578 58914+ | 30 | |
| | 40 | 27 71975 50428 | 7 25992 55122+ | 788 22220 15974+ | 9377 93753 | 20 | |
| | 50 | 34 97968 05550+ | 7 26042 20547+ | 773 62842 22221+ | 9177 33415+ | 10 | |
| **12** | 0 | 42 24010 26098 | 091 86823+ | 759 03664 88806 | 8976 77899 | 0 | **48** |
| | 10 | 49 50102 12921+ | 141 53950 | 744 44688 10907 | 8776 27203 | 50 | |
| | 20 | 56 76243 66872 | 191 21928 | 729 85911 83703+ | 8575 81326 | 40 | |
| | 30 | 64 02434 88799+ | 240 90757 | 715 27336 02378 | 8375 40265+ | 30 | |
| | 40 | 71 28675 79556+ | 290 60437+ | 700 68960 62112 | 8175 04021 | 20 | |
| | 50 | 78 54966 39994 | 340 30969+ | 686 10785 58091 | 7974 72590+ | 10 | |
| **13** | 0 | 85 81306 70963+ | 390 02353+ | 671 52810 85500+ | 7774 45973 | 0 | **47** |
| | 10 | 0,70593 07696 73317 | 439 74589 | 656 95036 39527+ | 7574 24166+ | 50 | |
| | 20 | 0,70600 34136 47906 | 489 47677 | 642 37462 15361 | 7374 07169+ | 40 | |
| | 30 | 07 60625 95582+ | 539 21617 | 627 80088 08191+ | 7173 94980+ | 30 | |
| | 40 | 14 87165 17199+ | 588 96409+ | 613 22914 13211+ | 6973 87598 | 20 | |
| | 50 | 22 13754 13609 | 638 72054+ | 598 65940 25613 | 6773 85021 | 10 | |
| **14** | 0 | 29 40392 85663 | 688 48552 | 584 09166 40592+ | 6573 87247 | 0 | **46** |
| | 10 | 36 67081 34215+ | 738 25902+ | 569 52592 53345 | 6373 94275+ | 50 | |
| | 20 | 43 93819 60118 | 788 04106+ | 554 96218 59069+ | 6174 06104+ | 40 | |
| | 30 | 51 20607 64224+ | 837 83163+ | 540 40044 52965 | 5974 22732+ | 30 | |
| | 40 | 58 47445 47388 | 887 63073+ | 525 84070 30233 | 5774 44158 | 20 | |
| | 50 | 65 74333 10461+ | 937 43837+ | 511 28295 86074+ | 5574 70379+ | 10 | |
| **15** | 0 | 73 01270 54299 | 7 26987 25455 | 496 72721 15695 | 5375 01396 | 0 | **45** |
| | 10 | 80 28257 79754 | 7 27037 07926+ | 482 17346 14299+ | 5175 37205 | 50 | |
| | 20 | 87 55294 87680+ | 086 91252 | 467 62170 77094+ | 4975 77805+ | 40 | |
| | 30 | 0,70694 82381 78932+ | 136 75431+ | 453 07194 99288+ | 4776 23196+ | 30 | |
| | 40 | 0,70702 09518 54364+ | 186 60466 | 438 52418 76092 | 4576 73376 | 20 | |
| | 50 | 09 36705 14830 | 236 46354+ | 423 97842 02716+ | 4377 28342 | 10 | |
| **16** | 0 | 16 63941 61184+ | 286 33097+ | 409 43464 74374 | 4177 88094 | 0 | **44** |
| | 10 | 23 91227 94282+ | 336 20696 | 394 89286 86280 | 3978 52630 | 50 | |
| | 20 | 31 18564 14978 | 386 09149 | 380 35308 33650+ | 3779 21948+ | 40 | |
| | 30 | 38 45950 24127 | 435 98457+ | 365 81529 11702 | 3579 96048 | 30 | |
| | 40 | 45 73386 22584+ | 485 88621 | 351 27949 15654 | 3380 74927 | 20 | |
| | 50 | 53 00872 11206 | 535 79640+ | 336 74568 40727+ | 3181 58584 | 10 | |
| **17** | 0 | 60 28407 90846 | 585 71515+ | 322 21386 82143+ | 2982 47017+ | 0 | **43** |
| | 10 | 67 55993 62361+ | 635 64246 | 307 68404 35126 | 2783 40226 | 50 | |
| | 20 | 74 83629 26607+ | 685 57833 | 293 15620 94900 | 2584 38208+ | 40 | |
| | 30 | 82 11314 84440+ | 735 52276 | 278 63036 56691+ | 2385 40962+ | 30 | |
| | 40 | 89 39050 36716+ | 785 47575 | 264 10651 15729 | 2186 48487+ | 20 | |
| | 50 | 0,70796 66835 84292 | 835 43731 | 249 58464 67241+ | 1987 60781+ | 10 | |
| **18** | 0 | 0,70803 94671 28023 | 885 40743+ | 235 06477 06460+ | 1788 77843 | 0 | **42** |
| | 10 | 11 22556 68766+ | 935 38613 | 220 54688 28617+ | 1589 99670+ | 50 | |
| | 20 | 18 50492 07379 | 7 27985 37339 | 206 03098 28947 | 1391 26262+ | 40 | |
| | 30 | 25 78477 44718+ | 7 28035 36922+ | 191 51707 02685 | 1192 57617+ | 30 | |
| | 40 | 33 06512 81641 | 085 37363+ | 177 00514 45067 | 0993 93734+ | 20 | |
| | 50 | 40 34598 19004+ | 135 38661+ | 162 49520 51332+ | 0795 34611+ | 10 | |
| **19** | 0 | 47 62733 57666 | 185 40817+ | 147 98725 16721 | 0596 80247 | 0 | **41** |
| | 10 | 54 90918 98484 | 235 43831+ | 133 48128 36473+ | 0398 30640 | 50 | |
| | 20 | 62 19154 42315+ | 285 47703+ | 118 97730 05834 | 0199 85788+ | 40 | |
| | 30 | 69 47439 90018+ | 335 52433 | 104 47530 20045+ | 14 50001 45691 | 30 | |
| | 40 | 76 75775 42451+ | 385 58021+ | 089 97528 74354+ | 14 49803 10346 | 20 | |
| | 50 | 84 04161 00473 | 7 28435 64468 | 075 47725 64008+ | 14 49604 79752+ | 10 | |
| **20** | 0 | 0,70891 32596 64941+ | | 1,41060 98120 84255+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,70891 32596 64941+ | 7 28485 71773+ | 1,41060 98120 84255+ | 14 49406 53909 | 0 | **40** |
| | 10 | 0,70898 61082 36715 | 535 79937+ | 046 48714 30347 | 9208 32813 | 50 | |
| | 20 | 0,70905 89618 16652+ | 585 88961 | 031 99505 97534 | 9010 16464+ | 40 | |
| | 30 | 13 18204 05613+ | 635 98843 | 017 50495 81069+ | 8812 04860+ | 30 | |
| | 40 | 20 46840 04456+ | 686 09585 | 1,41003 01683 76209 | 8613 98000+ | 20 | |
| | 50 | 27 75526 14041+ | 736 21186 | 1,40988 53069 78208 | 8415 95883 | 10 | |
| **21** | 0 | 35 04262 35227+ | 786 33646+ | 974 04653 82325 | 8217 98506+ | 0 | **39** |
| | 10 | 42 33048 68874 | 836 46967 | 959 56435 83818+ | 8020 05869 | 50 | |
| | 20 | 49 61885 15841 | 886 61147+ | 945 08415 77949+ | 7822 17969+ | 40 | |
| | 30 | 56 90771 76989 | 936 76188+ | 930 60593 59980+ | 7624 34806 | 30 | |
| | 40 | 64 19708 53177 | 7 28986 92089+ | 916 12969 25174+ | 7426 56377+ | 20 | |
| | 50 | 71 48695 45266+ | 7 29037 08850+ | 901 65542 68797 | 7228 82682+ | 10 | |
| **22** | 0 | 78 77732 54117 | 087 26472+ | 887 18313 86114+ | 7031 13719+ | 0 | **38** |
| | 10 | 86 06819 80590 | 137 44955+ | 872 71282 72394+ | 6833 49487 | 50 | |
| | 20 | 0,70993 35957 25545+ | 187 64299+ | 858 24449 22908 | 6635 89983 | 40 | |
| | 30 | 0,71000 65144 89845 | 237 84504+ | 843 77813 32924+ | 6438 35207 | 30 | |
| | 40 | 07 94382 74349 | 288 05570+ | 829 31374 97717+ | 6240 85157 | 20 | |
| | 50 | 15 23670 79919+ | 338 27498 | 814 85134 12561 | 6043 39831 | 10 | |
| **23** | 0 | 22 53009 07418 | 388 50287+ | 800 39090 72729+ | 5845 99228+ | 0 | **37** |
| | 10 | 29 82397 57705+ | 438 73938+ | 785 93244 73501 | 5648 63347+ | 50 | |
| | 20 | 37 11836 31644 | 488 98451+ | 771 47596 10153+ | 5451 32186+ | 40 | |
| | 30 | 44 41325 30096 | 539 23827 | 757 02144 77967 | 5254 05744+ | 30 | |
| | 40 | 51 70864 53922+ | 589 50064+ | 742 56890 72222+ | 5056 84019+ | 20 | |
| | 50 | 59 00454 03987 | 639 77164+ | 728 11833 88203 | 4859 67010 | 10 | |
| **24** | 0 | 66 30093 81151+ | 690 05127 | 713 66974 21193+ | 4662 54714+ | 0 | **36** |
| | 10 | 73 59783 86278+ | 740 33952+ | 699 22311 66478+ | 4465 47132 | 50 | |
| | 20 | 80 89524 20230+ | 790 63640+ | 684 77846 19346+ | 4268 44261 | 40 | |
| | 30 | 88 19314 83871 | 840 94192 | 670 33577 75085+ | 4071 46099+ | 30 | |
| | 40 | 0,71095 49155 78063 | 891 25606+ | 655 89506 28986 | 3874 52646+ | 20 | |
| | 50 | 0,71102 79047 03670 | 941 57885 | 641 45631 76339+ | 3677 63900+ | 10 | |
| **25** | 0 | 10 08988 61555 | 7 29991 91026+ | 627 01954 12439+ | 3480 79859+ | 0 | **35** |
| | 10 | 17 38980 52581+ | 7 30042 25032+ | 612 58473 32580 | 3284 00522+ | 50 | |
| | 20 | 24 69022 77614 | 092 59902 | 598 15189 32057 | 3087 25888 | 40 | |
| | 30 | 31 99115 37515+ | 142 95635+ | 583 72102 06169 | 2890 55954+ | 30 | |
| | 40 | 39 29258 33151 | 193 32233+ | 569 29211 50214+ | 2693 90721 | 20 | |
| | 50 | 46 59451 65384+ | 243 69696 | 554 86517 59493+ | 2497 30185 | 10 | |
| **26** | 0 | 53 89695 35080+ | 294 08023 | 540 44020 29308+ | 2300 74345+ | 0 | **34** |
| | 10 | 61 19989 43103 | 344 47214+ | 526 01719 54962+ | 2104 23201+ | 50 | |
| | 20 | 68 50333 90318 | 394 87271+ | 511 59615 31761 | 1907 76751 | 40 | |
| | 30 | 75 80728 77589+ | 445 28193+ | 497 17707 55010 | 1711 34993 | 30 | |
| | 40 | 83 11174 05782+ | 495 69980+ | 482 75996 20017 | 1514 97925+ | 20 | |
| | 50 | 90 41669 75763 | 546 12633 | 468 34481 22091+ | 1318 65547 | 10 | |
| **27** | 0 | 0,71197 72215 88396 | 596 56151+ | 453 93162 56544+ | 1122 37856+ | 0 | **33** |
| | 10 | 0,71205 02812 44547+ | 647 00535+ | 439 52040 18688 | 0926 14852+ | 50 | |
| | 20 | 12 33459 45082+ | 697 45785+ | 425 11114 03835 | 0729 96533+ | 40 | |
| | 30 | 19 64156 90868 | 747 91901+ | 410 70384 07301+ | 0533 82897+ | 30 | |
| | 40 | 26 94904 82769+ | 798 38884 | 396 29850 24404 | 0337 73944 | 20 | |
| | 50 | 34 25703 21653 | 848 86732+ | 381 89512 50460 | 14 40141 69670+ | 10 | |
| **28** | 0 | 41 56552 08385+ | 899 35448 | 367 49370 80789 | 14 39945 70076+ | 0 | **32** |
| | 10 | 48 87451 43834 | 7 30949 85030+ | 353 09425 10712+ | 9749 75160 | 50 | |
| | 20 | 56 18401 28864 | 7 31000 35479+ | 338 69675 35553 | 9553 84919+ | 40 | |
| | 30 | 63 49401 64343+ | 050 86796 | 324 30121 50633+ | 9357 99353+ | 30 | |
| | 40 | 70 80452 51139+ | 101 38979+ | 309 90763 51279+ | 9162 18461 | 20 | |
| | 50 | 78 11553 90119 | 151 92030+ | 295 51601 32818+ | 8966 42240+ | 10 | |
| **29** | 0 | 85 42705 82150 | 202 45949+ | 281 12634 90578 | 8770 70690 | 0 | **31** |
| | 10 | 0,71292 73908 28099 | 253 00736 | 266 73864 19888 | 8575 03808+ | 50 | |
| | 20 | 0,71300 05161 28835 | 303 56390+ | 252 35289 16080 | 8379 41594 | 40 | |
| | 30 | 07 36464 85225+ | 354 12913 | 237 96909 74485+ | 8183 84046 | 30 | |
| | 40 | 14 67818 98138+ | 404 70304 | 223 58725 90439+ | 7988 31162 | 20 | |
| | 50 | 21 99223 68442 | 7 31455 28563 | 209 20737 59277+ | 14 37792 82941+ | 10 | |
| **30** | 0 | 0,71329 30678 97005+ | | 1,40194 82944 76336 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,71329 30678 97005+ | 7 31505 87691 | 1,40194 82944 76336 | 14 37597 39382+ | 0 | **30** |
| | 10 | 36 62184 84696+ | 556 47688 | 180 45347 36953+ | 7402 00483+ | 50 | |
| | 20 | 43 93741 32384+ | 607 08554 | 166 07945 36470 | 7206 66243+ | 40 | |
| | 30 | 51 25348 40938+ | 657 70288+ | 151 70738 70226+ | 7011 36660+ | 30 | |
| | 40 | 58 57006 11227 | 708 32893 | 137 33727 33566 | 6816 11733+ | 20 | |
| | 50 | 65 88714 44120 | 758 96366+ | 122 96911 21832+ | 6620 91460+ | 10 | |
| **31** | 0 | 73 20473 40486+ | 809 60710 | 108 60290 30372 | 6425 75840+ | 0 | **29** |
| | 10 | 80 52283 01196+ | 860 25923 | 094 23864 54531+ | 6230 64872 | 50 | |
| | 20 | 87 84143 27119+ | 910 92006 | 079 87633 89659+ | 6035 58553+ | 40 | |
| | 30 | 0,71395 16054 19125+ | 7 31961 58959+ | 065 51598 31105+ | 5840 56884 | 30 | |
| | 40 | 0,71402 48015 78085 | 7 32012 26783 | 051 15757 74222 | 5645 59861 | 20 | |
| | 50 | 09 80028 04868 | 062 95477 | 036 80112 14361 | 5450 67484 | 10 | |
| **32** | 0 | 17 12091 00345 | 113 65041+ | 022 44661 46877 | 5255 79751 | 0 | **28** |
| | 10 | 24 44204 65386+ | 164 35477 | 1,40008 09405 67125+ | 5060 96661 | 50 | |
| | 20 | 31 76369 00863+ | 215 06783+ | 1,39993 74344 70464+ | 4866 18212+ | 40 | |
| | 30 | 39 08584 07647+ | 265 78961+ | 979 39478 52252 | 4671 44403+ | 30 | |
| | 40 | 46 40849 86608+ | 316 52010 | 965 04807 07848+ | 4476 75233 | 20 | |
| | 50 | 53 73166 38619 | 367 25930+ | 950 70330 32615+ | 4282 10700 | 10 | |
| **33** | 0 | 61 05533 64549+ | 418 00723 | 936 36048 21915+ | 4087 50802 | 0 | **27** |
| | 10 | 68 37951 65272+ | 468 76386+ | 922 01960 71113+ | 3892 95538+ | 50 | |
| | 20 | 75 70420 41659 | 519 52922+ | 907 68067 75575+ | 3698 44907+ | 40 | |
| | 30 | 83 02939 94581+ | 570 30330+ | 893 34369 30668 | 3503 98907+ | 30 | |
| | 40 | 90 35510 24912+ | 621 08611 | 879 00865 31760+ | 3309 57537+ | 20 | |
| | 50 | 0,71497 68131 33523+ | 671 87764 | 864 67555 74222+ | 3115 20796 | 10 | |
| **34** | 0 | 0,71505 00803 21287+ | 722 67789+ | 850 34440 53426+ | 2920 88681+ | 0 | **26** |
| | 10 | 12 33525 89077+ | 773 48688 | 836 01519 64745 | 2726 61192+ | 50 | |
| | 20 | 19 66299 37765+ | 824 30459+ | 821 68793 03552 | 2532 38327+ | 40 | |
| | 30 | 26 99123 68225 | 875 13104 | 807 36260 65225 | 2338 20085 | 30 | |
| | 40 | 34 31998 81329+ | 925 96622 | 793 03922 45139+ | 2144 06464 | 20 | |
| | 50 | 41 64924 77951+ | 7 32976 81013+ | 778 71778 38676 | 1949 97462+ | 10 | |
| **35** | 0 | 48 97901 58965 | 7 33027 66279 | 764 39828 41213+ | 1755 93079 | 0 | **25** |
| | 10 | 56 30929 25244 | 078 52418 | 750 08072 48134+ | 1561 93313 | 50 | |
| | 20 | 63 64007 77661+ | 129 39431 | 735 76510 54821+ | 1367 98162 | 40 | |
| | 30 | 70 97137 17092+ | 180 27318 | 721 45142 56659 | 1174 07625+ | 30 | |
| | 40 | 78 30317 44410+ | 231 16079+ | 707 13968 49034 | 0980 21701 | 20 | |
| | 50 | 85 63548 60490 | 282 05716 | 692 82988 27332+ | 0786 40388 | 10 | |
| **36** | 0 | 0,71592 96830 66206 | 332 96226+ | 678 52201 86944+ | 0592 63685 | 0 | **24** |
| | 10 | 0,71600 30163 62432+ | 383 87612+ | 664 21609 23260 | 0398 91590 | 50 | |
| | 20 | 07 63547 50045 | 434 79873 | 649 91210 31670 | 0205 24101+ | 40 | |
| | 30 | 14 96982 29918 | 485 73009 | 635 61005 07568+ | 14 30011 61219 | 30 | |
| | 40 | 22 30468 02927 | 536 67020 | 621 30993 46349+ | 14 29818 02940 | 20 | |
| | 50 | 29 64004 69947 | 587 61907 | 607 01175 43409+ | 9624 49264 | 10 | |
| **37** | 0 | 36 97592 31854 | 638 57669+ | 592 71550 94145+ | 9431 00189 | 0 | **23** |
| | 10 | 44 31230 89523+ | 689 54308 | 578 42119 93956+ | 9237 55713+ | 50 | |
| | 20 | 51 64920 43832 | 740 51822+ | 564 12882 38242+ | 9044 15836+ | 40 | |
| | 30 | 58 98660 95654+ | 791 50213+ | 549 83838 22406 | 8850 80556+ | 30 | |
| | 40 | 66 32452 45867+ | 842 49480+ | 535 54987 41849+ | 8657 49872 | 20 | |
| | 50 | 73 66294 95348 | 893 49624 | 521 26329 91977+ | 8464 23781+ | 10 | |
| **38** | 0 | 81 00188 44972 | 944 50644+ | 506 97865 68196 | 8271 02283 | 0 | **22** |
| | 10 | 88 34132 95616+ | 7 33995 52542 | 492 69594 65913 | 8077 85376+ | 50 | |
| | 20 | 0,71695 68128 48158+ | 7 34046 55316 | 478 41516 80536+ | 7884 73059 | 40 | |
| | 30 | 0,71703 02175 03474+ | 097 58968 | 464 13632 07477+ | 7691 65330+ | 30 | |
| | 40 | 10 36272 62442+ | 148 63497 | 449 85940 42147 | 7498 62188+ | 20 | |
| | 50 | 17 70421 25939+ | 199 68903+ | 435 58441 79958+ | 7305 63632 | 10 | |
| **39** | 0 | 25 04620 94843 | 250 75188 | 421 31136 16326+ | 7112 69659+ | 0 | **21** |
| | 10 | 32 38871 70031 | 301 82350 | 407 04023 46667 | 6919 80270 | 50 | |
| | 20 | 39 73173 52381 | 352 90390+ | 392 77103 66397 | 6726 95461+ | 40 | |
| | 30 | 47 07526 42771+ | 403 99309 | 378 50376 70935+ | 6534 15232+ | 30 | |
| | 40 | 54 41930 42081 | 455 09106+ | 364 23842 55703 | 6341 39582+ | 20 | |
| | 50 | 61 76385 51187 | 7 34506 19782 | 349 97501 16120+ | 14 26148 68509 | 10 | |
| **40** | 0 | 0,71769 10891 70969+ | | 1,39335 71352 47611+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,71769 10891 70969+ | 7 34557 31336+ | 1,39335 71352 47611+ | 14 25956 02011 | 0 | **20** |
| | 10 | 76 45449 02306 | 608 43770 | 321 45396 45600+ | 5763 40087+ | 50 | |
| | 20 | 83 80057 46075+ | 659 57082+ | 307 19633 05513+ | 5570 82736+ | 40 | |
| | 30 | 91 14717 03158 | 710 71274+ | 292 94062 22777 | 5378 29956+ | 30 | |
| | 40 | 0,71798 49427 74432+ | 761 86345+ | 278 68683 92820+ | 5185 81747 | 20 | |
| | 50 | 0,71805 84189 60778 | 813 02296+ | 264 43498 11073+ | 4993 38105+ | 10 | |
| **41** | 0 | 13 19002 63074+ | 864 19127 | 250 18504 72968 | 4800 99031 | 0 | **19** |
| | 10 | 20 53866 82201+ | 915 36838 | 235 93703 73937 | 4608 64522+ | 50 | |
| | 20 | 27 88782 19039+ | 7 34966 55428+ | 221 69095 09414+ | 4416 34578 | 40 | |
| | 30 | 35 23748 74468 | 7 35017 74899+ | 207 44678 74836+ | 4224 09196+ | 30 | |
| | 40 | 42 58766 49367+ | 068 95251+ | 193 20454 65640+ | 4031 88376 | 20 | |
| | 50 | 49 93835 44619 | 120 16483+ | 178 96422 77264+ | 3839 72115+ | 10 | |
| **42** | 0 | 57 28955 61102+ | 171 38596+ | 164 72583 05148+ | 3647 60414 | 0 | **18** |
| | 10 | 64 64126 99699 | 222 61590+ | 150 48935 44734+ | 3455 53269+ | 50 | |
| | 20 | 71 99349 61289+ | 273 85466 | 136 25479 91465+ | 3263 50680+ | 40 | |
| | 30 | 79 34623 46755+ | 325 10222+ | 122 02216 40784+ | 3071 52646 | 30 | |
| | 40 | 86 69948 56978 | 376 35860+ | 107 79144 88138+ | 2879 59164+ | 20 | |
| | 50 | 0,71894 05324 92838 | 427 62380 | 093 56265 28974 | 2687 70234+ | 10 | |
| **43** | 0 | 0,71901 40752 55218+ | 478 89782 | 079 33577 58739 | 2495 85854+ | 0 | **17** |
| | 10 | 08 76231 45000 | 530 18065+ | 065 11081 72884+ | 2304 06023+ | 50 | |
| | 20 | 16 11761 63065+ | 581 47231 | 050 88777 66861 | 2112 30739+ | 40 | |
| | 30 | 23 47343 10296+ | 632 77279+ | 036 66665 36121+ | 1920 60001+ | 30 | |
| | 40 | 30 82975 87576 | 684 08210 | 022 44744 76119+ | 1728 93808 | 20 | |
| | 50 | 38 18659 95786 | 735 40023+ | 1,39008 23015 82311+ | 1537 32158 | 10 | |
| **44** | 0 | 45 54395 35809 | 786 72719+ | 1,38994 01478 50153+ | 1345 75049 | 0 | **16** |
| | 10 | 52 90182 08529 | 838 06299 | 979 80132 75104+ | 1154 22480+ | 50 | |
| | 20 | 60 26020 14828 | 889 40761+ | 965 58978 52624 | 0962 74451 | 40 | |
| | 30 | 67 61909 55589 | 940 76107+ | 951 38015 78173 | 0771 30959 | 30 | |
| | 40 | 74 97850 31696+ | 7 35992 12337 | 937 17244 47214 | 0579 92003 | 20 | |
| | 50 | 82 33842 44033+ | 7 36043 49450 | 922 96664 55211+ | 0388 57581+ | 10 | |
| **45** | 0 | 89 69885 93483+ | 094 87447 | 908 76275 97630 | 0197 27693+ | 0 | **15** |
| | 10 | 0,71997 05980 80930+ | 146 26328+ | 894 56078 69936+ | 14 20006 02337 | 50 | |
| | 20 | 0,72004 42127 07259 | 197 66094 | 880 36072 67599+ | 14 19814 81511+ | 40 | |
| | 30 | 11 78324 73353 | 249 06743+ | 866 16257 86088 | 9623 65214+ | 30 | |
| | 40 | 19 14573 80096+ | 300 48278 | 851 96634 20873+ | 9432 53445+ | 20 | |
| | 50 | 26 50874 28374+ | 351 90697+ | 837 77201 67428 | 9241 46202+ | 10 | |
| **46** | 0 | 33 87226 19072 | 403 34001+ | 823 57960 21225+ | 9050 43485 | 0 | **14** |
| | 10 | 41 23629 53073+ | 454 78190+ | 809 38909 77740+ | 8859 45290+ | 50 | |
| | 20 | 48 60084 31264 | 506 23265+ | 795 20050 32450+ | 8668 51618 | 40 | |
| | 30 | 55 96590 54529+ | 557 69225+ | 781 01381 80832+ | 8477 62466 | 30 | |
| | 40 | 63 33148 23754+ | 609 16071 | 766 82904 18366 | 8286 77833+ | 20 | |
| | 50 | 70 69757 39825+ | 660 63802+ | 752 64617 40532+ | 8095 97719 | 10 | |
| **47** | 0 | 78 06418 03628 | 712 12419+ | 738 46521 42813+ | 7905 22121 | 0 | **13** |
| | 10 | 85 43130 16047+ | 763 61923 | 724 28616 20692 | 7714 51038 | 50 | |
| | 20 | 0,72092 79893 77970+ | 815 12313 | 710 10901 69654 | 7523 84469 | 40 | |
| | 30 | 0,72100 16708 90284 | 866 63589+ | 695 93377 85185 | 7333 22412 | 30 | |
| | 40 | 07 53575 53873 | 918 15752+ | 681 76044 62773+ | 7142 64866 | 20 | |
| | 50 | 14 90493 69625+ | 7 36969 68802 | 667 58901 97907+ | 6952 11829+ | 10 | |
| **48** | 0 | 22 27463 38427+ | 7 37021 22739 | 653 41949 86078 | 6761 63301 | 0 | **12** |
| | 10 | 29 64484 61166+ | 072 77563 | 639 25188 22777 | 6571 19279+ | 50 | |
| | 20 | 37 01557 38729+ | 124 33274 | 625 08617 03498 | 6380 79763 | 40 | |
| | 30 | 44 38681 72003+ | 175 89873 | 610 92236 23735 | 6190 44750+ | 30 | |
| | 40 | 51 75857 61876+ | 227 47359+ | 596 76045 78984 | 6000 14241 | 20 | |
| | 50 | 59 13085 09236+ | 279 05734 | 582 60045 64743+ | 5809 88232+ | 10 | |
| **49** | 0 | 66 50364 14970+ | 330 64996+ | 568 44235 76511 | 5619 66723+ | 0 | **11** |
| | 10 | 73 87694 79967 | 382 25147 | 554 28616 09787+ | 5429 49713 | 50 | |
| | 20 | 81 25077 05114 | 433 86186 | 540 13186 60074+ | 5239 37199+ | 40 | |
| | 30 | 88 62510 91300 | 485 48114 | 525 97947 22874+ | 5049 29182 | 30 | |
| | 40 | 0,72195 99996 39414 | 537 10930 | 511 82897 93692+ | 4859 25658+ | 20 | |
| | 50 | 0,72203 37533 50344 | 7 37588 74635+ | 497 68038 68034 | 14 14669 26628 | 10 | |
| **50** | 0 | 0,72210 75122 24979+ | | 1,38483 53369 41406+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 35°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,72210 75122 24979+ | 7 37640 39229+ | 1,38483 53369 41406+ | 14 14479 32088+ | 0 | **10** |
| | 10 | 18 12762 64209 | 692 04713 | 469 38890 09317+ | 4289 42039+ | 50 | |
| | 20 | 25 50454 68922 | 743 71086 | 455 24600 67278 | 4099 56479+ | 40 | |
| | 30 | 32 88198 40008+ | 795 38349 | 441 10501 10798+ | 3909 75406 | 30 | |
| | 40 | 40 25993 78357 | 847 06501 | 426 96591 35392+ | 3719 98819 | 20 | |
| | 50 | 47 63840 84858+ | 898 75543+ | 412 82871 36573+ | 3530 26716+ | 10 | |
| **51** | 0 | 55 01739 60401+ | 7 37950 45476 | 398 69341 09857 | 3340 59097 | 0 | **9** |
| | 10 | 62 39690 05877+ | 7 38002 16298+ | 384 56000 50759+ | 3150 95959+ | 50 | |
| | 20 | 69 77692 22176 | 053 88011+ | 370 42849 54800 | 2961 37302+ | 40 | |
| | 30 | 77 15746 10187+ | 105 60615+ | 356 29888 17497+ | 2771 83124+ | 30 | |
| | 40 | 84 53851 70803 | 157 34110 | 342 17116 34373+ | 2582 33424 | 20 | |
| | 50 | 91 92009 04913 | 209 08495+ | 328 04534 00949+ | 2392 88199+ | 10 | |
| **52** | 0 | 0,72299 30218 13408+ | 260 83772+ | 313 92141 12750 | 2203 47450+ | 0 | **8** |
| | 10 | 0,72306 68478 97180+ | 312 59940+ | 299 79937 65299+ | 2014 11174+ | 50 | |
| | 20 | 14 06791 57121 | 364 37000 | 285 67923 54125 | 1824 79371 | 40 | |
| | 30 | 21 45155 94121 | 416 14951 | 271 56098 74754+ | 1635 52038 | 30 | |
| | 40 | 28 83572 09072 | 467 93794 | 257 44463 22716+ | 1446 29174+ | 20 | |
| | 50 | 36 22040 02866+ | 519 73529+ | 243 33016 93542 | 1257 10779 | 10 | |
| **53** | 0 | 43 60559 76395+ | 571 54156+ | 229 21759 82763 | 1067 96850 | 0 | **7** |
| | 10 | 50 99131 30552+ | 623 35676+ | 215 10691 85913 | 0878 87386+ | 50 | |
| | 20 | 58 37754 66228+ | 675 18088+ | 200 99812 98526+ | 0689 82386+ | 40 | |
| | 30 | 65 76429 84317+ | 727 01393+ | 186 89123 16140 | 0500 81849+ | 30 | |
| | 40 | 73 15156 85711 | 778 85591+ | 172 78622 34290+ | 0311 85773+ | 20 | |
| | 50 | 80 53935 71302 | 830 70682+ | 158 68310 48517 | 14 10122 94157 | 10 | |
| **54** | 0 | 87 92766 41984+ | 882 56666+ | 144 58187 54360 | 14 09934 06999 | 0 | **6** |
| | 10 | 0,72395 31648 98651 | 934 43544 | 130 48253 47360+ | 9745 24298 | 50 | |
| | 20 | 0,72402 70583 42195 | 7 38986 31315 | 116 38508 23062+ | 9556 46053 | 40 | |
| | 30 | 10 09569 73510 | 7 39038 19980 | 102 28951 77009+ | 9367 72262 | 30 | |
| | 40 | 17 48607 93490 | 090 09539 | 088 19584 04747+ | 9179 02924 | 20 | |
| | 50 | 24 87698 03029 | 141 99992 | 074 10405 01823+ | 8990 38037+ | 10 | |
| **55** | 0 | 32 26840 03021 | 193 91339 | 060 01414 63786 | 8801 77601 | 0 | **5** |
| | 10 | 39 66033 94360 | 245 83581 | 045 92612 86185 | 8613 21613+ | 50 | |
| | 20 | 47 05279 77941 | 297 76717+ | 031 83999 64571+ | 8424 70073+ | 40 | |
| | 30 | 54 44577 54658+ | 349 70748+ | 017 75574 94498+ | 8236 22979+ | 30 | |
| | 40 | 61 83927 25406+ | 401 65674+ | 1,38003 67338 71519 | 8047 80330 | 20 | |
| | 50 | 69 23328 91081+ | 453 61496 | 1,37989 59290 91189 | 7859 42124 | 10 | |
| **56** | 0 | 76 62782 52577+ | 505 58212+ | 975 51431 49065+ | 7671 08360 | 0 | **4** |
| | 10 | 84 02288 10790 | 557 55824+ | 961 43760 40705+ | 7482 79036+ | 50 | |
| | 20 | 91 41845 66614+ | 609 54332+ | 947 36277 61669 | 7294 54152 | 40 | |
| | 30 | 0,72498 81455 20947 | 661 53736+ | 933 28983 07517 | 7106 33705+ | 30 | |
| | 40 | 0,72506 21116 74683+ | 713 54036 | 919 21876 73811+ | 6918 17696 | 20 | |
| | 50 | 13 60830 28719+ | 765 55232 | 905 14958 56115+ | 6730 06121 | 10 | |
| **57** | 0 | 21 00595 83951+ | 817 57324+ | 891 08228 49994+ | 6541 98980 | 0 | **3** |
| | 10 | 28 40413 41276 | 869 60313 | 877 01686 51014+ | 6353 96271+ | 50 | |
| | 20 | 35 80283 01589 | 921 64199 | 862 95332 54742+ | 6165 97994 | 40 | |
| | 30 | 43 20204 65788 | 7 39973 68981+ | 848 89166 56748+ | 5978 04146+ | 30 | |
| | 40 | 50 60178 34769 | 7 40025 74661 | 834 83188 52602 | 5790 14727 | 20 | |
| | 50 | 58 00204 09430 | 077 81238 | 820 77398 37875 | 5602 29734+ | 10 | |
| **58** | 0 | 65 40281 90668 | 129 88712 | 806 71796 08140+ | 5414 49167+ | 0 | **2** |
| | 10 | 72 80411 79380 | 181 97084 | 792 66381 58973 | 5226 73025 | 50 | |
| | 20 | 80 20593 76464+ | 234 06354 | 778 61154 85947+ | 5039 01305+ | 40 | |
| | 30 | 87 60827 82818 | 286 16521+ | 764 56115 84642+ | 4851 34007+ | 30 | |
| | 40 | 0,72595 01113 99339+ | 338 27587+ | 750 51264 50635 | 4663 71129+ | 20 | |
| | 50 | 0,72602 41452 26927 | 390 39551+ | 736 46600 79506 | 4476 12670 | 10 | |
| **59** | 0 | 09 81842 66478+ | 442 52414 | 722 42124 66835+ | 4288 58628+ | 0 | **1** |
| | 10 | 17 22285 18892+ | 494 66175+ | 708 37836 08207 | 4101 09003 | 50 | |
| | 20 | 24 62779 85067+ | 546 80835+ | 694 33734 99204+ | 3913 63792 | 40 | |
| | 30 | 32 03326 65903 | 598 96394+ | 680 29821 35412 | 3726 22994+ | 30 | |
| | 40 | 39 43925 62297+ | 651 12853 | 666 26095 12417+ | 3538 86609+ | 20 | |
| | 50 | 46 84576 75150+ | 7 40703 30210+ | 652 22556 25808 | 14 03351 54634+ | 10 | |
| **60** | 0 | 0,72654 25280 05361 | | 1,37638 19204 71173+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 54°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,72654 25280 05361 | 7 40755 48467+ | 1,37638 19204 71173+ | 14 03164 27069+ | 0 | **60** |
| | 10 | 61 66035 53828+ | 807 67624+ | 624 16040 44104 | 2977 03912 | 50 | |
| | 20 | 69 06843 21453 | 859 87681+ | 610 13063 40192 | 2789 85161+ | 40 | |
| | 30 | 76 47703 09134+ | 912 08638+ | 596 10273 55031 | 2602 70816 | 30 | |
| | 40 | 83 88615 17773 | 7 40964 30495+ | 582 07670 84215 | 2415 60874+ | 20 | |
| | 50 | 91 29579 48268+ | 7 41016 53253 | 568 05255 23340+ | 2228 55335+ | 10 | |
| **1** | 0 | 0,72698 70596 01521+ | 068 76911 | 554 03026 68005 | 2041 54198 | 0 | **59** |
| | 10 | 0,72706 11664 78432+ | 121 01470 | 540 00985 13807+ | 1854 57460 | 50 | |
| | 20 | 13 52785 79903 | 173 26930 | 525 99130 56347+ | 1667 65121 | 40 | |
| | 30 | 20 93959 06833 | 225 53291 | 511 97462 91226+ | 1480 77178+ | 30 | |
| | 40 | 28 35184 60123+ | 277 80553+ | 497 95982 14048 | 1293 93632+ | 20 | |
| | 50 | 35 76462 40677 | 330 08717 | 483 94688 20415+ | 1107 14480+ | 10 | |
| **2** | 0 | 43 17792 49394 | 382 37782+ | 469 93581 05934+ | 0920 39722 | 0 | **58** |
| | 10 | 50 59174 87176+ | 434 67749+ | 455 92660 66212+ | 0733 69355+ | 50 | |
| | 20 | 58 00609 54926+ | 486 98619 | 441 91926 96857+ | 0547 03379 | 40 | |
| | 30 | 65 42096 53545+ | 539 30390+ | 427 91379 93478+ | 0360 41791+ | 30 | |
| | 40 | 72 83635 83935+ | 591 63064 | 413 91019 51687 | 14 00173 84592 | 20 | |
| | 50 | 80 25227 47000 | 643 96640+ | 399 90845 67094+ | 13 99987 31779 | 10 | |
| **3** | 0 | 87 66871 43640+ | 696 31119+ | 385 90858 35315+ | 9800 83351 | 0 | **57** |
| | 10 | 0,72795 08567 74760 | 748 66501+ | 371 91057 51964+ | 9614 39306+ | 50 | |
| | 20 | 0,72802 50316 41262 | 801 02786+ | 357 91443 12658 | 9427 99645 | 40 | |
| | 30 | 09 92117 44048+ | 853 39975 | 343 92015 13013 | 9241 64364 | 30 | |
| | 40 | 17 33970 84023 | 905 78066+ | 329 92773 48649 | 9055 33463 | 20 | |
| | 50 | 24 75876 62089+ | 7 41958 17062 | 315 93718 15186+ | 8869 06940 | 10 | |
| **4** | 0 | 32 17834 79151+ | 7 42010 56961 | 301 94849 08246+ | 8682 84794 | 0 | **56** |
| | 10 | 39 59845 36112+ | 062 97764 | 287 96166 23452+ | 8496 67024 | 50 | |
| | 20 | 47 01908 33876 | 115 39471 | 273 97669 56428+ | 8310 53628 | 40 | |
| | 30 | 54 44023 73347 | 167 82082+ | 259 99359 02800 | 8124 44605+ | 30 | |
| | 40 | 61 86191 55429+ | 220 25598+ | 246 01234 58194+ | 7938 39954+ | 20 | |
| | 50 | 69 28411 81027+ | 272 70019 | 232 03296 18240+ | 7752 39673+ | 10 | |
| **5** | 0 | 76 70684 51046+ | 325 15344 | 218 05543 78567 | 7566 43761+ | 0 | **55** |
| | 10 | 84 13009 66391 | 377 61574+ | 204 07977 34805 | 7380 52217+ | 50 | |
| | 20 | 91 55387 27965+ | 430 08710 | 190 10596 82587+ | 7194 65039+ | 40 | |
| | 30 | 0,72898 97817 36675+ | 482 56751 | 176 13402 17548 | 7008 82226+ | 30 | |
| | 40 | 0,72906 40299 93427 | 535 05697+ | 162 16393 35321+ | 6823 03777+ | 20 | |
| | 50 | 13 82834 99124+ | 587 55550 | 148 19570 31544 | 6637 29690+ | 10 | |
| **6** | 0 | 21 25422 54674+ | 640 06308 | 134 22933 01853+ | 6451 59964+ | 0 | **54** |
| | 10 | 28 68062 60982+ | 692 57972+ | 120 26481 41889 | 6265 94598 | 50 | |
| | 20 | 36 10755 18955 | 745 10542+ | 106 30215 47291 | 6080 33590 | 40 | |
| | 30 | 43 53500 29497+ | 797 64019+ | 092 34135 13701 | 5894 76939 | 30 | |
| | 40 | 50 96297 93517 | 850 18403 | 078 38240 36762 | 5709 24643+ | 20 | |
| | 50 | 58 39148 11920 | 902 73693+ | 064 42531 12118+ | 5523 76702+ | 10 | |
| **7** | 0 | 65 82050 85613+ | 7 42955 29890+ | 050 47007 35416+ | 5338 33114 | 0 | **53** |
| | 10 | 73 25006 15504+ | 7 43007 86995 | 036 51669 02302+ | 5152 93877+ | 50 | |
| | 20 | 80 68014 02499+ | 060 45007 | 022 56516 08425 | 4967 58991 | 40 | |
| | 30 | 88 11074 47506 | 113 03926 | 1,37008 61548 49433+ | 4782 28454 | 30 | |
| | 40 | 0,72995 54187 51432 | 165 63753 | 1,36994 66766 20979+ | 4597 02264+ | 20 | |
| | 50 | 0,73002 97353 15185 | 218 24487+ | 980 72169 18715+ | 4411 80421 | 10 | |
| **8** | 0 | 10 40571 39672+ | 270 86130+ | 966 77757 38294+ | 4226 62922+ | 0 | **52** |
| | 10 | 17 83842 25803 | 323 48681+ | 952 83530 75371+ | 4041 49768 | 50 | |
| | 20 | 25 27165 74484+ | 376 12141 | 938 89489 25603+ | 3856 40955+ | 40 | |
| | 30 | 32 70541 86625+ | 428 76508+ | 924 95632 84648 | 3671 36484+ | 30 | |
| | 40 | 40 13970 63134 | 481 41785+ | 911 01961 48163+ | 3486 36353 | 20 | |
| | 50 | 47 57452 04919+ | 534 07971 | 897 08475 11810+ | 3301 40559+ | 10 | |
| **9** | 0 | 55 00986 12890+ | 586 75065+ | 883 15173 71251 | 3116 49103 | 0 | **51** |
| | 10 | 62 44572 87956 | 639 43069+ | 869 22057 22148 | 2931 61982+ | 50 | |
| | 20 | 69 88212 31026 | 692 11983 | 855 29125 60165+ | 2746 79196+ | 40 | |
| | 30 | 77 31904 43009 | 744 81806+ | 841 36378 80969 | 2562 00743+ | 30 | |
| | 40 | 84 75649 24815+ | 797 52539 | 827 43816 80225+ | 2377 26622 | 20 | |
| | 50 | 92 19446 77354+ | 7 43850 24182 | 813 51439 53603+ | 13 92192 56831 | 10 | |
| **10** | 0 | 0,73099 63297 01536+ | | 1,36799 59246 96772 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,73099 63297 01536+ | 7 43902 96735 | 1,36799 59246 96772 | 13 92007 91369 | 0 | **50** |
| | 10 | 0,73107 07199 98271+ | 7 43955 70198+ | 785 67239 05403 | 1823 30235 | 50 | |
| | 20 | 14 51155 68470 | 7 44008 44572+ | 771 75415 75168 | 1638 73427+ | 40 | |
| | 30 | 21 95164 13042+ | 061 19857 | 757 83777 01740+ | 1454 20945 | 30 | |
| | 40 | 29 39225 32899+ | 113 96052+ | 743 92322 80795+ | 1269 72786 | 20 | |
| | 50 | 36 83339 28952+ | 166 73159+ | 730 01053 08009+ | 1085 28950 | 10 | |
| **11** | 0 | 44 27506 02111+ | 219 51177 | 716 09967 79059+ | 0900 89435 | 0 | **49** |
| | 10 | 51 71725 53289 | 272 30106+ | 702 19066 89624+ | 0716 54239+ | 50 | |
| | 20 | 59 15997 83395 | 325 09947+ | 688 28350 35385 | 0532 23363 | 40 | |
| | 30 | 66 60322 93342+ | 377 90700 | 674 37818 12022+ | 0347 96803+ | 30 | |
| | 40 | 74 04700 84042+ | 430 72364+ | 660 47470 15219 | 13 90163 74559+ | 20 | |
| | 50 | 81 49131 56407 | 483 54941+ | 646 57306 40659 | 13 89979 56630+ | 10 | |
| **12** | 0 | 88 93615 11348 | 536 38430+ | 632 67326 84028+ | 9795 43015 | 0 | **48** |
| | 10 | 0,73196 38151 49778+ | 589 22832 | 618 77531 41013+ | 9611 33711 | 50 | |
| | 20 | 0,73203 82740 72610+ | 642 08146 | 604 87920 07302+ | 9427 28718 | 40 | |
| | 30 | 11 27382 80756+ | 694 94373+ | 590 98492 78584+ | 9243 28034 | 30 | |
| | 40 | 18 72077 75130 | 747 81513+ | 577 09249 50550+ | 9059 31658 | 20 | |
| | 50 | 26 16825 56643 | 800 69566+ | 563 20190 18892+ | 8875 39589 | 10 | |
| **13** | 0 | 33 61626 26210 | 853 58533+ | 549 31314 79304 | 8691 51825 | 0 | **47** |
| | 10 | 41 06479 84743+ | 906 48414 | 535 42623 27479 | 8507 68365 | 50 | |
| | 20 | 48 51386 33157 | 7 44959 39208 | 521 54115 59113+ | 8323 89208 | 40 | |
| | 30 | 55 96345 72365 | 7 45012 30916 | 507 65791 69905+ | 8140 14352+ | 30 | |
| | 40 | 63 41358 03281 | 065 23538 | 493 77651 55553 | 7956 43797 | 20 | |
| | 50 | 70 86423 26819 | 118 17074+ | 479 89695 11755+ | 7772 77540+ | 10 | |
| **14** | 0 | 78 31541 43893+ | 171 11525+ | 466 01922 34215 | 7589 15581+ | 0 | **46** |
| | 10 | 85 76712 55418+ | 224 06891 | 452 14333 18634 | 7405 57918+ | 50 | |
| | 20 | 0,73293 21936 62309+ | 277 03171 | 438 26927 60715+ | 7222 04550 | 40 | |
| | 30 | 0,73300 67213 65480+ | 330 00366+ | 424 39705 56165+ | 7038 55475+ | 30 | |
| | 40 | 08 12543 65847 | 382 98477 | 410 52667 00690 | 6855 10693+ | 20 | |
| | 50 | 15 57926 64324 | 435 97503 | 396 65811 89996+ | 6671 70202 | 10 | |
| **15** | 0 | 23 03362 61827 | 488 97444+ | 382 79140 19794 | 6488 34000+ | 0 | **45** |
| | 10 | 30 48851 59271+ | 541 98301+ | 368 92651 85793+ | 6305 02087 | 50 | |
| | 20 | 37 94393 57573+ | 595 00075 | 355 06346 83706+ | 6121 74461 | 40 | |
| | 30 | 45 39988 57648 | 648 02764 | 341 20225 09245+ | 5938 51120+ | 30 | |
| | 40 | 52 85636 60412+ | 701 06369+ | 327 34286 58125 | 5755 32064+ | 20 | |
| | 50 | 60 31337 66782 | 754 10891+ | 313 48531 26060+ | 5572 17291+ | 10 | |
| **16** | 0 | 67 77091 77673+ | 807 16330 | 299 62959 08769+ | 5389 06800 | 0 | **44** |
| | 10 | 75 22898 94003+ | 860 22685+ | 285 77570 01969 | 5206 00589+ | 50 | |
| | 20 | 82 68759 16688+ | 913 29958 | 271 92364 01379+ | 5022 98658 | 40 | |
| | 30 | 90 14672 46646+ | 7 45966 38147+ | 258 07341 02721+ | 4840 01004+ | 30 | |
| | 40 | 0,73397 60638 84794 | 7 46019 47254 | 244 22501 01717 | 4657 07627+ | 20 | |
| | 50 | 0,73405 06658 32048 | 072 57278+ | 230 37843 94089 | 4474 18526 | 10 | |
| **17** | 0 | 12 52730 89327 | 125 68221 | 216 53369 75563 | 4291 33698+ | 0 | **43** |
| | 10 | 19 98856 57547+ | 178 80081 | 202 69078 41864+ | 4108 53143+ | 50 | |
| | 20 | 27 45035 37628+ | 231 92859 | 188 84969 88721 | 3925 76860 | 40 | |
| | 30 | 34 91267 30487+ | 285 06555+ | 175 01044 11861 | 3743 04846+ | 30 | |
| | 40 | 42 37552 37042+ | 338 21170 | 161 17301 07014 | 3560 37102 | 20 | |
| | 50 | 49 83890 58213 | 391 36703+ | 147 33740 69912 | 3377 73625 | 10 | |
| **18** | 0 | 57 30281 94916+ | 444 53156 | 133 50362 96287 | 3195 14414 | 0 | **42** |
| | 10 | 64 76726 48072 | 497 70527 | 119 67167 81873 | 3012 59468 | 50 | |
| | 20 | 72 23224 18599 | 550 88817+ | 105 84155 22405 | 2830 08786 | 40 | |
| | 30 | 79 69775 07416+ | 604 08027 | 092 01325 13619 | 2647 62365+ | 30 | |
| | 40 | 87 16379 15443+ | 657 28156+ | 078 18677 51253+ | 2465 20206+ | 20 | |
| | 50 | 0,73494 63036 43600 | 710 49205 | 064 36212 31046+ | 2282 82307+ | 10 | |
| **19** | 0 | 0,73502 09746 92805 | 763 71174 | 050 53929 48739+ | 2100 48666+ | 0 | **41** |
| | 10 | 09 56510 63979 | 816 94063 | 036 71829 00073 | 1918 19282+ | 50 | |
| | 20 | 17 03327 58042 | 870 17872 | 022 89910 80790 | 1735 94155 | 40 | |
| | 30 | 24 50197 75914 | 923 42601+ | 1,36009 08174 86635 | 1553 73281+ | 30 | |
| | 40 | 31 97121 18515+ | 7 46976 68251+ | 1,35995 26621 13353+ | 1371 56661+ | 20 | |
| | 50 | 39 44097 86767 | 7 47029 94822+ | 981 45249 56692+ | | 10 | |
| **20** | 0 | 0,73546 91127 81590 | | 1,35967 64060 12399 | 13 81189 44293 | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,73546 91127 81590 | 7 47083 22314+ | 1,35967 64060 12399 | 13 81007 36175+ | 0 | **40** |
| | 10 | 54 38211 03904+ | 136 50727+ | 953 83052 76223+ | 0825 32307+ | 50 | |
| | 20 | 61 85347 54632 | 189 80062 | 940 02227 43916 | 0643 32687+ | 40 | |
| | 30 | 69 32537 34694 | 243 10318 | 926 21584 11228+ | 0461 37314+ | 30 | |
| | 40 | 76 79780 45012 | 296 41495+ | 912 41122 73914 | 0279 46186+ | 20 | |
| | 50 | 84 27076 86508 | 349 73595 | 898 60843 27727+ | 13 80097 59303 | 10 | |
| **21** | 0 | 91 74426 60103 | 403 06616+ | 884 80745 68424+ | 13 79915 76662+ | 0 | **39** |
| | 10 | 0,73599 21829 66719+ | 456 40560+ | 871 00829 91762 | 9733 98263+ | 50 | |
| | 20 | 0,73606 69286 07280+ | 509 75427 | 857 21095 93499 | 9552 24105 | 40 | |
| | 30 | 14 16795 82707 | 563 11215+ | 843 41543 69394 | 9370 54185 | 30 | |
| | 40 | 21 64358 93922+ | 616 47927 | 829 62173 15209 | 9188 88503+ | 20 | |
| | 50 | 29 11975 41850 | 669 85562 | 815 82984 26705+ | 9007 27058 | 10 | |
| **22** | 0 | 36 59645 27411+ | 723 24119+ | 802 03976 99647+ | 8825 69848 | 0 | **38** |
| | 10 | 44 07368 51531+ | 776 63600+ | 788 25151 29799+ | 8644 16872 | 50 | |
| | 20 | 51 55145 15132 | 830 04005+ | 774 46507 12927+ | 8462 68128 | 40 | |
| | 30 | 59 02975 19137+ | 883 45333+ | 760 68044 44799+ | 8281 23616 | 30 | |
| | 40 | 66 50858 64471 | 936 87586 | 746 89763 21183+ | 8099 83333+ | 20 | |
| | 50 | 73 98795 52056+ | 7 47990 30762 | 733 11663 37850 | 7918 47280+ | 10 | |
| **23** | 0 | 81 46785 82818+ | 7 48043 74862+ | 719 33744 90569+ | 7737 15454+ | 0 | **37** |
| | 10 | 88 94829 57681 | 097 19887+ | 705 56007 75115 | 7555 87854+ | 50 | |
| | 20 | 0,73696 42926 77568+ | 150 65837 | 691 78451 87260+ | 7374 64480 | 40 | |
| | 30 | 0,73703 91077 43405+ | 204 12711+ | 678 01077 22780+ | 7193 45328+ | 30 | |
| | 40 | 11 39281 56117 | 257 60510+ | 664 23883 77452 | 7012 30400 | 20 | |
| | 50 | 18 87539 16627+ | 311 09235 | 650 46871 47052 | 6831 19692 | 10 | |
| **24** | 0 | 26 35850 25862+ | 364 58885 | 636 70040 27360 | 6650 13204 | 0 | **36** |
| | 10 | 33 84214 84747+ | 418 09460 | 622 93390 14155+ | 6469 10935 | 50 | |
| | 20 | 41 32632 94207+ | 471 60961 | 609 16921 03221 | 6288 12882+ | 40 | |
| | 30 | 48 81104 55169 | 525 13388 | 595 40632 90338 | 6107 19046+ | 30 | |
| | 40 | 56 29629 68557 | 578 66741 | 581 64525 71292 | 5926 29425 | 20 | |
| | 50 | 63 78208 35298 | 632 21020+ | 567 88599 41867 | 5745 44017 | 10 | |
| **25** | 0 | 71 26840 56318+ | 685 76226 | 554 12853 97850 | 5564 62821 | 0 | **35** |
| | 10 | 78 75526 32544+ | 739 32358+ | 540 37289 35029+ | 5383 85835+ | 50 | |
| | 20 | 86 24265 64903 | 792 89417+ | 526 61905 49193+ | 5203 13060 | 40 | |
| | 30 | 0,73793 73058 54320+ | 846 47403+ | 512 86702 36133+ | 5022 44493 | 30 | |
| | 40 | 0,73801 21905 01724 | 900 06317 | 499 11679 91641 | 4841 80132+ | 20 | |
| | 50 | 08 70805 08040+ | 7 48953 66157+ | 485 36838 11508+ | 4661 19978 | 10 | |
| **26** | 0 | 16 19758 74198 | 7 49007 26925+ | 471 62176 91530+ | 4480 64028 | 0 | **34** |
| | 10 | 23 68766 01123+ | 060 88621+ | 457 87696 27502+ | 4300 12281 | 50 | |
| | 20 | 31 17826 89744+ | 114 51245 | 444 13396 15221+ | 4119 64736 | 40 | |
| | 30 | 38 66941 40990 | 168 14797 | 430 39276 50485 | 3939 21392 | 30 | |
| | 40 | 46 16109 55787 | 221 79277 | 416 65337 29093 | 3758 82247 | 20 | |
| | 50 | 53 65331 35064 | 275 44685+ | 402 91578 46846+ | 3578 47300 | 10 | |
| **27** | 0 | 61 14606 79749+ | 329 11023 | 389 17999 99546 | 3398 16550 | 0 | **33** |
| | 10 | 68 63935 90772+ | 382 78289 | 375 44601 82996 | 3217 89996 | 50 | |
| | 20 | 76 13318 69061 | 436 46484 | 361 71383 93000 | 3037 67635+ | 40 | |
| | 30 | 83 62755 15545 | 490 15608 | 347 98346 25364+ | 2857 49468+ | 30 | |
| | 40 | 91 12245 31153 | 543 85661+ | 334 25488 75896 | 2677 35493 | 20 | |
| | 50 | 0,73898 61789 16814+ | 597 56644+ | 320 52811 40402+ | 2497 25708+ | 10 | |
| **28** | 0 | 0,73906 11386 73459+ | 651 28557+ | 306 80314 14694 | 2317 20112+ | 0 | **32** |
| | 10 | 13 61038 02017 | 705 01400+ | 293 07996 94581+ | 2137 18705 | 50 | |
| | 20 | 21 10743 03417+ | 758 75173+ | 279 35859 75876+ | 1957 21484 | 40 | |
| | 30 | 28 60501 78590+ | 812 49876+ | 265 63902 54392+ | 1777 28448+ | 30 | |
| | 40 | 36 10314 28467 | 866 25510 | 251 92125 25944 | 1597 39597 | 20 | |
| | 50 | 43 60180 53977 | 920 02074+ | 238 20527 86347 | 1417 54928+ | 10 | |
| **29** | 0 | 51 10100 56051+ | 7 49973 79569+ | 224 49110 31419 | 1237 74441+ | 0 | **31** |
| | 10 | 58 60074 35621 | 7 50027 57995+ | 210 77872 56977+ | 1057 98134+ | 50 | |
| | 20 | 66 10101 93616+ | 081 37353 | 197 06814 58843 | 0878 26007 | 40 | |
| | 30 | 73 60183 30969+ | 135 17642 | 183 35936 32836 | 0698 58057+ | 30 | |
| | 40 | 81 10318 48611+ | 188 98862 | 169 65237 74778+ | 0518 94284 | 20 | |
| | 50 | 88 60507 47473+ | 7 50242 81014 | 155 94718 80494+ | 13 70339 34686 | 10 | |
| **30** | 0 | 0,73996 10750 28487+ | | 1,35142 24379 45808+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,73996 10750 28487+ | 7 50296 64098 | 1,35142 24379 45808+ | 13 70159 79262+ | 0 | **30** |
| | 10 | 0,74003 61046 92586 | 350 48114+ | 128 54219 66546 | 13 69980 28011 | 50 | |
| | 20 | 11 11397 40700+ | 404 33063 | 114 84239 38535 | 9800 80931+ | 40 | |
| | 30 | 18 61801 73763 | 458 18944 | 101 14438 57603+ | 9621 38022 | 30 | |
| | 40 | 26 12259 92707 | 512 05757+ | 087 44817 19581+ | 9441 99281+ | 20 | |
| | 50 | 33 62771 98464+ | 565 93504 | 073 75375 20299+ | 9262 64709 | 10 | |
| **31** | 0 | 41 13337 91968+ | 619 82183+ | 060 06112 55590+ | 9083 34302+ | 0 | **29** |
| | 10 | 48 63957 74152 | 673 71796+ | 046 37029 21288 | 8904 08061+ | 50 | |
| | 20 | 56 14631 45948+ | 727 62342+ | 032 68125 13226+ | 8724 85984+ | 40 | |
| | 30 | 63 65359 08291+ | 781 53822+ | 018 99400 27241+ | 8545 68070 | 30 | |
| | 40 | 71 16140 62114 | 835 46236 | 1,35005 30854 59171+ | 8366 54317 | 20 | |
| | 50 | 78 66976 08350 | 889 39584 | 1,34991 62488 04854+ | 8187 44724 | 10 | |
| **32** | 0 | 86 17865 47934 | 943 33865+ | 977 94300 60130+ | 8008 39290+ | 0 | **28** |
| | 10 | 0,74093 68808 81799+ | 7 50997 29081+ | 964 26292 20840 | 7829 38014 | 50 | |
| | 20 | 0,74101 19806 10881 | 7 51051 25232+ | 950 58462 82826 | 7650 40894 | 40 | |
| | 30 | 08 70857 36113+ | 105 22317+ | 936 90812 41932 | 7471 47929+ | 30 | |
| | 40 | 16 21962 58431 | 159 20338 | 923 23340 94002+ | 7292 59118+ | 20 | |
| | 50 | 23 73121 78769 | 213 19293 | 909 56048 34884 | 7113 74460 | 10 | |
| **33** | 0 | 31 24334 98062 | 267 19184 | 895 88934 60424 | 6934 93953+ | 0 | **27** |
| | 10 | 38 75602 17246 | 321 20010 | 882 21999 66470+ | 6756 17596+ | 50 | |
| | 20 | 46 26923 37256 | 375 21771+ | 868 55243 48874+ | 6577 45388+ | 40 | |
| | 30 | 53 78298 59027+ | 429 24469 | 854 88666 03485+ | 6398 77328+ | 30 | |
| | 40 | 61 29727 83496+ | 483 28102+ | 841 22267 26157+ | 6220 13414+ | 20 | |
| | 50 | 68 81211 11599+ | 537 32672+ | 827 56047 12743 | 6041 53645+ | 10 | |
| **34** | 0 | 76 32748 44272 | 591 38178+ | 813 90005 59097+ | 5862 98020+ | 0 | **26** |
| | 10 | 83 84339 82450+ | 645 44621+ | 800 24142 61077 | 5684 46538 | 50 | |
| | 20 | 91 35985 27072 | 699 52000+ | 786 58458 14539 | 5505 99197 | 40 | |
| | 30 | 0,74198 87684 79072+ | 753 60317 | 772 92952 15342 | 5327 55996 | 30 | |
| | 40 | 0,74206 39438 39389+ | 807 69570+ | 759 27624 59346 | 5149 16934 | 20 | |
| | 50 | 13 91246 08960+ | 861 79761+ | 745 62475 42411+ | 4970 82009+ | 10 | |
| **35** | 0 | 21 43107 88722 | 915 90890 | 731 97504 60402 | 4792 51221+ | 0 | **25** |
| | 10 | 28 95023 79611+ | 7 51970 02956 | 718 32712 09180+ | 4614 24568+ | 50 | |
| | 20 | 36 46993 82567+ | 7 52024 15959+ | 704 68097 84612 | 4436 02049+ | 40 | |
| | 30 | 43 99017 98527 | 078 29901+ | 691 03661 82562+ | 4257 83663 | 30 | |
| | 40 | 51 51096 28428+ | 132 44782 | 677 39403 98900 | 4079 69407+ | 20 | |
| | 50 | 59 03228 73210+ | 186 60600+ | 663 75324 29492 | 3901 59282+ | 10 | |
| **36** | 0 | 66 55415 33811 | 240 77357+ | 650 11422 70209+ | 3723 53286+ | 0 | **24** |
| | 10 | 74 07656 11168+ | 294 95053+ | 636 47699 16923 | 3545 51418 | 50 | |
| | 20 | 81 59951 06222 | 349 13688+ | 622 84153 65505 | 3367 53676 | 40 | |
| | 30 | 89 12300 19910+ | 403 33262+ | 609 20786 11829+ | 3189 60058+ | 30 | |
| | 40 | 0,74296 64703 53173 | 457 53776 | 595 57596 51770+ | 3011 70565+ | 20 | |
| | 50 | 0,74304 17161 06949+ | 511 75229+ | 581 94584 81205 | 2833 85195 | 10 | |
| **37** | 0 | 11 69672 82179 | 565 97622 | 568 31750 96010 | 2656 03946 | 0 | **23** |
| | 10 | 19 22238 79801 | 620 20955 | 554 69094 92064 | 2478 26817 | 50 | |
| | 20 | 26 74859 00755+ | 674 45227+ | 541 06616 65246+ | 2300 53807 | 40 | |
| | 30 | 34 27533 45983 | 728 70440+ | 527 44316 11439+ | 2122 84915 | 30 | |
| | 40 | 41 80262 16424 | 782 96594+ | 513 82193 26524+ | 1945 20139 | 20 | |
| | 50 | 49 33045 13018 | 837 23688+ | 500 20248 06385+ | 1767 59478+ | 10 | |
| **38** | 0 | 56 85882 36706+ | 891 51723+ | 486 58480 46907 | 1590 02931+ | 0 | **22** |
| | 10 | 64 38773 88430+ | 7 52945 80699+ | 472 96890 43975+ | 1412 50497+ | 50 | |
| | 20 | 71 91719 69130 | 7 53000 10617 | 459 35477 93477+ | 1235 02175 | 40 | |
| | 30 | 79 44719 79747 | 054 41476 | 445 74242 91302+ | 1057 57963 | 30 | |
| | 40 | 86 97774 21223 | 108 73276 | 432 13185 33339+ | 0880 17859+ | 20 | |
| | 50 | 0,74394 50882 94499 | 163 06018+ | 418 52305 15480 | 0702 81864 | 10 | |
| **39** | 0 | 0,74402 04046 00517 | 217 39702+ | 404 91602 33615+ | 0525 49975+ | 0 | **21** |
| | 10 | 09 57263 40219+ | 271 74328+ | 391 31076 83640 | 0348 22191+ | 50 | |
| | 20 | 17 10535 14548 | 326 09897 | 377 70728 61448+ | 13 60170 98512 | 40 | |
| | 30 | 24 63861 24445+ | 380 46408+ | 364 10557 62936+ | 13 59993 78935 | 30 | |
| | 40 | 32 17241 70854 | 434 83862 | 350 50563 84001+ | 9816 63460 | 20 | |
| | 50 | 39 70676 54716 | 7 53489 22259 | 336 90747 20541 | 13 59639 52085 | 10 | |
| **40** | 0 | 0,74447 24165 76975 | | 1,34323 31107 68456 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,74447 24165 76975 | 7 53543 61599 | 1,34323 31107 68456 | 13 59462 44809+ | 0 | **20** |
| | 10 | 54 77709 38574 | 598 01882 | 309 71645 23646+ | 9285 41631+ | 50 | |
| | 20 | 62 31307 40456 | 652 43108+ | 296 12359 82015 | 9108 42550+ | 40 | |
| | 30 | 69 84959 83564+ | 706 85279 | 282 53251 39464+ | 8931 47564+ | 30 | |
| | 40 | 77 38666 68843 | 761 28393 | 268 94319 91900 | 8754 56673 | 20 | |
| | 50 | 84 92427 97236 | 815 72451 | 255 35565 35227 | 8577 69874+ | 10 | |
| **41** | 0 | 0,74492 46243 69687 | 870 17453+ | 241 76987 65352+ | 8400 87167+ | 0 | **19** |
| | 10 | 0,74500 00113 87140+ | 924 63400 | 228 18586 78185+ | 8224 08551 | 50 | |
| | 20 | 07 54038 50540+ | 7 53979 10291+ | 214 60362 69634+ | 8047 34023+ | 40 | |
| | 30 | 15 08017 60832 | 7 54033 58127+ | 201 02315 35610+ | 7870 63584+ | 30 | |
| | 40 | 22 62051 18959+ | 088 06908+ | 187 44444 72026 | 7693 97232 | 20 | |
| | 50 | 30 16139 25868 | 142 56635 | 173 86750 74794 | 7517 34965+ | 10 | |
| **42** | 0 | 37 70281 82503 | 197 07306+ | 160 29233 39829 | 7340 76783 | 0 | **18** |
| | 10 | 45 24478 89809+ | 251 58923+ | 146 71892 63046 | 7164 22683+ | 50 | |
| | 20 | 52 78730 48733 | 306 11486+ | 133 14728 40362+ | 6987 72666 | 40 | |
| | 30 | 60 33036 60219+ | 360 64995 | 119 57740 67696+ | 6811 26729 | 30 | |
| | 40 | 67 87397 25214+ | 415 19450 | 106 00929 40967+ | 6634 84871+ | 20 | |
| | 50 | 75 41812 44664+ | 469 74851 | 092 44294 56096 | 6458 47092+ | 10 | |
| **43** | 0 | 82 96282 19516 | 524 31198+ | 078 87836 09003+ | 6282 13390 | 0 | **17** |
| | 10 | 90 50806 50714+ | 578 88493 | 065 31553 95613+ | 6105 83763+ | 50 | |
| | 20 | 0,74598 05385 39207+ | 633 46734 | 051 75448 11849+ | 5929 58211+ | 40 | |
| | 30 | 0,74605 60018 85941+ | 688 05922 | 038 19518 53638 | 5753 36733 | 30 | |
| | 40 | 13 14706 91864 | 742 66057+ | 024 63765 16905 | 5577 19326+ | 20 | |
| | 50 | 20 69449 57921+ | 797 27140+ | 1,34011 08187 97578+ | 5401 05990+ | 10 | |
| **44** | 0 | 28 24246 85062 | 851 89171 | 1,33997 52786 91588 | 5224 96724+ | 0 | **16** |
| | 10 | 35 79098 74232+ | 906 52149 | 983 97561 94863+ | 5048 91526+ | 50 | |
| | 20 | 43 34005 26381+ | 7 54961 16075 | 970 42513 03337 | 4872 90396 | 40 | |
| | 30 | 50 88966 42457 | 7 55015 80949+ | 956 87640 12941 | 4696 93331+ | 30 | |
| | 40 | 58 43982 23406 | 070 46772 | 943 32943 19609 | 4521 00331+ | 20 | |
| | 50 | 65 99052 70178+ | 125 13543+ | 929 78422 19277+ | 4345 11395+ | 10 | |
| **45** | 0 | 73 54177 83721+ | 179 81263+ | 916 24077 07882 | 4169 26521+ | 0 | **15** |
| | 10 | 81 09357 64985 | 234 49932 | 902 69907 81361 | 3993 45708+ | 50 | |
| | 20 | 88 64592 14917 | 289 19550 | 889 15914 35652+ | 3817 68955 | 40 | |
| | 30 | 0,74696 19881 34467+ | 343 90117+ | 875 62096 66697+ | 3641 96260+ | 30 | |
| | 40 | 0,74703 75225 24584+ | 398 61634 | 862 08454 70436+ | 3466 27623+ | 20 | |
| | 50 | 11 30623 86219 | 453 34100+ | 848 54988 42813 | 3290 63042+ | 10 | |
| **46** | 0 | 18 86077 20319+ | 508 07517 | 835 01697 79770+ | 3115 02517 | 0 | **14** |
| | 10 | 26 41585 27836+ | 562 81883+ | 821 48582 77253+ | 2939 46044+ | 50 | |
| | 20 | 33 97148 09720 | 617 57200 | 807 95643 31209 | 2763 93625 | 40 | |
| | 30 | 41 52765 66920 | 672 33467 | 794 42879 37583+ | 2588 45257 | 30 | |
| | 40 | 49 08438 00387 | 727 10685 | 780 90290 92327 | 2413 00938+ | 20 | |
| | 50 | 56 64165 11072 | 781 88853+ | 767 37877 91388 | 2237 60669+ | 10 | |
| **47** | 0 | 64 19946 99925 | 836 67973 | 753 85640 30718+ | 2062 24448 | 0 | **13** |
| | 10 | 71 75783 67898 | 891 48043+ | 740 33578 06270+ | 1886 92273 | 50 | |
| | 20 | 79 31675 15941+ | 7 55946 29065+ | 726 81691 13998 | 1711 64143 | 40 | |
| | 30 | 86 87621 45007 | 7 56001 11039 | 713 29979 49855 | 1536 40057 | 30 | |
| | 40 | 0,74794 43622 56046 | 055 93964+ | 699 78443 09797+ | 1361 20014 | 20 | |
| | 50 | 0,74801 99678 50010+ | 110 77842 | 686 27081 89783+ | 1186 04013 | 10 | |
| **48** | 0 | 09 55789 27852+ | 165 62671+ | 672 75895 85770+ | 1010 92052 | 0 | **12** |
| | 10 | 17 11954 90524 | 220 48453+ | 659 24884 93718+ | 0835 84130 | 50 | |
| | 20 | 24 68175 38977+ | 275 35187+ | 645 74049 09588+ | 0660 80246+ | 40 | |
| | 30 | 32 24450 74165 | 330 22874+ | 632 23388 29342 | 0485 80399+ | 30 | |
| | 40 | 39 80780 97039+ | 385 11514+ | 618 72902 48943 | 0310 84588 | 20 | |
| | 50 | 47 37166 08554 | 440 01107+ | 605 22591 64355 | 13 50135 92811 | 10 | |
| **49** | 0 | 54 93606 09662 | 494 91654 | 591 72455 71544 | 13 49961 05067 | 0 | **11** |
| | 10 | 62 50101 01316 | 549 83154 | 578 22494 66477+ | 9786 21355 | 50 | |
| | 20 | 70 06650 84469+ | 604 75607 | 564 72708 45122+ | 9611 41673+ | 40 | |
| | 30 | 77 63255 60077 | 659 69014+ | 551 23097 03449 | 9436 66021+ | 30 | |
| | 40 | 85 19915 29091+ | 714 63376 | 537 73660 37427+ | 9261 94398 | 20 | |
| | 50 | 0,74892 76629 92467+ | 7 56769 58691+ | 524 24398 43029 | 13 49087 26802 | 10 | |
| **50** | 0 | 0,74900 33399 51159 | | 1,33510 75311 16227+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 36°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,74900 33399 51159 | 7 56824 54961+ | 1,33510 75311 16227+ | 13 48912 63231 | 0 | **10** |
| | 10 | 07 90224 06120 | 879 52186 | 497 26398 52996+ | 8738 03685+ | 50 | |
| | 20 | 15 47103 58306 | 934 50365+ | 483 77660 49311 | 8563 48163 | 40 | |
| | 30 | 23 04038 08671+ | 7 56989 49500 | 470 29097 01148 | 8388 96663 | 30 | |
| | 40 | 30 61027 58171+ | 7 57044 49589+ | 456 80708 04485 | 8214 49184 | 20 | |
| | 50 | 38 18072 07761 | 099 50634+ | 443 32493 55301 | 8040 05725 | 10 | |
| **51** | 0 | 45 75171 58395+ | 154 52635 | 429 84453 49576 | 7865 66284+ | 0 | **9** |
| | 10 | 53 32326 11030 | 209 55591 | 416 36587 83291+ | 7691 30861+ | 50 | |
| | 20 | 60 89535 66621 | 264 59503+ | 402 88896 52430+ | 7516 99454+ | 40 | |
| | 30 | 68 46800 26124+ | 319 64371+ | 389 41379 52976 | 7342 72063 | 30 | |
| | 40 | 76 04119 90496 | 374 70196+ | 375 94036 80913 | 7168 48685 | 20 | |
| | 50 | 83 61494 60692+ | 429 76977+ | 362 46868 32228+ | 6994 29319+ | 10 | |
| **52** | 0 | 91 18924 37670 | 484 84715+ | 348 99874 02908+ | 6820 13966 | 0 | **8** |
| | 10 | 0,74998 76409 22385+ | 539 93410 | 335 53053 88943 | 6646 02622+ | 50 | |
| | 20 | 0,75006 33949 15795+ | 595 03062 | 322 06407 86320+ | 6471 95288 | 40 | |
| | 30 | 13 91544 18857+ | 650 13671 | 308 59935 91033 | 6297 91961 | 30 | |
| | 40 | 21 49194 32529 | 705 25238 | 295 13637 99071+ | 6123 92641 | 20 | |
| | 50 | 29 06899 57766+ | 760 37762 | 281 67514 06430+ | 5949 97326+ | 10 | |
| **53** | 0 | 36 64659 95529 | 815 51244+ | 268 21564 09104 | 5776 06016 | 0 | **7** |
| | 10 | 44 22475 46773 | 870 65684+ | 254 75788 03088 | 5602 18709 | 50 | |
| | 20 | 51 80346 12457+ | 925 81083 | 241 30185 84379 | 5428 35403+ | 40 | |
| | 30 | 59 38271 93540+ | 7 57980 97439+ | 227 84757 48975+ | 5254 56098+ | 30 | |
| | 40 | 66 96252 90980 | 7 58036 14755 | 214 39502 92877 | 5080 80793+ | 20 | |
| | 50 | 74 54289 05735 | 091 33029+ | 200 94422 12084 | 4907 09486 | 10 | |
| **54** | 0 | 82 12380 38764+ | 146 52262+ | 187 49515 02597+ | 4733 42176 | 0 | **6** |
| | 10 | 89 70526 91027+ | 201 72455 | 174 04781 60421+ | 4559 78862 | 50 | |
| | 20 | 0,75097 28728 63482+ | 256 93607 | 160 60221 81559+ | 4386 19542+ | 40 | |
| | 30 | 0,75104 86985 57089+ | 312 15718+ | 147 15835 62017 | 4212 64216+ | 30 | |
| | 40 | 12 45297 72808 | 367 38789+ | 133 71622 97800 | 4039 12883 | 20 | |
| | 50 | 20 03665 11598 | 422 62821 | 120 27583 84917+ | 3865 65540 | 10 | |
| **55** | 0 | 27 62087 74418+ | 477 87812 | 106 83718 19377 | 3692 22187+ | 0 | **5** |
| | 10 | 35 20565 62231 | 533 13764 | 093 40025 97189+ | 3518 82823+ | 50 | |
| | 20 | 42 79098 75994+ | 588 40676 | 079 96507 14366 | 3345 47447 | 40 | |
| | 30 | 50 37687 16670+ | 643 68549 | 066 53161 66919+ | 3172 16056+ | 30 | |
| | 40 | 57 96330 85219+ | 698 97383 | 053 09989 50862+ | 2998 88651+ | 20 | |
| | 50 | 65 55029 82602+ | 754 27177+ | 039 66990 62211 | 2825 65230+ | 10 | |
| **56** | 0 | 73 13784 09780 | 809 57934 | 026 24164 96980+ | 2652 45792 | 0 | **4** |
| | 10 | 80 72593 67714 | 864 89651+ | 1,33012 81512 51188 | 2479 30335+ | 50 | |
| | 20 | 88 31458 57366 | 920 22331 | 1,32999 39033 20853 | 2306 18859 | 40 | |
| | 30 | 0,75195 90378 79697 | 7 58975 55972+ | 985 96727 01994 | 2133 11361+ | 30 | |
| | 40 | 0,75203 49354 35669+ | 7 59030 90576 | 972 54593 90632+ | 1960 07842+ | 20 | |
| | 50 | 11 08385 26245 | 086 26141+ | 959 12633 82790 | 1787 08300 | 10 | |
| **57** | 0 | 18 67471 52386+ | 141 62669+ | 945 70846 74490+ | 1614 12733 | 0 | **3** |
| | 10 | 26 26613 15056+ | 197 00160+ | 932 29232 61757+ | 1441 21140+ | 50 | |
| | 20 | 33 85810 15216+ | 252 38614 | 918 87791 40617 | 1268 33521 | 40 | |
| | 30 | 41 45062 53830+ | 307 78030+ | 905 46523 07096 | 1095 49874 | 30 | |
| | 40 | 49 04370 31861 | 363 18410+ | 892 05427 57222 | 0922 70197+ | 20 | |
| | 50 | 56 63733 50271+ | 418 59753+ | 878 64504 87024 | 0749 94491 | 10 | |
| **58** | 0 | 64 23152 10025+ | 474 02060+ | 865 23754 92533 | 0577 22753 | 0 | **2** |
| | 10 | 71 82626 12086 | 529 45331+ | 851 83177 69780 | 0404 54982 | 50 | |
| | 20 | 79 42155 57417+ | 584 89566 | 838 42773 14798 | 0231 91177+ | 40 | |
| | 30 | 87 01740 46983+ | 640 34765 | 825 02541 23620+ | 13 40059 31337+ | 30 | |
| | 40 | 0,75294 61380 81748+ | 695 80928 | 811 62481 92282+ | 13 39886 75461+ | 20 | |
| | 50 | 0,75302 21076 62676+ | 751 28056 | 798 22595 16821 | 9714 23548 | 10 | |
| **59** | 0 | 09 80827 90732+ | 806 76148+ | 784 82880 93273 | 9541 75596 | 0 | **1** |
| | 10 | 17 40634 66881 | 862 25206 | 771 43339 17676+ | 9369 31604+ | 50 | |
| | 20 | 25 00496 92087+ | 917 75229 | 758 03969 86072 | 9196 91571+ | 40 | |
| | 30 | 32 60414 67316+ | 7 59973 26217 | 744 64772 94500+ | 9024 55496+ | 30 | |
| | 40 | 40 20387 93533+ | 7 60028 78170+ | 731 25748 39004 | 8852 23378+ | 20 | |
| | 50 | 47 80416 71704 | 7 60084 31090 | 717 86896 15625+ | 13 38679 95215+ | 10 | |
| **60** | 0 | 0,75355 40501 02794 | | 1,32704 48216 20410 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 53°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,75355 40501 02794 | 7 60139 84975+ | 1,32704 48216 20410 | 13 38507 71007 | 0 | **60** |
| | 10 | 63 00640 87769+ | 195 39827 | 691 09708 49403 | 8335 50751+ | 50 | |
| | 20 | 70 60836 27596+ | 250 95644+ | 677 71372 98651 | 8163 34448+ | 40 | |
| | 30 | 78 21087 23241 | 306 52428+ | 664 33209 64203 | 7991 22095+ | 30 | |
| | 40 | 85 81393 75669+ | 362 10179+ | 650 95218 42107 | 7819 13692+ | 20 | |
| | 50 | 0,75393 41755 85849 | 417 68897+ | 637 57399 28414+ | 7647 09238 | 10 | |
| **1** | 0 | 0,75401 02173 54746+ | 473 28582+ | 624 19752 19176+ | 7475 08730+ | 0 | **59** |
| | 10 | 08 62646 83329 | 528 89234+ | 610 82277 10446 | 7303 12169 | 50 | |
| | 20 | 16 23175 72564 | 584 50854+ | 597 44973 98277 | 7131 19553 | 40 | |
| | 30 | 23 83760 23418 | 640 13441+ | 584 07842 78724 | 6959 30880 | 30 | |
| | 40 | 31 44400 36860 | 695 76997 | 570 70883 47844 | 6787 46150 | 20 | |
| | 50 | 39 05096 13857 | 751 41520+ | 557 34096 01694 | 6615 65361 | 10 | |
| **2** | 0 | 46 65847 55377 | 807 07012 | 543 97480 36333 | 6443 88512+ | 0 | **58** |
| | 10 | 54 26654 62389 | 862 73472 | 530 61036 47821 | 6272 15602+ | 50 | |
| | 20 | 61 87517 35861 | 918 40900+ | 517 24764 32218+ | 6100 46631 | 40 | |
| | 30 | 69 48435 76761 | 7 60974 09298 | 503 88663 85587+ | 5928 81595+ | 30 | |
| | 40 | 77 09409 86059 | 7 61029 78664+ | 490 52735 03992 | 5757 20496 | 20 | |
| | 50 | 84 70439 64723+ | 085 49000 | 477 16977 83496 | 5585 63330+ | 10 | |
| **3** | 0 | 92 31525 13723+ | 141 20305 | 463 81392 20165+ | 5414 10098+ | 0 | **57** |
| | 10 | 0,75499 92666 34029 | 196 92580 | 450 45978 10067 | 5242 60798 | 50 | |
| | 20 | 0,75507 53863 26609 | 252 65824+ | 437 10735 49269 | 5071 15428+ | 40 | |
| | 30 | 15 15115 92433+ | 308 40039 | 423 75664 33840+ | 4899 73989 | 30 | |
| | 40 | 22 76424 32472+ | 364 15224 | 410 40764 59851+ | 4728 36477+ | 20 | |
| | 50 | 30 37788 47696+ | 419 91379 | 397 06036 23374 | 4557 02893+ | 10 | |
| **4** | 0 | 37 99208 39075+ | 475 68504+ | 383 71479 20480+ | 4385 73235+ | 0 | **56** |
| | 10 | 45 60684 07580 | 531 46601 | 370 37093 47245 | 4214 47502+ | 50 | |
| | 20 | 53 22215 54181+ | 587 25668+ | 357 02878 99742+ | 4043 25693+ | 40 | |
| | 30 | 60 83802 79850 | 643 05707+ | 343 68835 74049+ | 3872 07806+ | 30 | |
| | 40 | 68 45445 85557+ | 698 86717+ | 330 34963 66242+ | 3700 93841+ | 20 | |
| | 50 | 76 07144 72275 | 754 68699 | 317 01262 72401 | 3529 83796+ | 10 | |
| **5** | 0 | 83 68899 40974 | 810 51652+ | 303 67732 88604+ | 3358 77671 | 0 | **55** |
| | 10 | 91 30709 92626 | 866 35577+ | 290 34374 10933+ | 3187 75463 | 50 | |
| | 20 | 0,75598 92576 28203+ | 922 20475 | 277 01186 35470 | 3016 77172 | 40 | |
| | 30 | 0,75606 54498 48678+ | 7 61978 06344+ | 263 68169 58298 | 2845 82797 | 30 | |
| | 40 | 14 16476 55023+ | 7 62033 93187 | 250 35323 75501 | 2674 92336 | 20 | |
| | 50 | 21 78510 48210+ | 089 81002 | 237 02648 83165+ | 2504 05788+ | 10 | |
| **6** | 0 | 29 40600 29212+ | 145 69790 | 223 70144 77377 | 2333 23152+ | 0 | **54** |
| | 10 | 37 02745 99002+ | 201 59551 | 210 37811 54224+ | 2162 44428 | 50 | |
| | 20 | 44 64947 58553+ | 257 50285+ | 197 05649 09796 | 1991 69613+ | 40 | |
| | 30 | 52 27205 08839 | 313 41993+ | 183 73657 40182+ | 1820 98707+ | 30 | |
| | 40 | 59 89518 50832 | 369 34675 | 170 41836 41475+ | 1650 31708+ | 20 | |
| | 50 | 67 51887 85507 | 425 28330+ | 157 10186 09766+ | 1479 68616+ | 10 | |
| **7** | 0 | 75 14313 13837+ | 481 22960 | 143 78706 41150+ | 1309 09429 | 0 | **53** |
| | 10 | 82 76794 36797+ | 537 18564 | 130 47397 31721 | 1138 54146 | 50 | |
| | 20 | 90 39331 55361 | 593 15142 | 117 16258 77575 | 0968 02765+ | 40 | |
| | 30 | 0,75698 01924 70503+ | 649 12695 | 103 85290 74809+ | 0797 55287 | 30 | |
| | 40 | 0,75705 64573 83198+ | 705 11223 | 090 54493 19522+ | 0627 11708+ | 20 | |
| | 50 | 13 27278 94422 | 761 10726 | 077 23866 07814 | 0456 72030 | 10 | |
| **8** | 0 | 20 90040 05148 | 817 11204+ | 063 93409 35784 | 0286 36249 | 0 | **52** |
| | 10 | 28 52857 16352+ | 873 12658 | 050 63122 99535 | 13 30116 04365+ | 50 | |
| | 20 | 36 15730 29010+ | 929 15087+ | 037 33006 95169 | 13 29945 76378 | 40 | |
| | 30 | 43 78659 44098 | 7 62985 18493 | 024 03061 18791+ | 9775 52285 | 30 | |
| | 40 | 51 41644 62591 | 7 63041 22874 | 1,32010 73285 66506+ | 9605 32085+ | 20 | |
| | 50 | 59 04685 85465 | 097 28231+ | 1,31997 43680 34421 | 9435 15778+ | 10 | |
| **9** | 0 | 66 67783 13696+ | 153 34565+ | 984 14245 18642+ | 9265 03362+ | 0 | **51** |
| | 10 | 74 30936 48262+ | 209 41876+ | 970 84980 15280 | 9094 94837 | 50 | |
| | 20 | 81 94145 90138+ | 265 50164 | 957 55885 20443 | 8924 90200 | 40 | |
| | 30 | 89 57411 40302+ | 321 59428+ | 944 26960 30243 | 8754 89451 | 30 | |
| | 40 | 0,75797 20732 99731 | 377 69670 | 930 98205 40792 | 8584 92588+ | 20 | |
| | 50 | 0,75804 84110 69401 | 7 63433 80889+ | 917 69620 48203+ | | 10 | |
| **10** | 0 | 0,75812 47544 50290 | | 1,31904 41205 48591+ | 13 28414 99612 | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,75812 47544 50290 | 7 63489 93086 | 1,31904 41205 48591+ | 13 28245 10519 | 0 | **50** |
| | 10 | 20 11034 43376 | 546 06260+ | 891 12960 38072+ | 8075 25310 | 50 | |
| | 20 | 27 74580 49637 | 602 20413+ | 877 84885 12762+ | 7905 43982+ | 40 | |
| | 30 | 35 38182 70050 | 658 35544 | 864 56979 68780+ | 7735 66536 | 30 | |
| | 40 | 43 01841 05594+ | 714 51653+ | 851 29244 02244+ | 7565 92969 | 20 | |
| | 50 | 50 65555 57248 | 770 68741+ | 838 01678 09275+ | 7396 23280+ | 10 | |
| **11** | 0 | 58 29326 25989 | 826 86808 | 824 74281 85995 | 7226 57470 | 0 | **49** |
| | 10 | 65 93153 12797 | 883 05853+ | 811 47055 28525 | 7056 95535 | 50 | |
| | 20 | 73 57036 18651 | 939 25878+ | 798 19998 32989+ | 6887 37475+ | 40 | |
| | 30 | 81 20975 44529+ | 7 63995 46883 | 784 93110 95514 | 6717 83290 | 30 | |
| | 40 | 88 84970 91412 | 7 64051 68866+ | 771 66393 12224 | 6548 32977+ | 20 | |
| | 50 | 0,75896 49022 60279 | 107 91830+ | 758 39844 79246+ | 6378 86536+ | 10 | |
| **12** | 0 | 0,75904 13130 52109 | 164 15774 | 745 13465 92710 | 6209 43966 | 0 | **48** |
| | 10 | 11 77294 67883 | 220 40698 | 731 87256 48744 | 6040 05264+ | 50 | |
| | 20 | 19 41515 08581 | 276 66602 | 718 61216 43479+ | 5870 70431+ | 40 | |
| | 30 | 27 05791 75183 | 332 93487 | 705 35345 73048 | 5701 39465+ | 30 | |
| | 40 | 34 70124 68669+ | 389 21352+ | 692 09644 33582+ | 5532 12365+ | 20 | |
| | 50 | 42 34513 90022 | 445 50199 | 678 84112 21217 | 5362 89130+ | 10 | |
| **13** | 0 | 49 98959 40221 | 501 80026+ | 665 58749 32086+ | 5193 69759 | 0 | **47** |
| | 10 | 57 63461 20247+ | 558 10835+ | 652 33555 62327+ | 5024 54249+ | 50 | |
| | 20 | 65 28019 31083 | 614 42626 | 639 08531 08078 | 4855 42602 | 40 | |
| | 30 | 72 92633 73709 | 670 75398+ | 625 83675 65476 | 4686 34814+ | 30 | |
| | 40 | 80 57304 49107+ | 727 09153 | 612 58989 30662 | 4517 30885+ | 20 | |
| | 50 | 88 22031 58260+ | 783 43889+ | 599 34471 99776 | 4348 30815 | 10 | |
| **14** | 0 | 0,75995 86815 02150 | 839 79608+ | 586 10123 68961 | 4179 34601 | 0 | **46** |
| | 10 | 0,76003 51654 81758+ | 896 16309+ | 572 85944 34360 | 4010 42243 | 50 | |
| | 20 | 11 16550 98068 | 7 64952 53994 | 559 61933 92117 | 3841 53739 | 40 | |
| | 30 | 18 81503 52062 | 7 65008 92661 | 546 38092 38378 | 3672 69088+ | 30 | |
| | 40 | 26 46512 44723 | 065 32311 | 533 14419 69289+ | 3503 88290+ | 20 | |
| | 50 | 34 11577 77034 | 121 72945 | 519 90915 80999 | 3335 11343 | 10 | |
| **15** | 0 | 41 76699 49979 | 178 14562 | 506 67580 69655+ | 3166 38246 | 0 | **45** |
| | 10 | 49 41877 64540+ | 234 57163 | 493 44414 31410 | 2997 68997+ | 50 | |
| | 20 | 57 07112 21703+ | 291 00747+ | 480 21416 62412+ | 2829 03596+ | 40 | |
| | 30 | 64 72403 22451 | 347 45316+ | 466 98587 58816 | 2660 42042 | 30 | |
| | 40 | 72 37750 67767+ | 403 90870 | 453 75927 16774 | 2491 84333 | 20 | |
| | 50 | 80 03154 58637+ | 460 37407+ | 440 53435 32441 | 2323 30468 | 10 | |
| **16** | 0 | 87 68614 96045+ | 516 84930+ | 427 31112 01972+ | 2154 80446+ | 0 | **44** |
| | 10 | 0,76095 34131 80975+ | 573 33437+ | 414 08957 21526+ | 1986 34266+ | 50 | |
| | 20 | 0,76102 99705 14413+ | 629 82930+ | 400 86970 87260 | 1817 91927+ | 40 | |
| | 30 | 10 65334 97343+ | 686 33408+ | 387 65152 95332 | 1649 53428 | 30 | |
| | 40 | 18 31021 30752 | 742 84872 | 374 43503 41904 | 1481 18767+ | 20 | |
| | 50 | 25 96764 15624 | 799 37321 | 361 22022 23136+ | 1312 87944 | 10 | |
| **17** | 0 | 33 62563 52945 | 855 90756 | 348 00709 35193 | 1144 60956+ | 0 | **43** |
| | 10 | 41 28419 43701 | 912 45177+ | 334 79564 74236 | 0976 37804+ | 50 | |
| | 20 | 48 94331 88878 | 7 65969 00585 | 321 58588 36431+ | 0808 18486+ | 40 | |
| | 30 | 56 60300 89463 | 7 66025 56979 | 308 37780 17945 | 0640 03001+ | 30 | |
| | 40 | 64 26326 46442 | 082 14359+ | 295 17140 14943+ | 0471 91348 | 20 | |
| | 50 | 71 92408 60801+ | 138 72727+ | 281 96668 23596 | 0303 83525 | 10 | |
| **18** | 0 | 79 58547 33529 | 195 32082+ | 268 76364 40071 | 13 20135 79531+ | 0 | **42** |
| | 10 | 87 24742 65611+ | 251 92424+ | 255 56228 60539+ | 13 19967 79366 | 50 | |
| | 20 | 0,76194 90994 58036 | 308 53754 | 242 36260 81173+ | 9799 83028 | 40 | |
| | 30 | 0,76202 57303 11790 | 365 16071+ | 229 16460 98145 | 9631 90516+ | 30 | |
| | 40 | 10 23668 27861+ | 421 79376+ | 215 96829 07629 | 9464 01829+ | 20 | |
| | 50 | 17 90090 07238 | 478 43670 | 202 77365 05799+ | 9296 16966 | 10 | |
| **19** | 0 | 25 56568 50908 | 535 08952 | 189 58068 88833+ | 9128 35925+ | 0 | **41** |
| | 10 | 33 23103 59860 | 591 75222 | 176 38940 52908 | 8960 58706+ | 50 | |
| | 20 | 40 89695 35082 | 648 42481 | 163 19979 94201+ | 8792 85308 | 40 | |
| | 30 | 48 56343 77563 | 705 10729 | 150 01187 08893+ | 8625 15728+ | 30 | |
| | 40 | 56 23048 88292 | 761 79965+ | 136 82561 93165 | 8457 49967+ | 20 | |
| | 50 | 63 89810 68257+ | 7 66818 50192 | 123 64104 43198 | 13 18289 88023 | 10 | |
| **20** | 0 | 0,76271 56629 18449+ | | 1,31110 45814 55175 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,76271 56629 18449+ | 7 66875 21408 | 1,31110 45814 55175 | 13 18122 29895 | 0 | **40** |
| | 10 | 79 23504 39857+ | 931 93613 | 097 27692 25280 | 7954 75581 | 50 | |
| | 20 | 86 90436 33470+ | 7 66988 66808+ | 084 09737 49699 | 7787 25081+ | 40 | |
| | 30 | 0,76294 57425 00279 | 7 67045 40994 | 070 91950 24617+ | 7619 78394 | 30 | |
| | 40 | 0,76302 24470 41273 | 102 16170 | 057 74330 46223+ | 7452 35518 | 20 | |
| | 50 | 09 91572 57443 | 158 92336 | 044 56878 10706 | 7284 96452 | 10 | |
| **21** | 0 | 17 58731 49779+ | 215 69493 | 031 39593 14254 | 7117 61195+ | 0 | **39** |
| | 10 | 25 25947 19272+ | 272 47641 | 018 22475 53058+ | 6950 29746+ | 50 | |
| | 20 | 32 93219 66913+ | 329 26780 | 1,31005 05525 23311+ | 6783 02105 | 40 | |
| | 30 | 40 60548 93693+ | 386 06910+ | 1,30991 88742 21206+ | 6615 78269 | 30 | |
| | 40 | 48 27935 00604 | 442 88032+ | 978 72126 42938 | 6448 58237+ | 20 | |
| | 50 | 55 95377 88636+ | 499 70146 | 965 55677 84700+ | 6281 42009+ | 10 | |
| **22** | 0 | 63 62877 58782+ | 556 53251+ | 952 39396 42690+ | 6114 29584 | 0 | **38** |
| | 10 | 71 30434 12033+ | 613 37349 | 939 23282 13106+ | 5947 20960 | 50 | |
| | 20 | 78 98047 49382+ | 670 22438+ | 926 07334 92147 | 5780 16135+ | 40 | |
| | 30 | 86 65717 71821 | 727 08521 | 912 91554 76011 | 5613 15110+ | 30 | |
| | 40 | 0,76394 33444 80342 | 783 95596 | 899 75941 60900+ | 5446 17883+ | 20 | |
| | 50 | 0,76402 01228 75938+ | 840 83664 | 886 60495 43017 | 5279 24453 | 10 | |
| **23** | 0 | 09 69069 59602+ | 897 72725+ | 873 45216 18564 | 5112 34818 | 0 | **37** |
| | 10 | 17 36967 32328 | 7 67954 62779+ | 860 30103 83746 | 4945 48978 | 50 | |
| | 20 | 25 04921 95107+ | 7 68011 53827+ | 847 15158 34768 | 4778 66931 | 40 | |
| | 30 | 32 72933 48935 | 068 45869+ | 834 00379 67837 | 4611 88676+ | 30 | |
| | 40 | 40 41001 94804+ | 125 38905 | 820 85767 79160+ | 4445 14213 | 20 | |
| | 50 | 48 09127 33709+ | 182 32934+ | 807 71322 64947+ | 4278 43540 | 10 | |
| **24** | 0 | 55 77309 66644 | 239 27958+ | 794 57044 21407+ | 4111 76655+ | 0 | **36** |
| | 10 | 63 45548 94602+ | 296 23977 | 781 42932 44752 | 3945 13559 | 50 | |
| | 20 | 71 13845 18579+ | 353 20990 | 768 28987 31193 | 3778 54249 | 40 | |
| | 30 | 78 82198 39569+ | 410 18998+ | 755 15208 76944 | 3611 98725 | 30 | |
| | 40 | 86 50608 58568 | 467 18001+ | 742 01596 78219+ | 3445 46985 | 20 | |
| | 50 | 0,76494 19075 76569+ | 524 18000 | 728 88151 31234+ | 3278 99028+ | 10 | |
| **25** | 0 | 0,76501 87599 94570 | 581 18994+ | 715 74872 32206 | 3112 54854+ | 0 | **35** |
| | 10 | 09 56181 13564+ | 638 20984 | 702 61759 77351+ | 2946 14461+ | 50 | |
| | 20 | 17 24819 34548+ | 695 23970 | 689 48813 62890 | 2779 77848 | 40 | |
| | 30 | 24 93514 58518+ | 752 27952 | 676 36033 85042 | 2613 45014 | 30 | |
| | 40 | 32 62266 86470 | 809 32930 | 663 23420 40028 | 2447 15957+ | 20 | |
| | 50 | 40 31076 19400+ | 866 38905 | 650 10973 24070+ | 2280 90678 | 10 | |
| **26** | 0 | 47 99942 58305 | 923 45876 | 636 98692 33392+ | 2114 69173+ | 0 | **34** |
| | 10 | 55 68866 04181+ | 7 68980 53844+ | 623 86577 64219 | 1948 51444 | 50 | |
| | 20 | 63 37846 58026 | 7 69037 62810 | 610 74629 12775 | 1782 37487+ | 40 | |
| | 30 | 71 06884 20836 | 094 72773 | 597 62846 75287 | 1616 27303+ | 30 | |
| | 40 | 78 75978 93609 | 151 83733+ | 584 51230 47984 | 1450 20890+ | 20 | |
| | 50 | 86 45130 77342+ | 208 95691+ | 571 39780 27093+ | 1284 18247+ | 10 | |
| **27** | 0 | 0,76594 14339 73034+ | 266 08647+ | 558 28496 08846 | 1118 19373 | 0 | **33** |
| | 10 | 0,76601 83605 81682 | 323 22602 | 545 17377 89473 | 0952 24266+ | 50 | |
| | 20 | 09 52929 04284 | 380 37554+ | 532 06425 65206+ | 0786 32927 | 40 | |
| | 30 | 17 22309 41838+ | 437 53505+ | 518 95639 32279+ | 0620 45352+ | 30 | |
| | 40 | 24 91746 95344 | 494 70455+ | 505 85018 86927 | 0454 61543 | 20 | |
| | 50 | 32 61241 65799+ | 551 88404+ | 492 74564 25384 | 0288 81496+ | 10 | |
| **28** | 0 | 40 30793 54204 | 609 07352+ | 479 64275 43887+ | 13 10123 05212+ | 0 | **32** |
| | 10 | 48 00402 61556+ | 666 27299+ | 466 54152 38675 | 13 09957 32689+ | 50 | |
| | 20 | 55 70068 88856 | 723 48246+ | 453 44195 05986 | 9791 63926 | 40 | |
| | 30 | 63 39792 37103 | 780 70193+ | 440 34403 42059+ | 9625 98922 | 30 | |
| | 40 | 71 09573 07296 | 837 93140 | 427 24777 43137+ | 9460 37676 | 20 | |
| | 50 | 78 79411 00436 | 895 17086+ | 414 15317 05462 | 9294 80186 | 10 | |
| **29** | 0 | 86 49306 17522+ | 7 69952 42034 | 401 06022 25275+ | 9129 26452 | 0 | **31** |
| | 10 | 0,76694 19258 59556+ | 7 70009 67981+ | 387 96892 98823+ | 8963 76472+ | 50 | |
| | 20 | 0,76701 89268 27538 | 066 94930 | 374 87929 22351 | 8798 30246+ | 40 | |
| | 30 | 09 59335 22468 | 124 22879+ | 361 79130 92105 | 8632 87772+ | 30 | |
| | 40 | 17 29459 45348 | 181 51830 | 348 70498 04332+ | 8467 49049+ | 20 | |
| | 50 | 24 99640 97178 | 7 70238 81782+ | 335 62030 55283 | 13 08302 14077 | 10 | |
| **30** | 0 | 0,76732 69879 78960+ | | 1,30322 53728 41206 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,76732 69879 78960+ | 7 70296 12736 | 1,30322 53728 41206 | 13 08136 82853+ | 0 | **30** |
| | 10 | 40 40175 91696+ | 353 44691+ | 309 45591 58352+ | 7971 55377+ | 50 | |
| | 20 | 48 10529 36387+ | 410 77649 | 296 37620 02975 | 7806 31648+ | 40 | |
| | 30 | 55 80940 14036+ | 468 11608+ | 283 29813 71326+ | 7641 11665 | 30 | |
| | 40 | 63 51408 25644+ | 525 46570+ | 270 22172 59661+ | 7475 95426 | 20 | |
| | 50 | 71 21933 72215 | 582 82535 | 257 14696 64235+ | 7310 82930+ | 10 | |
| **31** | 0 | 78 92516 54750 | 640 19502+ | 244 07385 81305 | 7145 74177+ | 0 | **29** |
| | 10 | 86 63156 74252+ | 697 57473 | 231 00240 07127 | 6980 69166 | 50 | |
| | 20 | 0,76794 33854 31725 | 754 96446+ | 217 93259 37961+ | 6815 67894 | 40 | |
| | 30 | 0,76802 04609 28171+ | 812 36423+ | 204 86443 70067 | 6650 70361+ | 30 | |
| | 40 | 09 75421 64595 | 869 77404 | 191 79792 99705+ | 6485 76567 | 20 | |
| | 50 | 17 46291 41999 | 927 19388+ | 178 73307 23138+ | 6320 86509 | 10 | |
| **32** | 0 | 25 17218 61387+ | 7 70984 62377 | 165 66986 36629+ | 6156 00187 | 0 | **28** |
| | 10 | 32 88203 23764+ | 7 71042 06370 | 152 60830 36442+ | 5991 17600 | 50 | |
| | 20 | 40 59245 30134+ | 099 51367 | 139 54839 18842+ | 5826 38746 | 40 | |
| | 30 | 48 30344 81501+ | 156 97368+ | 126 49012 80096+ | 5661 63624+ | 30 | |
| | 40 | 56 01501 78870 | 214 44375+ | 113 43351 16472 | 5496 92234+ | 20 | |
| | 50 | 63 72716 23245+ | 271 92387 | 100 37854 24237 | 5332 24575 | 10 | |
| **33** | 0 | 71 43988 15632+ | 329 41404 | 087 32521 99662 | 5167 60644+ | 0 | **27** |
| | 10 | 79 15317 57036+ | 386 91426+ | 074 27354 39017+ | 5003 00442 | 50 | |
| | 20 | 86 86704 48463 | 444 42454+ | 061 22351 38575+ | 4838 43966+ | 40 | |
| | 30 | 0,76894 58148 90917+ | 501 94488 | 048 17512 94608+ | 4673 91217 | 30 | |
| | 40 | 0,76902 29650 85405+ | 559 47528 | 035 12839 03391+ | 4509 42192+ | 20 | |
| | 50 | 10 01210 32933+ | 617 01574+ | 022 08329 61199 | 4344 96891+ | 10 | |
| **34** | 0 | 17 72827 34508 | 674 56627 | 1,30009 03984 64307+ | 4180 55313 | 0 | **26** |
| | 10 | 25 44501 91135 | 732 12686+ | 1,29995 99804 08994+ | 4016 17456 | 50 | |
| | 20 | 33 16234 03821+ | 789 69752+ | 982 95787 91538+ | 3851 83319+ | 40 | |
| | 30 | 40 88023 73574+ | 847 27826 | 969 91936 08219 | 3687 52902+ | 30 | |
| | 40 | 48 59871 01400+ | 904 86906+ | 956 88248 55316+ | 3523 26203+ | 20 | |
| | 50 | 56 31775 88307 | 7 71962 46994+ | 943 84725 29113 | 3359 03222 | 10 | |
| **35** | 0 | 64 03738 35301+ | 7 72020 08090+ | 930 81366 25891 | 3194 83956 | 0 | **25** |
| | 10 | 71 75758 43392 | 077 70194 | 917 78171 41935 | 3030 68405+ | 50 | |
| | 20 | 79 47836 13586+ | 135 33306 | 904 75140 73530 | 2866 56568+ | 40 | |
| | 30 | 87 19971 46892+ | 192 97426 | 891 72274 16961+ | 2702 48444+ | 30 | |
| | 40 | 0,76994 92164 44318+ | 250 62555 | 878 69571 68517 | 2538 44032 | 20 | |
| | 50 | 0,77002 64415 06873 | 308 28692 | 865 67033 24484+ | 2374 43330+ | 10 | |
| **36** | 0 | 10 36723 35565 | 365 95838+ | 852 64658 81154+ | 2210 46338 | 0 | **24** |
| | 10 | 18 09089 31403+ | 423 63994 | 839 62448 34816 | 2046 53054+ | 50 | |
| | 20 | 25 81512 95397+ | 481 33158+ | 826 60401 81762 | 1882 63478 | 40 | |
| | 30 | 33 53994 28556 | 539 03333 | 813 58519 18284 | 1718 77607+ | 30 | |
| | 40 | 41 26533 31889 | 596 74517 | 800 56800 40676 | 1554 95442+ | 20 | |
| | 50 | 48 99130 06405+ | 654 46711 | 787 55245 45233+ | 1391 16982 | 10 | |
| **37** | 0 | 56 71784 53116+ | 712 19915 | 774 53854 28251+ | 1227 42224 | 0 | **23** |
| | 10 | 64 44496 73031+ | 769 94129+ | 761 52626 86028 | 1063 71168 | 50 | |
| | 20 | 72 17266 67161 | 827 69354+ | 748 51563 14860 | 0900 03812+ | 40 | |
| | 30 | 79 90094 36515+ | 885 45590+ | 735 50663 11047 | 0736 40157 | 30 | |
| | 40 | 87 62979 82106 | 7 72943 22837 | 722 49926 70890 | 0572 80200+ | 20 | |
| | 50 | 0,77095 35923 04943 | 7 73001 01095 | 709 49353 90689+ | 0409 23941+ | 10 | |
| **38** | 0 | 0,77103 08924 06038 | 058 80364+ | 696 48944 66748 | 0245 71378+ | 0 | **22** |
| | 10 | 10 81982 86402+ | 116 60645+ | 683 48698 95369+ | 13 00082 22511 | 50 | |
| | 20 | 18 55099 47048+ | 174 41938+ | 670 48616 72858+ | 12 99918 77338+ | 40 | |
| | 30 | 26 28273 88986+ | 232 24243 | 657 48697 95520 | 9755 35858+ | 30 | |
| | 40 | 34 01506 13229+ | 290 07560 | 644 48942 59661+ | 9591 98071 | 20 | |
| | 50 | 41 74796 20789+ | 347 91889+ | 631 49350 61590+ | 9428 63974+ | 10 | |
| **39** | 0 | 49 48144 12679 | 405 77231+ | 618 49921 97616 | 9265 33568 | 0 | **21** |
| | 10 | 57 21549 89911 | 463 63586+ | 605 50656 64048+ | 9102 06850+ | 50 | |
| | 20 | 64 95013 53497 | 521 50954+ | 592 51554 57198 | 8938 83820+ | 40 | |
| | 30 | 72 68535 04451+ | 579 39335+ | 579 52615 73377+ | 8775 64477+ | 30 | |
| | 40 | 80 42114 43787 | 637 28730 | 566 53840 08899+ | 8612 48820+ | 20 | |
| | 50 | 88 15751 72517 | 7 73695 19138 | 553 55227 60079+ | 12 98449 36847+ | 10 | |
| **40** | 0 | 0,77195 89446 91655 | | 1,29540 56778 23231+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,77195 89446 91655 | 7 73753 10560+ | 1,29540 56778 23231+ | 12 98286 28558+ | 0 | **20** |
| | 10 | 0,77203 63200 02215+ | 811 02996+ | 527 58491 94673+ | 8123 23951+ | 50 | |
| | 20 | 11 37011 05212 | 868 96447 | 514 60368 70721+ | 7960 23026 | 40 | |
| | 30 | 19 10880 01658+ | 926 90912 | 501 62408 47695+ | 7797 25781 | 30 | |
| | 40 | 26 84806 92570+ | 7 73984 86391+ | 488 64611 21914+ | 7634 32215 | 20 | |
| | 50 | 34 58791 78962 | 7 74042 82886 | 475 66976 89699 | 7471 42327+ | 10 | |
| **41** | 0 | 42 32834 61847+ | 100 80395+ | 462 69505 47372 | 7308 56116+ | 0 | **19** |
| | 10 | 50 06935 42243 | 158 78920+ | 449 72196 91255 | 7145 73582 | 50 | |
| | 20 | 57 81094 21163+ | 216 78460+ | 436 75051 17673 | 6982 94722 | 40 | |
| | 30 | 65 55310 99624 | 274 79017 | 423 78068 22951 | 6820 19536 | 30 | |
| | 40 | 73 29585 78641 | 332 80589 | 410 81248 03415 | 6657 48022+ | 20 | |
| | 50 | 81 03918 59229+ | 390 83177 | 397 84590 55392+ | 6494 80181 | 10 | |
| **42** | 0 | 88 78309 42406+ | 448 86781+ | 384 88095 75211+ | 6332 16010 | 0 | **18** |
| | 10 | 0,77296 52758 29188 | 506 91402+ | 371 91763 59201 | 6169 55508+ | 50 | |
| | 20 | 0,77304 27265 20590+ | 564 97040+ | 358 95594 03692+ | 6006 98675+ | 40 | |
| | 30 | 12 01830 17631 | 623 03695 | 345 99587 05017 | 5844 45510 | 30 | |
| | 40 | 19 76453 21326 | 681 11367 | 333 03742 59507 | 5681 96010+ | 20 | |
| | 50 | 27 51134 32693 | 739 20056+ | 320 08060 63496 | 5519 50176+ | 10 | |
| **43** | 0 | 35 25873 52749 | 797 29763 | 307 12541 13319+ | 5357 08006+ | 0 | **17** |
| | 10 | 43 00670 82512+ | 855 40488 | 294 17184 05313 | 5194 69500 | 50 | |
| | 20 | 50 75526 23000 | 913 52230+ | 281 21989 35813 | 5032 34655 | 40 | |
| | 30 | 58 50439 75230+ | 7 74971 64991+ | 268 26957 01158 | 4870 03471 | 30 | |
| | 40 | 66 25411 40222 | 7 75029 78770+ | 255 32086 97687 | 4707 75947 | 20 | |
| | 50 | 74 00441 18992+ | 087 93568+ | 242 37379 21740 | 4545 52082 | 10 | |
| **44** | 0 | 81 75529 12561 | 146 09385 | 229 42833 69658 | 4383 31874+ | 0 | **16** |
| | 10 | 89 50675 21946 | 204 26221 | 216 48450 37783+ | 4221 15324 | 50 | |
| | 20 | 0,77397 25879 48166+ | 262 44076 | 203 54229 22459+ | 4059 02428+ | 40 | |
| | 30 | 0,77405 01141 92242+ | 320 62950 | 190 60170 20031 | 3896 93188 | 30 | |
| | 40 | 12 76462 55192+ | 378 82844+ | 177 66273 26843 | 3734 87601 | 20 | |
| | 50 | 20 51841 38037 | 437 03758 | 164 72538 39242 | 3572 85666 | 10 | |
| **45** | 0 | 28 27278 41795 | 495 25692 | 151 78965 53575+ | 3410 87383 | 0 | **15** |
| | 10 | 36 02773 67487+ | 553 48646+ | 138 85554 66193 | 3248 92749+ | 50 | |
| | 20 | 43 78327 16134 | 611 72621 | 125 92305 73443+ | 3087 01765+ | 40 | |
| | 30 | 51 53938 88755 | 669 97616+ | 112 99218 71677+ | 2925 14430 | 30 | |
| | 40 | 59 29608 86372 | 728 23633 | 100 06293 57248 | 2763 30741 | 20 | |
| | 50 | 67 05337 10005 | 786 50670+ | 087 13530 26506+ | 2601 50698+ | 10 | |
| **46** | 0 | 74 81123 60675+ | 844 78729+ | 074 20928 75808 | 2439 74300+ | 0 | **14** |
| | 10 | 82 56968 39404+ | 903 07809+ | 061 28489 01507+ | 2278 01546+ | 50 | |
| | 20 | 90 32871 47214+ | 7 75961 37911+ | 048 36210 99961 | 2116 32435+ | 40 | |
| | 30 | 0,77498 08832 85126 | 7 76019 69035+ | 035 44094 67525+ | 1954 66966 | 30 | |
| | 40 | 0,77505 84852 54161+ | 078 01182 | 022 52140 00559 | 1793 05137+ | 20 | |
| | 50 | 13 60930 55343+ | 136 34350+ | 1,29009 60346 95421+ | 1631 46948+ | 10 | |
| **47** | 0 | 21 37066 89694 | 194 68541+ | 1,28996 68715 48473 | 1469 92398 | 0 | **13** |
| | 10 | 29 13261 58235+ | 253 03755+ | 983 77245 56075 | 1308 41485 | 50 | |
| | 20 | 36 89514 61990+ | 311 39992 | 970 85937 14590 | 1146 94208+ | 40 | |
| | 30 | 44 65826 01982+ | 369 77252 | 957 94790 20381+ | 0985 50567+ | 30 | |
| | 40 | 52 42195 79235 | 428 15535+ | 945 03804 69814 | 0824 10560+ | 20 | |
| | 50 | 60 18623 94770+ | 486 54842+ | 932 12980 59253+ | 0662 74187 | 10 | |
| **48** | 0 | 67 95110 49613 | 544 95173+ | 919 22317 85066+ | 0501 41445+ | 0 | **12** |
| | 10 | 75 71655 44786+ | 603 36528+ | 906 31816 43621 | 0340 12335 | 50 | |
| | 20 | 83 48258 81315 | 661 78907+ | 893 41476 31286 | 0178 86855 | 40 | |
| | 30 | 91 24920 60222+ | 720 22311 | 880 51297 44431 | 12 90017 65004 | 30 | |
| | 40 | 0,77599 01640 82533+ | 778 66739+ | 867 61279 79427+ | 12 89856 46780+ | 20 | |
| | 50 | 0,77606 78419 49273 | 837 12192+ | 854 71423 32647 | 9695 32184 | 10 | |
| **49** | 0 | 14 55256 61465+ | 895 58670+ | 841 81728 00462+ | 9534 21213+ | 0 | **11** |
| | 10 | 22 32152 20136+ | 7 76954 06174 | 828 92193 79249 | 9373 13868 | 50 | |
| | 20 | 30 09106 26310+ | 7 77012 54703 | 816 02820 65381 | 9212 10146 | 40 | |
| | 30 | 37 86118 81013+ | 071 04258 | 803 13608 55234+ | 9051 10047 | 30 | |
| | 40 | 45 63189 85271+ | 129 54838+ | 790 24557 45188 | 8890 13569 | 20 | |
| | 50 | 53 40319 40110 | 7 77188 06445 | 777 35667 31619 | 12 88729 20712 | 10 | |
| **50** | 0 | 0,77661 17507 46555 | | 1,28764 46938 10907 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 37°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,77661 17507 46555 | 7 77246 59078 | 1,28764 46938 10907 | 12 88568 31474+ | 0 | **10** |
| | 10 | 68 94754 05633 | 305 12737+ | 751 58369 79432+ | 8407 45855 | 50 | |
| | 20 | 76 72059 18370+ | 363 67424 | 738 69962 33577+ | 8246 63853+ | 40 | |
| | 30 | 84 49422 85794+ | 422 23137+ | 725 81715 69724 | 8085 85468 | 30 | |
| | 40 | 0,77692 26845 08932 | 480 79878 | 712 93629 84256 | 7925 10698 | 20 | |
| | 50 | 0,77700 04325 88810 | 539 37645+ | 700 05704 73558+ | 7764 39542 | 10 | |
| **51** | 0 | 07 81865 26455+ | 597 96441 | 687 17940 34016+ | 7603 71999 | 0 | **9** |
| | 10 | 15 59463 22896+ | 656 56264+ | 674 30336 62017+ | 7443 08068+ | 50 | |
| | 20 | 23 37119 79161 | 715 17115+ | 661 42893 53949 | 7282 47749 | 40 | |
| | 30 | 31 14834 96276+ | 773 78995 | 648 55611 06200 | 7121 91039+ | 30 | |
| | 40 | 38 92608 75271+ | 832 41903 | 635 68489 15160+ | 6961 37939 | 20 | |
| | 50 | 46 70441 17174+ | 891 05839+ | 622 81527 77221+ | 6800 88446+ | 10 | |
| **52** | 0 | 54 48332 23014 | 7 77949 70805 | 609 94726 88775+ | 6640 42560+ | 0 | **8** |
| | 10 | 62 26281 93819 | 7 78008 36799+ | 597 08086 46214+ | 6480 00280+ | 50 | |
| | 20 | 70 04290 30618 | 067 03823 | 584 21606 45934 | 6319 61605+ | 40 | |
| | 30 | 77 82357 34441+ | 125 71876+ | 571 35286 84328+ | 6159 26534 | 30 | |
| | 40 | 85 60483 06317+ | 184 40959 | 558 49127 57794+ | 5998 95065+ | 20 | |
| | 50 | 0,77793 38667 47276+ | 243 11072 | 545 63128 62729 | 5838 67198 | 10 | |
| **53** | 0 | 0,77801 16910 58348+ | 301 82215 | 532 77289 95531 | 5678 42931+ | 0 | **7** |
| | 10 | 08 95212 40563+ | 360 54388 | 519 91611 52599+ | 5518 22264+ | 50 | |
| | 20 | 16 73572 94951+ | 419 27592 | 507 06093 30335 | 5358 05196 | 40 | |
| | 30 | 24 51992 22543+ | 478 01826+ | 494 20735 25139 | 5197 91725 | 30 | |
| | 40 | 32 30470 24370 | 536 77092 | 481 35537 33414 | 5037 81850 | 20 | |
| | 50 | 40 09007 01462 | 595 53388+ | 468 50499 51564 | 4877 75570+ | 10 | |
| **54** | 0 | 47 87602 54850+ | 654 30716+ | 455 65621 75993+ | 4717 72885+ | 0 | **6** |
| | 10 | 55 66256 85567 | 713 09076 | 442 80904 03107+ | 4557 73793+ | 50 | |
| | 20 | 63 44969 94643 | 771 88467+ | 429 96346 29314 | 4397 78294 | 40 | |
| | 30 | 71 23741 83111 | 830 68891 | 417 11948 51020 | 4237 86385+ | 30 | |
| | 40 | 79 02572 52002 | 889 50346+ | 404 27710 64634+ | 4077 98067 | 20 | |
| | 50 | 86 81462 02348+ | 7 78948 32835 | 391 43632 66567+ | 3918 13338 | 10 | |
| **55** | 0 | 0,77894 60410 35183+ | 7 79007 16355+ | 378 59714 53229+ | 3758 32196+ | 0 | **5** |
| | 10 | 0,77902 39417 51539 | 066 00909 | 365 75956 21033 | 3598 54642 | 50 | |
| | 20 | 10 18483 52448 | 124 86496 | 352 92357 66391 | 3438 80674 | 40 | |
| | 30 | 17 97608 38943+ | 183 73115+ | 340 08918 85717 | 3279 10290+ | 30 | |
| | 40 | 25 76792 12059+ | 242 60769 | 327 25639 75426+ | 3119 43490+ | 20 | |
| | 50 | 33 56034 72828+ | 301 49456 | 314 42520 31936 | 2959 80274 | 10 | |
| **56** | 0 | 41 35336 22284+ | 360 39177+ | 301 59560 51662 | 2800 20639 | 0 | **4** |
| | 10 | 49 14696 61462 | 419 29932+ | 288 76760 31023+ | 2640 64584+ | 50 | |
| | 20 | 56 94115 91394+ | 478 21722 | 275 94119 66439 | 2481 12110 | 40 | |
| | 30 | 64 73594 13116+ | 537 14546 | 263 11638 54329 | 2321 63214 | 30 | |
| | 40 | 72 53131 27662+ | 596 08405 | 250 29316 91115+ | 2162 17895+ | 20 | |
| | 50 | 80 32727 36067 | 655 03298+ | 237 47154 73220 | 2002 76153+ | 10 | |
| **57** | 0 | 88 12382 39366 | 713 99227+ | 224 65151 97066+ | 1843 37987+ | 0 | **3** |
| | 10 | 0,77995 92096 38593+ | 772 96192 | 211 83308 59079 | 1684 03395+ | 50 | |
| | 20 | 0,78003 71869 34785+ | 831 94192 | 199 01624 55683+ | 1524 72377 | 40 | |
| | 30 | 11 51701 28977+ | 890 93227+ | 186 20099 83306+ | 1365 44931 | 30 | |
| | 40 | 19 31592 22205 | 7 79949 93299+ | 173 38734 38375+ | 1206 21056+ | 20 | |
| | 50 | 27 11542 15504+ | 7 80008 94407+ | 160 57528 17319 | 1047 00752+ | 10 | |
| **58** | 0 | 34 91551 09912 | 067 96552 | 147 76481 16566+ | 0887 84017+ | 0 | **2** |
| | 10 | 42 71619 06464+ | 126 99733+ | 134 95593 32549 | 0728 70851 | 50 | |
| | 20 | 50 51746 06198 | 186 03951+ | 122 14864 61698 | 0569 61251+ | 40 | |
| | 30 | 58 31932 10149+ | 245 09206+ | 109 34295 00447 | 0410 55218 | 30 | |
| | 40 | 66 12177 19356 | 304 15499 | 096 53884 45228+ | 0251 52750 | 20 | |
| | 50 | 73 92481 34855 | 363 22829 | 083 73632 92478+ | 12 80092 53846 | 10 | |
| **59** | 0 | 81 72844 57684 | 422 31197 | 070 93540 38632+ | 12 79933 58505 | 0 | **1** |
| | 10 | 89 53266 88881 | 481 40602+ | 058 13606 80127+ | 9774 66726+ | 50 | |
| | 20 | 0,78097 33748 29483+ | 540 51046+ | 045 33832 13401 | 9615 78508+ | 40 | |
| | 30 | 0,78105 14288 80530 | 599 62528+ | 032 54216 34892+ | 9456 93851 | 30 | |
| | 40 | 12 94888 43059 | 658 75049+ | 019 74759 41041+ | 9298 12752 | 20 | |
| | 50 | 20 75547 18108+ | 7 80717 88609 | 1,28006 95461 28289+ | 12 79139 35211 | 10 | |
| **60** | 0 | 0,78128 56265 06717+ | | 1,27994 16321 93079 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 52°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,78128 56265 06717+ | 7 80777 03207+ | 1,27994 16321 93079 | 12 78980 61227 | 0 | **60** |
| | 10 | 36 37042 09925 | 836 18845+ | 981 37341 31852 | 8821 90798+ | 50 | |
| | 20 | 44 17878 28770+ | 895 35523 | 968 58519 41053 | 8663 23925+ | 40 | |
| | 30 | 51 98773 64293+ | 7 80954 53239+ | 955 79856 17128 | 8504 60606 | 30 | |
| | 40 | 59 79728 17533 | 7 81013 71996+ | 943 01351 56522 | 8346 00839 | 20 | |
| | 50 | 67 60741 89529+ | 072 91793+ | 930 23005 55683 | 8187 44624 | 10 | |
| **1** | 0 | 75 41814 81323 | 132 12630+ | 917 44818 11059+ | 8028 91959+ | 0 | **59** |
| | 10 | 83 22946 93953+ | 191 34508 | 904 66789 19100 | 7870 42845 | 50 | |
| | 20 | 91 04138 28461+ | 250 57426+ | 891 88918 76255 | 7711 97278+ | 40 | |
| | 30 | 0,78198 85388 85888 | 309 81386 | 879 11206 78976+ | 7553 55260 | 30 | |
| | 40 | 0,78206 66698 67274 | 369 06386 | 866 33653 23716 | 7395 16788+ | 20 | |
| | 50 | 14 48067 73660 | 428 32428 | 853 56258 06928 | 7236 81862 | 10 | |
| **2** | 0 | 22 29496 06088 | 487 59511+ | 840 79021 25065+ | 7078 50480+ | 0 | **58** |
| | 10 | 30 10983 65599+ | 546 87636+ | 828 01942 74585+ | 6920 22642 | 50 | |
| | 20 | 37 92530 53236 | 606 16803+ | 815 25022 51943+ | 6761 98346 | 40 | |
| | 30 | 45 74136 70039+ | 665 47013 | 802 48260 53597+ | 6603 77592 | 30 | |
| | 40 | 53 55802 17052+ | 724 78265 | 789 71656 76005+ | 6445 60378 | 20 | |
| | 50 | 61 37526 95317+ | 784 10559 | 776 95211 15627+ | 6287 46703+ | 10 | |
| **3** | 0 | 69 19311 05876+ | 843 43896+ | 764 18923 68924+ | 6129 36567 | 0 | **57** |
| | 10 | 77 01154 49773 | 902 78277 | 751 42794 32357 | 5971 29968+ | 50 | |
| | 20 | 84 83057 28050 | 7 81962 13700+ | 738 66823 02389 | 5813 26906 | 40 | |
| | 30 | 0,78292 65019 41750+ | 7 82021 50167+ | 725 91009 75483 | 5655 27378+ | 30 | |
| | 40 | 0,78300 47040 91918 | 080 87678+ | 713 15354 48104+ | 5497 31385+ | 20 | |
| | 50 | 08 29121 79596+ | 140 26233 | 700 39857 16719 | 5339 38926 | 10 | |
| **4** | 0 | 16 11262 05829+ | 199 65832 | 687 64517 77793 | 5181 49998+ | 0 | **56** |
| | 10 | 23 93461 71661+ | 259 06475+ | 674 89336 27794+ | 5023 64602 | 50 | |
| | 20 | 31 75720 78137 | 318 48163 | 662 14312 63192 | 4865 82736 | 40 | |
| | 30 | 39 58039 26300 | 377 90895+ | 649 39446 80456 | 4708 04399 | 30 | |
| | 40 | 47 40417 17196 | 437 34673+ | 636 64738 76057 | 4550 29590+ | 20 | |
| | 50 | 55 22854 51869 | 496 79496 | 623 90188 46466+ | 4392 58308+ | 10 | |
| **5** | 0 | 63 05351 31365+ | 556 25364+ | 611 15795 88158 | 4234 90553 | 0 | **55** |
| | 10 | 70 87907 56729+ | 615 72278 | 598 41560 97604+ | 4077 26322+ | 50 | |
| | 20 | 78 70523 29008 | 675 20238 | 585 67483 71282 | 3919 65616 | 40 | |
| | 30 | 86 53198 49246 | 734 69244 | 572 93564 05666 | 3762 08432+ | 30 | |
| | 40 | 0,78394 35933 18489+ | 794 19296 | 560 19801 97233+ | 3604 54771 | 20 | |
| | 50 | 0,78402 18727 37785+ | 853 70394+ | 547 46197 42462 | 3447 04631 | 10 | |
| **6** | 0 | 10 01581 08180 | 913 22539+ | 534 72750 37831+ | 3289 58010+ | 0 | **54** |
| | 10 | 17 84494 30719+ | 7 82972 75732 | 521 99460 79821 | 3132 14909 | 50 | |
| | 20 | 25 67467 06451+ | 7 83032 29971+ | 509 26328 64912 | 2974 75325 | 40 | |
| | 30 | 33 50499 36423 | 091 85258 | 496 53353 89587 | 2817 39258+ | 30 | |
| | 40 | 41 33591 21681 | 151 41592+ | 483 80536 50328+ | 2660 06708 | 20 | |
| | 50 | 49 16742 63273+ | 210 98974+ | 471 07876 43620+ | 2502 77672 | 10 | |
| **7** | 0 | 56 99953 62248 | 270 57404+ | 458 35373 65948+ | 2345 52150 | 0 | **53** |
| | 10 | 64 83224 19652+ | 330 16883 | 445 63028 13798+ | 2188 30141 | 50 | |
| | 20 | 72 66554 36535+ | 389 77410 | 432 90839 83658 | 2031 11643+ | 40 | |
| | 30 | 80 49944 13945+ | 449 38985 | 420 18808 72014 | 1873 96657 | 30 | |
| | 40 | 88 33393 52930+ | 509 01609+ | 407 46934 75357 | 1716 85180+ | 20 | |
| | 50 | 0,78496 16902 54540 | 568 65283 | 394 75217 90177 | 1559 77212+ | 10 | |
| **8** | 0 | 0,78504 00471 19823 | 628 30005+ | 382 03658 12964+ | 1402 72752+ | 0 | **52** |
| | 10 | 11 84099 49829 | 687 95778 | 369 32255 40212 | 1245 71799 | 50 | |
| | 20 | 19 67787 45606+ | 747 62600 | 356 61009 68413 | 1088 74351+ | 40 | |
| | 30 | 27 51535 08206+ | 807 30471+ | 343 89920 94062 | 0931 80408+ | 30 | |
| | 40 | 35 35342 38678 | 866 99393+ | 331 18989 13653+ | 0774 89969+ | 20 | |
| | 50 | 43 19209 38071+ | 926 69366 | 318 48214 23684 | 0618 03033 | 10 | |
| **9** | 0 | 51 03136 07438 | 7 83986 40389 | 305 77596 20651+ | 0461 19598 | 0 | **51** |
| | 10 | 58 87122 47827 | 7 84046 12463 | 293 07135 01053 | 0304 39664 | 50 | |
| | 20 | 66 71168 60290 | 105 85588 | 280 36830 61389 | 12 70147 63229+ | 40 | |
| | 30 | 74 55274 45878 | 165 59764 | 267 66682 98159+ | 12 69990 90294 | 30 | |
| | 40 | 82 39440 05642 | 225 34991+ | 254 96692 07865+ | 9834 20856 | 20 | |
| | 50 | 90 23665 40633+ | 7 84285 11271 | 242 26857 87009+ | 12 69677 54914+ | 10 | |
| **10** | 0 | 0,78598 07950 51904+ | | 1,27229 57180 32095 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,78598 07950 51904+ | 7 84344 88602 | 1,27229 57180 32095 | 12 69520 92468+ | 0 | **50** |
| | 10 | 0,78605 92295 40506+ | 404 66985+ | 216 87659 39626+ | 9364 33517+ | 50 | |
| | 20 | 13 76700 07492 | 464 46421 | 204 18295 06109 | 9207 78060 | 40 | |
| | 30 | 21 61164 53913 | 524 26909 | 191 49087 28049 | 9051 26095 | 30 | |
| | 40 | 29 45688 80822 | 584 08450 | 178 80036 01954 | 8894 77621+ | 20 | |
| | 50 | 37 30272 89272 | 643 91044 | 166 11141 24332+ | 8738 32639 | 10 | |
| **11** | 0 | 45 14916 80316 | 703 74691 | 153 42402 91694 | 8581 91145+ | 0 | **49** |
| | 10 | 52 99620 55007 | 763 59391+ | 140 73821 00548 | 8425 53141 | 50 | |
| | 20 | 60 84384 14398+ | 823 45145+ | 128 05395 47407 | 8269 18624 | 40 | |
| | 30 | 68 69207 59544 | 883 31953+ | 115 37126 28783+ | 8112 87593+ | 30 | |
| | 40 | 76 54090 91497+ | 7 84943 19815+ | 102 69013 41190 | 7956 60048+ | 20 | |
| | 50 | 84 39034 11313+ | 7 85003 08732 | 090 01056 81141+ | 7800 35988 | 10 | |
| **12** | 0 | 0,78692 24037 20045+ | 062 98703 | 077 33256 45153+ | 7644 15411 | 0 | **48** |
| | 10 | 0,78700 09100 18748 | 122 89728+ | 064 65612 29742 | 7487 98317 | 50 | |
| | 20 | 07 94223 08476+ | 182 81809 | 051 98124 31425 | 7331 84704 | 40 | |
| | 30 | 15 79405 90285 | 242 74944+ | 039 30792 46721 | 7175 74572 | 30 | |
| | 40 | 23 64648 65229+ | 302 69135+ | 026 63616 72149+ | 7019 67919 | 20 | |
| | 50 | 31 49951 34365 | 362 64382 | 013 96597 04230 | 6863 64745 | 10 | |
| **13** | 0 | 39 35313 98747 | 422 60684+ | 1,27001 29733 39485+ | 6707 65048 | 0 | **47** |
| | 10 | 47 20736 59431 | 482 58042+ | 1,26988 63025 74437 | 6551 68828 | 50 | |
| | 20 | 55 06219 17474 | 542 56457+ | 975 96474 05609+ | 6395 76083+ | 40 | |
| | 30 | 62 91761 73931+ | 602 55928+ | 963 30078 29526 | 6239 86813 | 30 | |
| | 40 | 70 77364 29859+ | 662 56456 | 950 63838 42713 | 6084 01016+ | 20 | |
| | 50 | 78 63026 86316 | 722 58041 | 937 97754 41696+ | 5928 18692 | 10 | |
| **14** | 0 | 86 48749 44356+ | 782 60682+ | 925 31826 23004+ | 5772 39839+ | 0 | **46** |
| | 10 | 0,78794 34532 05039 | 842 64381+ | 912 66053 83165 | 5616 64457+ | 50 | |
| | 20 | 0,78802 20374 69421 | 902 69138+ | 900 00437 18707+ | 5460 92544+ | 40 | |
| | 30 | 10 06277 38559 | 7 85962 74952+ | 887 34976 26162+ | 5305 24100+ | 30 | |
| | 40 | 17 92240 13512 | 7 86022 81825 | 874 69671 02062 | 5149 59124 | 20 | |
| | 50 | 25 78262 95337 | 082 89755+ | 862 04521 42938+ | 4993 97613+ | 10 | |
| **15** | 0 | 33 64345 85092+ | 142 98744+ | 849 39527 45324+ | 4838 39569 | 0 | **45** |
| | 10 | 41 50488 83837 | 203 08792 | 836 74689 05755+ | 4682 84989 | 50 | |
| | 20 | 49 36691 92629+ | 263 19898+ | 824 10006 20766+ | 4527 33872 | 40 | |
| | 30 | 57 22955 12528 | 323 32064+ | 811 45478 86894+ | 4371 86218 | 30 | |
| | 40 | 65 09278 44592+ | 383 45289 | 798 81107 00676+ | 4216 42025+ | 20 | |
| | 50 | 72 95661 89881+ | 443 59573+ | 786 16890 58651 | 4061 01293+ | 10 | |
| **16** | 0 | 80 82105 49455 | 503 74917+ | 773 52829 57357+ | 3905 64020+ | 0 | **44** |
| | 10 | 88 68609 24372+ | 563 91321+ | 760 88923 93336+ | 3750 30206+ | 50 | |
| | 20 | 0,78896 55173 15694 | 624 08786 | 748 25173 63130 | 3594 99850 | 40 | |
| | 30 | 0,78904 41797 24479+ | 684 27310+ | 735 61578 63280 | 3439 72950 | 30 | |
| | 40 | 12 28481 51790 | 744 46895+ | 722 98138 90330 | 3284 49505+ | 20 | |
| | 50 | 20 15225 98685+ | 804 67541+ | 710 34854 40824+ | 3129 29515+ | 10 | |
| **17** | 0 | 28 02030 66227 | 864 89248+ | 697 71725 11308+ | 2974 12979 | 0 | **43** |
| | 10 | 35 88895 55475+ | 925 12017 | 685 08750 98329+ | 2818 99895+ | 50 | |
| | 20 | 43 75820 67492+ | 7 86985 35846+ | 672 45931 98434 | 2663 90263 | 40 | |
| | 30 | 51 62806 03339 | 7 87045 60738 | 659 83268 08171 | 2508 84081+ | 30 | |
| | 40 | 59 49851 64077+ | 105 86691+ | 647 20759 24090 | 2353 81349 | 20 | |
| | 50 | 67 36957 50769 | 166 13707 | 634 58405 42740+ | 2198 82065+ | 10 | |
| **18** | 0 | 75 24123 64476 | 226 41785 | 621 96206 60675 | 2043 86229+ | 0 | **42** |
| | 10 | 83 11350 06261 | 286 70925+ | 609 34162 74446 | 1888 93840 | 50 | |
| | 20 | 90 98636 77186+ | 347 01128+ | 596 72273 80605+ | 1734 04896 | 40 | |
| | 30 | 0,78998 85983 78315 | 407 32395 | 584 10539 75709+ | 1579 19397 | 30 | |
| | 40 | 0,79006 73391 10710 | 467 64724+ | 571 48960 56312+ | 1424 37341+ | 20 | |
| | 50 | 14 60858 75434+ | 527 98117+ | 558 87536 18971 | 1269 58728+ | 10 | |
| **19** | 0 | 22 48386 73552 | 588 32574 | 546 26266 60243 | 1114 83557 | 0 | **41** |
| | 10 | 30 35975 06126+ | 648 68094+ | 533 65151 76686 | 0960 11826+ | 50 | |
| | 20 | 38 23623 74221 | 709 04679+ | 521 04191 64859+ | 0805 43535+ | 40 | |
| | 30 | 46 11332 78900+ | 769 42328+ | 508 43386 21324 | 0650 78683 | 30 | |
| | 40 | 53 99102 21228+ | 829 81042 | 495 82735 42641 | 0496 17268 | 20 | |
| | 50 | 61 86932 02270+ | 7 87890 20820 | 483 22239 25373 | 12 60341 59290 | 10 | |
| **20** | 0 | 0,79069 74822 23090+ | | 1,26470 61897 66083 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,79069 74822 23090+ | 7 87950 61663+ | 1,26470 61897 66083 | 12 60187 04748 | 0 | **40** |
| | 10 | 77 62772 84754 | 7 88011 03572 | 458 01710 61335 | 12 60032 53640+ | 50 | |
| | 20 | 85 50783 88326 | 071 46546 | 445 41678 07694+ | 12 59878 05966+ | 40 | |
| | 30 | 0,79093 38855 34872 | 131 90585+ | 432 81800 01728 | 9723 61725+ | 30 | |
| | 40 | 0,79101 26987 25457+ | 192 35691 | 420 22076 40003 | 9569 20916 | 20 | |
| | 50 | 09 15179 61148+ | 252 81862+ | 407 62507 19087 | 9414 83537+ | 10 | |
| **21** | 0 | 17 03432 43011 | 313 29100+ | 395 03092 35550 | 9260 49588+ | 0 | **39** |
| | 10 | 24 91745 72111+ | 373 77405 | 382 43831 85961+ | 9106 19068+ | 50 | |
| | 20 | 32 80119 49516+ | 434 26776 | 369 84725 66893 | 8951 91976 | 40 | |
| | 30 | 40 68553 76292+ | 494 77214 | 357 25773 74916+ | 8797 68311 | 30 | |
| | 40 | 48 57048 53507 | 555 28719+ | 344 66976 06606 | 8643 48071 | 20 | |
| | 50 | 56 45603 82226+ | 615 81292+ | 332 08332 58535 | 8489 31256+ | 10 | |
| **22** | 0 | 64 34219 63518+ | 676 34933 | 319 49843 27278+ | 8335 17865+ | 0 | **38** |
| | 10 | 72 22895 98451+ | 736 89641 | 306 91508 09412+ | 8181 07897+ | 50 | |
| | 20 | 80 11632 88092+ | 797 45417+ | 294 33327 01515 | 8027 01351+ | 40 | |
| | 30 | 88 00430 33510 | 858 02262 | 281 75300 00163+ | 7872 98226+ | 30 | |
| | 40 | 0,79195 89288 35772 | 918 60175 | 269 17427 01937 | 7718 98521+ | 20 | |
| | 50 | 0,79203 78206 95947 | 7 88979 19157 | 256 59708 03415+ | 7565 02235 | 10 | |
| **23** | 0 | 11 67186 15104 | 7 89039 79208 | 244 02143 01180+ | 7411 09367 | 0 | **37** |
| | 10 | 19 56225 94312 | 100 40328 | 231 44731 91813+ | 7257 19915+ | 50 | |
| | 20 | 27 45326 34640 | 161 02517+ | 218 87474 71898 | 7103 33880+ | 40 | |
| | 30 | 35 34487 37157+ | 221 65776+ | 206 30371 38018 | 6949 51260 | 30 | |
| | 40 | 43 23709 02934+ | 282 30105+ | 193 73421 86758 | 6795 72054 | 20 | |
| | 50 | 51 12991 33040 | 342 95504+ | 181 16626 14704 | 6641 96261 | 10 | |
| **24** | 0 | 59 02334 28544+ | 403 61974 | 168 59984 18443 | 6488 23880 | 0 | **36** |
| | 10 | 66 91737 90518+ | 464 29513+ | 156 03495 94563+ | 6334 54910 | 50 | |
| | 20 | 74 81202 20032 | 524 98124+ | 143 47161 39653+ | 6180 89350 | 40 | |
| | 30 | 82 70727 18156+ | 585 67806 | 130 90980 50303+ | 6027 27199+ | 30 | |
| | 40 | 90 60312 85962 | 646 38558+ | 118 34953 23104 | 5873 68457 | 20 | |
| | 50 | 0,79298 49959 24520+ | 707 10382+ | 105 79079 54647 | 5720 13122 | 10 | |
| **25** | 0 | 0,79306 39666 34903 | 767 83278+ | 093 23359 41525 | 5566 61193 | 0 | **35** |
| | 10 | 14 29434 18181+ | 828 57246 | 080 67792 80332 | 5413 12669 | 50 | |
| | 20 | 22 19262 75427+ | 889 32285+ | 068 12379 67663 | 5259 67549+ | 40 | |
| | 30 | 30 09152 07713 | 7 89950 08397+ | 055 57120 00113+ | 5106 25833+ | 30 | |
| | 40 | 37 99102 16110+ | 7 90010 85582 | 043 02013 74280 | 4952 87519+ | 20 | |
| | 50 | 45 89113 01692 | 071 63839 | 030 47060 86760+ | 4799 52607 | 10 | |
| **26** | 0 | 53 79184 65531 | 132 43169 | 017 92261 34153+ | 4646 21095 | 0 | **34** |
| | 10 | 61 69317 08700+ | 193 23572+ | 1,26005 37615 13058+ | 4492 92982 | 50 | |
| | 20 | 69 59510 32273 | 254 05049 | 1,25992 83122 20076+ | 4339 68267+ | 40 | |
| | 30 | 77 49764 37322 | 314 87599+ | 980 28782 51809 | 4186 46950+ | 30 | |
| | 40 | 85 40079 24921+ | 375 71223+ | 967 74596 04858 | 4033 29030 | 20 | |
| | 50 | 0,79393 30454 96145 | 436 55922 | 955 20562 75828 | 3880 14505+ | 10 | |
| **27** | 0 | 0,79401 20891 52067 | 497 41694+ | 942 66682 61322+ | 3727 03375 | 0 | **33** |
| | 10 | 09 11388 93761+ | 558 28541+ | 930 12955 57948 | 3573 95638 | 50 | |
| | 20 | 17 01947 22302+ | 619 16463 | 917 59381 62310 | 3420 91293+ | 40 | |
| | 30 | 24 92566 38766 | 680 05460 | 905 05960 71016+ | 3267 90341 | 30 | |
| | 40 | 32 83246 44226 | 740 95532 | 892 52692 80675+ | 3114 92778+ | 20 | |
| | 50 | 40 73987 39757+ | 801 86679 | 879 99577 87897 | 2961 98606+ | 10 | |
| **28** | 0 | 48 64789 26437 | 862 78902 | 867 46615 89290+ | 2809 07822+ | 0 | **32** |
| | 10 | 56 55652 05339 | 923 72201 | 854 93806 81468 | 2656 20426+ | 50 | |
| | 20 | 64 46575 77540 | 7 90984 66575+ | 842 41150 61041+ | 2503 36417 | 40 | |
| | 30 | 72 37560 44115+ | 7 91045 62027 | 829 88647 24624+ | 2350 55793+ | 30 | |
| | 40 | 80 28606 06142+ | 106 58554+ | 817 36296 68831 | 2197 78555 | 20 | |
| | 50 | 88 19712 64697 | 167 56159 | 804 84098 90276 | 2045 04700 | 10 | |
| **29** | 0 | 0,79496 10880 20856 | 228 54840+ | 792 32053 85575+ | 1892 34228 | 0 | **31** |
| | 10 | 0,79504 02108 75696+ | 289 54599 | 779 80161 51347+ | 1739 67138 | 50 | |
| | 20 | 11 93398 30295+ | 350 55435 | 767 28421 84209+ | 1587 03429 | 40 | |
| | 30 | 19 84748 85730+ | 411 57348+ | 754 76834 80781 | 1434 43099+ | 30 | |
| | 40 | 27 76160 43079 | 472 60340 | 742 25400 37681+ | 1281 86149+ | 20 | |
| | 50 | 35 67633 03419 | 7 91533 64409+ | 729 74118 51532 | 12 51129 32577 | 10 | |
| **30** | 0 | 0,79543 59166 67828+ | | 1,25717 22989 18954+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,79543 59166 67828+ | 7 91594 69557+ | 1,25717 22989 18954+ | 12 50976 82382 | 0 | **30** |
| | 10 | 51 50761 37386 | 655 75784 | 704 72012 36572+ | 0824 35563 | 50 | |
| | 20 | 59 42417 13170 | 716 83089 | 692 21188 01009+ | 0671 92119 | 40 | |
| | 30 | 67 34133 96259 | 777 91473 | 679 70516 08890+ | 0519 52049+ | 30 | |
| | 40 | 75 25911 87732 | 839 00936+ | 667 19996 56841 | 0367 15353 | 20 | |
| | 50 | 83 17750 88668+ | 900 11479+ | 654 69629 41488 | 0214 82028+ | 10 | |
| **31** | 0 | 91 09651 00148 | 7 91961 23101+ | 642 19414 59459+ | 12 50062 52075+ | 0 | **29** |
| | 10 | 0,79599 01612 23249+ | 7 92022 35804 | 629 69352 07384 | 12 49910 25493 | 50 | |
| | 20 | 0,79606 93634 59053+ | 083 49586+ | 617 19441 81891+ | 9758 02279+ | 40 | |
| | 30 | 14 85718 08640 | 144 64449 | 604 69683 79612 | 9605 82434+ | 30 | |
| | 40 | 22 77862 73089 | 205 80392+ | 592 20077 97177+ | 9453 65956+ | 20 | |
| | 50 | 30 70068 53481+ | 266 97416+ | 579 70624 31221 | 9301 52845+ | 10 | |
| **32** | 0 | 38 62335 50897+ | 328 15521+ | 567 21322 78375+ | 9149 43100 | 0 | **28** |
| | 10 | 46 54663 66419 | 389 34707+ | 554 72173 35275+ | 8997 36718+ | 50 | |
| | 20 | 54 47053 01127 | 450 54975+ | 542 23175 98557 | 8845 33701 | 40 | |
| | 30 | 62 39503 56102 | 511 76324+ | 529 74330 64855+ | 8693 34046 | 30 | |
| | 40 | 70 32015 32427 | 572 98756 | 517 25637 30809+ | 8541 37753 | 20 | |
| | 50 | 78 24588 31183 | 634 22269+ | 504 77095 93057 | 8389 44820 | 10 | |
| **33** | 0 | 86 17222 53452 | 695 46865 | 492 28706 48236+ | 8237 55247 | 0 | **27** |
| | 10 | 0,79694 09918 00317 | 756 72543+ | 479 80468 92989+ | 8085 69033 | 50 | |
| | 20 | 0,79702 02674 72860+ | 817 99304+ | 467 32383 23956+ | 7933 86176+ | 40 | |
| | 30 | 09 95492 72165 | 879 27148+ | 454 84449 37780 | 7782 06677 | 30 | |
| | 40 | 17 88371 99313+ | 7 92940 56076 | 442 36667 31103+ | 7630 30533 | 20 | |
| | 50 | 25 81312 55389+ | 7 93001 86086+ | 429 89037 00570 | 7478 57744+ | 10 | |
| **34** | 0 | 33 74314 41476 | 063 17181 | 417 41558 42825+ | 7326 88309+ | 0 | **26** |
| | 10 | 41 67377 58657 | 124 49359+ | 404 94231 54516 | 7175 22228 | 50 | |
| | 20 | 49 60502 08016+ | 185 82622 | 392 47056 32288+ | 7023 59498 | 40 | |
| | 30 | 57 53687 90639 | 247 16969 | 380 00032 72790+ | 6872 00119+ | 30 | |
| | 40 | 65 46935 07608 | 308 52400+ | 367 53160 72671 | 6720 44090+ | 20 | |
| | 50 | 73 40243 60008+ | 369 88917 | 355 06440 28580+ | 6568 91411+ | 10 | |
| **35** | 0 | 81 33613 48925+ | 431 26518+ | 342 59871 37169 | 6417 42080 | 0 | **25** |
| | 10 | 89 27044 75444 | 492 65205 | 330 13453 95089 | 6265 96096 | 50 | |
| | 20 | 0,79797 20537 40649 | 554 04977 | 317 67187 98992+ | 6114 53458+ | 40 | |
| | 30 | 0,79805 14091 45626+ | 615 45835 | 305 21073 45534 | 5963 14166+ | 30 | |
| | 40 | 13 07706 91461+ | 676 87779 | 292 75110 31367+ | 5811 78218+ | 20 | |
| | 50 | 21 01383 79240+ | 738 30809 | 280 29298 53149 | 5660 45614 | 10 | |
| **36** | 0 | 28 95122 10049+ | 799 74925+ | 267 83638 07535 | 5509 16352 | 0 | **24** |
| | 10 | 36 88921 84975 | 861 20128+ | 255 38128 91183 | 5357 90431+ | 50 | |
| | 20 | 44 82783 05103 | 922 66418+ | 242 92771 00751+ | 5206 67852 | 40 | |
| | 30 | 52 76705 71521+ | 7 93984 13795+ | 230 47564 32899+ | 5055 48611+ | 30 | |
| | 40 | 60 70689 85317 | 7 94045 62259+ | 218 02508 84288 | 4904 32710 | 20 | |
| | 50 | 68 64735 47576+ | 107 11811+ | 205 57604 51578 | 4753 20146 | 10 | |
| **37** | 0 | 76 58842 59388 | 168 62451 | 193 12851 31431+ | 4602 10919 | 0 | **23** |
| | 10 | 84 53011 21839 | 230 14178+ | 180 68249 20512+ | 4451 05028 | 50 | |
| | 20 | 0,79892 47241 36017+ | 291 66994+ | 168 23798 15485 | 4300 02471+ | 40 | |
| | 30 | 0,79900 41533 03012 | 353 20898+ | 155 79498 13013+ | 4149 03249 | 30 | |
| | 40 | 08 35886 23910+ | 414 75891+ | 143 35349 09764+ | 3998 07359+ | 20 | |
| | 50 | 16 30300 99801+ | 476 31973 | 130 91351 02405 | 3847 14802 | 10 | |
| **38** | 0 | 24 24777 31774+ | 537 89144 | 118 47503 87603 | 3696 25575+ | 0 | **22** |
| | 10 | 32 19315 20918+ | 599 47404 | 106 03807 62027+ | 3545 39679 | 50 | |
| | 20 | 40 13914 68323 | 661 06754 | 093 60262 22348+ | 3394 57112 | 40 | |
| | 30 | 48 08575 75077 | 722 67193+ | 081 16867 65237 | 3243 77873 | 30 | |
| | 40 | 56 03298 42270+ | 784 28723 | 068 73623 87364 | 3093 01961 | 20 | |
| | 50 | 63 98082 70993+ | 845 91343 | 056 30530 85403 | 2942 29375+ | 10 | |
| **39** | 0 | 71 92928 62336+ | 907 55053+ | 043 87588 56027+ | 2791 60115+ | 0 | **21** |
| | 10 | 79 87836 17390 | 7 94969 19854+ | 031 44796 95911+ | 2640 94180 | 50 | |
| | 20 | 87 82805 37244+ | 7 95030 85746+ | 019 02156 01732 | 2490 31567+ | 40 | |
| | 30 | 0,79995 77836 22990+ | 092 52729+ | 1,25006 59665 70164 | 2339 72278 | 30 | |
| | 40 | 0,80003 72928 75720 | 154 20804 | 1,24994 17325 97886 | 2189 16310 | 20 | |
| | 50 | 11 68082 96524 | 7 95215 89970 | 981 75136 81576 | 12 42038 63662+ | 10 | |
| **40** | 0 | 0,80019 63298 86494 | | 1,24969 33098 17913+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,80019 63298 86494 | 7 95277 60228 | 1,24969 33098 17913+ | 12 41888 14334+ | 0 | **20** |
| | 10 | 27 58576 46722+ | 339 31578 | 956 91210 03579 | 1737 68325+ | 50 | |
| | 20 | 35 53915 78300+ | 401 04020+ | 944 49472 35253 | 1587 25634+ | 40 | |
| | 30 | 43 49316 82321 | 462 77555+ | 932 07885 09619 | 1436 86260 | 30 | |
| | 40 | 51 44779 59876 | 524 52183 | 919 66448 23359 | 1286 50201+ | 20 | |
| | 50 | 59 40304 12059 | 586 27903+ | 907 25161 73157+ | 1136 17458 | 10 | |
| **41** | 0 | 67 35890 39962+ | 648 04717+ | 894 84025 55699+ | 0985 88028+ | 0 | **19** |
| | 10 | 75 31538 44680 | 709 82624+ | 882 43039 67671+ | 0835 61912 | 50 | |
| | 20 | 83 27248 27304+ | 771 61625+ | 870 02204 05759+ | 0685 39107+ | 40 | |
| | 30 | 91 23019 88929+ | 833 41720 | 857 61518 66652+ | 0535 19614 | 30 | |
| | 40 | 0,80099 18853 30650 | 895 22909 | 845 20983 47038 | 0385 03431 | 20 | |
| | 50 | 0,80107 14748 53559 | 7 95957 05192+ | 832 80598 43607 | 0234 90557+ | 10 | |
| **42** | 0 | 15 10705 58751 | 7 96018 88570 | 820 40363 53049+ | 12 40084 80992 | 0 | **18** |
| | 10 | 23 06724 47321+ | 080 73043 | 808 00278 72057 | 12 39934 74734+ | 50 | |
| | 20 | 31 02805 20364 | 142 58610+ | 795 60343 97323 | 9784 71783 | 40 | |
| | 30 | 38 98947 78974+ | 204 45273+ | 783 20559 25540 | 9634 72137 | 30 | |
| | 40 | 46 95152 24248 | 266 33031+ | 770 80924 53403 | 9484 75795+ | 20 | |
| | 50 | 54 91418 57279+ | 328 21886 | 758 41439 77607+ | 9334 82758 | 10 | |
| **43** | 0 | 62 87746 79165+ | 390 11836 | 746 02104 94849+ | 9184 93023 | 0 | **17** |
| | 10 | 70 84136 91001+ | 452 02882 | 733 62920 01826+ | 9035 06589+ | 50 | |
| | 20 | 78 80588 93883+ | 513 95025 | 721 23884 95237 | 8885 23457+ | 40 | |
| | 30 | 86 77102 88908 | 575 88264 | 708 84999 71779+ | 8735 43625 | 30 | |
| | 40 | 0,80194 73678 77172 | 637 82600 | 696 46264 28154+ | 8585 67091+ | 20 | |
| | 50 | 0,80202 70316 59772+ | 699 78033+ | 684 07678 61063+ | 8435 93856 | 10 | |
| **44** | 0 | 10 67016 37805+ | 761 74564 | 671 69242 67207+ | 8286 23917+ | 0 | **16** |
| | 10 | 18 63778 12369+ | 823 72192 | 659 30956 43290+ | 8136 57275 | 50 | |
| | 20 | 26 60601 84561+ | 885 70918 | 646 92819 86015+ | 7986 93928 | 40 | |
| | 30 | 34 57487 55479+ | 7 96947 70741+ | 634 54832 92087+ | 7837 33875 | 30 | |
| | 40 | 42 54435 26221 | 7 97009 71664 | 622 16995 58212+ | 7687 77115+ | 20 | |
| | 50 | 50 51444 97885 | 071 73684+ | 609 79307 81097+ | 7538 23648 | 10 | |
| **45** | 0 | 58 48516 71569+ | 133 76803+ | 597 41769 57449 | 7388 73472+ | 0 | **15** |
| | 10 | 66 45650 48373 | 195 81022 | 585 04380 83976+ | 7239 26587+ | 50 | |
| | 20 | 74 42846 29394+ | 257 86339 | 572 67141 57389+ | 7089 82991+ | 40 | |
| | 30 | 82 40104 15734 | 319 92756 | 560 30051 74397+ | 6940 42684+ | 30 | |
| | 40 | 90 37424 08489+ | 382 00272 | 547 93111 31713 | 6791 05665+ | 20 | |
| | 50 | 0,80298 34806 08761+ | 444 08888 | 535 56320 26047+ | 6641 71933 | 10 | |
| **46** | 0 | 0,80306 32250 17650 | 506 18604+ | 523 19678 54115 | 6492 41486 | 0 | **14** |
| | 10 | 14 29756 36254+ | 568 29421 | 510 83186 12628+ | 6343 14324+ | 50 | |
| | 20 | 22 27324 65675+ | 630 41338 | 498 46842 98304 | 6193 90446+ | 40 | |
| | 30 | 30 24955 07013+ | 692 54356 | 486 10649 07857+ | 6044 69852 | 30 | |
| | 40 | 38 22647 61369 | 754 68474+ | 473 74604 38005+ | 5895 52539+ | 20 | |
| | 50 | 46 20402 29844 | 816 83694+ | 461 38708 85466 | 5746 38508 | 10 | |
| **47** | 0 | 54 18219 13538+ | 879 00016 | 449 02962 46958 | 5597 27756+ | 0 | **13** |
| | 10 | 62 16098 13554+ | 7 97941 17439 | 436 67365 19201+ | 5448 20285 | 50 | |
| | 20 | 70 14039 30994 | 7 98003 35964+ | 424 31916 98917 | 5299 16091+ | 40 | |
| | 30 | 78 12042 66958 | 065 55591+ | 411 96617 82825+ | 5150 15175 | 30 | |
| | 40 | 86 10108 22549+ | 127 76321 | 399 61467 67650+ | 5001 17535+ | 20 | |
| | 50 | 0,80394 08235 98870+ | 189 98153 | 387 26466 50114+ | 4852 23171+ | 10 | |
| **48** | 0 | 0,80402 06425 97023+ | 252 21088 | 374 91614 26943 | 4703 32082+ | 0 | **12** |
| | 10 | 10 04678 18112 | 314 45126 | 362 56910 94860+ | 4554 44267 | 50 | |
| | 20 | 18 02992 63238 | 376 70267+ | 350 22356 50594 | 4405 59724 | 40 | |
| | 30 | 26 01369 33505+ | 438 96512+ | 337 87950 90870 | 4256 78453 | 30 | |
| | 40 | 33 99808 30018 | 501 23861 | 325 53694 12416+ | 4108 00453 | 20 | |
| | 50 | 41 98309 53879 | 563 52313+ | 313 19586 11963+ | 3959 25723 | 10 | |
| **49** | 0 | 49 96873 06192+ | 625 81870+ | 300 85626 86240+ | 3810 54262+ | 0 | **11** |
| | 10 | 57 95498 88063 | 688 12531+ | 288 51816 31978 | 3661 86069+ | 50 | |
| | 20 | 65 94187 00594+ | 750 44297+ | 276 18154 45908+ | 3513 21144 | 40 | |
| | 30 | 73 92937 44892 | 812 77168+ | 263 84641 24764 | 3364 59485 | 30 | |
| | 40 | 81 91750 22060+ | 875 11144+ | 251 51276 65279+ | 3216 01091 | 20 | |
| | 50 | 89 90625 33204+ | 7 98937 46225+ | 239 18060 64188 | 12 33067 45962 | 10 | |
| **50** | 0 | 0,80497 89562 79430+ | | 1,24226 84993 18226+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 38°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,80497 89562 79430+ | 7 98999 82412+ | 1,24226 84993 18226+ | 12 32918 94096 | 0 | **10** |
| | 10 | 0,80505 88562 61843 | 7 99062 19705+ | 214 52074 24130+ | 2770 45493 | 50 | |
| | 20 | 13 87624 81548+ | 124 58104 | 202 19303 78637+ | 2622 00151 | 40 | |
| | 30 | 21 86749 39652+ | 186 97609+ | 189 86681 78486+ | 2473 58070+ | 30 | |
| | 40 | 29 85936 37262 | 249 38221 | 177 54208 20416 | 2325 19249+ | 20 | |
| | 50 | 37 85185 75483 | 311 79939+ | 165 21883 01166+ | 2176 83687+ | 10 | |
| **51** | 0 | 45 84497 55422 | 374 22765 | 152 89706 17479+ | 2028 51383 | 0 | **9** |
| | 10 | 53 83871 78187 | 436 66697+ | 140 57677 66096 | 1880 22336 | 50 | |
| | 20 | 61 83308 44884+ | 499 11737+ | 128 25797 43760 | 1731 96545 | 40 | |
| | 30 | 69 82807 56622 | 561 57885 | 115 94065 47215 | 1583 74009+ | 30 | |
| | 40 | 77 82369 14507 | 624 05141 | 103 62481 73205+ | 1435 54728 | 20 | |
| | 50 | 85 81993 19648 | 686 53504+ | 091 31046 18477+ | 1287 38700 | 10 | |
| **52** | 0 | 0,80593 81679 73152+ | 749 02977 | 078 99758 79777+ | 1139 25924 | 0 | **8** |
| | 10 | 0,80601 81428 76129+ | 811 53557+ | 066 68619 53853 | 0991 16400 | 50 | |
| | 20 | 09 81240 29687 | 874 05247+ | 054 37628 37453 | 0843 10126+ | 40 | |
| | 30 | 17 81114 34934+ | 936 58046 | 042 06785 27326+ | 0695 07102+ | 30 | |
| | 40 | 25 81050 92980+ | 7 99999 11954 | 029 76090 20224 | 0547 07327+ | 20 | |
| | 50 | 33 81050 04934+ | 8 00061 66971+ | 017 45543 12896+ | 0399 10800 | 10 | |
| **53** | 0 | 41 81111 71906 | 124 23099 | 1,24005 15144 02096 | 0251 17520 | 0 | **7** |
| | 10 | 49 81235 95005 | 186 80336+ | 1,23992 84892 84576+ | 12 30103 27485+ | 50 | |
| | 20 | 57 81422 75341 | 249 38684 | 980 54789 57091 | 12 29955 40696 | 40 | |
| | 30 | 65 81672 14025 | 311 98142 | 968 24834 16395 | 9807 57151 | 30 | |
| | 40 | 73 81984 12167 | 374 58710+ | 955 95026 59244 | 9659 76849 | 20 | |
| | 50 | 81 82358 70877+ | 437 20390+ | 943 65366 82395 | 9511 99789+ | 10 | |
| **54** | 0 | 89 82795 91268 | 499 83181 | 931 35854 82605+ | 9364 25971 | 0 | **6** |
| | 10 | 0,80697 83295 74449 | 562 47083+ | 919 06490 56634 | 9216 55393+ | 50 | |
| | 20 | 0,80705 83858 21532+ | 625 12097+ | 906 77274 01240+ | 9068 88055+ | 40 | |
| | 30 | 13 84483 33630 | 687 78223 | 894 48205 13185+ | 8921 23955+ | 30 | |
| | 40 | 21 85171 11853 | 750 45461 | 882 19283 89230 | 8773 63094 | 20 | |
| | 50 | 29 85921 57313+ | 813 13811 | 869 90510 26136 | 8626 05469 | 10 | |
| **55** | 0 | 37 86734 71125 | 875 83274 | 857 61884 20667 | 8478 51080 | 0 | **5** |
| | 10 | 45 87610 54398+ | 8 00938 53849+ | 845 33405 69587 | 8330 99925+ | 50 | |
| | 20 | 53 88549 08248 | 8 01001 25538 | 833 05074 69661+ | 8183 52005+ | 40 | |
| | 30 | 61 89550 33786 | 063 98340 | 820 76891 17656 | 8036 07318+ | 30 | |
| | 40 | 69 90614 32125+ | 126 72255 | 808 48855 10337 | 7888 65864 | 20 | |
| | 50 | 77 91741 04380+ | 189 47284 | 796 20966 44473 | 7741 27640+ | 10 | |
| **56** | 0 | 85 92930 51665 | 252 23427 | 783 93225 16832+ | 7593 92647+ | 0 | **4** |
| | 10 | 0,80793 94182 75092 | 315 00684+ | 771 65631 24184+ | 7446 60884+ | 50 | |
| | 20 | 0,80801 95497 75776+ | 377 79056 | 759 38184 63300+ | 7299 32349+ | 40 | |
| | 30 | 09 96875 54832+ | 440 58542+ | 747 10885 30951 | 7152 07042 | 30 | |
| | 40 | 17 98316 13375 | 503 39143+ | 734 83733 23909 | 7004 84961+ | 20 | |
| | 50 | 25 99819 52518+ | 566 20860 | 722 56728 38947 | 6857 66107 | 10 | |
| **57** | 0 | 34 01385 73378+ | 629 03691+ | 710 29870 72840 | 6710 50477+ | 0 | **3** |
| | 10 | 42 03014 77070 | 691 87639 | 698 03160 22363 | 6563 38071+ | 50 | |
| | 20 | 50 04706 64709 | 754 72702 | 685 76596 84291 | 6416 28889 | 40 | |
| | 30 | 58 06461 37411+ | 817 58881+ | 673 50180 55402 | 6269 22928+ | 30 | |
| | 40 | 66 08278 96292+ | 880 46177 | 661 23911 32473+ | 6122 20189+ | 20 | |
| | 50 | 74 10159 42469+ | 8 01943 34589 | 648 97789 12284 | 5975 20671 | 10 | |
| **58** | 0 | 82 12102 77058+ | 8 02006 24118 | 636 71813 91613 | 5828 24371+ | 0 | **2** |
| | 10 | 90 14109 01176+ | 069 14763+ | 624 45985 67241+ | 5681 31291 | 50 | |
| | 20 | 0,80898 16178 15940 | 132 06527 | 612 20304 35950+ | 5534 41427+ | 40 | |
| | 30 | 0,80906 18310 22467 | 194 99407+ | 599 94769 94523 | 5387 54781+ | 30 | |
| | 40 | 14 20505 21874 | 257 93405+ | 587 69382 39741+ | 5240 71351 | 20 | |
| | 50 | 22 22763 15279+ | 320 88522 | 575 44141 68390+ | 5093 91135 | 10 | |
| **59** | 0 | 30 25084 03801+ | 383 84756 | 563 19047 77255+ | 4947 14133+ | 0 | **1** |
| | 10 | 38 27467 88557+ | 446 82109 | 550 94100 63122 | 4800 40345 | 50 | |
| | 20 | 46 29914 70666+ | 509 80580+ | 538 69300 22776+ | 4653 69768+ | 40 | |
| | 30 | 54 32424 51247 | 572 80171 | 526 44646 53008 | 4507 02403+ | 30 | |
| | 40 | 62 34997 31418 | 635 80880 | 514 20139 50604 | 4360 38249 | 20 | |
| | 50 | 70 37633 12298 | 8 02698 82709 | 501 95779 12355 | 12 24213 77304 | 10 | |
| **60** | 0 | 0,80978 40331 95007 | | 1,23489 71565 35051+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 51°

# 39°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,80978 40331 95007 | 8 02761 85657+ | 1,23489 71565 35051+ | 12 24067 19567 | 0 | **60** |
| | 10 | 86 43093 80664+ | 824 89725+ | 477 47498 15484 | 3920 65038 | 50 | |
| | 20 | 0,80994 45918 70390 | 887 94914 | 465 23577 50446 | 3774 13716 | 40 | |
| | 30 | 0,81002 48806 65304 | 8 02951 01222+ | 452 99803 36730 | 3627 65599+ | 30 | |
| | 40 | 10 51757 66526+ | 8 03014 08651+ | 440 76175 71130+ | 3481 20688 | 20 | |
| | 50 | 18 54771 75178 | 077 17201+ | 428 52694 50442+ | 3334 78980+ | 10 | |
| **1** | 0 | 26 57848 92379+ | 140 26872+ | 416 29359 71462 | 3188 40476+ | 0 | **59** |
| | 10 | 34 60989 19252 | 203 37664+ | 404 06171 30985+ | 3042 05174+ | 50 | |
| | 20 | 42 64192 56916 | 266 49578 | 391 83129 25811 | 2895 73073+ | 40 | |
| | 30 | 50 67459 06494 | 329 62613 | 379 60233 52737+ | 2749 44173+ | 30 | |
| | 40 | 58 70788 69107 | 392 76770+ | 367 37484 08564 | 2603 18472+ | 20 | |
| | 50 | 66 74181 45877+ | 455 92050 | 355 14880 90092 | 2456 95970+ | 10 | |
| **2** | 0 | 74 77637 37927+ | 519 08451+ | 342 92423 94121+ | 2310 76666 | 0 | **58** |
| | 10 | 82 81156 46379 | 582 25976 | 330 70113 17455+ | 2164 60558 | 50 | |
| | 20 | 90 84738 72355 | 645 44623+ | 318 47948 56897+ | 2018 47646+ | 40 | |
| | 30 | 0,81098 88384 16978+ | 708 64394 | 306 25930 09251+ | 1872 37929+ | 30 | |
| | 40 | 0,81106 92092 81372 | 771 85287+ | 294 04057 71322 | 1726 31407 | 20 | |
| | 50 | 14 95864 66659+ | 835 07305 | 281 82331 39915 | 1580 28077+ | 10 | |
| **3** | 0 | 22 99699 73964+ | 898 30446 | 269 60751 11837+ | 1434 27940+ | 0 | **57** |
| | 10 | 31 03598 04411 | 8 03961 54711+ | 257 39316 83897 | 1288 30994+ | 50 | |
| | 20 | 39 07559 59122+ | 8 04024 80101 | 245 18028 52902+ | 1142 37239+ | 40 | |
| | 30 | 47 11584 39223+ | 088 06615+ | 232 96886 15663+ | 0996 46673+ | 30 | |
| | 40 | 55 15672 45839 | 151 34254 | 220 75889 68989+ | 0850 59296+ | 20 | |
| | 50 | 63 19823 80093 | 214 63018 | 208 55039 09693 | 0704 75107+ | 10 | |
| **4** | 0 | 71 24038 43111 | 277 92907+ | 196 34334 34585+ | 0558 94105+ | 0 | **56** |
| | 10 | 79 28316 36018+ | 341 23922 | 184 13775 40480+ | 0413 16289 | 50 | |
| | 20 | 87 32657 59940 | 404 56062+ | 171 93362 24191 | 0267 41658 | 40 | |
| | 30 | 0,81195 37062 16002+ | 467 89328+ | 159 73094 82533+ | 12 20121 70211 | 30 | |
| | 40 | 0,81203 41530 05331 | 531 23721 | 147 52973 12322+ | 12 19976 01947+ | 20 | |
| | 50 | 11 46061 29052+ | 594 59240 | 135 32997 10375 | 9830 36866 | 10 | |
| **5** | 0 | 19 50655 88292+ | 657 95885+ | 123 13166 73508+ | 9684 74966+ | 0 | **55** |
| | 10 | 27 55313 84178 | 721 33658+ | 110 93481 98542 | 9539 16247+ | 50 | |
| | 20 | 35 60035 17836+ | 784 72558 | 098 73942 82294+ | 9393 60708 | 40 | |
| | 30 | 43 64819 90394+ | 848 12585 | 086 54549 21586+ | 9248 08347+ | 30 | |
| | 40 | 51 69668 02979+ | 911 53739+ | 074 35301 13239 | 9102 59165 | 20 | |
| | 50 | 59 74579 56719 | 8 04974 96022 | 062 16198 54073+ | 8957 13159+ | 10 | |
| **6** | 0 | 67 79554 52741 | 8 05038 39433 | 049 97241 40914 | 8811 70330+ | 0 | **54** |
| | 10 | 75 84592 92174 | 101 83972 | 037 78429 70584 | 8666 30676 | 50 | |
| | 20 | 83 89694 76145+ | 165 29639+ | 025 59763 39907+ | 8520 94196+ | 40 | |
| | 30 | 0,81291 94860 05785 | 228 76435+ | 013 41242 45711+ | 8375 60890 | 30 | |
| | 40 | 0,81300 00088 82220+ | 292 24361 | 1,23001 22866 84821 | 8230 30756+ | 20 | |
| | 50 | 08 05381 06581+ | 355 73415+ | 1,22989 04636 54065 | 8085 03794+ | 10 | |
| **7** | 0 | 16 10736 79997 | 419 23599+ | 976 86551 50270+ | 7939 80003 | 0 | **53** |
| | 10 | 24 16156 03597 | 482 74913+ | 964 68611 70267+ | 7794 59381+ | 50 | |
| | 20 | 32 21638 78510+ | 546 27357+ | 952 50817 10886 | 7649 41929+ | 40 | |
| | 30 | 40 27185 05868 | 609 80931+ | 940 33167 68956+ | 7504 27645 | 30 | |
| | 40 | 48 32794 86799+ | 673 35636+ | 928 15663 41311+ | 7359 16528 | 20 | |
| | 50 | 56 38468 22436 | 736 91471+ | 915 98304 24783+ | 7214 08577+ | 10 | |
| **8** | 0 | 64 44205 13907+ | 800 48438 | 903 81090 16206 | 7069 03792 | 0 | **52** |
| | 10 | 72 50005 62345+ | 864 06535+ | 891 64021 12414 | 6924 02171 | 50 | |
| | 20 | 80 55869 68881 | 927 65764 | 879 47097 10243 | 6779 03714 | 40 | |
| | 30 | 88 61797 34645 | 8 05991 26124+ | 867 30318 06529 | 6634 08419+ | 30 | |
| | 40 | 0,81396 67788 60770 | 8 06054 87617 | 855 13683 98109 | 6489 16287+ | 20 | |
| | 50 | 0,81404 73843 48387 | 118 50241+ | 842 97194 81822 | 6344 27316 | 10 | |
| **9** | 0 | 12 79961 98629 | 182 13998+ | 830 80850 54506 | 6199 41504+ | 0 | **51** |
| | 10 | 20 86144 12627+ | 245 78888 | 818 64651 13002 | 6054 58852 | 50 | |
| | 20 | 28 92389 91515+ | 309 44910+ | 806 48596 54149+ | 5909 79358+ | 40 | |
| | 30 | 36 98699 36426+ | 373 12066 | 794 32686 74791+ | 5765 03022 | 30 | |
| | 40 | 45 05072 48492+ | 436 80355 | 782 16921 71769+ | 5620 29842 | 20 | |
| | 50 | 53 11509 28847+ | 8 06500 49777+ | 770 01301 41927+ | 12 15475 59817+ | 10 | |
| **10** | 0 | 0,81461 18009 78625 | | 1,22757 85825 82110 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 50°

# 39°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,81461 18009 78625 | 8 06564 20333+ | 1,22757 85825 82110 | 12 15330 92948 | 0 | **50** |
| | 10 | 69 24573 98958+ | 627 92024 | 745 70494 89161+ | 5186 29232+ | 50 | |
| | 20 | 77 31201 90982 | 691 64848+ | 733 55308 59929 | 5041 68670 | 40 | |
| | 30 | 85 37893 55830+ | 755 38807+ | 721 40266 91259+ | 4897 11259+ | 30 | |
| | 40 | 0,81493 44648 94638 | 819 13901+ | 709 25369 80000 | 4752 57000 | 20 | |
| | 50 | 0,81501 51468 08539+ | 882 90130 | 697 10617 23000 | 4608 05891 | 10 | |
| **11** | 0 | 09 58350 98669+ | 8 06946 67494 | 684 96009 17108+ | 4463 57931+ | 0 | **49** |
| | 10 | 17 65297 66163+ | 8 07010 45994 | 672 81545 59177 | 4319 13120+ | 50 | |
| | 20 | 25 72308 12157+ | 074 25629 | 660 67226 46056+ | 4174 71457+ | 40 | |
| | 30 | 33 79382 37786+ | 138 06400+ | 648 53051 74599 | 4030 32941 | 30 | |
| | 40 | 41 86520 44187 | 201 88308 | 636 39021 41658+ | 3885 97570+ | 20 | |
| | 50 | 49 93722 32494+ | 265 71351+ | 624 25135 44088 | 3741 65344+ | 10 | |
| **12** | 0 | 58 00988 03846 | 329 55532 | 612 11393 78743+ | 3597 36263+ | 0 | **48** |
| | 10 | 66 08317 59378+ | 393 40849+ | 599 97796 42480 | 3453 10325 | 50 | |
| | 20 | 74 15711 00228 | 457 27304+ | 587 84343 32155 | 3308 87529+ | 40 | |
| | 30 | 82 23168 27532+ | 521 14896+ | 575 71034 44625+ | 3164 67875 | 30 | |
| | 40 | 90 30689 42429 | 585 03626 | 563 57869 76750+ | 3020 51361+ | 20 | |
| | 50 | 0,81598 38274 46055 | 648 93494 | 551 44849 25389 | 2876 37987+ | 10 | |
| **13** | 0 | 0,81606 45923 39549 | 712 84499+ | 539 31972 87401+ | 2732 27752+ | 0 | **47** |
| | 10 | 14 53636 24048+ | 776 76643+ | 527 19240 59649+ | 2588 20655 | 50 | |
| | 20 | 22 61413 00692 | 840 69926 | 515 06652 38994 | 2444 16695 | 40 | |
| | 30 | 30 69253 70618 | 904 64347+ | 502 94208 22299 | 2300 15871+ | 30 | |
| | 40 | 38 77158 34966 | 8 07968 59908+ | 490 81908 06427+ | 2156 18183 | 20 | |
| | 50 | 46 85126 94874 | 8 08032 56608 | 478 69751 88245 | 2012 23628+ | 10 | |
| **14** | 0 | 54 93159 51482+ | 096 54447+ | 466 57739 64616 | 1868 32208 | 0 | **46** |
| | 10 | 63 01256 05930 | 160 53427 | 454 45871 32408 | 1724 43920+ | 50 | |
| | 20 | 71 09416 59357 | 224 53546+ | 442 34146 88487+ | 1580 58764+ | 40 | |
| | 30 | 79 17641 12903+ | 288 54806 | 430 22566 29723 | 1436 76739+ | 30 | |
| | 40 | 87 25929 67709+ | 352 57206 | 418 11129 52983+ | 1292 97844+ | 20 | |
| | 50 | 0,81695 34282 24915+ | 416 60747 | 405 99836 55139+ | 1149 22078+ | 10 | |
| **15** | 0 | 0,81703 42698 85662+ | 480 65429 | 393 88687 33061 | 1005 49441 | 0 | **45** |
| | 10 | 11 51179 51091 | 544 71252 | 381 77681 83620 | 0861 79930+ | 50 | |
| | 20 | 19 59724 22343+ | 608 78216+ | 369 66820 03689+ | 0718 13547 | 40 | |
| | 30 | 27 68333 00560 | 672 86323 | 357 56101 90142+ | 0574 50289 | 30 | |
| | 40 | 35 77005 86883 | 736 95571+ | 345 45527 39853+ | 0430 90156 | 20 | |
| | 50 | 43 85742 82454+ | 801 05962 | 333 35096 49697+ | 0287 33146+ | 10 | |
| **16** | 0 | 51 94543 88416+ | 865 17495 | 321 24809 16551 | 0143 79260+ | 0 | **44** |
| | 10 | 60 03409 05911+ | 929 30171 | 309 14665 37290+ | 12 10000 28496+ | 50 | |
| | 20 | 68 12338 36082+ | 8 08993 43989+ | 297 04665 08794 | 12 09856 80853+ | 40 | |
| | 30 | 76 21331 80072 | 8 09057 58951+ | 284 94808 27940+ | 9713 36331 | 30 | |
| | 40 | 84 30389 39023 | 121 75056+ | 272 85094 91609 | 9569 94928+ | 20 | |
| | 50 | 0,81792 39511 14080 | 185 92305+ | 260 75524 96681 | 9426 56644 | 10 | |
| **17** | 0 | 0,81800 48697 06385+ | 250 10698+ | 248 66098 40037 | 9283 21477+ | 0 | **43** |
| | 10 | 08 57947 17083+ | 314 30235+ | 236 56815 18559 | 9139 89428 | 50 | |
| | 20 | 16 67261 47319 | 378 50916+ | 224 47675 29131 | 8996 60494+ | 40 | |
| | 30 | 24 76639 98235+ | 442 72742+ | 212 38678 68636 | 8853 34676+ | 30 | |
| | 40 | 32 86082 70978+ | 506 95713+ | 200 29825 33959+ | 8710 11972+ | 20 | |
| | 50 | 40 95589 66692 | 571 19829+ | 188 21115 21987+ | 8566 92382 | 10 | |
| **18** | 0 | 49 05160 86521+ | 635 45091 | 176 12548 29605+ | 8423 75904 | 0 | **42** |
| | 10 | 57 14796 31612+ | 699 71498 | 164 04124 53701+ | 8280 62537+ | 50 | |
| | 20 | 65 24496 03110+ | 763 99050+ | 151 95843 91164+ | 8137 52282 | 40 | |
| | 30 | 73 34260 02161 | 828 27749+ | 139 87706 38882+ | 7994 45136 | 30 | |
| | 40 | 81 44088 29910+ | 892 57594+ | 127 79711 93746+ | 7851 41099+ | 20 | |
| | 50 | 89 53980 87505+ | 8 09956 88586+ | 115 71860 52647 | 7708 40171 | 10 | |
| **19** | 0 | 0,81897 63937 76092 | 8 10021 20725 | 103 64152 12475+ | 7565 42350 | 0 | **41** |
| | 10 | 0,81905 73958 96817 | 085 54010+ | 091 56586 70125+ | 7422 47635+ | 50 | |
| | 20 | 13 84044 50827+ | 149 88443+ | 079 49164 22490 | 7279 56026+ | 40 | |
| | 30 | 21 94194 39271+ | 214 24024 | 067 41884 66463+ | 7136 67522 | 30 | |
| | 40 | 30 04408 63295+ | 278 60752+ | 055 34747 98941+ | 6993 82121+ | 20 | |
| | 50 | 38 14687 24047+ | 8 10342 98628+ | 043 27754 16820 | 12 06850 99824 | 10 | |
| **20** | 0 | 0,81946 25030 22676+ | | 1,22031 20903 16996 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 50°

# 39°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,81946 25030 22676+ | 8 10407 37653 | 1,22031 20903 16996 | 12 06708 20628+ | 0 | **40** |
| | 10 | 54 35437 60329+ | 471 77826 | 019 14194 96367+ | 6565 44534+ | 50 | |
| | 20 | 62 45909 38156 | 536 19148 | 1,22007 07629 51833+ | 6422 71540+ | 40 | |
| | 30 | 70 56445 57304 | 600 61619 | 1,21995 01206 80293 | 6280 01646 | 30 | |
| | 40 | 78 67046 18922+ | 665 05239 | 982 94926 78646+ | 6137 34850+ | 20 | |
| | 50 | 86 77711 24161+ | 729 50008+ | 970 88789 43796 | 5994 71152+ | 10 | |
| **21** | 0 | 0,81994 88440 74170 | 793 95927+ | 958 82794 72643+ | 5852 10551+ | 0 | **39** |
| | 10 | 0,82002 99234 70098 | 858 42997 | 946 76942 62092 | 5709 53046+ | 50 | |
| | 20 | 11 10093 13094+ | 922 91216+ | 934 71233 09045+ | 5566 98636+ | 40 | |
| | 30 | 19 21016 04311 | 8 10987 40586+ | 922 65666 10409 | 5424 47321 | 30 | |
| | 40 | 27 32003 44897+ | 8 11051 91107 | 910 60241 63088 | 5281 99099 | 20 | |
| | 50 | 35 43055 36004 | 116 42778+ | 898 54959 63989 | 5139 53969+ | 10 | |
| **22** | 0 | 43 54171 78782+ | 180 95601 | 886 49820 10020 | 4997 11931+ | 0 | **38** |
| | 10 | 51 65352 74384 | 245 49575+ | 874 44822 98088+ | 4854 72984+ | 50 | |
| | 20 | 59 76598 23959 | 310 04701 | 862 39968 25104 | 4712 37127+ | 40 | |
| | 30 | 67 87908 28660+ | 374 60979 | 850 35255 87976+ | 4570 04359+ | 30 | |
| | 40 | 75 99282 89639+ | 439 18409 | 838 30685 83617 | 4427 74680 | 20 | |
| | 50 | 84 10722 08048 | 503 76991 | 826 26258 08937 | 4285 48087+ | 10 | |
| **23** | 0 | 0,82092 22225 85039+ | 568 36726 | 814 21972 60849+ | 4143 24582 | 0 | **37** |
| | 10 | 0,82100 33794 21765+ | 632 97614 | 802 17829 36267+ | 4001 04161+ | 50 | |
| | 20 | 08 45427 19380 | 697 59655 | 790 13828 32106 | 3858 86826+ | 40 | |
| | 30 | 16 57124 79035 | 762 22849+ | 778 09969 45279+ | 3716 72575 | 30 | |
| | 40 | 24 68887 01884+ | 826 87197+ | 766 06252 72704+ | 3574 61406+ | 20 | |
| | 50 | 32 80713 89082 | 891 52699+ | 754 02678 11298 | 3432 53320+ | 10 | |
| **24** | 0 | 40 92605 41781+ | 8 11956 19355+ | 741 99245 57977+ | 3290 48315+ | 0 | **36** |
| | 10 | 49 04561 61137+ | 8 12020 87166 | 729 95955 09662 | 3148 46391+ | 50 | |
| | 20 | 57 16582 48303+ | 085 56131 | 717 92806 63270+ | 3006 47547 | 40 | |
| | 30 | 65 28668 04434+ | 150 26251 | 705 89800 15723+ | 2864 51781 | 30 | |
| | 40 | 73 40818 30685 | 214 97526 | 693 86935 63942+ | 2722 59093 | 20 | |
| | 50 | 81 53033 28211 | 279 69956 | 681 84213 04849+ | 2580 69482 | 10 | |
| **25** | 0 | 89 65312 98167+ | 344 43542 | 669 81632 35367+ | 2438 82947+ | 0 | **35** |
| | 10 | 0,82197 77657 41709+ | 409 18284 | 657 79193 52420+ | 2296 99488 | 50 | |
| | 20 | 0,82205 90066 59993 | 473 94181+ | 645 76896 52932+ | 2155 19103 | 40 | |
| | 30 | 14 02540 54175 | 538 71236 | 633 74741 33829+ | 2013 41791+ | 30 | |
| | 40 | 22 15079 25410+ | 603 49446+ | 621 72727 92038 | 1871 67553 | 20 | |
| | 50 | 30 27682 74857 | 668 28814 | 609 70856 24485 | 1729 96386+ | 10 | |
| **26** | 0 | 38 40351 03671 | 733 09338+ | 597 69126 28098+ | 1588 28290+ | 0 | **34** |
| | 10 | 46 53084 13010 | 797 91020+ | 585 67537 99808 | 1446 63265 | 50 | |
| | 20 | 54 65882 04030+ | 862 73860 | 573 66091 36543 | 1305 01309 | 40 | |
| | 30 | 62 78744 77890 | 927 57857 | 561 64786 35233+ | 1163 42421+ | 30 | |
| | 40 | 70 91672 35747+ | 8 12992 43012+ | 549 63622 92812+ | 1021 86601+ | 20 | |
| | 50 | 79 04664 78760 | 8 13057 29326 | 537 62601 06211 | 0880 33848 | 10 | |
| **27** | 0 | 87 17722 08086 | 122 16798 | 525 61720 72363 | 0738 84160+ | 0 | **33** |
| | 10 | 0,82295 30844 24884 | 187 05429 | 513 60981 88202+ | 0597 37538 | 50 | |
| | 20 | 0,82303 44031 30313 | 251 95219 | 501 60384 50664+ | 0455 93980 | 40 | |
| | 30 | 11 57283 25532 | 316 86168 | 489 59928 56684+ | 0314 53485 | 30 | |
| | 40 | 19 70600 11700 | 381 78277 | 477 59614 03199 | 0173 16053 | 20 | |
| | 50 | 27 83981 89977 | 446 71545+ | 465 59440 87146+ | 12 00031 81682 | 10 | |
| **28** | 0 | 35 97428 61522 | 511 65973+ | 453 59409 05464+ | 11 99890 50372 | 0 | **32** |
| | 10 | 44 10940 27496 | 576 61562+ | 441 59518 55092+ | 9749 22122 | 50 | |
| | 20 | 52 24516 89058+ | 641 58311+ | 429 59769 32970+ | 9607 96931 | 40 | |
| | 30 | 60 38158 47370 | 706 56221+ | 417 60161 36039+ | 9466 74798 | 30 | |
| | 40 | 68 51865 03591+ | 771 55292+ | 405 60694 61241 | 9325 55722+ | 20 | |
| | 50 | 76 65636 58884+ | 836 55525 | 393 61369 05518+ | 9184 39704 | 10 | |
| **29** | 0 | 84 79473 14409 | 901 56918+ | 381 62184 65814+ | 9043 26740+ | 0 | **31** |
| | 10 | 0,82392 93374 71328 | 8 13966 59474 | 369 63141 39074 | 8902 16832 | 50 | |
| | 20 | 0,82401 07341 30802 | 8 14031 63191+ | 357 64239 22242 | 8761 09977+ | 40 | |
| | 30 | 09 21372 93993+ | 096 68071 | 345 65478 12264+ | 8620 06176 | 30 | |
| | 40 | 17 35469 62064+ | 161 74113 | 333 66858 06088+ | 8479 05427 | 20 | |
| | 50 | 25 49631 36177+ | 8 14226 81318 | 321 68379 00662 | 11 98338 07729 | 10 | |
| **30** | 0 | 0,82433 63858 17495+ | | 1,21309 70040 92932+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,82433 63858 17495+ | 8 14291 89686 | 1,21309 70040 92932+ | 11 98197 13082 | 0 | **30** |
| | 10 | 41 78150 07181+ | 356 99217 | 297 71843 79851 | 8056 21484+ | 50 | |
| | 20 | 49 92507 06398+ | 422 09911+ | 285 73787 58366+ | 7915 32935+ | 40 | |
| | 30 | 58 06929 16310 | 487 21769+ | 273 75872 25431 | 7774 47435 | 30 | |
| | 40 | 66 21416 38080 | 552 34792 | 261 78097 77996 | 7633 64981+ | 20 | |
| | 50 | 74 35968 72871+ | 617 48978+ | 249 80464 13015 | 7492 85574 | 10 | |
| **31** | 0 | 82 50586 21850 | 682 64329 | 237 82971 27441 | 7352 09212 | 0 | **29** |
| | 10 | 90 65268 86179 | 747 80844+ | 225 85619 18228+ | 7211 35895 | 50 | |
| | 20 | 0,82498 80016 67023+ | 812 98525 | 213 88407 82333+ | 7070 65621+ | 40 | |
| | 30 | 0,82506 94829 65549 | 878 17371 | 201 91337 16712 | 6929 98391 | 30 | |
| | 40 | 15 09707 82919+ | 8 14943 37382 | 189 94407 18321 | 6789 34202+ | 20 | |
| | 50 | 23 24651 20301+ | 8 15008 58559 | 177 97617 84118+ | 6648 73055 | 10 | |
| **32** | 0 | 31 39659 78860+ | 073 80901+ | 166 00969 11063+ | 6508 14948+ | 0 | **28** |
| | 10 | 39 54733 59762 | 139 04410+ | 154 04460 96115 | 6367 59881 | 50 | |
| | 20 | 47 69872 64172+ | 204 29086 | 142 08093 36234 | 6227 07852 | 40 | |
| | 30 | 55 85076 93258+ | 269 54928 | 130 11866 28382 | 6086 58861+ | 30 | |
| | 40 | 64 00346 48186+ | 334 81937 | 118 15779 69520+ | 5946 12907+ | 20 | |
| | 50 | 72 15681 30123+ | 400 10113 | 106 19833 56613 | 5805 69989+ | 10 | |
| **33** | 0 | 80 31081 40236+ | 465 39457 | 094 24027 86623+ | 5665 30107 | 0 | **27** |
| | 10 | 88 46546 79693+ | 530 69968 | 082 28362 56516+ | 5524 93259 | 50 | |
| | 20 | 0,82596 62077 49661+ | 596 01647+ | 070 32837 63257+ | 5384 59444+ | 40 | |
| | 30 | 0,82604 77673 51308+ | 661 34494+ | 058 37453 03813 | 5244 28663 | 30 | |
| | 40 | 12 93334 85803+ | 726 68510+ | 046 42208 75150 | 5104 00913 | 20 | |
| | 50 | 21 09061 54314 | 792 03695 | 034 47104 74237 | 4963 76194+ | 10 | |
| **34** | 0 | 29 24853 58009 | 857 40048+ | 022 52140 98042+ | 4823 54506 | 0 | **26** |
| | 10 | 37 40710 98057+ | 922 77571 | 1,21010 57317 43536+ | 4683 35847 | 50 | |
| | 20 | 45 56633 75628+ | 8 15988 16263 | 1,20998 62634 07689+ | 4543 20216+ | 40 | |
| | 30 | 53 72621 91891+ | 8 16053 56124+ | 986 68090 87473+ | 4403 07613+ | 30 | |
| | 40 | 61 88675 48016 | 118 97156+ | 974 73687 79860 | 4262 98037+ | 20 | |
| | 50 | 70 04794 45172+ | 184 39358 | 962 79424 81822+ | 4122 91487+ | 10 | |
| **35** | 0 | 78 20978 84530+ | 249 82730 | 950 85301 90335 | 3982 87962+ | 0 | **25** |
| | 10 | 86 37228 67260+ | 315 27273 | 938 91319 02372+ | 3842 87462 | 50 | |
| | 20 | 0,82694 53543 94533+ | 380 72986+ | 926 97476 14910 | 3702 89985 | 40 | |
| | 30 | 0,82702 69924 67520 | 446 19871+ | 915 03773 24925 | 3562 95531 | 30 | |
| | 40 | 10 86370 87392 | 511 67928 | 903 10210 29394 | 3423 04098+ | 20 | |
| | 50 | 19 02882 55319+ | 577 17156 | 891 16787 25296 | 3283 15687 | 10 | |
| **36** | 0 | 27 19459 72475+ | 642 67556 | 879 23504 09609 | 3143 30295+ | 0 | **24** |
| | 10 | 35 36102 40031+ | 708 19128 | 867 30360 79314 | 3003 47923 | 50 | |
| | 20 | 43 52810 59159 | 773 71872+ | 855 37357 31390+ | 2863 68569+ | 40 | |
| | 30 | 51 69584 31031+ | 839 25789+ | 843 44493 62821 | 2723 92233+ | 30 | |
| | 40 | 59 86423 56821 | 904 80879+ | 831 51769 70587+ | 2584 18914 | 20 | |
| | 50 | 68 03328 37700+ | 8 16970 37142+ | 819 59185 51673+ | 2444 48611 | 10 | |
| **37** | 0 | 76 20298 74843 | 8 17035 94579 | 807 66741 03062+ | 2304 81322+ | 0 | **23** |
| | 10 | 84 37334 69422 | 101 53189+ | 795 74436 21740 | 2165 17048+ | 50 | |
| | 20 | 0,82792 54436 22611+ | 167 12973+ | 783 82271 04691+ | 2025 55788 | 40 | |
| | 30 | 0,82800 71603 35585 | 232 73932 | 771 90245 48903 | 1885 97540 | 30 | |
| | 40 | 08 88836 09517 | 298 36064+ | 759 98359 51363 | 1746 42304 | 20 | |
| | 50 | 17 06134 45581+ | 363 99372 | 748 06613 09059+ | 1606 90078+ | 10 | |
| **38** | 0 | 25 23498 44953+ | 429 63854+ | 736 15006 18980+ | 1467 40863+ | 0 | **22** |
| | 10 | 33 40928 08807+ | 495 29511+ | 724 23538 78117+ | 1327 94657+ | 50 | |
| | 20 | 41 58423 38319+ | 560 96344+ | 712 32210 83460 | 1188 51460 | 40 | |
| | 30 | 49 75984 34664 | 626 64353 | 700 41022 32000+ | 1049 11269+ | 30 | |
| | 40 | 57 93610 99017 | 692 33537+ | 688 49973 20730+ | 0909 74086+ | 20 | |
| | 50 | 66 11303 32554+ | 758 03898 | 676 59063 46644 | 0770 39909 | 10 | |
| **39** | 0 | 74 29061 36453 | 823 75435 | 664 68293 06735 | 0631 08737 | 0 | **21** |
| | 10 | 82 46885 11888 | 889 48149 | 652 77661 97998 | 0491 80568+ | 50 | |
| | 20 | 90 64774 60037 | 8 17955 22039+ | 640 87170 17429+ | 0352 55404 | 40 | |
| | 30 | 0,82898 82729 82076+ | 8 18020 97107 | 628 96817 62025+ | 0213 33242 | 30 | |
| | 40 | 0,82907 00750 79183+ | 086 73352+ | 617 06604 28783+ | 11 90074 14081+ | 20 | |
| | 50 | 15 18837 52536 | 8 18152 50775+ | 605 16530 14702 | 11 89934 97922 | 10 | |
| **40** | 0 | 0,82923 36990 03311+ | | 1,20593 26595 16779+ | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

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| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,82923 36990 03311+ | 8 18218 29376 | 1,20593 26595 16779+ | 11 89795 84763 | 0 | **20** |
| | 10 | 31 55208 32687+ | 284 09155 | 581 36799 32017 | 9656 74602+ | 50 | |
| | 20 | 39 73492 41842+ | 349 90112+ | 569 47142 57414+ | 9517 67441 | 40 | |
| | 30 | 47 91842 31954+ | 415 72248+ | 557 57624 89973+ | 9378 63276+ | 30 | |
| | 40 | 56 10258 04203 | 481 55563+ | 545 68246 26697 | 9239 62109 | 20 | |
| | 50 | 64 28739 59766+ | 547 40057+ | 533 79006 64587+ | 9100 63937+ | 10 | |
| **41** | 0 | 72 47286 99824 | 613 25731 | 521 89906 00650 | 8961 68761 | 0 | **19** |
| | 10 | 80 65900 25555 | 679 12584+ | 510 00944 31888+ | 8822 76579 | 50 | |
| | 20 | 88 84579 38139+ | 745 00617+ | 498 12121 55309+ | 8683 87390 | 40 | |
| | 30 | 0,82997 03324 38757 | 810 89831 | 486 23437 67919+ | 8545 01194 | 30 | |
| | 40 | 0,83005 22135 28588 | 876 80224+ | 474 34892 66725+ | 8406 17989+ | 20 | |
| | 50 | 13 41012 08812+ | 8 18942 71799 | 462 46486 48736 | 8267 37776 | 10 | |
| **42** | 0 | 21 59954 80611+ | 8 19008 64554+ | 450 58219 10960 | 8128 60552+ | 0 | **18** |
| | 10 | 29 78963 45166+ | 074 58491+ | 438 70090 50407+ | 7989 86318+ | 50 | |
| | 20 | 37 98038 03657+ | 140 53609+ | 426 82100 64089 | 7851 15073 | 40 | |
| | 30 | 46 17178 57267 | 206 49909 | 414 94249 49016 | 7712 46814+ | 30 | |
| | 40 | 54 36385 07176 | 272 47391 | 403 06537 02201+ | 7573 81543+ | 20 | |
| | 50 | 62 55657 54567 | 338 46055 | 391 18963 20658 | 7435 19258 | 10 | |
| **43** | 0 | 70 74996 00621+ | 404 45901 | 379 31528 01400 | 7296 59958 | 0 | **17** |
| | 10 | 78 94400 46523 | 470 46930 | 367 44231 41442 | 7158 03642 | 50 | |
| | 20 | 87 13870 93453 | 536 49142+ | 355 57073 37800 | 7019 50309+ | 40 | |
| | 30 | 0,83095 33407 42595+ | 602 52537+ | 343 70053 87490+ | 6880 99959+ | 30 | |
| | 40 | 0,83103 53009 95133 | 668 57116 | 331 83172 87531 | 6742 52591+ | 20 | |
| | 50 | 11 72678 52249 | 734 62878+ | 319 96430 34939 | 6604 08205 | 10 | |
| **44** | 0 | 19 92413 15127+ | 800 69825 | 308 09826 26734+ | 6465 66798 | 0 | **16** |
| | 10 | 28 12213 84953 | 866 77955+ | 296 23360 59936+ | 6327 28370+ | 50 | |
| | 20 | 36 32080 62908+ | 932 87271 | 284 37033 31566 | 6188 92921+ | 40 | |
| | 30 | 44 52013 50179+ | 8 19998 97770+ | 272 50844 38644 | 6050 60450+ | 30 | |
| | 40 | 52 72012 47950 | 8 20065 09455+ | 260 64793 78193+ | 5912 30956 | 20 | |
| | 50 | 60 92077 57405+ | 131 22325+ | 248 78881 47237+ | 5774 04438 | 10 | |
| **45** | 0 | 69 12208 79731 | 197 36381 | 236 93107 42800 | 5635 80894+ | 0 | **15** |
| | 10 | 77 32406 16112 | 263 51622+ | 225 07471 61905 | 5497 60326 | 50 | |
| | 20 | 85 52669 67734+ | 329 68049+ | 213 21974 01579 | 5359 42731 | 40 | |
| | 30 | 0,83193 72999 35784+ | 395 85663 | 201 36614 58848 | 5221 28108+ | 30 | |
| | 40 | 0,83201 93395 21447+ | 462 04463+ | 189 51393 30739+ | 5083 16458 | 20 | |
| | 50 | 10 13857 25911 | 528 24450 | 177 66310 14281+ | 4945 07779 | 10 | |
| **46** | 0 | 18 34385 50361 | 594 45624 | 165 81365 06502+ | 4807 02070 | 0 | **14** |
| | 10 | 26 54979 95984+ | 660 67985 | 153 96558 04432+ | 4668 99330+ | 50 | |
| | 20 | 34 75640 63969+ | 726 91533+ | 142 11889 05102 | 4530 99559+ | 40 | |
| | 30 | 42 96367 55503 | 793 16270 | 130 27358 05542+ | 4393 02756+ | 30 | |
| | 40 | 51 17160 71773 | 859 42194+ | 118 42965 02786 | 4255 08920+ | 20 | |
| | 50 | 59 38020 13967+ | 925 69307 | 106 58709 93866 | 4117 18050+ | 10 | |
| **47** | 0 | 67 58945 83274+ | 8 20991 97608 | 094 74592 75815+ | 3979 30146 | 0 | **13** |
| | 10 | 75 79937 80882+ | 8 21058 27098 | 082 90613 45669+ | 3841 45206 | 50 | |
| | 20 | 84 00996 07981 | 124 57777 | 071 06772 00463+ | 3703 63229+ | 40 | |
| | 30 | 0,83292 22120 65758 | 190 89645+ | 059 23068 37233+ | 3565 84216+ | 30 | |
| | 40 | 0,83300 43311 55403+ | 257 22703+ | 047 39502 53017+ | 3428 08165 | 20 | |
| | 50 | 08 64568 78107 | 323 56951 | 035 56074 44852+ | 3290 35075 | 10 | |
| **48** | 0 | 16 85892 35058+ | 389 92389 | 023 72784 09777+ | 3152 64945+ | 0 | **12** |
| | 10 | 25 07282 27447 | 456 29017 | 011 89631 44832 | 3014 97775+ | 50 | |
| | 20 | 33 28738 56464 | 522 66835+ | 1,20000 06616 47056+ | 2877 33564+ | 40 | |
| | 30 | 41 50261 23300 | 589 05845 | 1,19988 23739 13492 | 2739 72311 | 30 | |
| | 40 | 49 71850 29145 | 655 46045+ | 976 40999 41180+ | 2602 14015+ | 20 | |
| | 50 | 57 93505 75191 | 721 87437+ | 964 58397 27165+ | 2464 58675+ | 10 | |
| **49** | 0 | 66 15227 62628+ | 788 30021 | 952 75932 68490 | 2327 06291+ | 0 | **11** |
| | 10 | 74 37015 92649+ | 854 73796+ | 940 93605 62198+ | 2189 56862 | 50 | |
| | 20 | 82 58870 66446 | 921 18764 | 929 11416 05336 | 2052 10386+ | 40 | |
| | 30 | 90 80791 85210 | 8 21987 64923+ | 917 29363 94949+ | 1914 66864+ | 30 | |
| | 40 | 0,83399 02779 50133+ | 8 22054 12276 | 905 47449 28085 | 1777 26294+ | 20 | |
| | 50 | 0,83407 24833 62409+ | 8 22120 60821+ | 893 65672 01790+ | 11 81639 88675+ | 10 | |
| **50** | 0 | 0,83415 46954 23231 | | 1,19881 84032 13115 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 50°

# 39°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,83415 46954 23231 | 8 22187 10559+ | 1,19881 84032 13115 | 11 81502 54007+ | 0 | **10** |
| | 10 | 23 69141 33790+ | 253 61491+ | 870 02529 59107+ | 1365 22289+ | 50 | |
| | 20 | 31 91394 95282 | 320 13617 | 858 21164 36818 | 1227 93520+ | 40 | |
| | 30 | 40 13715 08899 | 386 66936 | 846 39936 43297+ | 1090 67699+ | 30 | |
| | 40 | 48 36101 75835 | 453 21449+ | 834 58845 75598+ | 0953 44826 | 20 | |
| | 50 | 56 58554 97285 | 519 77157+ | 822 77892 30772+ | 0816 24899 | 10 | |
| **51** | 0 | 64 81074 74442+ | 586 34060 | 810 97076 05874 | 0679 07917+ | 0 | **9** |
| | 10 | 73 03661 08502+ | 652 92157+ | 799 16396 97956+ | 0541 93881 | 50 | |
| | 20 | 81 26314 00659+ | 719 51450 | 787 35855 04075 | 0404 82789 | 40 | |
| | 30 | 89 49033 52109+ | 786 11938 | 775 55450 21286 | 0267 74640 | 30 | |
| | 40 | 0,83497 71819 64047+ | 852 73621+ | 763 75182 46646 | 11 80130 69434 | 20 | |
| | 50 | 0,83505 94672 37669+ | 919 36501+ | 751 95051 77212 | 11 79993 67169 | 10 | |
| **52** | 0 | 14 17591 74170+ | 8 22986 00577 | 740 15058 10043 | 9856 67845+ | 0 | **8** |
| | 10 | 22 40577 74747+ | 8 23052 65849+ | 728 35201 42197+ | 9719 71461+ | 50 | |
| | 20 | 30 63630 40597 | 119 32318+ | 716 55481 70735+ | 9582 78017 | 40 | |
| | 30 | 38 86749 72915+ | 185 99984+ | 704 75898 92718+ | 9445 87511 | 30 | |
| | 40 | 47 09935 72900 | 252 68847+ | 692 96453 05207+ | 9308 99943 | 20 | |
| | 50 | 55 33188 41747 | 319 38908 | 681 17144 05264+ | 9172 15311+ | 10 | |
| **53** | 0 | 63 56507 80655+ | 386 10166+ | 669 37971 89953 | 9035 33616 | 0 | **7** |
| | 10 | 71 79893 90822 | 452 82623 | 657 58936 56337+ | 8898 54855+ | 50 | |
| | 20 | 80 03346 73444+ | 519 56277+ | 645 80038 01482 | 8761 79029+ | 40 | |
| | 30 | 88 26866 29722 | 586 31130+ | 634 01276 22452+ | 8625 06137 | 30 | |
| | 40 | 0,83596 50452 60852+ | 653 07182+ | 622 22651 16315 | 8488 36177+ | 20 | |
| | 50 | 0,83604 74105 68035 | 719 84433+ | 610 44162 80137+ | 8351 69150 | 10 | |
| **54** | 0 | 12 97825 52468+ | 786 62883+ | 598 65811 10987+ | 8215 05053+ | 0 | **6** |
| | 10 | 21 21612 15352 | 853 42533 | 586 87596 05934 | 8078 43887+ | 50 | |
| | 20 | 29 45465 57885 | 920 23382+ | 575 09517 62046 | 7941 85651 | 40 | |
| | 30 | 37 69385 81268 | 8 23987 05432 | 563 31575 76395 | 7805 30343 | 30 | |
| | 40 | 45 93372 86700 | 8 24053 88682 | 551 53770 46052 | 7668 77963+ | 20 | |
| | 50 | 54 17426 75382 | 120 73132+ | 539 76101 68088+ | 7532 28510+ | 10 | |
| **55** | 0 | 62 41547 48514+ | 187 58783+ | 527 98569 39578 | 7395 81984 | 0 | **5** |
| | 10 | 70 65735 07298+ | 254 45636 | 516 21173 57594 | 7259 38383 | 50 | |
| | 20 | 78 89989 52934+ | 321 33689+ | 504 43914 19210+ | 7122 97707 | 40 | |
| | 30 | 87 14310 86624 | 388 22945 | 492 66791 21503+ | 6986 59954+ | 30 | |
| | 40 | 0,83695 38699 09569 | 455 13402 | 480 89804 61549 | 6850 25125+ | 20 | |
| | 50 | 0,83703 63154 22971 | 522 05061 | 469 12954 36423+ | 6713 93218+ | 10 | |
| **56** | 0 | 11 87676 28032 | 588 97923 | 457 36240 43205 | 6577 64233 | 0 | **4** |
| | 10 | 20 12265 25955 | 655 91987 | 445 59662 78972 | 6441 38168 | 50 | |
| | 20 | 28 36921 17942 | 722 87254 | 433 83221 40804 | 6305 15023+ | 40 | |
| | 30 | 36 61644 05196 | 789 83724 | 422 06916 25780+ | 6168 94797+ | 30 | |
| | 40 | 44 86433 88920 | 856 81398 | 410 30747 30983 | 6032 77490 | 20 | |
| | 50 | 53 11290 70318 | 923 80275 | 398 54714 53493 | 5896 63099+ | 10 | |
| **57** | 0 | 61 36214 50593 | 8 24990 80356+ | 386 78817 90393+ | 5760 51626+ | 0 | **3** |
| | 10 | 69 61205 30949+ | 8 25057 81641+ | 375 03057 38767 | 5624 43068+ | 50 | |
| | 20 | 77 86263 12591 | 124 84131+ | 363 27432 95698+ | 5488 37426 | 40 | |
| | 30 | 86 11387 96722+ | 191 87826 | 351 51944 58272+ | 5352 34697+ | 30 | |
| | 40 | 0,83794 36579 84548+ | 258 92725+ | 339 76592 23574+ | 5216 34883 | 20 | |
| | 50 | 0,83802 61838 77274 | 325 98830 | 328 01375 88692 | 5080 37980+ | 10 | |
| **58** | 0 | 10 87164 76104 | 393 06140+ | 316 26295 50711 | 4944 43990 | 0 | **2** |
| | 10 | 19 12557 82244+ | 460 14656 | 304 51351 06721 | 4808 52911 | 50 | |
| | 20 | 27 38017 96900+ | 527 24378 | 292 76542 53810 | 4672 64741+ | 40 | |
| | 30 | 35 63545 21278+ | 594 35306 | 281 01869 89068+ | 4536 79482 | 30 | |
| | 40 | 43 89139 56584+ | 661 47440+ | 269 27333 09586+ | 4400 97131 | 20 | |
| | 50 | 52 14801 04025+ | 728 60782 | 257 52932 12455+ | 4265 17688 | 10 | |
| **59** | 0 | 60 40529 64807+ | 795 75330+ | 245 78666 94767+ | 4129 41151+ | 0 | **1** |
| | 10 | 68 66325 40138 | 862 91086 | 234 04537 53616 | 3993 67521+ | 50 | |
| | 20 | 76 92188 31224 | 930 08049+ | 222 30543 86094 | 3857 96797 | 40 | |
| | 30 | 85 18118 39273+ | 8 25997 26220+ | 210 56685 89297 | 3722 28977+ | 30 | |
| | 40 | 0,83893 44115 65493+ | 8 26064 45599+ | 198 82963 60319+ | 3586 64061+ | 20 | |
| | 50 | 0,83901 70180 11093 | 8 26131 66187 | 187 09376 96258+ | 11 73451 02048+ | 10 | |
| **60** | 0 | 0,83909 96311 77280 | | 1,19175 35925 94210 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 50°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,83909 96311 77280 | 8 26198 87983 | 1,19175 35925 94210 | 11 73315 42937+ | 0 | **60** |
| | 10 | 18 22510 65263 | 266 10987+ | 163 62610 51272+ | 3179 86728+ | 50 | |
| | 20 | 26 48776 76250+ | 333 35201+ | 151 89430 64544 | 3044 33419+ | 40 | |
| | 30 | 34 75110 11452+ | 400 60625 | 140 16386 31124+ | 2908 83011 | 30 | |
| | 40 | 43 01510 72077+ | 467 87258 | 128 43477 48113+ | 2773 35501 | 20 | |
| | 50 | 51 27978 59335 | 535 15100+ | 116 70704 12612+ | 2637 90889+ | 10 | |
| **1** | 0 | 59 54513 74436 | 602 44153+ | 104 98066 21723 | 2502 49175+ | 0 | **59** |
| | 10 | 67 81116 18589+ | 669 74417 | 093 25563 72547+ | 2367 10358 | 50 | |
| | 20 | 76 07785 93006+ | 737 05891 | 081 53196 62189 | 2231 74436+ | 40 | |
| | 30 | 84 34522 98897+ | 804 38576 | 069 80964 87752+ | 2096 41410 | 30 | |
| | 40 | 0,83992 61327 37473+ | 871 72472 | 058 08868 46342+ | 1961 11278 | 20 | |
| | 50 | 0,84000 88199 09946 | 8 26939 07579+ | 046 36907 35064+ | 1825 84039+ | 10 | |
| **2** | 0 | 09 15138 17525+ | 8 27006 43899 | 034 65081 51025 | 1690 59693+ | 0 | **58** |
| | 10 | 17 42144 61424+ | 073 81430+ | 022 93390 91331+ | 1555 38239 | 50 | |
| | 20 | 25 69218 42855 | 141 20173+ | 1,19011 21835 53092+ | 1420 19676 | 40 | |
| | 30 | 33 96359 63028+ | 208 60129+ | 1,18999 50415 33416+ | 1285 04003+ | 30 | |
| | 40 | 42 23568 23158 | 276 01298+ | 987 79130 29413 | 1149 91220 | 20 | |
| | 50 | 50 50844 24456+ | 343 43680 | 976 07980 38192+ | 1014 81325+ | 10 | |
| **3** | 0 | 58 78187 68137 | 410 87275 | 964 36965 56867 | 0879 74319 | 0 | **57** |
| | 10 | 67 05598 55412 | 478 32083+ | 952 66085 82548 | 0744 70199+ | 50 | |
| | 20 | 75 33076 87495+ | 545 78106 | 940 95341 12348+ | 0609 68966+ | 40 | |
| | 30 | 83 60622 65601+ | 613 25342+ | 929 24731 43382 | 0474 70619 | 30 | |
| | 40 | 0,84091 88235 90944 | 680 73793 | 917 54256 72763 | 0339 75156 | 20 | |
| | 50 | 0,84100 15916 64737 | 748 23458+ | 905 83916 97607 | 0204 82577 | 10 | |
| **4** | 0 | 08 43664 88195+ | 815 74338+ | 894 13712 15030 | 11 70069 92881+ | 0 | **56** |
| | 10 | 16 71480 62534 | 883 26434 | 882 43642 22148+ | 11 69935 06068 | 50 | |
| | 20 | 24 99363 88968 | 8 27950 79744+ | 870 73707 16080+ | 9800 22136 | 40 | |
| | 30 | 33 27314 68712+ | 8 28018 34270+ | 859 03906 93944+ | 9665 41085 | 30 | |
| | 40 | 41 55333 02983 | 085 90012+ | 847 34241 52859 | 9530 62914 | 20 | |
| | 50 | 49 83418 92995+ | 153 46971 | 835 64710 89945 | 9395 87622+ | 10 | |
| **5** | 0 | 58 11572 39966+ | 221 05145+ | 823 95315 02322+ | 9261 15209 | 0 | **55** |
| | 10 | 66 39793 45112 | 288 64537 | 812 26053 87113+ | 9126 45673+ | 50 | |
| | 20 | 74 68082 09649 | 356 25145 | 800 56927 41440 | 8991 79014+ | 40 | |
| | 30 | 82 96438 34794 | 423 86970+ | 788 87935 62425+ | 8857 15231+ | 30 | |
| | 40 | 91 24862 21764+ | 491 50013+ | 777 19078 47194 | 8722 54324 | 20 | |
| | 50 | 0,84199 53353 71778+ | 559 14274 | 765 50355 92870 | 8587 96291 | 10 | |
| **6** | 0 | 0,84207 81912 86052+ | 626 79753 | 753 81767 96579+ | 8453 41131+ | 0 | **54** |
| | 10 | 16 10539 65805+ | 694 46450 | 742 13314 55448 | 8318 88845 | 50 | |
| | 20 | 24 39234 12255 | 762 14365 | 730 44995 66603 | 8184 39430+ | 40 | |
| | 30 | 32 67996 26620+ | 829 83499+ | 718 76811 27172+ | 8049 92887+ | 30 | |
| | 40 | 40 96826 10119+ | 897 53852+ | 707 08761 34285+ | 7915 49214+ | 20 | |
| | 50 | 49 25723 63972 | 8 28965 25425 | 695 40845 85070+ | 7781 08412 | 10 | |
| **7** | 0 | 57 54688 89397 | 8 29032 98217 | 683 73064 76659 | 7646 70478 | 0 | **53** |
| | 10 | 65 83721 87614+ | 100 72229 | 672 05418 06181 | 7512 35412+ | 50 | |
| | 20 | 74 12822 59843+ | 168 47461 | 660 37905 70768+ | 7378 03214 | 40 | |
| | 30 | 82 41991 07304 | 236 23913+ | 648 70527 67554+ | 7243 73882 | 30 | |
| | 40 | 90 71227 31217+ | 304 01586 | 637 03283 93672+ | 7109 47416+ | 20 | |
| | 50 | 0,84299 00531 32803+ | 371 80480 | 625 36174 46256 | 6975 23815+ | 10 | |
| **8** | 0 | 0,84307 29903 13283+ | 439 60595 | 613 69199 22440+ | 6841 03079 | 0 | **52** |
| | 10 | 15 59342 73878+ | 507 41931+ | 602 02358 19362 | 6706 85205+ | 50 | |
| | 20 | 23 88850 15810 | 575 24489+ | 590 35651 34156 | 6572 70195 | 40 | |
| | 30 | 32 18425 40299+ | 643 08269+ | 578 69078 63961 | 6438 58046+ | 30 | |
| | 40 | 40 48068 48569 | 710 93271+ | 567 02640 05914+ | 6304 48759 | 20 | |
| | 50 | 48 77779 41840 | 778 79496 | 555 36335 57155+ | 6170 42332 | 10 | |
| **9** | 0 | 57 07558 21336+ | 846 66943+ | 543 70165 14824 | 6036 38764 | 0 | **51** |
| | 10 | 65 37404 88279+ | 914 55613+ | 532 04128 76060 | 5902 38055 | 50 | |
| | 20 | 73 67319 43893+ | 8 29982 45507+ | 520 38226 38004+ | 5768 40204+ | 40 | |
| | 30 | 81 97301 89400+ | 8 30050 36624+ | 508 72457 97800+ | 5634 45210+ | 30 | |
| | 40 | 90 27352 26025 | 118 28965 | 497 06823 52590 | 5500 53073 | 20 | |
| | 50 | 0,84398 57470 54990+ | 8 30186 22530 | 485 41322 99516+ | 11 65366 63791+ | 10 | |
| **10** | 0 | 0,84406 87656 77520+ | | 1,18473 75956 35725+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,84406 87656 77520+ | 8 30254 17319+ | 1,18473 75956 35725+ | 11 65232 77364+ | 0 | **50** |
| | 10 | 15 17910 94840 | 322 13333 | 462 10723 58360+ | 5098 93792 | 50 | |
| | 20 | 23 48233 08173 | 390 10571+ | 450 45624 64569 | 4965 13072 | 40 | |
| | 30 | 31 78623 18744+ | 458 09035+ | 438 80659 51496+ | 4831 35205 | 30 | |
| | 40 | 40 09081 27780 | 526 08724+ | 427 15828 16291+ | 4697 60190 | 20 | |
| | 50 | 48 39607 36504+ | 594 09639 | 415 51130 56101+ | 4563 88025+ | 10 | |
| **11** | 0 | 56 70201 46143+ | 662 11780 | 403 86566 68076 | 4430 18711+ | 0 | **49** |
| | 10 | 65 00863 57923+ | 730 15146+ | 392 22136 49365 | 4296 52246+ | 50 | |
| | 20 | 73 31593 73070 | 798 19739+ | 380 57839 97118+ | 4162 88630 | 40 | |
| | 30 | 81 62391 92810 | 866 25559+ | 368 93677 08488+ | 4029 27861+ | 30 | |
| | 40 | 89 93258 18369+ | 8 30934 32606+ | 357 29647 80626+ | 3895 69940+ | 20 | |
| | 50 | 0,84498 24192 50976 | 8 31002 40880+ | 345 65752 10686 | 3762 14865 | 10 | |
| **12** | 0 | 0,84506 55194 91856 | 070 50382 | 334 01989 95821 | 3628 62635+ | 0 | **48** |
| | 10 | 14 86265 42238 | 138 61111 | 322 38361 33185+ | 3495 13250+ | 50 | |
| | 20 | 23 17404 03349+ | 206 73068+ | 310 74866 19935 | 3361 66709+ | 40 | |
| | 30 | 31 48610 76418 | 274 86254 | 299 11504 53225+ | 3228 23011+ | 30 | |
| | 40 | 39 79885 62672 | 343 00668 | 287 48276 30214 | 3094 82156 | 20 | |
| | 50 | 48 11228 63340 | 411 16311 | 275 85181 48058 | 2961 44142 | 10 | |
| **13** | 0 | 56 42639 79651 | 479 33183 | 264 22220 03915+ | 2828 08969 | 0 | **47** |
| | 10 | 64 74119 12834 | 547 51284+ | 252 59391 94946+ | 2694 76636 | 50 | |
| | 20 | 73 05666 64118+ | 615 70615+ | 240 96697 18311 | 2561 47142 | 40 | |
| | 30 | 81 37282 34733+ | 683 91176 | 229 34135 71168+ | 2428 20486+ | 30 | |
| | 40 | 89 68966 25909+ | 752 12967 | 217 71707 50682 | 2294 96669 | 20 | |
| | 50 | 0,84598 00718 38876+ | 820 35988+ | 206 09412 54013 | 2161 75688+ | 10 | |
| **14** | 0 | 0,84606 32538 74865 | 888 60240+ | 194 47250 78324+ | 2028 57544 | 0 | **46** |
| | 10 | 14 64427 35105+ | 8 31956 85723+ | 182 85222 20780+ | 1895 42234+ | 50 | |
| | 20 | 22 96384 20828+ | 8 32025 12437+ | 171 23326 78546 | 1762 29760 | 40 | |
| | 30 | 31 28409 33266 | 093 40383 | 159 61564 48786 | 1629 20119+ | 30 | |
| | 40 | 39 60502 73649 | 161 69560+ | 147 99935 28666+ | 1496 13311+ | 20 | |
| | 50 | 47 92664 43209+ | 229 99970 | 136 38439 15355 | 1363 09336+ | 10 | |
| **15** | 0 | 56 24894 43179+ | 298 31611+ | 124 77076 06018+ | 1230 08192+ | 0 | **45** |
| | 10 | 64 57192 74791 | 366 64485+ | 113 15845 97826 | 1097 09879+ | 50 | |
| | 20 | 72 89559 39276+ | 434 98592+ | 101 54748 87947 | 0964 14396 | 40 | |
| | 30 | 81 21994 37869 | 503 33932+ | 089 93784 73551 | 0831 21742 | 30 | |
| | 40 | 89 54497 71801+ | 571 70506 | 078 32953 51808+ | 0698 31916+ | 20 | |
| | 50 | 0,84697 87069 42307+ | 640 08313 | 066 72255 19892 | 0565 44918+ | 10 | |
| **16** | 0 | 0,84706 19709 50620+ | 708 47353+ | 055 11689 74973+ | 0432 60747+ | 0 | **44** |
| | 10 | 14 52417 97974 | 776 87628+ | 043 51257 14226 | 0299 79402+ | 50 | |
| | 20 | 22 85194 85602+ | 845 29138 | 031 90957 34823+ | 0167 00883 | 40 | |
| | 30 | 31 18040 14741 | 913 71882 | 020 30790 33940+ | 11 60034 25188 | 30 | |
| | 40 | 39 50953 86623 | 8 32982 15861 | 1,18008 70756 08753 | 11 59901 52316+ | 20 | |
| | 50 | 47 83936 02484 | 8 33050 61075 | 1,17997 10854 56436+ | 9768 82268 | 10 | |
| **17** | 0 | 56 16986 63559 | 119 07525 | 985 51085 74168 | 9636 15042 | 0 | **43** |
| | 10 | 64 50105 71084 | 187 55210+ | 973 91449 59126 | 9503 50637+ | 50 | |
| | 20 | 72 83293 26294+ | 256 04131+ | 962 31946 08488+ | 9370 89054 | 40 | |
| | 30 | 81 16549 30426 | 324 54289+ | 950 72575 19434+ | 9238 30290 | 30 | |
| | 40 | 89 49873 84715+ | 393 05683+ | 939 13336 89145 | 9105 74345 | 20 | |
| | 50 | 0,84797 83266 90399 | 461 58314+ | 927 54231 14799+ | 8973 21218+ | 10 | |
| **18** | 0 | 0,84806 16728 48713+ | 530 12182+ | 915 95257 93581 | 8840 70910 | 0 | **42** |
| | 10 | 14 50258 60896 | 598 67288 | 904 36417 22671 | 8708 23418 | 50 | |
| | 20 | 22 83857 28184 | 667 23631 | 892 77708 99253 | 8575 78742 | 40 | |
| | 30 | 31 17524 51815+ | 735 81212 | 881 19133 20511 | 8443 36882 | 30 | |
| | 40 | 39 51260 33027+ | 804 40031 | 869 60689 83629 | 8310 97836 | 20 | |
| | 50 | 47 85064 73058+ | 873 00088+ | 858 02378 85793 | 8178 61603+ | 10 | |
| **19** | 0 | 56 18937 73147+ | 8 33941 61385 | 846 44200 24189+ | 8046 28184+ | 0 | **41** |
| | 10 | 64 52879 34532 | 8 34010 23920 | 834 86153 96005 | 7913 97577+ | 50 | |
| | 20 | 72 86889 58452 | 078 87694+ | 823 28239 98427+ | 7781 69782+ | 40 | |
| | 30 | 81 20968 46146+ | 147 52708 | 811 70458 28645 | 7649 44797+ | 30 | |
| | 40 | 89 55115 98855 | 216 18962 | 800 12808 83847+ | 7517 22623 | 20 | |
| | 50 | 0,84897 89332 17816+ | 8 34284 86455+ | 788 55291 61224+ | 11 57385 03257+ | 10 | |
| **20** | 0 | 0,84906 23617 04272 | | 1,17776 97906 57967+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,84906 23617 04272 | 8 34353 55189+ | 1,17776 97906 57967+ | 11 57252 86700 | 0 | **40** |
| | 10 | 914 57970 59461+ | 422 25164 | 765 40653 71267 | 7120 72950+ | 50 | |
| | 20 | 922 92392 84625+ | 490 96379+ | 753 83532 98316+ | 6988 62008 | 40 | |
| | 30 | 931 26883 81005 | 559 68835+ | 742 26544 36308+ | 6856 53871+ | 30 | |
| | 40 | 939 61443 49840+ | 628 42533+ | 730 69687 82436+ | 6724 48540+ | 20 | |
| | 50 | 947 96071 92374+ | 697 17473 | 719 12963 33896 | 6592 46014 | 10 | |
| **21** | 0 | 956 30769 09847+ | 765 93654+ | 707 56370 87882+ | 6460 46291+ | 0 | **39** |
| | 10 | 964 65535 03501+ | 834 71078 | 695 99910 41591 | 6328 49371+ | 50 | |
| | 20 | 973 00369 74579+ | 903 49744 | 684 43581 92219+ | 6196 55254+ | 40 | |
| | 30 | 981 35273 24323+ | 8 34972 29652+ | 672 87385 36965 | 6064 63938+ | 30 | |
| | 40 | 989 70245 53976+ | 8 35041 10804+ | 661 31320 73026+ | 5932 75423+ | 20 | |
| | 50 | 0,84998 05286 64780+ | 109 93199+ | 649 75387 97603 | 5800 89708+ | 10 | |
| **22** | 0 | 0,85006 40396 57980 | 178 76838 | 638 19587 07894+ | 5669 06792+ | 0 | **38** |
| | 10 | 014 75575 34818 | 247 61720 | 626 63918 01102 | 5537 26675+ | 50 | |
| | 20 | 023 10822 96538 | 316 47846+ | 615 08380 74426+ | 5405 49356 | 40 | |
| | 30 | 031 46139 44384+ | 385 35217 | 603 52975 25070+ | 5273 74833 | 30 | |
| | 40 | 039 81524 79602 | 454 23832+ | 591 97701 50237+ | 5142 03107 | 20 | |
| | 50 | 048 16979 03434+ | 523 13692+ | 580 42559 47130+ | 5010 34176 | 10 | |
| **23** | 0 | 056 52502 17127 | 592 04798 | 568 87549 12955 | 4878 68039+ | 0 | **37** |
| | 10 | 064 88094 21925 | 660 97149 | 557 32670 44915 | 4747 04697 | 50 | |
| | 20 | 073 23755 19074 | 729 90745 | 545 77923 40218 | 4615 44148 | 40 | |
| | 30 | 081 59485 09819 | 798 85587+ | 534 23307 96070 | 4483 86391 | 30 | |
| | 40 | 089 95283 95407 | 867 81676+ | 522 68824 09679 | 4352 31426 | 20 | |
| | 50 | 098 31151 77083 | 8 35936 79011+ | 511 14471 78253 | 4220 79251+ | 10 | |
| **24** | 0 | 106 67088 56094+ | 8 36005 77593+ | 499 60250 99001 | 4089 29867+ | 0 | **36** |
| | 10 | 115 03094 33688 | 074 77422 | 488 06161 69134 | 3957 83272+ | 50 | |
| | 20 | 123 39169 11110 | 143 78498+ | 476 52203 85861 | 3826 39466+ | 40 | |
| | 30 | 131 75312 89608+ | 212 80822+ | 464 98377 46395 | 3694 98448 | 30 | |
| | 40 | 140 11525 70431 | 281 84394 | 453 44682 47947 | 3563 60216+ | 20 | |
| | 50 | 148 47807 54825 | 350 89214 | 441 91118 87730 | 3432 24771+ | 10 | |
| **25** | 0 | 156 84158 44038+ | 419 95282 | 430 37686 62958+ | 3300 92112 | 0 | **35** |
| | 10 | 165 20578 39320+ | 489 02599 | 418 84385 70846+ | 3169 62237+ | 50 | |
| | 20 | 173 57067 41919+ | 558 11164+ | 407 31216 08609 | 3038 35147 | 40 | |
| | 30 | 181 93625 53084 | 627 20979+ | 395 78177 73462 | 2907 10839+ | 30 | |
| | 40 | 190 30252 74064 | 696 32044 | 384 25270 62622 | 2775 89315 | 20 | |
| | 50 | 198 66949 06108 | 765 44358+ | 372 72494 73307+ | 2644 70572 | 10 | |
| **26** | 0 | 207 03714 50466+ | 834 57922+ | 361 19850 02735+ | 2513 54610 | 0 | **34** |
| | 10 | 215 40549 08389 | 903 72737+ | 349 67336 48125+ | 2382 41428 | 50 | |
| | 20 | 223 77452 81126+ | 8 36972 88802+ | 338 14954 06697 | 2251 31026 | 40 | |
| | 30 | 232 14425 69929 | 8 37042 06118+ | 326 62702 75671 | 2120 23402+ | 30 | |
| | 40 | 240 51467 76047 | 111 24685+ | 315 10582 52268+ | 1989 18557 | 20 | |
| | 50 | 248 88579 00732+ | 180 44504 | 303 58593 33711+ | 1858 16489 | 10 | |
| **27** | 0 | 257 25759 45236+ | 249 65574 | 292 06735 17222+ | 1727 17197+ | 0 | **33** |
| | 10 | 265 63009 10810+ | 318 87896 | 280 55008 00025 | 1596 20681+ | 50 | |
| | 20 | 274 00327 98706+ | 388 11470+ | 269 03411 79344 | 1465 26940+ | 40 | |
| | 30 | 282 37716 10176+ | 457 36297 | 257 51946 52403+ | 1334 35973+ | 30 | |
| | 40 | 290 75173 46473+ | 526 62376+ | 246 00612 16430 | 1203 47780 | 20 | |
| | 50 | 299 12700 08850 | 595 89709 | 234 49408 68650 | 1072 62359+ | 10 | |
| **28** | 0 | 307 50295 98559 | 665 18294+ | 222 98336 06290+ | 0941 79711 | 0 | **32** |
| | 10 | 315 87961 16853+ | 734 48134 | 211 47394 26579+ | 0810 99833+ | 50 | |
| | 20 | 324 25695 64987+ | 803 79227 | 199 96583 26746 | 0680 22726+ | 40 | |
| | 30 | 332 63499 44214+ | 873 11574+ | 188 45903 04019 | 0549 48389+ | 30 | |
| | 40 | 341 01372 55789 | 8 37942 45176 | 176 95353 55630 | 0418 76821 | 20 | |
| | 50 | 349 39315 00965 | 8 38011 80032 | 165 44934 78808+ | 0288 08021 | 10 | |
| **29** | 0 | 357 77326 80997 | 081 16143+ | 153 94646 70787+ | 0157 41988+ | 0 | **31** |
| | 10 | 366 15407 97140+ | 150 53510 | 142 44489 28799+ | 11 50026 78722+ | 50 | |
| | 20 | 374 53558 50650 | 219 92131+ | 130 94462 50077 | 11 49896 18222+ | 40 | |
| | 30 | 382 91778 42782 | 289 32009 | 119 44566 31854+ | 9765 60487+ | 30 | |
| | 40 | 391 30067 74791 | 358 73143 | 107 94800 71367 | 9635 05517 | 20 | |
| | 50 | 399 68426 47934 | 8 38428 15532+ | 096 45165 65850 | 11 49504 53310+ | 10 | |
| **30** | 0 | 0,85408 06854 63466+ | | 1,17084 95661 12539 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,85408 06854 63466+ | 8 38497 59179 | 1,17084 95661 12539 | 11 49374 03867 | 0 | **30** |
| | 10 | 416 45352 22646 | 567 04082+ | 073 46287 08672+ | 9243 57185+ | 50 | |
| | 20 | 424 83919 26728+ | 636 50243 | 061 97043 51487 | 9113 13265 | 40 | |
| | 30 | 433 22555 76971+ | 705 97660+ | 050 47930 38222 | 8982 72106 | 30 | |
| | 40 | 441 61261 74632 | 775 46336 | 038 98947 66116 | 8852 33706+ | 20 | |
| | 50 | 450 00037 20968 | 844 96269+ | 027 50095 32409+ | 8721 98066 | 10 | |
| **31** | 0 | 458 38882 17237+ | 914 47461 | 016 01373 34343+ | 8591 65184+ | 0 | **29** |
| | 10 | 466 77796 64699 | 8 38983 99911 | 1,17004 52781 69159 | 8461 35060+ | 50 | |
| | 20 | 475 16780 64610 | 8 39053 53620 | 1,16993 04320 34098+ | 8331 07693 | 40 | |
| | 30 | 483 55834 18230 | 123 08588 | 981 55989 26405+ | 8200 83082 | 30 | |
| | 40 | 491 94957 26818 | 192 64815 | 970 07788 43323+ | 8070 61226+ | 20 | |
| | 50 | 500 34149 91632+ | 262 22301+ | 958 59717 82096+ | 7940 42126 | 10 | |
| **32** | 0 | 508 73412 13934+ | 331 81048 | 947 11777 39970+ | 7810 25779 | 0 | **28** |
| | 10 | 517 12743 94982+ | 401 41055 | 935 63967 14191+ | 7680 12185+ | 50 | |
| | 20 | 525 52145 36037+ | 471 02322 | 924 16287 02006 | 7550 01344+ | 40 | |
| | 30 | 533 91616 38359+ | 540 64849+ | 912 68737 00661+ | 7419 93255 | 30 | |
| | 40 | 542 31157 03209 | 610 28638+ | 901 21317 07406+ | 7289 87916+ | 20 | |
| | 50 | 550 70767 31847+ | 679 93688+ | 889 74027 19490 | 7159 85328+ | 10 | |
| **33** | 0 | 559 10447 25536 | 749 59999+ | 878 26867 34161+ | 7029 85489+ | 0 | **27** |
| | 10 | 567 50196 85535+ | 819 27573 | 866 79837 48671+ | 6899 88399+ | 50 | |
| | 20 | 575 90016 13108+ | 888 96408 | 855 32937 60272 | 6769 94057+ | 40 | |
| | 30 | 584 29905 09517 | 8 39958 66505+ | 843 86167 66214+ | 6640 02463 | 30 | |
| | 40 | 592 69863 76022+ | 8 40028 37866 | 832 39527 63751 | 6510 13615 | 20 | |
| | 50 | 601 09892 13888+ | 098 10489 | 820 93017 50136+ | 6380 27512+ | 10 | |
| **34** | 0 | 609 49990 24377 | 167 84375 | 809 46637 22624 | 6250 44155 | 0 | **26** |
| | 10 | 617 90158 08752 | 237 59524+ | 798 00386 78469 | 6120 63541+ | 50 | |
| | 20 | 626 30395 68276+ | 307 35938 | 786 54266 14927+ | 5990 85672 | 40 | |
| | 30 | 634 70703 04214+ | 377 13615 | 775 08275 29255+ | 5861 10545 | 30 | |
| | 40 | 643 11080 17829+ | 446 92556+ | 763 62414 18710 | 5731 38160+ | 20 | |
| | 50 | 651 51527 10386 | 516 72762+ | 752 16682 80550 | 5601 68517 | 10 | |
| **35** | 0 | 659 92043 83149 | 586 54233+ | 740 71081 12033 | 5472 01614 | 0 | **25** |
| | 10 | 668 32630 37382 | 656 36969+ | 729 25609 10419 | 5342 37451 | 50 | |
| | 20 | 676 73286 74351+ | 726 20970+ | 717 80266 72968+ | 5212 76026+ | 40 | |
| | 30 | 685 14012 95322 | 796 06237+ | 706 35053 96941+ | 5083 17341 | 30 | |
| | 40 | 693 54809 01559+ | 865 92770 | 694 89970 79600+ | 4953 61393 | 20 | |
| | 50 | 701 95674 94329+ | 8 40935 80569 | 683 45017 18208 | 4824 08181+ | 10 | |
| **36** | 0 | 710 36610 74898+ | 8 41005 69634+ | 672 00193 10026 | 4694 57706+ | 0 | **24** |
| | 10 | 718 77616 44533 | 075 59966+ | 660 55498 52320 | 4565 09966+ | 50 | |
| | 20 | 727 18692 04500 | 145 51566 | 649 10933 42353+ | 4435 64961+ | 40 | |
| | 30 | 735 59837 56065+ | 215 44432 | 637 66497 77392 | 4306 22690 | 30 | |
| | 40 | 744 01053 00498 | 285 38566 | 626 22191 54702 | 4176 83152 | 20 | |
| | 50 | 752 42338 39064 | 355 33968 | 614 78014 71550 | 4047 46346 | 10 | |
| **37** | 0 | 760 83693 73032 | 425 30638 | 603 33967 25204 | 3918 12272 | 0 | **23** |
| | 10 | 769 25119 03670 | 495 28576 | 591 90049 12932 | 3788 80929 | 50 | |
| | 20 | 777 66614 32246 | 565 27783 | 580 46260 32003+ | 3659 52316 | 40 | |
| | 30 | 786 08179 60029+ | 635 28259 | 569 02600 79687+ | 3530 26432+ | 30 | |
| | 40 | 794 49814 88288+ | 705 30004+ | 557 59070 53255 | 3401 03277+ | 20 | |
| | 50 | 802 91520 18293 | 775 33019 | 546 15669 49977+ | 3271 82850+ | 10 | |
| **38** | 0 | 811 33295 51311+ | 845 37303+ | 534 72397 67127 | 3142 65151 | 0 | **22** |
| | 10 | 819 75140 88615 | 915 42858 | 523 29255 01976 | 3013 50178 | 50 | |
| | 20 | 828 17056 31473 | 8 41985 49682+ | 511 86241 51798 | 2884 37930+ | 40 | |
| | 30 | 836 59041 81155+ | 8 42055 57778 | 500 43357 13867 | 2755 28408+ | 30 | |
| | 40 | 845 01097 38933+ | 125 67144+ | 489 00601 85459 | 2626 21610+ | 20 | |
| | 50 | 853 43223 06078 | 195 77782 | 477 57975 63848+ | 2497 17536 | 10 | |
| **39** | 0 | 861 85418 83859+ | 265 89690+ | 466 15478 46312+ | 2368 16184 | 0 | **21** |
| | 10 | 870 27684 73550 | 336 02871+ | 454 73110 30128+ | 2239 17554+ | 50 | |
| | 20 | 878 70020 76421+ | 406 17324 | 443 30871 12574 | 2110 21646+ | 40 | |
| | 30 | 887 12426 93745+ | 476 33048+ | 431 88760 90927+ | 1981 28458+ | 30 | |
| | 40 | 895 54903 26794 | 546 50046 | 420 46779 62469 | 1852 37991 | 20 | |
| | 50 | 903 97449 76840 | 8 42616 68316+ | 409 04927 24478 | 11 41723 50242 | 10 | |
| **40** | 0 | 0,85912 40066 45156+ | | 1,16397 63203 74236 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,85912 40066 45156+ | 8 42686 87859+ | 1,16397 63203 74236 | 11 41594 65212 | 0 | **20** |
| | 10 | 920 82753 33016+ | 757 08676+ | 386 21609 09024 | 1465 82899+ | 50 | |
| | 20 | 929 25510 41693 | 827 30767 | 374 80143 26124+ | 1337 03304 | 40 | |
| | 30 | 937 68337 72459+ | 897 54131 | 363 38806 22820+ | 1208 26424+ | 30 | |
| | 40 | 946 11235 26591 | 8 42967 78770 | 351 97597 96396+ | 1079 52260+ | 20 | |
| | 50 | 954 54203 05360+ | 8 43038 04683 | 340 56518 44136 | 0950 80811 | 10 | |
| **41** | 0 | 962 97241 10043+ | 108 31870+ | 329 15567 63325 | 0822 12076 | 0 | **19** |
| | 10 | 971 40349 41914 | 178 60333+ | 317 74745 51249 | 0693 46054 | 50 | |
| | 20 | 979 83528 02247+ | 248 90072 | 306 34052 05195+ | 0564 82744+ | 40 | |
| | 30 | 988 26776 92319+ | 319 21085+ | 294 93487 22451 | 0436 22146+ | 30 | |
| | 40 | 0,85996 70096 13405 | 389 53375+ | 283 53051 00304 | 0307 64260 | 20 | |
| | 50 | 0,86005 13485 66780+ | 459 86941 | 272 12743 36044 | 0179 09084 | 10 | |
| **42** | 0 | 013 56945 53721+ | 530 21783+ | 260 72564 26960 | 11 40050 56617 | 0 | **18** |
| | 10 | 022 00475 75505 | 600 57902+ | 249 32513 70343 | 11 39922 06859+ | 50 | |
| | 20 | 030 44076 33407+ | 670 95298+ | 237 92591 63483+ | 9793 59809+ | 40 | |
| | 30 | 038 87747 28706 | 741 33972 | 226 52798 03674 | 9665 15467+ | 30 | |
| | 40 | 047 31488 62678+ | 811 73923 | 215 13132 88206+ | 9536 73832 | 20 | |
| | 50 | 055 75300 36601 | 882 15151+ | 203 73596 14374+ | 9408 34902 | 10 | |
| **43** | 0 | 064 19182 51753 | 8 43952 57658+ | 192 34187 79472+ | 9279 98678 | 0 | **17** |
| | 10 | 072 63135 09411+ | 8 44023 01444 | 180 94907 80794+ | 9151 65158 | 50 | |
| | 20 | 081 07158 10855+ | 093 46508 | 169 55756 15637 | 9023 34341+ | 40 | |
| | 30 | 089 51251 57363 | 163 92851 | 158 16732 81295 | 8895 06228+ | 30 | |
| | 40 | 097 95415 50214 | 234 40473 | 146 77837 75066+ | 8766 80817+ | 20 | |
| | 50 | 106 39649 90687 | 304 89374+ | 135 39070 94249 | 8638 58108+ | 10 | |
| **44** | 0 | 114 83954 80061+ | 375 39556 | 124 00432 36140+ | 8510 38100 | 0 | **16** |
| | 10 | 123 28330 19618 | 445 91018 | 112 61921 98040+ | 8382 20791+ | 50 | |
| | 20 | 131 72776 10635+ | 516 43759+ | 101 23539 77249 | 8254 06182+ | 40 | |
| | 30 | 140 17292 54395+ | 586 97782+ | 089 85285 71066+ | 8125 94272+ | 30 | |
| | 40 | 148 61879 52178 | 657 53086 | 078 47159 76794+ | 7997 85060 | 20 | |
| | 50 | 157 06537 05263+ | 728 09670+ | 067 09161 91734+ | 7869 78544+ | 10 | |
| **45** | 0 | 165 51265 14934+ | 798 67537 | 055 71292 13190 | 7741 74726 | 0 | **15** |
| | 10 | 173 96063 82471 | 869 26685 | 044 33550 38464 | 7613 73603 | 50 | |
| | 20 | 182 40933 09156 | 8 44939 87115 | 032 95936 64861 | 7485 75175 | 40 | |
| | 30 | 190 85872 96270+ | 8 45010 48827 | 021 58450 89686 | 7357 79441+ | 30 | |
| | 40 | 199 30883 45097+ | 081 11822 | 1,16010 21093 10244+ | 7229 86401 | 20 | |
| | 50 | 207 75964 56920 | 151 76100 | 1,15998 83863 23843+ | 7101 96054 | 10 | |
| **46** | 0 | 216 21116 33019+ | 222 41661 | 987 46761 27789+ | 6974 08398+ | 0 | **14** |
| | 10 | 224 66338 74680+ | 293 08505+ | 976 09787 19391 | 6846 23435 | 50 | |
| | 20 | 233 11631 83186 | 363 76633+ | 964 72940 95956 | 6718 41162 | 40 | |
| | 30 | 241 56995 59819+ | 434 46045+ | 953 36222 54794+ | 6590 61578+ | 30 | |
| | 40 | 250 02430 05865 | 505 16742 | 941 99631 93216 | 6462 84684+ | 20 | |
| | 50 | 258 47935 22607+ | 575 88723+ | 930 63169 08531+ | 6335 10479 | 10 | |
| **47** | 0 | 266 93511 11331 | 646 61989 | 919 26833 98052 | 6207 38961+ | 0 | **13** |
| | 10 | 275 39157 73320 | 717 36540+ | 907 90626 59091 | 6079 70130+ | 50 | |
| | 20 | 283 84875 09860 | 788 12376+ | 896 54546 88960+ | 5952 03986 | 40 | |
| | 30 | 292 30663 22237 | 858 89499 | 885 18594 84974 | 5824 40527+ | 30 | |
| | 40 | 300 76522 11736 | 8 45929 67907 | 873 82770 44447 | 5696 79753+ | 20 | |
| | 50 | 309 22451 79643 | 8 46000 47601+ | 862 47073 64693+ | 5569 21663+ | 10 | |
| **48** | 0 | 317 68452 27244+ | 071 28582+ | 851 11504 43030 | 5441 66257 | 0 | **12** |
| | 10 | 326 14523 55827 | 142 10850 | 839 76062 76772+ | 5314 13533+ | 50 | |
| | 20 | 334 60665 66677 | 212 94405 | 828 40748 63239 | 5186 63492 | 40 | |
| | 30 | 343 06878 61082 | 283 79247+ | 817 05561 99747+ | 5059 16131+ | 30 | |
| | 40 | 351 53162 40329+ | 354 65377+ | 805 70502 83616 | 4931 71451+ | 20 | |
| | 50 | 359 99517 05707 | 425 52795+ | 794 35571 12164+ | 4804 29451 | 10 | |
| **49** | 0 | 368 45942 58502+ | 496 41501+ | 783 00766 82713+ | 4676 90130 | 0 | **11** |
| | 10 | 376 92439 00004 | 567 31496 | 771 66089 92583 | 4549 53487+ | 50 | |
| | 20 | 385 39006 31500 | 638 22779+ | 760 31540 39096 | 4422 19522+ | 40 | |
| | 30 | 393 85644 54279+ | 709 15352 | 748 97118 19573+ | 4294 88234+ | 30 | |
| | 40 | 402 32353 69632 | 780 09214 | 737 62823 31339 | 4167 59622+ | 20 | |
| | 50 | 410 79133 78846 | 8 46851 04365+ | 726 28655 71716+ | 11 34040 33686 | 10 | |
| **50** | 0 | 0,86419 25984 83211+ | | 1,15714 94615 38030+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 40°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,86419 25984 83211+ | 8 46922 00807+ | 1,15714 94615 38030+ | 11 33913 10424+ | 0 | **10** |
| | 10 | 427 72906 84019 | 8 46992 98539 | 703 60702 27606+ | 3785 89836+ | 50 | |
| | 20 | 436 19899 82558 | 8 47063 97561 | 692 26916 37770 | 3658 71922+ | 40 | |
| | 30 | 444 66963 80119 | 134 97874+ | 680 93257 65847+ | 3531 56680+ | 30 | |
| | 40 | 453 14098 77993+ | 205 99478+ | 669 59726 09167 | 3404 44111 | 20 | |
| | 50 | 461 61304 77472 | 277 02374 | 658 26321 65056 | 3277 34212 | 10 | |
| **51** | 0 | 470 08581 79845+ | 348 06561 | 646 93044 30844 | 3150 26984 | 0 | **9** |
| | 10 | 478 55929 86406+ | 419 12040 | 635 59894 03860 | 3023 22425+ | 50 | |
| | 20 | 487 03348 98446+ | 490 18811 | 624 26870 81435 | 2896 20536 | 40 | |
| | 30 | 495 50839 17257+ | 561 26874+ | 612 93974 60899 | 2769 21314+ | 30 | |
| | 40 | 503 98400 44132 | 632 36231 | 601 61205 39584 | 2642 24761 | 20 | |
| | 50 | 512 46032 80363+ | 703 46880+ | 590 28563 14823 | 2515 30874+ | 10 | |
| **52** | 0 | 520 93736 27244 | 774 58823+ | 578 96047 83948+ | 2388 39654 | 0 | **8** |
| | 10 | 529 41510 86067+ | 845 72060 | 567 63659 44295 | 2261 51098+ | 50 | |
| | 20 | 537 89356 58127+ | 916 86590+ | 556 31397 93196+ | 2134 65208 | 40 | |
| | 30 | 546 37273 44717+ | 8 47988 02415 | 544 99263 27988 | 2007 81981+ | 30 | |
| | 40 | 554 85261 47132+ | 8 48059 19534 | 533 67255 46006+ | 1881 01418+ | 20 | |
| | 50 | 563 33320 66666 | 130 37947+ | 522 35374 44588 | 1754 23517+ | 10 | |
| **53** | 0 | 571 81451 04613+ | 201 57656+ | 511 03620 21070+ | 1627 48279 | 0 | **7** |
| | 10 | 580 29652 62270 | 272 78660+ | 499 71992 72791+ | 1500 75701 | 50 | |
| | 20 | 588 77925 40930+ | 344 00960 | 488 40491 97090+ | 1374 05784 | 40 | |
| | 30 | 597 26269 41891 | 415 24556 | 477 09117 91306+ | 1247 38526+ | 30 | |
| | 40 | 605 74684 66446+ | 486 49447+ | 465 77870 52780 | 1120 73928 | 20 | |
| | 50 | 614 23171 15894 | 557 75636 | 454 46749 78852 | 0994 11987+ | 10 | |
| **54** | 0 | 622 71728 91530 | 629 03121 | 443 15755 66864+ | 0867 52704+ | 0 | **6** |
| | 10 | 631 20357 94651 | 700 31903 | 431 84888 14160 | 0740 96079 | 50 | |
| | 20 | 639 69058 26554 | 771 61982+ | 420 54147 18081 | 0614 42109 | 40 | |
| | 30 | 648 17829 88536 | 842 93359 | 409 23532 75972 | 0487 90794+ | 30 | |
| | 40 | 656 66672 81895+ | 914 26034 | 397 93044 85177+ | 0361 42135 | 20 | |
| | 50 | 665 15587 07929+ | 8 48985 60007 | 386 62683 43042+ | 0234 96129 | 10 | |
| **55** | 0 | 673 64572 67936+ | 8 49056 95278+ | 375 32448 46913+ | 11 30108 52777 | 0 | **5** |
| | 10 | 682 13629 63215 | 128 31849 | 364 02339 94136+ | 11 29982 12077 | 50 | |
| | 20 | 690 62757 95064 | 199 69718 | 352 72357 82059+ | 9855 74029 | 40 | |
| | 30 | 699 11957 64782 | 271 08886+ | 341 42502 08030+ | 9729 38632 | 30 | |
| | 40 | 707 61228 73668+ | 342 49354+ | 330 12772 69398+ | 9603 05885+ | 20 | |
| | 50 | 716 10571 23023+ | 413 91123 | 318 83169 63513 | 9476 75789 | 10 | |
| **56** | 0 | 724 59985 14146 | 485 34191 | 307 53692 87724 | 9350 48341 | 0 | **4** |
| | 10 | 733 09470 48337 | 556 78559+ | 296 24342 39382+ | 9224 23542 | 50 | |
| | 20 | 741 59027 26897 | 628 24229 | 284 95118 15841 | 9098 01390 | 40 | |
| | 30 | 750 08655 51126 | 699 71199+ | 273 66020 14451 | 8971 81885 | 30 | |
| | 40 | 758 58355 22325+ | 771 19471+ | 262 37048 32566 | 8845 65026 | 20 | |
| | 50 | 767 08126 41796+ | 842 69044+ | 251 08202 67540 | 8719 50813 | 10 | |
| **57** | 0 | 775 57969 10841 | 914 19920 | 239 79483 16727 | 8593 39244 | 0 | **3** |
| | 10 | 784 07883 30761 | 8 49985 72097+ | 228 50889 77483 | 8467 30319+ | 50 | |
| | 20 | 792 57869 02858+ | 8 50057 25577 | 217 22422 47163+ | 8341 24038+ | 40 | |
| | 30 | 801 07926 28435+ | 128 80359+ | 205 94081 23125 | 8215 20399+ | 30 | |
| | 40 | 809 58055 08795 | 200 36445+ | 194 65866 02725+ | 8089 19403 | 20 | |
| | 50 | 818 08255 45240+ | 271 93834+ | 183 37776 83322+ | 7963 21047+ | 10 | |
| **58** | 0 | 826 58527 39075 | 343 52527 | 172 09813 62275 | 7837 25332+ | 0 | **2** |
| | 10 | 835 08870 91602 | 415 12523+ | 160 81976 36942+ | 7711 32257 | 50 | |
| | 20 | 843 59286 04125+ | 486 73824 | 149 54265 04685+ | 7585 41821 | 40 | |
| | 30 | 852 09772 77949+ | 558 36429 | 138 26679 62865 | 7459 54023 | 30 | |
| | 40 | 860 60331 14378+ | 630 00339 | 126 99220 08842 | 7333 68863 | 20 | |
| | 50 | 869 10961 14717+ | 701 65554 | 115 71886 39979 | 7207 86339+ | 10 | |
| **59** | 0 | 877 61662 80271+ | 773 32074 | 104 44678 53639+ | 7082 06452+ | 0 | **1** |
| | 10 | 886 12436 12345+ | 844 99900 | 093 17596 47187 | 6956 29201 | 50 | |
| | 20 | 894 63281 12245+ | 916 69032 | 081 90640 17985+ | 6830 54584+ | 40 | |
| | 30 | 903 14197 81277+ | 8 50988 39469+ | 070 63809 63401 | 6704 82602 | 30 | |
| | 40 | 911 65186 20747 | 8 51060 11214 | 059 37104 80799 | 6579 13253 | 20 | |
| | 50 | 920 16246 31961+ | 8 51131 84265+ | 048 10525 67546 | 11 26453 46536+ | 10 | |
| **60** | 0 | 0,86928 67378 16226+ | | 1,15036 84072 21009+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 49°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,86928 67378 16226+ | 8 51203 58623+ | 1,15036 84072 21009+ | 11 26327 82452 | 0 | **60** |
| | 10 | 937 18581 74850 | 275 34289 | 025 57744 38557+ | 6202 20999 | 50 | |
| | 20 | 945 69857 09139+ | 347 11262+ | 014 31542 17558 | 6076 62176+ | 40 | |
| | 30 | 954 21204 20402 | 418 89543+ | 1,15003 05465 55381+ | 5951 05984 | 30 | |
| | 40 | 962 72623 09945+ | 490 69133 | 1,14991 79514 49397+ | 5825 52420+ | 20 | |
| | 50 | 971 24113 79078 | 562 50030+ | 980 53688 96976+ | 5700 01486 | 10 | |
| **1** | 0 | 979 75676 29109 | 634 32237+ | 969 27988 95490+ | 5574 53178+ | 0 | **59** |
| | 10 | 988 27310 61346 | 706 15753 | 958 02414 42312 | 5449 07498+ | 50 | |
| | 20 | 0,86996 79016 77099 | 778 00578 | 946 76965 34813+ | 5323 64445 | 40 | |
| | 30 | 0,87005 30794 77677 | 849 86712+ | 935 51641 70368+ | 5198 24017 | 30 | |
| | 40 | 013 82644 64389+ | 921 74157+ | 924 26443 46351+ | 5072 86214 | 20 | |
| | 50 | 022 34566 38547 | 8 51993 62912 | 913 01370 60137+ | 4947 51035 | 10 | |
| **2** | 0 | 030 86560 01459 | 8 52065 52977+ | 901 76423 09102 | 4822 18480 | 0 | **58** |
| | 10 | 039 38625 54436+ | 137 44353+ | 890 51600 90622 | 4696 88547+ | 50 | |
| | 20 | 047 90762 98790+ | 209 37041 | 879 26904 02074+ | 4571 61237+ | 40 | |
| | 30 | 056 42972 35831 | 281 31039+ | 868 02332 40837 | 4446 36548+ | 30 | |
| | 40 | 064 95253 66870+ | 353 26350 | 856 77886 04288+ | 4321 14480+ | 20 | |
| | 50 | 073 47606 93220+ | 425 22972 | 845 53564 89807+ | 4195 95033 | 10 | |
| **3** | 0 | 082 00032 16192+ | 497 20906+ | 834 29368 94775 | 4070 78204 | 0 | **57** |
| | 10 | 090 52529 37099 | 569 20153+ | 823 05298 16571 | 3945 63994 | 50 | |
| | 20 | 099 05098 57253 | 641 20713+ | 811 81352 52576+ | 3820 52402 | 40 | |
| | 30 | 107 57739 77966+ | 713 22586+ | 800 57532 00174+ | 3695 43427+ | 30 | |
| | 40 | 116 10453 00552+ | 785 25773 | 789 33836 56747 | 3570 37069+ | 20 | |
| | 50 | 124 63238 26325+ | 857 30273 | 778 10266 19677+ | 3445 33327 | 10 | |
| **4** | 0 | 133 16095 56598+ | 8 52929 36087 | 766 86820 86350+ | 3320 32199+ | 0 | **56** |
| | 10 | 141 69024 92685+ | 8 53001 43215+ | 755 63500 54151 | 3195 33687 | 50 | |
| | 20 | 150 22026 35900+ | 073 51658 | 744 40305 20464 | 3070 37788 | 40 | |
| | 30 | 158 75099 87559 | 145 61416 | 733 17234 82676 | 2945 44502 | 30 | |
| | 40 | 167 28245 48975 | 217 72489 | 721 94289 38174 | 2820 53828+ | 20 | |
| | 50 | 175 81463 21463+ | 289 84877 | 710 71468 84345+ | 2695 65766+ | 10 | |
| **5** | 0 | 184 34753 06341 | 361 98581 | 699 48773 18579 | 2570 80315+ | 0 | **55** |
| | 10 | 192 88115 04922 | 434 13601+ | 688 26202 38263+ | 2445 97474+ | 50 | |
| | 20 | 201 41549 18523 | 506 29937+ | 677 03756 40789 | 2321 17243+ | 40 | |
| | 30 | 209 95055 48461 | 578 47590+ | 665 81435 23545+ | 2196 39621 | 30 | |
| | 40 | 218 48633 96051+ | 650 66560+ | 654 59238 83924+ | 2071 64607 | 20 | |
| | 50 | 227 02284 62612 | 722 86847+ | 643 37167 19317 | 1946 92200+ | 10 | |
| **6** | 0 | 235 56007 49459+ | 795 08452 | 632 15220 27117 | 1822 22400+ | 0 | **54** |
| | 10 | 244 09802 57911 | 867 31374 | 620 93398 04716+ | 1697 55206+ | 50 | |
| | 20 | 252 63669 89285+ | 8 53939 55614+ | 609 71700 49510 | 1572 90618 | 40 | |
| | 30 | 261 17609 44900 | 8 54011 81173 | 598 50127 58891+ | 1448 28634+ | 30 | |
| | 40 | 269 71621 26073 | 084 08050+ | 587 28679 30257+ | 1323 69254+ | 20 | |
| | 50 | 278 25705 34123+ | 156 36246+ | 576 07355 61003 | 1199 12478 | 10 | |
| **7** | 0 | 286 79861 70370 | 228 65762 | 564 86156 48525 | 1074 58304 | 0 | **53** |
| | 10 | 295 34090 36132 | 300 96597 | 553 65081 90220+ | 0950 06732 | 50 | |
| | 20 | 303 88391 32729 | 373 28751+ | 542 44131 83488+ | 0825 57761 | 40 | |
| | 30 | 312 42764 61480+ | 445 62226+ | 531 23306 25727+ | 0701 11391 | 30 | |
| | 40 | 320 97210 23706+ | 517 97021+ | 520 02605 14336+ | 0576 67620+ | 20 | |
| | 50 | 329 51728 20728 | 590 33137+ | 508 82028 46716 | 0452 26449 | 10 | |
| **8** | 0 | 338 06318 53865+ | 662 70574 | 497 61576 20267 | 0327 87876 | 0 | **52** |
| | 10 | 346 60981 24439+ | 735 09332 | 486 41248 32391 | 0203 51901 | 50 | |
| | 20 | 355 15716 33772 | 807 49412 | 475 21044 80490 | 11 20079 18522+ | 40 | |
| | 30 | 363 70523 83183+ | 879 90813 | 464 00965 61967+ | 11 19954 87741 | 30 | |
| | 40 | 372 25403 73997 | 8 54952 33537 | 452 81010 74226+ | 9830 59554+ | 20 | |
| | 50 | 380 80356 07534 | 8 55024 77583 | 441 61180 14672 | 9706 33963+ | 10 | |
| **9** | 0 | 389 35380 85116+ | 097 22951+ | 430 41473 80708+ | 9582 10966+ | 0 | **51** |
| | 10 | 397 90478 08068 | 169 69643 | 419 21891 69742 | 9457 90563 | 50 | |
| | 20 | 406 45647 77711 | 242 17658 | 408 02433 79179 | 9333 72752+ | 40 | |
| | 30 | 415 00889 95369+ | 314 66997 | 396 83100 06426+ | 9209 57534 | 30 | |
| | 40 | 423 56204 62366 | 387 17659+ | 385 63890 48892 | 9085 44907+ | 20 | |
| | 50 | 432 11591 80025+ | 8 55459 69646 | 374 44805 03984+ | 11 18961 34871+ | 10 | |
| **10** | 0 | 0,87440 67051 49671+ | | 1,14363 25843 69113+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,87440 67051 49671+ | 8 55532 22957 | 1,14363 25843 69113+ | 11 18837 27425+ | 0 | **50** |
| | 10 | 449 22583 72628+ | 604 77593 | 352 07006 41688 | 8713 22569 | 50 | |
| | 20 | 457 78188 50221+ | 677 33554 | 340 88293 19119 | 8589 20301+ | 40 | |
| | 30 | 466 33865 83775+ | 749 90840 | 329 69703 98817+ | 8465 20621+ | 30 | |
| | 40 | 474 89615 74615+ | 822 49452 | 318 51238 78196 | 8341 23529 | 20 | |
| | 50 | 483 45438 24067+ | 895 09390 | 307 32897 54666+ | 8217 29023+ | 10 | |
| **11** | 0 | 492 01333 33457+ | 8 55967 70654 | 296 14680 25643 | 8093 37104 | 0 | **49** |
| | 10 | 500 57301 04111+ | 8 56040 33244+ | 284 96586 88539 | 7969 47769+ | 50 | |
| | 20 | 509 13341 37356 | 112 97162 | 273 78617 40770 | 7845 61019+ | 40 | |
| | 30 | 517 69454 34518+ | 185 62406+ | 262 60771 79750 | 7721 76853+ | 30 | |
| | 40 | 526 25639 96925 | 258 28978+ | 251 43050 02896+ | 7597 95271 | 20 | |
| | 50 | 534 81898 25903+ | 330 96878 | 240 25452 07625+ | 7474 16270+ | 10 | |
| **12** | 0 | 543 38229 22781+ | 403 66106 | 229 07977 91355 | 7350 39852+ | 0 | **48** |
| | 10 | 551 94632 88887+ | 476 36661+ | 217 90627 51502+ | 7226 66015 | 50 | |
| | 20 | 560 51109 25549 | 549 08546 | 206 73400 85487+ | 7102 94758+ | 40 | |
| | 30 | 569 07658 34095+ | 621 81759+ | 195 56297 90729 | 6979 26081+ | 30 | |
| | 40 | 577 64280 15855 | 694 56302 | 184 39318 64647+ | 6855 59983+ | 20 | |
| | 50 | 586 20974 72157 | 767 32174 | 173 22463 04663+ | 6731 96464 | 10 | |
| **13** | 0 | 594 77742 04331 | 840 09375+ | 162 05731 08199+ | 6608 35522+ | 0 | **47** |
| | 10 | 603 34582 13706+ | 912 87907+ | 150 89122 72677 | 6484 77157+ | 50 | |
| | 20 | 611 91495 01614 | 8 56985 67769+ | 139 72637 95519+ | 6361 21369 | 40 | |
| | 30 | 620 48480 69383+ | 8 57058 48962+ | 128 56276 74150+ | 6237 68156+ | 30 | |
| | 40 | 629 05539 18346 | 131 31486 | 117 40039 05994 | 6114 17518+ | 20 | |
| | 50 | 637 62670 49832 | 204 15341 | 106 23924 88475 | 5990 69455 | 10 | |
| **14** | 0 | 646 19874 65173 | 277 00527+ | 095 07934 19020 | 5867 23965+ | 0 | **46** |
| | 10 | 654 77151 65700 | 349 87045+ | 083 92066 95054+ | 5743 81048+ | 50 | |
| | 20 | 663 34501 52745+ | 422 74896 | 072 76323 14006 | 5620 40703+ | 40 | |
| | 30 | 671 91924 27641+ | 495 64078+ | 061 60702 73302+ | 5497 02930+ | 30 | |
| | 40 | 680 49419 91720+ | 568 54594 | 050 45205 70372+ | 5373 67728 | 20 | |
| | 50 | 689 06988 46314+ | 641 46442+ | 039 29832 02644+ | 5250 35096 | 10 | |
| **15** | 0 | 697 64629 92757 | 714 39624+ | 028 14581 67548+ | 5127 05033 | 0 | **45** |
| | 10 | 706 22344 32381 | 787 34139+ | 016 99454 62515+ | 5003 77539 | 50 | |
| | 20 | 714 80131 66520+ | 860 29989 | 1,14005 84450 84976+ | 4880 52613+ | 40 | |
| | 30 | 723 37991 96509+ | 8 57933 27172 | 1,13994 69570 32363 | 4757 30255 | 30 | |
| | 40 | 731 95925 23681+ | 8 58006 25690 | 983 54813 02108 | 4634 10463+ | 20 | |
| | 50 | 740 53931 49371+ | 079 25542+ | 972 40178 91645 | 4510 93238 | 10 | |
| **16** | 0 | 749 12010 74914 | 152 26730+ | 961 25667 98407 | 4387 78577+ | 0 | **44** |
| | 10 | 757 70163 01644+ | 225 29253+ | 950 11280 19829+ | 4264 66482 | 50 | |
| | 20 | 766 28388 30898 | 298 33112 | 938 97015 53347 | 4141 56951 | 40 | |
| | 30 | 774 86686 64010 | 371 38306+ | 927 82873 96396+ | 4018 49982+ | 30 | |
| | 40 | 783 45058 02316+ | 444 44837+ | 916 68855 46413+ | 3895 45577 | 20 | |
| | 50 | 792 03502 47154 | 517 52705 | 905 54960 00836+ | 3772 43734 | 10 | |
| **17** | 0 | 800 62019 99859 | 590 61909 | 894 41187 57102+ | 3649 44451+ | 0 | **43** |
| | 10 | 809 20610 61768 | 663 72450+ | 883 27538 12651 | 3526 47730 | 50 | |
| | 20 | 817 79274 34219 | 736 84329+ | 872 14011 64921 | 3403 53568+ | 40 | |
| | 30 | 826 38011 18548+ | 809 97546 | 861 00608 11352+ | 3280 61966 | 30 | |
| | 40 | 834 96821 16094+ | 883 12100+ | 849 87327 49386+ | 3157 72922 | 20 | |
| | 50 | 843 55704 28195 | 8 58956 27993+ | 838 74169 76464+ | 3034 86436+ | 10 | |
| **18** | 0 | 852 14660 56188+ | 8 59029 45225 | 827 61134 90028 | 2912 02507+ | 0 | **42** |
| | 10 | 860 73690 01413+ | 102 63795+ | 816 48222 87520+ | 2789 21135+ | 50 | |
| | 20 | 869 32792 65209 | 175 83705 | 805 35433 66385 | 2666 42319 | 40 | |
| | 30 | 877 91968 48914+ | 249 04954+ | 794 22767 24066 | 2543 66058 | 30 | |
| | 40 | 886 51217 53869 | 322 27543+ | 783 10223 58008+ | 2420 92351 | 20 | |
| | 50 | 895 10539 81412 | 395 51472+ | 771 97802 65657 | 2298 21198+ | 10 | |
| **19** | 0 | 903 69935 32884+ | 468 76742 | 760 85504 44458+ | 2175 52598+ | 0 | **41** |
| | 10 | 912 29404 09626+ | 542 03352 | 749 73328 91860 | 2052 86551+ | 50 | |
| | 20 | 920 88946 12979 | 615 31303+ | 738 61276 05309 | 1930 23056 | 40 | |
| | 30 | 929 48561 44282 | 688 60596 | 727 49345 82253 | 1807 62111+ | 30 | |
| | 40 | 938 08250 04878 | 761 91230 | 716 37538 20141+ | 1685 03717+ | 20 | |
| | 50 | 946 68011 96108 | 8 59835 23206 | 705 25853 16424 | 11 11562 47873 | 10 | |
| **20** | 0 | 0,87955 27847 19313+ | | 1,13694 14290 68551 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,87955 27847 19313+ | 8 59908 56524 | 1,13694 14290 68551 | 11 11439 94578 | 0 | **40** |
| | 10 | 963 87755 75837+ | 8 59981 91184+ | 683 02850 73973 | 1317 43831 | 50 | |
| | 20 | 972 47737 67022+ | 8 60055 27188 | 671 91533 30141+ | 1194 95632 | 40 | |
| | 30 | 981 07792 94210+ | 128 64534+ | 660 80338 34509+ | 1072 49980 | 30 | |
| | 40 | 989 67921 58745 | 202 03224+ | 649 69265 84529+ | 0950 06874+ | 20 | |
| | 50 | 0,87998 28123 61969+ | 275 43258 | 638 58315 77655 | 0827 66314+ | 10 | |
| **21** | 0 | 0,88006 88399 05227+ | 348 84635+ | 627 47488 11340+ | 0705 28299+ | 0 | **39** |
| | 10 | 015 48747 89863 | 422 27357+ | 616 36782 83041 | 0582 92829 | 50 | |
| | 20 | 024 09170 17220 | 495 71423+ | 605 26199 90212 | 0460 59902 | 40 | |
| | 30 | 032 69665 88644 | 569 16835 | 594 15739 30310+ | 0338 29517+ | 30 | |
| | 40 | 041 30235 05479 | 642 63591+ | 583 05401 00793 | 0216 01676 | 20 | |
| | 50 | 049 90877 69070 | 716 11693+ | 571 95184 99117 | 11 10093 76376 | 10 | |
| **22** | 0 | 058 51593 80763+ | 789 61141 | 560 85091 22741 | 11 09971 53616+ | 0 | **38** |
| | 10 | 067 12383 41904+ | 863 11934+ | 549 75119 69124 | 9849 33398 | 50 | |
| | 20 | 075 73246 53839 | 8 60936 64074+ | 538 65270 35726+ | 9727 15718+ | 40 | |
| | 30 | 084 34183 17914 | 8 61010 17561+ | 527 55543 20007+ | 9605 00578+ | 30 | |
| | 40 | 092 95193 35475+ | 083 72395 | 516 45938 19429+ | 9482 87976 | 20 | |
| | 50 | 101 56277 07870+ | 157 28576 | 505 36455 31453 | 9360 77911+ | 10 | |
| **23** | 0 | 110 17434 36446+ | 230 86105 | 494 27094 53541+ | 9238 70384 | 0 | **37** |
| | 10 | 118 78665 22551+ | 304 44981 | 483 17855 83157+ | 9116 65393 | 50 | |
| | 20 | 127 39969 67532+ | 378 05205+ | 472 08739 17764+ | 8994 62937 | 40 | |
| | 30 | 136 01347 72738+ | 451 66779 | 460 99744 54827+ | 8872 63016 | 30 | |
| | 40 | 144 62799 39517 | 525 29700+ | 449 90871 91811+ | 8750 65629+ | 20 | |
| | 50 | 153 24324 69217+ | 598 93971+ | 438 82121 26182 | 8628 70776+ | 10 | |
| **24** | 0 | 161 85923 63189 | 672 59591+ | 427 73492 55405+ | 8506 78456 | 0 | **36** |
| | 10 | 170 47596 22780+ | 746 26561+ | 416 64985 76949+ | 8384 88668 | 50 | |
| | 20 | 179 09342 49342 | 819 94881+ | 405 56600 88281 | 8263 01411+ | 40 | |
| | 30 | 187 71162 44223+ | 893 64551+ | 394 48337 86869+ | 8141 16686 | 30 | |
| | 40 | 196 33056 08775 | 8 61967 35572 | 383 40196 70183+ | 8019 34490+ | 20 | |
| | 50 | 204 95023 44347 | 8 62041 07943+ | 372 32177 35693 | 7897 54824+ | 10 | |
| **25** | 0 | 213 57064 52291 | 114 81666+ | 361 24279 80868+ | 7775 77687+ | 0 | **35** |
| | 10 | 222 19179 33957 | 188 56740+ | 350 16504 03181 | 7654 03078+ | 50 | |
| | 20 | 230 81367 90697+ | 262 33166+ | 339 08850 00102+ | 7532 30997 | 40 | |
| | 30 | 239 43630 23864 | 336 10944+ | 328 01317 69105 | 7410 61442+ | 30 | |
| | 40 | 248 05966 34808 | 409 90074+ | 316 93907 07662+ | 7288 94414+ | 20 | |
| | 50 | 256 68376 24883 | 483 70557+ | 305 86618 13248 | 7167 29911+ | 10 | |
| **26** | 0 | 265 30859 95440+ | 557 52393+ | 294 79450 83336+ | 7045 67933+ | 0 | **34** |
| | 10 | 273 93417 47834 | 631 35583 | 283 72405 15403 | 6924 08479+ | 50 | |
| | 20 | 282 56048 83417 | 705 20125+ | 272 65481 06923+ | 6802 51549 | 40 | |
| | 30 | 291 18754 03543 | 779 06022+ | 261 58678 55374+ | 6680 97141+ | 30 | |
| | 40 | 299 81533 09565 | 852 93273 | 250 51997 58233 | 6559 45256 | 20 | |
| | 50 | 308 44386 02838+ | 8 62926 81878+ | 239 45438 12977 | 6437 95892 | 10 | |
| **27** | 0 | 317 07312 84717 | 8 63000 71838+ | 228 39000 17085 | 6316 49049 | 0 | **33** |
| | 10 | 325 70313 56555+ | 074 63154 | 217 32683 68035+ | 6195 04726 | 50 | |
| | 20 | 334 33388 19709 | 148 55824+ | 206 26488 63309+ | 6073 62922+ | 40 | |
| | 30 | 342 96536 75533+ | 222 49850+ | 195 20415 00387 | 5952 23638 | 30 | |
| | 40 | 351 59759 25384 | 296 45232+ | 184 14462 76749 | 5830 86871+ | 20 | |
| | 50 | 360 23055 70617 | 370 41971 | 173 08631 89877+ | 5709 52622+ | 10 | |
| **28** | 0 | 368 86426 12588 | 444 40066+ | 162 02922 37255 | 5588 20890+ | 0 | **32** |
| | 10 | 377 49870 52654+ | 518 39518+ | 150 97334 16364+ | 5466 91674+ | 50 | |
| | 20 | 386 13388 92172+ | 592 40327+ | 139 91867 24690+ | 5345 64973+ | 40 | |
| | 30 | 394 76981 32500 | 666 42494 | 128 86521 59716+ | 5224 40788 | 30 | |
| | 40 | 403 40647 74994 | 740 46018+ | 117 81297 18928+ | 5103 19116+ | 20 | |
| | 50 | 412 04388 21012+ | 814 50901 | 106 76193 99812+ | 4981 99958+ | 10 | |
| **29** | 0 | 420 68202 71913+ | 888 57142 | 095 71211 99854 | 4860 83313 | 0 | **31** |
| | 10 | 429 32091 29055+ | 8 63962 64741+ | 084 66351 16541 | 4739 69180 | 50 | |
| | 20 | 437 96053 93797 | 8 64036 73700 | 073 61611 47361 | 4618 57558 | 40 | |
| | 30 | 446 60090 67497 | 110 84018 | 062 56992 89803 | 4497 48447+ | 30 | |
| | 40 | 455 24201 51515 | 184 95695+ | 051 52495 41355+ | 4376 41847 | 20 | |
| | 50 | 463 88386 47210+ | 8 64259 08733 | 040 48118 99508+ | 11 04255 37755+ | 10 | |
| **30** | 0 | 0,88472 52645 55944 | | 1,13029 43863 61753 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,88472 52645 55944 | 8 64333 23130+ | 1,13029 43863 61753 | 11 04134 36173+ | 0 | **30** |
| | 10 | 481 16978 79074+ | 407 38889 | 018 39729 25579+ | 4013 37099+ | 50 | |
| | 20 | 489 81386 17963+ | 481 56008 | 1,13007 35715 88480+ | 3892 40532+ | 40 | |
| | 30 | 498 45867 73971+ | 555 74488 | 1,12996 31823 47947+ | 3771 46473 | 30 | |
| | 40 | 507 10423 48459+ | 629 94329+ | 985 28052 01474+ | 3650 54919+ | 20 | |
| | 50 | 515 75053 42789 | 704 15533 | 974 24401 46555+ | 3529 65871+ | 10 | |
| **31** | 0 | 524 39757 58322 | 778 38098 | 963 20871 80684 | 3408 79328 | 0 | **29** |
| | 10 | 533 04535 96420 | 852 62026 | 952 17463 01356 | 3287 95289 | 50 | |
| | 20 | 541 69388 58446 | 8 64926 87316 | 941 14175 06067 | 3167 13753+ | 40 | |
| | 30 | 550 34315 45762 | 8 65001 13969+ | 930 11007 92313+ | 3046 34721 | 30 | |
| | 40 | 558 99316 59731+ | 075 41986 | 919 07961 57592+ | 2925 58190+ | 20 | |
| | 50 | 567 64392 01717+ | 149 71366 | 908 05035 99402 | 2804 84161+ | 10 | |
| **32** | 0 | 576 29541 73083 | 224 02110 | 897 02231 15240 | 2684 12634 | 0 | **28** |
| | 10 | 584 94765 75193 | 298 34218 | 885 99547 02606+ | 2563 43606 | 50 | |
| | 20 | 593 60064 09411 | 372 67690+ | 874 96983 59000+ | 2442 77078 | 40 | |
| | 30 | 602 25436 77101+ | 447 02528 | 863 94540 81922+ | 2322 13048+ | 30 | |
| | 40 | 610 90883 79629 | 521 38730 | 852 92218 68873+ | 2201 51517+ | 20 | |
| | 50 | 619 56405 18359+ | 595 76298 | 841 90017 17356 | 2080 92484 | 10 | |
| **33** | 0 | 628 22000 94657 | 670 15231+ | 830 87936 24872 | 1960 35947+ | 0 | **27** |
| | 10 | 636 87671 09888+ | 744 55531 | 819 85975 88924 | 1839 81907+ | 50 | |
| | 20 | 645 53415 65419+ | 818 97196+ | 808 84136 07016+ | 1719 30363 | 40 | |
| | 30 | 654 19234 62616 | 893 40229 | 797 82416 76654 | 1598 81313 | 30 | |
| | 40 | 662 85128 02844+ | 8 65967 84628 | 786 80817 95340+ | 1478 34758 | 20 | |
| | 50 | 671 51095 87473 | 8 66042 30394+ | 775 79339 60582+ | 1357 90696 | 10 | |
| **34** | 0 | 680 17138 17867+ | 116 77528+ | 764 77981 69886+ | 1237 49127+ | 0 | **26** |
| | 10 | 688 83254 95395+ | 191 26030 | 753 76744 20759+ | 1117 10051 | 50 | |
| | 20 | 697 49446 21426 | 265 75900 | 742 75627 10708+ | 0996 73466 | 40 | |
| | 30 | 706 15711 97326 | 340 27138+ | 731 74630 37242+ | 0876 39372 | 30 | |
| | 40 | 714 82052 24464+ | 414 79745+ | 720 73753 97870+ | 0756 07768+ | 20 | |
| | 50 | 723 48467 04210 | 489 33721+ | 709 72997 90102 | 0635 78655 | 10 | |
| **35** | 0 | 732 14956 37931+ | 563 89067 | 698 72362 11447 | 0515 52030 | 0 | **25** |
| | 10 | 740 81520 26998+ | 638 45782 | 687 71846 59417 | 0395 27893+ | 50 | |
| | 20 | 749 48158 72780+ | 713 03867 | 676 71451 31523+ | 0275 06245 | 40 | |
| | 30 | 758 14871 76648 | 787 63322+ | 665 71176 25278+ | 0154 87083+ | 30 | |
| | 40 | 766 81659 39970+ | 862 24148+ | 654 71021 38195 | 11 00034 70408 | 20 | |
| | 50 | 775 48521 64118+ | 8 66936 86345 | 643 70986 67787 | 10 99914 56218+ | 10 | |
| **36** | 0 | 784 15458 50464 | 8 67011 49913 | 632 71072 11568+ | 9794 44514 | 0 | **24** |
| | 10 | 792 82470 00377 | 086 14852+ | 621 71277 67054+ | 9674 35294 | 50 | |
| | 20 | 801 49556 15229+ | 160 81163+ | 610 71603 31760 | 9554 28558 | 40 | |
| | 30 | 810 16716 96393 | 235 48847 | 599 72049 03202 | 9434 24305 | 30 | |
| | 40 | 818 83952 45240 | 310 17903 | 588 72614 78897+ | 9314 22534 | 20 | |
| | 50 | 827 51262 63143 | 384 88331+ | 577 73300 56363 | 9194 23245+ | 10 | |
| **37** | 0 | 836 18647 51474+ | 459 60132+ | 566 74106 33117+ | 9074 26437+ | 0 | **23** |
| | 10 | 844 86107 11607 | 534 33307+ | 555 75032 06680 | 8954 32110+ | 50 | |
| | 20 | 853 53641 44914+ | 609 07856 | 544 76077 74569+ | 8834 40263 | 40 | |
| | 30 | 862 21250 52770+ | 683 83778+ | 533 77243 34306 | 8714 50895 | 30 | |
| | 40 | 870 88934 36549 | 758 61075 | 522 78528 83411 | 8594 64005+ | 20 | |
| | 50 | 879 56692 97624 | 833 39746 | 511 79934 19405+ | 8474 79594 | 10 | |
| **38** | 0 | 888 24526 37370 | 908 19792 | 500 81459 39811+ | 8354 97659+ | 0 | **22** |
| | 10 | 896 92434 57162 | 8 67983 01213+ | 489 83104 42152+ | 8235 18201+ | 50 | |
| | 20 | 905 60417 58375+ | 8 68057 84010 | 478 84869 23951 | 8115 41219+ | 40 | |
| | 30 | 914 28475 42385+ | 132 68182+ | 467 86753 82731+ | 7995 66713 | 30 | |
| | 40 | 922 96608 10568 | 207 53731 | 456 88758 16018+ | 7875 94681 | 20 | |
| | 50 | 931 64815 64299 | 282 40656 | 445 90882 21337+ | 7756 25122+ | 10 | |
| **39** | 0 | 940 33098 04955+ | 357 28958 | 434 93125 96215 | 7636 58038 | 0 | **21** |
| | 10 | 949 01455 33913 | 432 18636+ | 423 95489 38177 | 7516 93426 | 50 | |
| | 20 | 957 69887 52549+ | 507 09692+ | 412 97972 44751+ | 7397 31285+ | 40 | |
| | 30 | 966 38394 62242 | 582 02126 | 402 00575 13465+ | 7277 71617 | 30 | |
| | 40 | 975 06976 64368 | 656 95937+ | 391 03297 41848+ | 7158 14419 | 20 | |
| | 50 | 983 75633 60306 | 8 68731 91127+ | 380 06139 27430 | 10 97038 59691 | 10 | |
| **40** | 0 | 0,88992 44365 51433+ | | 1,12369 09100 67739 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,88992 44365 51433+ | 8 68806 87696 | 1,12369 09100 67739 | 10 96919 07432+ | 0 | **20** |
| | 10 | 0,89001 13172 39129+ | 881 85643 | 358 12181 60306+ | 6799 57642+ | 50 | |
| | 20 | 009 82054 24772+ | 8 68956 84969+ | 347 15382 02663+ | 6680 10321 | 40 | |
| | 30 | 018 51011 09742+ | 8 69031 85675+ | 336 18701 92343 | 6560 65466+ | 30 | |
| | 40 | 027 20042 95418 | 106 87761+ | 325 22141 26876 | 6441 23079+ | 20 | |
| | 50 | 035 89149 83179+ | 181 91227 | 314 25700 03797 | 6321 83158 | 10 | |
| **41** | 0 | 044 58331 74406+ | 256 96073+ | 303 29378 20638+ | 6202 45702+ | 0 | **19** |
| | 10 | 053 27588 70480 | 332 02300+ | 292 33175 74936+ | 6083 10711+ | 50 | |
| | 20 | 061 96920 72780 | 407 09908+ | 281 37092 64225 | 5963 78185 | 40 | |
| | 30 | 070 66327 82688+ | 482 18897+ | 270 41128 86040 | 5844 48121+ | 30 | |
| | 40 | 079 35810 01586 | 557 29268+ | 259 45284 37918+ | 5725 20521+ | 20 | |
| | 50 | 088 05367 30854+ | 632 41021+ | 248 49559 17397 | 5605 95383+ | 10 | |
| **42** | 0 | 096 74999 71876 | 707 54156+ | 237 53953 22013+ | 5486 72707+ | 0 | **18** |
| | 10 | 105 44707 26032+ | 782 68674+ | 226 58466 49306 | 5367 52492 | 50 | |
| | 20 | 114 14489 94706+ | 857 84575 | 215 63098 96814 | 5248 34737 | 40 | |
| | 30 | 122 84347 79281+ | 8 69933 01859 | 204 67850 62077 | 5129 19441+ | 30 | |
| | 40 | 131 54280 81140+ | 8 70008 20526 | 193 72721 42635+ | 5010 06605+ | 20 | |
| | 50 | 140 24289 01666+ | 083 40577 | 182 77711 36030 | 4890 96227+ | 10 | |
| **43** | 0 | 148 94372 42243+ | 158 62012+ | 171 82820 39802+ | 4771 88307+ | 0 | **17** |
| | 10 | 157 64531 04256 | 233 84832 | 160 88048 51495+ | 4652 82844 | 50 | |
| | 20 | 166 34764 89088+ | 309 09036+ | 149 93395 68651 | 4533 79837+ | 40 | |
| | 30 | 175 05073 98125 | 384 34626 | 138 98861 88813+ | 4414 79286+ | 30 | |
| | 40 | 183 75458 32751 | 459 61601 | 128 04447 09527 | 4295 81191 | 20 | |
| | 50 | 192 45917 94352 | 534 89961+ | 117 10151 28336 | 4176 85550 | 10 | |
| **44** | 0 | 201 16452 84313+ | 610 19708 | 106 15974 42786 | 4057 92362+ | 0 | **16** |
| | 10 | 209 87063 04021+ | 685 50840+ | 095 21916 50423+ | 3939 01628+ | 50 | |
| | 20 | 218 57748 54862 | 760 83360 | 084 27977 48795 | 3820 13347 | 40 | |
| | 30 | 227 28509 38222 | 836 17266+ | 073 34157 35448 | 3701 27517+ | 30 | |
| | 40 | 235 99345 55488+ | 911 52560 | 062 40456 07931 | 3582 44139 | 20 | |
| | 50 | 244 70257 08048+ | 8 70986 89241 | 051 46873 63792 | 3463 63211 | 10 | |
| **45** | 0 | 253 41243 97289+ | 8 71062 27310 | 040 53410 00580+ | 3344 84733+ | 0 | **15** |
| | 10 | 262 12306 24599+ | 137 66767 | 029 60065 15847 | 3226 08705 | 50 | |
| | 20 | 270 83443 91367 | 213 07612+ | 018 66839 07142 | 3107 35125+ | 40 | |
| | 30 | 279 54656 98979+ | 288 49847 | 1,12007 73731 72016+ | 2988 63994 | 30 | |
| | 40 | 288 25945 48826+ | 363 93470+ | 1,11996 80743 08022+ | 2869 95310 | 20 | |
| | 50 | 296 97309 42297 | 439 38483+ | 985 87873 12712+ | 2751 29072+ | 10 | |
| **46** | 0 | 305 68748 80780 | 514 84886 | 974 95121 83640+ | 2632 65281 | 0 | **14** |
| | 10 | 314 40263 65666 | 590 32678+ | 964 02489 18359 | 2514 03935+ | 50 | |
| | 20 | 323 11853 98344+ | 665 81861+ | 953 09975 14424 | 2395 45034+ | 40 | |
| | 30 | 331 83519 80206 | 741 32435 | 942 17579 69389+ | 2276 88577+ | 30 | |
| | 40 | 340 55261 12641 | 816 84399+ | 931 25302 80812 | 2158 34564+ | 20 | |
| | 50 | 349 27077 97040+ | 892 37755+ | 920 33144 46247+ | 2039 82994+ | 10 | |
| **47** | 0 | 357 98970 34796 | 8 71967 92502+ | 909 41104 63253 | 1921 33866+ | 0 | **13** |
| | 10 | 366 70938 27298+ | 8 72043 48642 | 898 49183 29386+ | 1802 87180 | 50 | |
| | 20 | 375 42981 75940+ | 119 06173+ | 887 57380 42206+ | 1684 42934+ | 40 | |
| | 30 | 384 15100 82114 | 194 65097+ | 876 65695 99272 | 1566 01129+ | 30 | |
| | 40 | 392 87295 47212 | 270 25414+ | 865 74129 98142+ | 1447 61764+ | 20 | |
| | 50 | 401 59565 72626+ | 345 87124+ | 854 82682 36378 | 1329 24838+ | 10 | |
| **48** | 0 | 410 31911 59751 | 421 50228 | 843 91353 11539+ | 1210 90350+ | 0 | **12** |
| | 10 | 419 04333 09979 | 497 14725+ | 833 00142 21189 | 1092 58300+ | 50 | |
| | 20 | 427 76830 24704 | 572 80616+ | 822 09049 62888+ | 0974 28688 | 40 | |
| | 30 | 436 49403 05321 | 648 47902+ | 811 18075 34201 | 0856 01511+ | 30 | |
| | 40 | 445 22051 53223+ | 724 16583 | 800 27219 32689+ | 0737 76771 | 20 | |
| | 50 | 453 94775 69806+ | 799 86658+ | 789 36481 55918+ | 0619 54466 | 10 | |
| **49** | 0 | 462 67575 56464+ | 875 58129+ | 778 45862 01452+ | 0501 34595+ | 0 | **11** |
| | 10 | 471 40451 14594 | 8 72951 30996 | 767 55360 66857 | 0383 17158+ | 50 | |
| | 20 | 480 13402 45590 | 8 73027 05258 | 756 64977 49698+ | 0265 02155+ | 40 | |
| | 30 | 488 86429 50848 | 102 80917 | 745 74712 47543 | 0146 89585 | 30 | |
| | 40 | 497 59532 31765 | 178 57972+ | 734 84565 57958 | 10 90028 79446 | 20 | |
| | 50 | 506 32710 89737+ | 8 73254 36424+ | 723 94536 78512 | 10 89910 71739 | 10 | |
| **50** | 0 | 0,89515 05965 26162 | | 1,11713 04626 06773 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 41°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,89515 05965 26162 | 8 73330 16274 | 1,11713 04626 06773 | 10 89792 66462+ | 0 | **10** |
| | 10 | 523 79295 42436 | 405 97521 | 702 14833 40310+ | 9674 63616+ | 50 | |
| | 20 | 532 52701 39957 | 481 80166 | 691 25158 76694 | 9556 63199+ | 40 | |
| | 30 | 541 26183 20123 | 557 64209 | 680 35602 13494+ | 9438 65211+ | 30 | |
| | 40 | 549 99740 84332 | 633 49650+ | 669 46163 48282+ | 9320 69652 | 20 | |
| | 50 | 558 73374 33982 | 709 36490+ | 658 56842 78630+ | 9202 76520 | 10 | |
| **51** | 0 | 567 47083 70473 | 785 24730 | 647 67640 02111 | 9084 85814+ | 0 | **9** |
| | 10 | 576 20868 95203 | 861 14369 | 636 78555 16296 | 8966 97536 | 50 | |
| | 20 | 584 94730 09572 | 8 73937 05407+ | 625 89588 18760+ | 8849 11682+ | 40 | |
| | 30 | 593 68667 14979+ | 8 74012 97846 | 615 00739 07078 | 8731 28254+ | 30 | |
| | 40 | 602 42680 12825+ | 088 91685 | 604 12007 78823+ | 8613 47250+ | 20 | |
| | 50 | 611 16769 04510+ | 164 86924+ | 593 23394 31572+ | 8495 68670+ | 10 | |
| **52** | 0 | 619 90933 91435 | 240 83565+ | 582 34898 62902 | 8377 92514 | 0 | **8** |
| | 10 | 628 65174 75000+ | 316 81607+ | 571 46520 70388 | 8260 18779+ | 50 | |
| | 20 | 637 39491 56608 | 392 81051 | 560 58260 51608+ | 8142 47467 | 40 | |
| | 30 | 646 13884 37658+ | 468 81896+ | 549 70118 04141+ | 8024 78575+ | 30 | |
| | 40 | 654 88353 19555 | 544 84144 | 538 82093 25566 | 7907 12105 | 20 | |
| | 50 | 663 62898 03699 | 620 87794+ | 527 94186 13461 | 7789 48054+ | 10 | |
| **53** | 0 | 672 37518 91493+ | 696 92847+ | 517 06396 65406+ | 7671 86423 | 0 | **7** |
| | 10 | 681 12215 84341 | 772 99304 | 506 18724 78983+ | 7554 27210 | 50 | |
| | 20 | 689 86988 83645 | 849 07164 | 495 31170 51773+ | 7436 70415+ | 40 | |
| | 30 | 698 61837 90809 | 8 74925 16427+ | 484 43733 81357+ | 7319 16038+ | 30 | |
| | 40 | 707 36763 07237 | 8 75001 27095+ | 473 56414 65319+ | 7201 64078 | 20 | |
| | 50 | 716 11764 34332+ | 077 39168 | 462 69213 01241+ | 7084 14533+ | 10 | |
| **54** | 0 | 724 86841 73500+ | 153 52645 | 451 82128 86708 | 6966 67405 | 0 | **6** |
| | 10 | 733 61995 26145+ | 229 67527+ | 440 95162 19303 | 6849 22691 | 50 | |
| | 20 | 742 37224 93673 | 305 83815 | 430 08312 96612 | 6731 80391+ | 40 | |
| | 30 | 751 12530 77488 | 382 01508+ | 419 21581 16220+ | 6614 40505+ | 30 | |
| | 40 | 759 87912 78996+ | 458 20608 | 408 34966 75715 | 6497 03032+ | 20 | |
| | 50 | 768 63370 99604+ | 534 41113+ | 397 48469 72682+ | 6379 67972 | 10 | |
| **55** | 0 | 777 38905 40718+ | 610 63026 | 386 62090 04710+ | 6262 35323 | 0 | **5** |
| | 10 | 786 14516 03744+ | 686 86345+ | 375 75827 69387+ | 6145 05085 | 50 | |
| | 20 | 794 90202 90090 | 763 11072+ | 364 89682 64302+ | 6027 77258 | 40 | |
| | 30 | 803 65966 01162+ | 839 37207 | 354 03654 87044+ | 5910 51840+ | 30 | |
| | 40 | 812 41805 38369 | 915 64749 | 343 17744 35204 | 5793 28832 | 20 | |
| | 50 | 821 17721 03118+ | 8 75991 93699+ | 332 31951 06372 | 5676 08232+ | 10 | |
| **56** | 0 | 829 93712 96818 | 8 76068 24059 | 321 46274 98139+ | 5558 90041 | 0 | **4** |
| | 10 | 838 69781 20877 | 144 55827 | 310 60716 08098+ | 5441 74256+ | 50 | |
| | 20 | 847 45925 76704 | 220 89004 | 299 75274 33842 | 5324 60878+ | 40 | |
| | 30 | 856 22146 65708 | 297 23591 | 288 89949 72963+ | 5207 49907 | 30 | |
| | 40 | 864 98443 89299 | 373 59587+ | 278 04742 23056 | 5090 41341 | 20 | |
| | 50 | 873 74817 48887 | 449 96994+ | 267 19651 81715+ | 4973 35179+ | 10 | |
| **57** | 0 | 882 51267 45881+ | 526 35812 | 256 34678 46536 | 4856 31422 | 0 | **3** |
| | 10 | 891 27793 81693+ | 602 76040 | 245 49822 15113+ | 4739 30068+ | 50 | |
| | 20 | 900 04396 57733 | 679 17679 | 234 65082 85045 | 4622 31117+ | 40 | |
| | 30 | 908 81075 75412+ | 755 60730 | 223 80460 53927+ | 4505 34569 | 30 | |
| | 40 | 917 57831 36142 | 832 05192 | 212 95955 19358 | 4388 40422+ | 20 | |
| | 50 | 926 34663 41334+ | 908 51066+ | 202 11566 78936 | 4271 48676+ | 10 | |
| **58** | 0 | 935 11571 92401 | 8 76984 98353+ | 191 27295 30259 | 4154 59331 | 0 | **2** |
| | 10 | 943 88556 90755 | 8 77061 47053 | 180 43140 70928 | 4037 72385+ | 50 | |
| | 20 | 952 65618 37808 | 137 97166 | 169 59102 98542+ | 3920 87839 | 40 | |
| | 30 | 961 42756 34973+ | 214 48691+ | 158 75182 10703+ | 3804 05691 | 30 | |
| | 40 | 970 19970 83665+ | 291 01631+ | 147 91378 05012 | 3687 25941 | 20 | |
| | 50 | 978 97261 85297 | 367 55985 | 137 07690 79071 | 3570 48588+ | 10 | |
| **59** | 0 | 987 74629 41281+ | 444 11753 | 126 24120 30482+ | 3453 73632 | 0 | **1** |
| | 10 | 0,89996 52073 53034+ | 520 68935+ | 115 40666 56850+ | 3337 01072 | 50 | |
| | 20 | 0,90005 29594 21970 | 597 27533 | 104 57329 55778+ | 3220 30907+ | 40 | |
| | 30 | 014 07191 49502+ | 673 87545+ | 093 74109 24871 | 3103 63137+ | 30 | |
| | 40 | 022 84865 37048 | 750 48974 | 082 91005 61733+ | 2986 97761+ | 20 | |
| | 50 | 031 62615 86022 | 8 77827 11818 | 072 08018 63972 | 10 82870 34779 | 10 | |
| **60** | 0 | 0,90040 40442 97840 | | 1,11061 25148 29193 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 48°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,90040 40442 97840 | 8 77903 76078+ | 1,11061 25148 29193 | 10 82753 74190 | 0 | **60** |
| | 10 | 049 18346 73918+ | 8 77980 41755+ | 050 42394 55003 | 2637 15992+ | 50 | |
| | 20 | 057 96327 15673+ | 8 78057 08849 | 039 59757 39010+ | 2520 60187 | 40 | |
| | 30 | 066 74384 24522+ | 133 77360 | 028 77236 78823+ | 2404 06772+ | 30 | |
| | 40 | 075 52518 01882+ | 210 47288+ | 017 94832 72050+ | 2287 55748+ | 20 | |
| | 50 | 084 30728 49171 | 287 18634+ | 1,11007 12545 16302 | 2171 07114 | 10 | |
| **1** | 0 | 093 09015 67806 | 363 91399 | 1,10996 30374 09188 | 2054 60869 | 0 | **59** |
| | 10 | 101 87379 59205 | 440 65582 | 985 48319 48319 | 1938 17012+ | 50 | |
| | 20 | 110 65820 24787 | 517 41183+ | 974 66381 31306+ | 1821 75543+ | 40 | |
| | 30 | 119 44337 65970+ | 594 18204+ | 963 84559 55763+ | 1705 36462 | 30 | |
| | 40 | 128 22931 84175 | 670 96644+ | 953 02854 19301+ | 1588 99767 | 20 | |
| | 50 | 137 01602 80819+ | 747 76504+ | 942 21265 19534 | 1472 65458 | 10 | |
| **2** | 0 | 145 80350 57323+ | 824 57784 | 931 39792 54076 | 1356 33535 | 0 | **58** |
| | 10 | 154 59175 15108 | 901 40484+ | 920 58436 20541 | 1240 03996 | 50 | |
| | 20 | 163 38076 55592+ | 8 78978 24605+ | 909 77196 16545 | 1123 76841+ | 40 | |
| | 30 | 172 17054 80197+ | 8 79055 10147+ | 898 96072 39703+ | 1007 52070+ | 30 | |
| | 40 | 180 96109 90345 | 131 97111 | 888 15064 87633 | 0891 29682+ | 20 | |
| | 50 | 189 75241 87456 | 208 85495+ | 877 34173 57950 | 0775 09677 | 10 | |
| **3** | 0 | 198 54450 72951+ | 285 75302+ | 866 53398 48273+ | 0658 92053 | 0 | **57** |
| | 10 | 207 33736 48254+ | 362 66532 | 855 72739 56220+ | 0542 76809+ | 50 | |
| | 20 | 216 13099 14786+ | 439 59184 | 844 92196 79411 | 0426 63947 | 40 | |
| | 30 | 224 92538 73970 | 516 53258+ | 834 11770 15463+ | 0310 53464+ | 30 | |
| | 40 | 233 72055 27229 | 593 48756+ | 823 31459 61999+ | 0194 45360+ | 20 | |
| | 50 | 242 51648 75985+ | 670 45678+ | 812 51265 16638+ | 10 80078 39635+ | 10 | |
| **4** | 0 | 251 31319 21664 | 747 44024 | 801 71186 77003 | 10 79962 36288+ | 0 | **56** |
| | 10 | 260 11066 65688 | 824 43794 | 790 91224 40714+ | 9846 35319 | 50 | |
| | 20 | 268 90891 09481+ | 901 44988 | 780 11378 05395+ | 9730 36726 | 40 | |
| | 30 | 277 70792 54470 | 8 79978 47607+ | 769 31647 68670 | 9614 40509 | 30 | |
| | 40 | 286 50771 02077 | 8 80055 51652 | 758 52033 28161 | 9498 46667+ | 20 | |
| | 50 | 295 30826 53729 | 132 57121+ | 747 72534 81494 | 9382 55200+ | 10 | |
| **5** | 0 | 304 10959 10850+ | 209 64017+ | 736 93152 26293 | 9266 66108 | 0 | **55** |
| | 10 | 312 91168 74868 | 286 72339+ | 726 13885 60185 | 9150 79389+ | 50 | |
| | 20 | 321 71455 47207+ | 363 82088 | 715 34734 80795+ | 9034 95043+ | 40 | |
| | 30 | 330 51819 29295 | 440 93263 | 704 55699 85752 | 8919 13070 | 30 | |
| | 40 | 339 32260 22558 | 518 05865+ | 693 76780 72682 | 8803 33468+ | 20 | |
| | 50 | 348 12778 28423+ | 595 19895 | 682 97977 39213+ | 8687 56238 | 10 | |
| **6** | 0 | 356 93373 48318+ | 672 35352+ | 672 19289 82975+ | 8571 81378 | 0 | **54** |
| | 10 | 365 74045 83671 | 749 52238+ | 661 40718 01597+ | 8456 08888 | 50 | |
| | 20 | 374 54795 35909+ | 826 70552+ | 650 62261 92709+ | 8340 38767 | 40 | |
| | 30 | 383 35622 06462 | 903 90295 | 639 83921 53943 | 8224 71015 | 30 | |
| | 40 | 392 16525 96757 | 8 80981 11467 | 629 05696 82928 | 8109 05630+ | 20 | |
| | 50 | 400 97507 08224 | 8 81058 34068 | 618 27587 77297+ | 7993 42614 | 10 | |
| **7** | 0 | 409 78565 42292 | 135 58099 | 607 49594 34683+ | 7877 81964 | 0 | **53** |
| | 10 | 418 59701 00391+ | 212 83560 | 596 71716 52719 | 7762 23680+ | 50 | |
| | 20 | 427 40913 83951+ | 290 10451+ | 585 93954 29038+ | 7646 67762+ | 40 | |
| | 30 | 436 22203 94403 | 367 38773+ | 575 16307 61276+ | 7531 14209+ | 30 | |
| | 40 | 445 03571 33176+ | 444 68526+ | 564 38776 47067 | 7415 63020+ | 20 | |
| | 50 | 453 85016 01703+ | 521 99711 | 553 61360 84046+ | 7300 14195+ | 10 | |
| **8** | 0 | 462 66538 01414 | 599 32327 | 542 84060 69851 | 7184 67733+ | 0 | **52** |
| | 10 | 471 48137 33741 | 676 66375 | 532 06876 02117 | 7069 23634+ | 50 | |
| | 20 | 480 29814 00116 | 754 01855 | 521 29806 78482+ | 6953 81897 | 40 | |
| | 30 | 489 11568 01971 | 831 38768 | 510 52852 96586 | 6838 42520+ | 30 | |
| | 40 | 497 93399 40739+ | 908 77114 | 499 76014 54065 | 6723 05505 | 20 | |
| | 50 | 506 75308 17853 | 8 81986 16893 | 488 99291 48560 | 6607 70849+ | 10 | |
| **9** | 0 | 515 57294 34746+ | 8 82063 58105+ | 478 22683 77710+ | 6492 38553+ | 0 | **51** |
| | 10 | 524 39357 92852 | 141 00752+ | 467 46191 39156+ | 6377 08616+ | 50 | |
| | 20 | 533 21498 93604+ | 218 44833 | 456 69814 30540 | 6261 81037+ | 40 | |
| | 30 | 542 03717 38437+ | 295 90348+ | 445 93552 49503 | 6146 55816 | 30 | |
| | 40 | 550 86013 28786+ | 373 37299 | 435 17405 93687 | 6031 32951+ | 20 | |
| | 50 | 559 68386 66085+ | 8 82450 85684+ | 424 41374 60735 | 10 75916 12443+ | 10 | |
| **10** | 0 | 0,90568 50837 51770 | | 1,10413 65458 48291+ | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,90568 50837 51770 | 8 82528 35505+ | 1,10413 65458 48291+ | 10 75800 94291 | 0 | **50** |
| | 10 | 577 33365 87275+ | 605 86762+ | 402 89657 54000+ | 5685 78494 | 50 | |
| | 20 | 586 15971 74038 | 683 39456 | 392 13971 75506+ | 5570 65051+ | 40 | |
| | 30 | 594 98655 13494 | 760 93585+ | 381 38401 10455 | 5455 53963 | 30 | |
| | 40 | 603 81416 07079+ | 838 49152 | 370 62945 56492 | 5340 45227+ | 20 | |
| | 50 | 612 64254 56231+ | 916 06155+ | 359 87605 11265 | 5225 38844+ | 10 | |
| **11** | 0 | 621 47170 62387 | 8 82993 64597 | 349 12379 72420 | 5110 34814 | 0 | **49** |
| | 10 | 630 30164 26984 | 8 83071 24476 | 338 37269 37606 | 4995 33135 | 50 | |
| | 20 | 639 13235 51460 | 148 85793 | 327 62274 04471 | 4880 33806+ | 40 | |
| | 30 | 647 96384 37253 | 226 48548+ | 316 87393 70664+ | 4765 36828+ | 30 | |
| | 40 | 656 79610 85801+ | 304 12743 | 306 12628 33836 | 4650 42200 | 20 | |
| | 50 | 665 62914 98544+ | 381 78376+ | 295 37977 91635+ | 4535 49921 | 10 | |
| **12** | 0 | 674 46296 76921 | 459 45449+ | 284 63442 41715 | 4420 59990 | 0 | **48** |
| | 10 | 683 29756 22370+ | 537 13962+ | 273 89021 81725 | 4305 72407 | 50 | |
| | 20 | 692 13293 36333 | 614 83915 | 263 14716 09318 | 4190 87171 | 40 | |
| | 30 | 700 96908 20248 | 692 55308+ | 252 40525 22147+ | 4076 04281+ | 30 | |
| | 40 | 709 80600 75556+ | 770 28142+ | 241 66449 17866 | 3961 23738 | 20 | |
| | 50 | 718 64371 03699+ | 848 02417+ | 230 92487 94128 | 3846 45540 | 10 | |
| **13** | 0 | 727 48219 06117 | 8 83925 78134 | 220 18641 48587+ | 3731 69687 | 0 | **47** |
| | 10 | 736 32144 84251 | 8 84003 55292+ | 209 44909 78901 | 3616 96178 | 50 | |
| | 20 | 745 16148 39543+ | 081 33893 | 198 71292 82723 | 3502 25012 | 40 | |
| | 30 | 754 00229 73436+ | 159 13935+ | 187 97790 57711 | 3387 56189+ | 30 | |
| | 40 | 762 84388 87372 | 236 95421 | 177 24403 01521 | 3272 89709+ | 20 | |
| | 50 | 771 68625 82793 | 314 78349+ | 166 51130 11812 | 3158 25571 | 10 | |
| **14** | 0 | 780 52940 61142+ | 392 62721+ | 155 77971 86241 | 3043 63773+ | 0 | **46** |
| | 10 | 789 37333 23864 | 470 48537 | 145 04928 22467+ | 2929 04316+ | 50 | |
| | 20 | 798 21803 72401 | 548 35796+ | 134 31999 18151+ | 2814 47199+ | 40 | |
| | 30 | 807 06352 08197+ | 626 24500+ | 123 59184 70952 | 2699 92421+ | 30 | |
| | 40 | 815 90978 32697+ | 704 14649 | 112 86484 78530+ | 2585 39982+ | 20 | |
| | 50 | 824 75682 47347 | 782 06242+ | 102 13899 38548 | 2470 89881+ | 10 | |
| **15** | 0 | 833 60464 53589+ | 859 99281+ | 091 41428 48666+ | 2356 42118 | 0 | **45** |
| | 10 | 842 45324 52871 | 8 84937 93766 | 080 69072 06549 | 2241 96691 | 50 | |
| | 20 | 851 30262 46637 | 8 85015 89697 | 069 96830 09857+ | 2127 53600+ | 40 | |
| | 30 | 860 15278 36334 | 093 87073+ | 059 24702 56257 | 2013 12846 | 30 | |
| | 40 | 869 00372 23407+ | 171 85897+ | 048 52689 43411 | 1898 74426 | 20 | |
| | 50 | 877 85544 09305 | 249 86168 | 037 80790 68985 | 1784 38341 | 10 | |
| **16** | 0 | 886 70793 95473 | 327 87885+ | 027 09006 30644 | 1670 04589+ | 0 | **44** |
| | 10 | 895 56121 83358+ | 405 91051 | 016 37336 26054+ | 1555 73171 | 50 | |
| | 20 | 904 41527 74409+ | 483 95664+ | 1,10005 65780 52883+ | 1441 44085+ | 40 | |
| | 30 | 913 27011 70074+ | 562 01726+ | 1,09994 94339 08798+ | 1327 17331+ | 30 | |
| | 40 | 922 12573 71800+ | 640 09236+ | 984 23011 91466+ | 1212 92909+ | 20 | |
| | 50 | 930 98213 81037+ | 718 18196 | 973 51798 98557 | 1098 70818 | 10 | |
| **17** | 0 | 939 83931 99233+ | 796 28604+ | 962 80700 27739 | 0984 51057 | 0 | **43** |
| | 10 | 948 69728 27838 | 874 40463 | 952 09715 76682 | 0870 33625 | 50 | |
| | 20 | 957 55602 68301 | 8 85952 53771 | 941 38845 43057 | 0756 18522+ | 40 | |
| | 30 | 966 41555 22072 | 8 86030 68529+ | 930 68089 24534+ | 0642 05748+ | 30 | |
| | 40 | 975 27585 90601 | 108 84738+ | 919 97447 18786 | 0527 95302 | 20 | |
| | 50 | 984 13694 75339+ | 187 02398 | 909 26919 23484 | 0413 87182+ | 10 | |
| **18** | 0 | 0,90992 99881 77737+ | 265 21509+ | 898 56505 36301+ | 0299 81390 | 0 | **42** |
| | 10 | 0,91001 86146 99247 | 343 42072 | 887 86205 54911+ | 0185 77923 | 50 | |
| | 20 | 010 72490 41319 | 421 64086+ | 877 16019 76988+ | 10 70071 76781+ | 40 | |
| | 30 | 019 58912 05405+ | 499 87553+ | 866 45948 00207 | 10 69957 77965 | 30 | |
| | 40 | 028 45411 92959 | 578 12473 | 855 75990 22242 | 9843 81472+ | 20 | |
| | 50 | 037 31990 05432 | 656 38845+ | 845 06146 40769 | 9729 87304 | 10 | |
| **19** | 0 | 046 18646 44277+ | 734 66671 | 834 36416 53465 | 9615 95458 | 0 | **41** |
| | 10 | 055 05381 10948+ | 812 95950 | 823 66800 58007+ | 9502 05934+ | 50 | |
| | 20 | 063 92194 06898+ | 891 26683 | 812 97298 52073 | 9388 18732+ | 40 | |
| | 30 | 072 79085 33581+ | 8 86969 58870+ | 802 27910 33340+ | 9274 33852 | 30 | |
| | 40 | 081 66054 92452 | 8 87047 92512 | 791 58635 99488+ | 9160 51292 | 20 | |
| | 50 | 090 53102 84964+ | 8 87126 27609 | 780 89475 48196+ | 10 69046 71052 | 10 | |
| **20** | 0 | 0,91099 40229 12573 | | 1,09770 20428 77144+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,91099 40229 12573 | 8 87204 64161 | 1,09770 20428 77144+ | 10 68932 93131 | 0 | **40** |
| | 10 | 108 27433 76734 | 283 02168+ | 759 51495 84013+ | 8819 17529 | 50 | |
| | 20 | 117 14716 78902+ | 361 41631+ | 748 82676 66485 | 8705 44245 | 40 | |
| | 30 | 126 02078 20534 | 439 82551 | 738 13971 22239+ | 8591 73279 | 30 | |
| | 40 | 134 89518 03085 | 518 24927 | 727 45379 48961 | 8478 04629+ | 20 | |
| | 50 | 143 77036 28012+ | 596 68760 | 716 76901 44331+ | 8364 38296+ | 10 | |
| **21** | 0 | 152 64632 96772+ | 675 14050+ | 706 08537 06035 | 8250 74279 | 0 | **39** |
| | 10 | 161 52308 10823 | 753 60798 | 695 40286 31755+ | 8137 12577 | 50 | |
| | 20 | 170 40061 71621 | 832 09003+ | 684 72149 19178+ | 8023 53189+ | 40 | |
| | 30 | 179 27893 80624+ | 910 58667+ | 674 04125 65989 | 7909 96116 | 30 | |
| | 40 | 188 15804 39292 | 8 87989 09789+ | 663 36215 69873 | 7796 41356 | 20 | |
| | 50 | 197 03793 49081+ | 8 88067 62370+ | 652 68419 28517 | 7682 88908+ | 10 | |
| **22** | 0 | 205 91861 11452 | 146 16411 | 642 00736 39609 | 7569 38773 | 0 | **38** |
| | 10 | 214 80007 27863 | 224 71911 | 631 33167 00836 | 7455 90949 | 50 | |
| | 20 | 223 68231 99774 | 303 28870+ | 620 65711 09886+ | 7342 45436+ | 40 | |
| | 30 | 232 56535 28644+ | 381 87290+ | 609 98368 64450 | 7229 02234 | 30 | |
| | 40 | 241 44917 15934+ | 460 47171 | 599 31139 62216 | 7115 61341+ | 20 | |
| | 50 | 250 33377 63105+ | 539 08512 | 588 64024 00875 | 7002 22758 | 10 | |
| **23** | 0 | 259 21916 71617+ | 617 71314+ | 577 97021 78117 | 6888 86483 | 0 | **37** |
| | 10 | 268 10534 42932 | 696 35578+ | 567 30132 91634 | 6775 52516 | 50 | |
| | 20 | 276 99230 78510+ | 775 01304 | 556 63357 39118 | 6662 20856+ | 40 | |
| | 30 | 285 88005 79814+ | 853 68492 | 545 96695 18261+ | 6548 91503+ | 30 | |
| | 40 | 294 76859 48306+ | 8 88932 37142+ | 535 30146 26757+ | 6435 64457 | 20 | |
| | 50 | 303 65791 85449+ | 8 89011 07256 | 524 63710 62300+ | 6322 39716 | 10 | |
| **24** | 0 | 312 54802 92705 | 089 78832+ | 513 97388 22584 | 6209 17280 | 0 | **36** |
| | 10 | 321 43892 71537+ | 168 51872+ | 503 31179 05304 | 6095 97148+ | 50 | |
| | 20 | 330 33061 23410 | 247 26376+ | 492 65083 08155+ | 5982 79320+ | 40 | |
| | 30 | 339 22308 49786+ | 326 02344+ | 481 99100 28835 | 5869 63796 | 30 | |
| | 40 | 348 11634 52131 | 404 79777 | 471 33230 65038+ | 5756 50574 | 20 | |
| | 50 | 357 01039 31908 | 483 58674+ | 460 67474 14464+ | 5643 39654 | 10 | |
| **25** | 0 | 365 90522 90582+ | 562 39037 | 450 01830 74810+ | 5530 31035+ | 0 | **35** |
| | 10 | 374 80085 29619+ | 641 20865 | 439 36300 43774+ | 5417 24718 | 50 | |
| | 20 | 383 69726 50484+ | 720 04159 | 428 70883 19056+ | 5304 20700+ | 40 | |
| | 30 | 392 59446 54643+ | 798 88919 | 418 05578 98356+ | 5191 18982+ | 30 | |
| | 40 | 401 49245 43562+ | 877 75146 | 407 40387 79373+ | 5078 19564 | 20 | |
| | 50 | 410 39123 18708+ | 8 89956 62839+ | 396 75309 59810 | 4965 22443+ | 10 | |
| **26** | 0 | 419 29079 81547+ | 8 90035 52000 | 386 10344 37366+ | 4852 27621 | 0 | **34** |
| | 10 | 428 19115 33547+ | 114 42628 | 375 45492 09745+ | 4739 35095+ | 50 | |
| | 20 | 437 09229 76176 | 193 34724 | 364 80752 74650 | 4626 44867 | 40 | |
| | 30 | 445 99423 10900 | 272 28288+ | 354 16126 29783 | 4513 56934+ | 30 | |
| | 40 | 454 89695 39188+ | 351 23321 | 343 51612 72848+ | 4400 71297+ | 20 | |
| | 50 | 463 80046 62510 | 430 19823 | 332 87212 01551 | 4287 87955+ | 10 | |
| **27** | 0 | 472 70476 82332+ | 509 17793+ | 322 22924 13595+ | 4175 06907+ | 0 | **33** |
| | 10 | 481 60986 00126+ | 588 17234 | 311 58749 06688 | 4062 28153+ | 50 | |
| | 20 | 490 51574 17360+ | 667 18144 | 300 94686 78534+ | 3949 51692+ | 40 | |
| | 30 | 499 42241 35504+ | 746 20524+ | 290 30737 26842 | 3836 77524 | 30 | |
| | 40 | 508 32987 56029 | 825 24375+ | 279 66900 49318 | 3724 05647+ | 20 | |
| | 50 | 517 23812 80404+ | 904 29697+ | 269 03176 43671 | 3611 36062 | 10 | |
| **28** | 0 | 526 14717 10102 | 8 90983 36490+ | 258 39565 07608+ | 3498 68767+ | 0 | **32** |
| | 10 | 535 05700 46592+ | 8 91062 44755 | 247 76066 38841 | 3386 03763+ | 50 | |
| | 20 | 543 96762 91347 | 141 54491+ | 237 12680 35077+ | 3273 41048+ | 40 | |
| | 30 | 552 87904 45838+ | 220 65700 | 226 49406 94029 | 3160 80622+ | 30 | |
| | 40 | 561 79125 11538+ | 299 78381 | 215 86246 13406+ | 3048 22485+ | 20 | |
| | 50 | 570 70424 89919+ | 378 92535 | 205 23197 90921 | 2935 66635+ | 10 | |
| **29** | 0 | 579 61803 82454+ | 458 08162+ | 194 60262 24285+ | 2823 13073+ | 0 | **31** |
| | 10 | 588 53261 90617 | 537 25263 | 183 97439 11212 | 2710 61797+ | 50 | |
| | 20 | 597 44799 15880 | 616 43838 | 173 34728 49414+ | 2598 12807+ | 40 | |
| | 30 | 606 36415 59717+ | 695 63887 | 162 72130 36607 | 2485 66103+ | 30 | |
| | 40 | 615 28111 23604+ | 774 85410 | 152 09644 70503+ | 2373 21684 | 20 | |
| | 50 | 624 19886 09015 | 8 91854 08408+ | 141 47271 48820 | 10 62260 79548+ | 10 | |
| **30** | 0 | 0,91633 11740 17423+ | | 1,09130 85010 69271+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,91633 11740 17423+ | 8 91933 32882 | 1,09130 85010 69271+ | 10 62148 39697 | 0 | **30** |
| | 10 | 642 03673 50305+ | 8 92012 58831+ | 120 22862 29574+ | 2036 02128+ | 50 | |
| | 20 | 650 95686 09137 | 091 86256+ | 109 60826 27446 | 1923 66842+ | 40 | |
| | 30 | 659 87777 95393+ | 171 15158 | 098 98902 60604 | 1811 33838 | 30 | |
| | 40 | 668 79949 10551+ | 250 45536 | 088 37091 26765+ | 1699 03115+ | 20 | |
| | 50 | 677 72199 56087+ | 329 77390+ | 077 75392 23650 | 1586 74673 | 10 | |
| **31** | 0 | 686 64529 33478 | 409 10723 | 067 13805 48977 | 1474 48511+ | 0 | **29** |
| | 10 | 695 56938 44200+ | 488 45532+ | 056 52331 00465+ | 1362 24629 | 50 | |
| | 20 | 704 49426 89733 | 567 81820 | 045 90968 75837 | 1250 03025+ | 40 | |
| | 30 | 713 41994 71553 | 647 19586 | 035 29718 72811+ | 1137 83700 | 30 | |
| | 40 | 722 34641 91139 | 726 58830+ | 024 68580 89111+ | 1025 66653 | 20 | |
| | 50 | 731 27368 49969+ | 805 99554 | 014 07555 22458+ | 0913 51883 | 10 | |
| **32** | 0 | 740 20174 49523+ | 885 41756+ | 1,09003 46641 70575+ | 0801 39389 | 0 | **28** |
| | 10 | 749 13059 91280 | 8 92964 85439 | 1,08992 85840 31186+ | 0689 29171+ | 50 | |
| | 20 | 758 06024 76719 | 8 93044 30601+ | 982 25151 02014+ | 0577 21229+ | 40 | |
| | 30 | 766 99069 07320+ | 123 77244 | 971 64573 80785 | 0465 15562+ | 30 | |
| | 40 | 775 92192 84564+ | 203 25367 | 961 04108 65222+ | 0353 12169+ | 20 | |
| | 50 | 784 85396 09931+ | 282 74971+ | 950 43755 53053 | 0241 11050 | 10 | |
| **33** | 0 | 793 78678 84902+ | 362 26057 | 939 83514 42003 | 0129 12204 | 0 | **27** |
| | 10 | 802 72041 10959+ | 441 78624 | 929 23385 29799 | 10 60017 15630+ | 50 | |
| | 20 | 811 65482 89583+ | 521 32673 | 918 63368 14168+ | 10 59905 21328+ | 40 | |
| | 30 | 820 59004 22256+ | 600 88204+ | 908 03462 92839+ | 9793 29298 | 30 | |
| | 40 | 829 52605 10461+ | 680 45218+ | 897 43669 63541+ | 9681 39538+ | 20 | |
| | 50 | 838 46285 55680 | 760 03716 | 886 83988 24003 | 9569 52049 | 10 | |
| **34** | 0 | 847 40045 59396 | 839 63696+ | 876 24418 71954 | 9457 66829 | 0 | **26** |
| | 10 | 856 33885 23092 | 919 25160+ | 865 64961 05125 | 9345 83878 | 50 | |
| | 20 | 865 27804 48253 | 8 93998 88108+ | 855 05615 21246+ | 9234 03195+ | 40 | |
| | 30 | 874 21803 36361+ | 8 94078 52541+ | 844 46381 18051 | 9122 24781 | 30 | |
| | 40 | 883 15881 88903 | 158 18458+ | 833 87258 93270 | 9010 48633+ | 20 | |
| | 50 | 892 10040 07361+ | 237 85861 | 823 28248 44636 | 8898 74753 | 10 | |
| **35** | 0 | 901 04277 93222 | 317 54748+ | 812 69349 69883+ | 8787 03138 | 0 | **25** |
| | 10 | 909 98595 47970+ | 397 25122 | 802 10562 66745 | 8675 33789 | 50 | |
| | 20 | 918 92992 73092+ | 476 96981+ | 791 51887 32956 | 8563 66704+ | 40 | |
| | 30 | 927 87469 70073+ | 556 70327 | 780 93323 66251+ | 8452 01885 | 30 | |
| | 40 | 936 82026 40401 | 636 45159+ | 770 34871 64366+ | 8340 39328+ | 20 | |
| | 50 | 945 76662 85560+ | 716 21479+ | 759 76531 25038 | 8228 79035+ | 10 | |
| **36** | 0 | 954 71379 07040 | 795 99286+ | 749 18302 46002+ | 8117 21005 | 0 | **24** |
| | 10 | 963 66175 06326+ | 875 78581+ | 738 60185 24997 | 8005 65236+ | 50 | |
| | 20 | 972 61050 84907+ | 8 94955 59364 | 728 02179 59760+ | 7894 11729+ | 40 | |
| | 30 | 981 56006 44272 | 8 95035 41635+ | 717 44285 48031 | 7782 60483+ | 30 | |
| | 40 | 990 51041 85907+ | 115 25395+ | 706 86502 87547+ | 7671 11497+ | 20 | |
| | 50 | 0,91999 46157 11303 | 195 10645 | 696 28831 76050 | 7559 64771+ | 10 | |
| **37** | 0 | 0,92008 41352 21948 | 274 97383+ | 685 71272 11278+ | 7448 20304 | 0 | **23** |
| | 10 | 017 36627 19332 | 354 85612 | 675 13823 90974+ | 7336 78095+ | 50 | |
| | 20 | 026 31982 04944 | 434 75331 | 664 56487 12879 | 7225 38145 | 40 | |
| | 30 | 035 27416 80275 | 514 66540 | 653 99261 74734 | 7114 00451+ | 30 | |
| | 40 | 044 22931 46815 | 594 59240 | 643 42147 74282+ | 7002 65015 | 20 | |
| | 50 | 053 18526 06055 | 674 53431 | 632 85145 09267+ | 6891 31834+ | 10 | |
| **38** | 0 | 062 14200 59486+ | 754 49114 | 622 28253 77433 | 6780 00909+ | 0 | **22** |
| | 10 | 071 09955 08600 | 834 46288+ | 611 71473 76523+ | 6668 72240 | 50 | |
| | 20 | 080 05789 54888+ | 914 44955 | 601 14805 04283+ | 6557 45824+ | 40 | |
| | 30 | 089 01703 99843+ | 8 95994 45114+ | 590 58247 58459 | 6446 21663 | 30 | |
| | 40 | 097 97698 44958 | 8 96074 46766+ | 580 01801 36795+ | 6334 99755 | 20 | |
| | 50 | 106 93772 91724+ | 154 49912 | 569 45466 37040+ | 6223 80099+ | 10 | |
| **39** | 0 | 115 89927 41636 | 234 54550+ | 558 89242 56941 | 6112 62696+ | 0 | **21** |
| | 10 | 124 86161 96187 | 314 60683+ | 548 33129 94244+ | 6001 47544+ | 50 | |
| | 20 | 133 82476 56870+ | 394 68310+ | 537 77128 46699+ | 5890 34644 | 40 | |
| | 30 | 142 78871 25180+ | 474 77432 | 527 21238 12055+ | 5779 23993+ | 30 | |
| | 40 | 151 75346 02613 | 554 88048+ | 516 65458 88062 | 5668 15593 | 20 | |
| | 50 | 160 71900 90661+ | 8 96635 00160+ | 506 09790 72469 | 10 55557 09442 | 10 | |
| **40** | 0 | 0,92169 68535 90822 | | 1,08495 54233 63027 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,92169 68535 90822 | 8 96715 13768 | 1,08495 54233 63027 | 10 55446 05539+ | 0 | **20** |
| | 10 | 178 65251 04589+ | 795 28871 | 484 98787 57488 | 5335 03885 | 50 | |
| | 20 | 187 62046 33461 | 875 45471 | 474 43452 53603 | 5224 04478 | 40 | |
| | 30 | 196 58921 78931+ | 8 96955 63567 | 463 88228 49125 | 5113 07317+ | 30 | |
| | 40 | 205 55877 42499 | 8 97035 83160+ | 453 33115 41807+ | 5002 12404 | 20 | |
| | 50 | 214 52913 25659+ | 116 04251 | 442 78113 29403+ | 4891 19736 | 10 | |
| **41** | 0 | 223 50029 29910+ | 196 26839+ | 432 23222 09667+ | 4780 29313+ | 0 | **19** |
| | 10 | 232 47225 56750 | 276 50925+ | 421 68441 80354 | 4669 41135+ | 50 | |
| | 20 | 241 44502 07675+ | 356 76510+ | 411 13772 39218+ | 4558 55201+ | 40 | |
| | 30 | 250 41858 84186 | 437 03594 | 400 59213 84017+ | 4447 71510+ | 30 | |
| | 40 | 259 39295 87780 | 517 32176 | 390 04766 12506+ | 4336 90063 | 20 | |
| | 50 | 268 36813 19956 | 597 62258 | 379 50429 22443+ | 4226 10858 | 10 | |
| **42** | 0 | 277 34410 82214 | 677 93839+ | 368 96203 11586 | 4115 33894 | 0 | **18** |
| | 10 | 286 32088 76053+ | 758 26921 | 358 42087 77691+ | 4004 59172 | 50 | |
| | 20 | 295 29847 02974+ | 838 61503 | 347 88083 18520 | 3893 86690 | 40 | |
| | 30 | 304 27685 64477+ | 918 97586 | 337 34189 31830 | 3783 16448 | 30 | |
| | 40 | 313 25604 62063+ | 8 97999 35170 | 326 80406 15381+ | 3672 48446 | 20 | |
| | 50 | 322 23603 97233+ | 8 98079 74255 | 316 26733 66936 | 3561 82682+ | 10 | |
| **43** | 0 | 331 21683 71488+ | 160 14842+ | 305 73171 84253+ | 3451 19157+ | 0 | **17** |
| | 10 | 340 19843 86331 | 240 56931+ | 295 19720 65096 | 3340 57870 | 50 | |
| | 20 | 349 18084 43262+ | 321 00523+ | 284 66380 07226 | 3229 98819+ | 40 | |
| | 30 | 358 16405 43786 | 401 45618 | 274 13150 08406+ | 3119 42006 | 30 | |
| | 40 | 367 14806 89404 | 481 92216 | 263 60030 66400+ | 3008 87428+ | 20 | |
| | 50 | 376 13288 81619+ | 562 40317 | 253 07021 78972 | 2898 35086 | 10 | |
| **44** | 0 | 385 11851 21936+ | 642 89922 | 242 54123 43886 | 2787 84978+ | 0 | **16** |
| | 10 | 394 10494 11859 | 723 41031+ | 232 01335 58907 | 2677 37105+ | 50 | |
| | 20 | 403 09217 52890+ | 803 93645+ | 221 48658 21801+ | 2566 91466+ | 40 | |
| | 30 | 412 08021 46536 | 884 47764+ | 210 96091 30335 | 2456 48060 | 30 | |
| | 40 | 421 06905 94300+ | 8 98965 03388+ | 200 43634 82275 | 2346 06886+ | 20 | |
| | 50 | 430 05870 97689 | 8 99045 60518 | 189 91288 75388+ | 2235 67945 | 10 | |
| **45** | 0 | 439 04916 58207 | 126 19153+ | 179 39053 07444 | 2125 31234+ | 0 | **15** |
| | 10 | 448 04042 77361 | 206 79295+ | 168 86927 76209+ | 2014 96755 | 50 | |
| | 20 | 457 03249 56656+ | 287 40944 | 158 34912 79454+ | 1904 64506 | 40 | |
| | 30 | 466 02536 97600+ | 368 04099+ | 147 83008 14948 | 1794 34486+ | 30 | |
| | 40 | 475 01905 01700 | 448 68762+ | 137 31213 80461+ | 1684 06696+ | 20 | |
| | 50 | 484 01353 70462+ | 529 34933 | 126 79529 73765 | 1573 81135 | 10 | |
| **46** | 0 | 493 00883 05395+ | 610 02611+ | 116 27955 92630+ | 1463 57801 | 0 | **14** |
| | 10 | 502 00493 08007 | 690 71798+ | 105 76492 34829+ | 1353 36695 | 50 | |
| | 20 | 511 00183 79805+ | 771 42494 | 095 25138 98134+ | 1243 17815+ | 40 | |
| | 30 | 519 99955 22299+ | 852 14698+ | 084 73895 80319 | 1133 01162+ | 30 | |
| | 40 | 528 99807 36998 | 8 99932 88412+ | 074 22762 79156+ | 1022 86735 | 20 | |
| | 50 | 537 99740 25410+ | 9 00013 63636+ | 063 71739 92422 | 0912 74532+ | 10 | |
| **47** | 0 | 546 99753 89046+ | 094 40370 | 053 20827 17889 | 0802 64555 | 0 | **13** |
| | 10 | 555 99848 29416+ | 175 18614+ | 042 70024 53334 | 0692 56801+ | 50 | |
| | 20 | 565 00023 48031 | 255 98369+ | 032 19331 96532+ | 0582 51271 | 40 | |
| | 30 | 574 00279 46400+ | 336 79636 | 021 68749 45261+ | 0472 47964 | 30 | |
| | 40 | 583 00616 26036+ | 417 62413+ | 011 18276 97297+ | 0362 46878+ | 20 | |
| | 50 | 592 01033 88450 | 498 46703 | 1,08000 67914 50419 | 0252 48015+ | 10 | |
| **48** | 0 | 601 01532 35153 | 579 32504+ | 1,07990 17662 02403+ | 0142 51373 | 0 | **12** |
| | 10 | 610 02111 67657+ | 660 19819 | 979 67519 51030+ | 10 50032 56951+ | 50 | |
| | 20 | 619 02771 87476+ | 741 08646 | 969 17486 94078+ | 10 49922 64750 | 40 | |
| | 30 | 628 03512 96122+ | 821 98986+ | 958 67564 29328+ | 9812 74768 | 30 | |
| | 40 | 637 04334 95109 | 902 90840+ | 948 17751 54560+ | 9702 87005 | 20 | |
| | 50 | 646 05237 85949+ | 9 00983 84208 | 937 68048 67555+ | 9593 01460 | 10 | |
| **49** | 0 | 655 06221 70157+ | 9 01064 79090 | 927 18455 66095+ | 9483 18133 | 0 | **11** |
| | 10 | 664 07286 49247+ | 145 75487 | 916 68972 47963 | 9373 37023 | 50 | |
| | 20 | 673 08432 24734+ | 226 73398+ | 906 19599 10940 | 9263 58129+ | 40 | |
| | 30 | 682 09658 98133 | 307 72825+ | 895 70335 52810+ | 9153 81452+ | 30 | |
| | 40 | 691 10966 70958+ | 388 73768 | 885 21181 71358 | 9044 06990+ | 20 | |
| | 50 | 700 12355 44726+ | 9 01469 76226+ | 874 72137 64367+ | 10 48934 34743+ | 10 | |
| **50** | 0 | 0,92709 13825 20953+ | | 1,07864 23203 29624 | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 42°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,92709 13825 20953+ | 9 01550 80201+ | 1,07864 23203 29624 | 10 48824 64711 | 0 | **10** |
| | 10 | 718 15376 01155 | 631 85693+ | 853 74378 64913 | 8714 96892+ | 50 | |
| | 20 | 727 17007 86848+ | 712 92702 | 843 25663 68020+ | 8605 31287 | 40 | |
| | 30 | 736 18720 79550+ | 794 01228+ | 832 77058 36733+ | 8495 67894 | 30 | |
| | 40 | 745 20514 80778+ | 875 11272 | 822 28562 68839+ | 8386 06713+ | 20 | |
| | 50 | 754 22389 92051 | 9 01956 22834 | 811 80176 62126 | 8276 47744 | 10 | |
| **51** | 0 | 763 24346 14885 | 9 02037 35914+ | 801 31900 14382 | 8166 90985+ | 0 | **9** |
| | 10 | 772 26383 50799+ | 118 50514 | 790 83733 23396+ | 8057 36438 | 50 | |
| | 20 | 781 28502 01313+ | 199 66632 | 780 35675 86958+ | 7947 84100 | 40 | |
| | 30 | 790 30701 67945+ | 280 84270 | 769 87728 02859 | 7838 33971 | 30 | |
| | 40 | 799 32982 52215+ | 362 03428 | 759 39889 68888 | 7728 86051 | 20 | |
| | 50 | 808 35344 55643+ | 443 24106 | 748 92160 82837 | 7619 40339 | 10 | |
| **52** | 0 | 817 37787 79749+ | 524 46304 | 738 44541 42498 | 7509 96834+ | 0 | **8** |
| | 10 | 826 40312 26053+ | 605 70023+ | 727 97031 45663+ | 7400 55537 | 50 | |
| | 20 | 835 42917 96077 | 686 95264 | 717 49630 90126+ | 7291 16446 | 40 | |
| | 30 | 844 45604 91341+ | 768 22026+ | 707 02339 73680+ | 7181 79561 | 30 | |
| | 40 | 853 48373 13368 | 849 50310+ | 696 55157 94119+ | 7072 44881 | 20 | |
| | 50 | 862 51222 63678+ | 9 02930 80117 | 686 08085 49238+ | 6963 12406 | 10 | |
| **53** | 0 | 871 54153 43795+ | 9 03012 11446 | 675 61122 36832 | 6853 82135+ | 0 | **7** |
| | 10 | 880 57165 55242 | 093 44298+ | 665 14268 54696+ | 6744 54068 | 50 | |
| | 20 | 889 60258 99540 | 174 78674 | 654 67524 00628+ | 6635 28204 | 40 | |
| | 30 | 898 63433 78214 | 256 14573 | 644 20888 72424+ | 6526 04542+ | 30 | |
| | 40 | 907 66689 92787 | 337 51996 | 633 74362 67882 | 6416 83082+ | 20 | |
| | 50 | 916 70027 44783+ | 418 90944 | 623 27945 84799+ | 6307 63824+ | 10 | |
| **54** | 0 | 925 73446 35727 | 500 31416+ | 612 81638 20975 | 6198 46767 | 0 | **6** |
| | 10 | 934 76946 67143+ | 581 73414 | 602 35439 74208 | 6089 31909+ | 50 | |
| | 20 | 943 80528 40557 | 663 16936+ | 591 89350 42298+ | 5980 19252 | 40 | |
| | 30 | 952 84191 57494 | 744 61985+ | 581 43370 23046+ | 5871 08793+ | 30 | |
| | 40 | 961 87936 19479+ | 826 08560+ | 570 97499 14253 | 5762 00533+ | 20 | |
| | 50 | 970 91762 28040 | 907 56662 | 560 51737 13719+ | 5652 94471+ | 10 | |
| **55** | 0 | 979 95669 84702 | 9 03989 06290 | 550 06084 19248 | 5543 90607+ | 0 | **5** |
| | 10 | 988 99658 90992 | 9 04070 57445+ | 539 60540 28640+ | 5434 88939+ | 50 | |
| | 20 | 0,92998 03729 48437+ | 152 10129 | 529 15105 39701 | 5325 89468+ | 40 | |
| | 30 | 0,93007 07881 58566+ | 233 64340 | 518 69779 50232+ | 5216 92193 | 30 | |
| | 40 | 016 12115 22906+ | 315 20079 | 508 24562 58039+ | 5107 97112+ | 20 | |
| | 50 | 025 16430 42985+ | 396 77347 | 497 79454 60926+ | 4999 04227 | 10 | |
| **56** | 0 | 034 20827 20332+ | 478 36144 | 487 34455 56699+ | 4890 13535+ | 0 | **4** |
| | 10 | 043 25305 56476+ | 559 96470 | 476 89565 43164 | 4781 25037+ | 50 | |
| | 20 | 052 29865 52946+ | 641 58326 | 466 44784 18126+ | 4672 38732+ | 40 | |
| | 30 | 061 34507 11273 | 723 21712 | 456 00111 79394 | 4563 54620 | 30 | |
| | 40 | 070 39230 32985 | 804 86628+ | 445 55548 24774+ | 4454 72699 | 20 | |
| | 50 | 079 44035 19613+ | 886 53075+ | 435 11093 52075+ | 4345 92969+ | 10 | |
| **57** | 0 | 088 48921 72689 | 9 04968 21053+ | 424 66747 59106 | 4237 15430+ | 0 | **3** |
| | 10 | 097 53889 93742+ | 9 05049 90563+ | 414 22510 43675+ | 4128 40082 | 50 | |
| | 20 | 106 58939 84306 | 131 61604+ | 403 78382 03593+ | 4019 66923 | 40 | |
| | 30 | 115 64071 45910+ | 213 34178+ | 393 34362 36670+ | 3910 95953 | 30 | |
| | 40 | 124 69284 80089 | 295 08284+ | 382 90451 40717+ | 3802 27171+ | 20 | |
| | 50 | 133 74579 88373+ | 376 83923+ | 372 46649 13546 | 3693 60578 | 10 | |
| **58** | 0 | 142 79956 72296+ | 458 61095+ | 362 02955 52968+ | 3584 96171+ | 0 | **2** |
| | 10 | 151 85415 33392 | 540 39801+ | 351 59370 56796+ | 3476 33952+ | 50 | |
| | 20 | 160 90955 73193+ | 622 20041 | 341 15894 22844 | 3367 73919+ | 40 | |
| | 30 | 169 96577 93234+ | 704 01815 | 330 72526 48925 | 3259 16072 | 30 | |
| | 40 | 179 02281 95049+ | 785 85123+ | 320 29267 32853 | 3150 60409+ | 20 | |
| | 50 | 188 08067 80173 | 867 69967 | 309 86116 72443+ | 3042 06932 | 10 | |
| **59** | 0 | 197 13935 50140 | 9 05949 56346 | 299 43074 65511+ | 2933 55638+ | 0 | **1** |
| | 10 | 206 19885 06486 | 9 06031 44260+ | 289 00141 09873 | 2825 06528+ | 50 | |
| | 20 | 215 25916 50746+ | 113 33711+ | 278 57316 03344+ | 2716 59601 | 40 | |
| | 30 | 224 32029 84458 | 195 24698+ | 268 14599 43743+ | 2608 14856 | 30 | |
| | 40 | 233 38225 09156+ | 277 17222 | 257 71991 28887 | 2499 72293 | 20 | |
| | 50 | 242 44502 26378+ | 9 06359 11283 | 247 29491 56594 | 10 42391 31911+ | 10 | |
| **60** | 0 | 0,93251 50861 37661+ | | 1,07236 87100 24682+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 47°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,93251 50861 37661+ | 9 06441 06881+ | 1,07236 87100 24682+ | 10 42282 93710+ | 0 | **60** |
| | 10 | 260 57302 44543+ | 523 04018 | 226 44817 30972 | 2174 57689+ | 50 | |
| | 20 | 269 63825 48561 | 605 02692 | 216 02642 73282+ | 2066 23848 | 40 | |
| | 30 | 278 70430 51253 | 687 02905 | 205 60576 49434+ | 1957 92186 | 30 | |
| | 40 | 287 77117 54158+ | 769 04657 | 195 18618 57249 | 1849 62702 | 20 | |
| | 50 | 296 83886 58815+ | 851 07948 | 184 76768 94547 | 1741 35396 | 10 | |
| **1** | 0 | 305 90737 66763+ | 9 06933 12779 | 174 35027 59151 | 1633 10267+ | 0 | **59** |
| | 10 | 314 97670 79542+ | 9 07015 19149+ | 163 93394 48883+ | 1524 87316 | 50 | |
| | 20 | 324 04685 98692 | 097 27060+ | 153 51869 61567+ | 1416 66540+ | 40 | |
| | 30 | 333 11783 25752 | 179 36512 | 143 10452 95027 | 1308 47940+ | 30 | |
| | 40 | 342 18962 62264 | 261 47504+ | 132 69144 47086+ | 1200 31516 | 20 | |
| | 50 | 351 26224 09769 | 343 60039 | 122 27944 15570+ | 1092 17266 | 10 | |
| **2** | 0 | 360 33567 69807+ | 425 74114+ | 111 86851 98304+ | 0984 05190 | 0 | **58** |
| | 10 | 369 40993 43922+ | 507 89732+ | 101 45867 93114+ | 0875 95287+ | 50 | |
| | 20 | 378 48501 33654+ | 590 06893 | 091 04991 97827 | 0767 87558 | 40 | |
| | 30 | 387 56091 40547+ | 672 25596 | 080 64224 10268+ | 0659 82001 | 30 | |
| | 40 | 396 63763 66143+ | 754 45842 | 070 23564 28267+ | 0551 78615+ | 20 | |
| | 50 | 405 71518 11985+ | 836 67632 | 059 83012 49652 | 0443 77401+ | 10 | |
| **3** | 0 | 414 79354 79617+ | 9 07918 90965+ | 049 42568 72250 | 0335 78358+ | 0 | **57** |
| | 10 | 423 87273 70583+ | 9 08001 15843+ | 039 02232 93892 | 0227 81485+ | 50 | |
| | 20 | 432 95274 86427 | 083 42266 | 028 62005 12406+ | 0119 86782 | 40 | |
| | 30 | 442 03358 28693 | 165 70233+ | 018 21885 25624+ | 10 40011 94247+ | 30 | |
| | 40 | 451 11523 98927 | 247 99746+ | 1,07007 81873 31377 | 10 39904 03881+ | 20 | |
| | 50 | 460 19771 98673+ | 330 30805 | 1,06997 41969 27495+ | 9796 15683+ | 10 | |
| **4** | 0 | 469 28102 29478+ | 412 63409+ | 987 02173 11811+ | 9688 29653+ | 0 | **56** |
| | 10 | 478 36514 92888 | 494 97560+ | 976 62484 82158+ | 9580 45789+ | 50 | |
| | 20 | 487 45009 90448 | 577 33258 | 966 22904 36369 | 9472 64092+ | 40 | |
| | 30 | 496 53587 23706 | 659 70502+ | 955 83431 72276+ | 9364 84561 | 30 | |
| | 40 | 505 62246 94208+ | 742 09294+ | 945 44066 87715+ | 9257 07194+ | 20 | |
| | 50 | 514 70989 03503 | 824 49634+ | 935 04809 80521 | 9149 31993 | 10 | |
| **5** | 0 | 523 79813 53138 | 906 91523 | 924 65660 48528 | 9041 58955+ | 0 | **55** |
| | 10 | 532 88720 44660+ | 9 08989 34959+ | 914 26618 89572+ | 8933 88081+ | 50 | |
| | 20 | 541 97709 79620 | 9 09071 79945 | 903 87685 01491 | 8826 19370+ | 40 | |
| | 30 | 551 06781 59565 | 154 26480 | 893 48858 82120+ | 8718 52822 | 30 | |
| | 40 | 560 15935 86045 | 236 74564 | 883 10140 29298+ | 8610 88435+ | 20 | |
| | 50 | 569 25172 60609 | 319 24198+ | 872 71529 40863 | 8503 26210+ | 10 | |
| **6** | 0 | 578 34491 84807+ | 401 75383 | 862 33026 14652+ | 8395 66146 | 0 | **54** |
| | 10 | 587 43893 60190+ | 484 28118+ | 851 94630 48506+ | 8288 08242 | 50 | |
| | 20 | 596 53377 88309 | 566 82405 | 841 56342 40265 | 8180 52497+ | 40 | |
| | 30 | 605 62944 70714 | 649 38242+ | 831 18161 87767 | 8072 98912+ | 30 | |
| | 40 | 614 72594 08957 | 731 95632+ | 820 80088 88855 | 7965 47486 | 20 | |
| | 50 | 623 82326 04589 | 814 54574 | 810 42123 41369 | 7857 98217+ | 10 | |
| **7** | 0 | 632 92140 59163 | 897 15068 | 800 04265 43151+ | 7750 51106+ | 0 | **53** |
| | 10 | 642 02037 74231 | 9 09979 77115 | 789 66514 92045 | 7643 06152+ | 50 | |
| | 20 | 651 12017 51346 | 9 10062 40715 | 779 28871 85892+ | 7535 63355 | 40 | |
| | 30 | 660 22079 92061+ | 145 05869 | 768 91336 22538 | 7428 22713+ | 30 | |
| | 40 | 669 32224 97930+ | 227 72576+ | 758 53907 99824+ | 7320 84227 | 20 | |
| | 50 | 678 42452 70507 | 310 40838+ | 748 16587 15597+ | 7213 47895+ | 10 | |
| **8** | 0 | 687 52763 11345+ | 393 10655 | 737 79373 67702 | 7106 13718 | 0 | **52** |
| | 10 | 696 63156 22000+ | 475 82026+ | 727 42267 53984 | 6998 81694+ | 50 | |
| | 20 | 705 73632 04027 | 558 54953+ | 717 05268 72289+ | 6891 51824 | 40 | |
| | 30 | 714 84190 58980+ | 641 29436 | 706 68377 20465+ | 6784 24106+ | 30 | |
| | 40 | 723 94831 88417 | 724 05475 | 696 31592 96359 | 6676 98540+ | 20 | |
| | 50 | 733 05555 93892 | 806 83070 | 685 94915 97818+ | 6569 75126+ | 10 | |
| **9** | 0 | 742 16362 76962 | 889 62222 | 675 58346 22692 | 6462 53863 | 0 | **51** |
| | 10 | 751 27252 39184 | 9 10972 42931 | 665 21883 68829 | 6355 34750 | 50 | |
| | 20 | 760 38224 82115 | 9 11055 25197+ | 654 85528 34078+ | 6248 17787 | 40 | |
| | 30 | 769 49280 07312+ | 138 09022 | 644 49280 16291+ | 6141 02973+ | 30 | |
| | 40 | 778 60418 16334+ | 220 94405 | 634 13139 13318 | 6033 90308+ | 20 | |
| | 50 | 787 71639 10739+ | 9 11303 81346+ | 623 77105 23009 | 10 35926 79792 | 10 | |
| **10** | 0 | 0,93796 82942 92086 | | 1,06613 41178 43217 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,93796 82942 92086 | 9 11386 69846+ | 1,06613 41178 43217 | 10 35819 71423 | 0 | **50** |
| | 10 | 805 94329 61932+ | 469 59906 | 603 05358 71794 | 5712 65201+ | 50 | |
| | 20 | 815 05799 21839 | 552 51525+ | 592 69646 06592+ | 5605 61126 | 40 | |
| | 30 | 824 17351 73364+ | 635 44705 | 582 34040 45466 | 5498 59197 | 30 | |
| | 40 | 833 28987 18069+ | 718 39445 | 571 98541 86269 | 5391 59413+ | 20 | |
| | 50 | 842 40705 57514 | 801 35745+ | 561 63150 26855+ | 5284 61775 | 10 | |
| **11** | 0 | 851 52506 93259+ | 884 33607 | 551 27865 65080+ | 5177 66280+ | 0 | **49** |
| | 10 | 860 64391 26866+ | 9 11967 33030 | 540 92687 98800 | 5070 72930+ | 50 | |
| | 20 | 869 76358 59896+ | 9 12050 34015+ | 530 57617 25869+ | 4963 81723+ | 40 | |
| | 30 | 878 88408 93912 | 133 36562+ | 520 22653 44146 | 4856 92659+ | 30 | |
| | 40 | 888 00542 30474+ | 216 40672+ | 509 87796 51486+ | 4750 05737+ | 20 | |
| | 50 | 897 12758 71147 | 299 46345+ | 499 53046 45749 | 4643 20957+ | 10 | |
| **12** | 0 | 906 25058 17492+ | 382 53581+ | 489 18403 24792 | 4536 38318 | 0 | **48** |
| | 10 | 915 37440 71074 | 465 62381 | 478 83866 86473+ | 4429 57820 | 50 | |
| | 20 | 924 49906 33455 | 548 72745 | 468 49437 28654 | 4322 79461+ | 40 | |
| | 30 | 933 62455 06200 | 631 84673+ | 458 15114 49192 | 4216 03243 | 30 | |
| | 40 | 942 75086 90873+ | 714 98166+ | 447 80898 45949+ | 4109 29163 | 20 | |
| | 50 | 951 87801 89040 | 798 13224+ | 437 46789 16786+ | 4002 57222 | 10 | |
| **13** | 0 | 961 00600 02264+ | 881 29848 | 427 12786 59564+ | 3895 87418+ | 0 | **47** |
| | 10 | 970 13481 32112+ | 9 12964 48037+ | 416 78890 72146 | 3789 19752+ | 50 | |
| | 20 | 979 26445 80150 | 9 13047 67793+ | 406 45101 52394 | 3682 54223 | 40 | |
| | 30 | 988 39493 47943 | 130 89115+ | 396 11418 98170+ | 3575 90830+ | 30 | |
| | 40 | 0,93997 52624 37059 | 214 12005 | 385 77843 07340 | 3469 29573+ | 20 | |
| | 50 | 0,94006 65838 49063+ | 297 36461+ | 375 44373 77767 | 3362 70451+ | 10 | |
| **14** | 0 | 015 79135 85525 | 380 62485+ | 365 11011 07315+ | 3256 13464 | 0 | **46** |
| | 10 | 024 92516 48010+ | 463 90077+ | 354 77754 93851+ | 3149 58611 | 50 | |
| | 20 | 034 05980 38088 | 547 19238+ | 344 44605 35240+ | 3043 05891+ | 40 | |
| | 30 | 043 19527 57326+ | 630 49968 | 334 11562 29349 | 2936 55305 | 30 | |
| | 40 | 052 33158 07294+ | 713 82266+ | 323 78625 74044 | 2830 06851 | 20 | |
| | 50 | 061 46871 89560+ | 797 16134+ | 313 45795 67192+ | 2723 60529 | 10 | |
| **15** | 0 | 070 60669 05695 | 880 51572 | 303 13072 06663+ | 2617 16338+ | 0 | **45** |
| | 10 | 079 74549 57267 | 9 13963 88580+ | 292 80454 90325 | 2510 74279 | 50 | |
| | 20 | 088 88513 45847+ | 9 14047 27159 | 282 47944 16046 | 2404 34349+ | 40 | |
| | 30 | 098 02560 73006+ | 130 67308+ | 272 15539 81696+ | 2297 96550 | 30 | |
| | 40 | 107 16691 40315 | 214 09029+ | 261 83241 85146 | 2191 60880 | 20 | |
| | 50 | 116 30905 49345 | 297 52322+ | 251 51050 24266 | 2085 27338+ | 10 | |
| **16** | 0 | 125 45203 01667 | 380 97187 | 241 18964 96927+ | 1978 95925+ | 0 | **44** |
| | 10 | 134 59583 98854 | 464 43624 | 230 86986 01002 | 1872 66639+ | 50 | |
| | 20 | 143 74048 42478+ | 547 91634 | 220 55113 34362+ | 1766 39481 | 40 | |
| | 30 | 152 88596 34112+ | 631 41217 | 210 23346 94881+ | 1660 14449+ | 30 | |
| | 40 | 162 03227 75329+ | 714 92373+ | 199 91686 80432 | 1553 91543+ | 20 | |
| | 50 | 171 17942 67703 | 798 45104 | 189 60132 88888+ | 1447 70763 | 10 | |
| **17** | 0 | 180 32741 12807 | 881 99408+ | 179 28685 18125+ | 1341 52107+ | 0 | **43** |
| | 10 | 189 47623 12216 | 9 14965 55288 | 168 97343 66018 | 1235 35577 | 50 | |
| | 20 | 198 62588 67504 | 9 15049 12742+ | 158 66108 30441 | 1129 21169+ | 40 | |
| | 30 | 207 77637 80246 | 132 71772 | 148 34979 09271+ | 1023 08886 | 30 | |
| | 40 | 216 92770 52018 | 216 32377 | 138 03956 00385+ | 0916 98725 | 20 | |
| | 50 | 226 07986 84395+ | 299 94558+ | 127 73039 01660 | 0810 90686+ | 10 | |
| **18** | 0 | 235 23286 78954 | 383 58316+ | 117 42228 10973+ | 0704 84769+ | 0 | **42** |
| | 10 | 244 38670 37270+ | 467 23651 | 107 11523 26204 | 0598 80974 | 50 | |
| | 20 | 253 54137 60921+ | 550 90563 | 096 80924 45229+ | 0492 79299 | 40 | |
| | 30 | 262 69688 51484 | 634 59052 | 086 50431 65930+ | 0386 79744+ | 30 | |
| | 40 | 271 85323 10536+ | 718 29119+ | 076 20044 86186 | 0280 82309 | 20 | |
| | 50 | 281 01041 39656 | 802 00765 | 065 89764 03877 | 0174 86993 | 10 | |
| **19** | 0 | 290 16843 40421 | 885 73989 | 055 59589 16884 | 10 30068 93795+ | 0 | **41** |
| | 10 | 299 32729 14410 | 9 15969 48792+ | 045 29520 23088+ | 10 29963 02716 | 50 | |
| | 20 | 308 48698 63202+ | 9 16053 25175 | 034 99557 20372+ | 9857 13753+ | 40 | |
| | 30 | 317 64751 88377+ | 137 03137+ | 024 69700 06619 | 9751 26908+ | 30 | |
| | 40 | 326 80888 91514+ | 220 82679+ | 014 39948 79710+ | 9645 42179+ | 20 | |
| | 50 | 335 97109 74194+ | 9 16304 63802+ | 1,06004 10303 37530+ | 10 29539 59567 | 10 | |
| **20** | 0 | 0,94345 13414 37997 | | 1,05993 80763 77964 | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,94345 13414 37997 | 9 16388 46506+ | 1,05993 80763 77964 | 10 29433 79069 | 0 | **40** |
| | 10 | 354 29802 84503+ | 472 30791+ | 983 51329 98894+ | 9328 00686+ | 50 | |
| | 20 | 363 46275 15294+ | 556 16658 | 973 22001 98208+ | 9222 24418 | 40 | |
| | 30 | 372 62831 31952+ | 640 04106+ | 962 92779 73790+ | 9116 50263 | 30 | |
| | 40 | 381 79471 36059 | 723 93137+ | 952 63663 23527+ | 9010 78221 | 20 | |
| | 50 | 390 96195 29196+ | 807 83751 | 942 34652 45306+ | 8905 08292 | 10 | |
| **21** | 0 | 400 13003 12947+ | 891 75947+ | 932 05747 37014 | 8799 40475+ | 0 | **39** |
| | 10 | 409 29894 88894+ | 9 16975 69727+ | 921 76947 96539 | 8693 74770 | 50 | |
| | 20 | 418 46870 58622 | 9 17059 65091+ | 911 48254 21768+ | 8588 11176 | 40 | |
| | 30 | 427 63930 23713+ | 143 62039+ | 901 19666 10593 | 8482 49692 | 30 | |
| | 40 | 436 81073 85753 | 227 60572 | 890 91183 60901 | 8376 90318+ | 20 | |
| | 50 | 445 98301 46324+ | 311 60689 | 880 62806 70582+ | 8271 33054 | 10 | |
| **22** | 0 | 455 15613 07014 | 395 62392 | 870 34535 37528+ | 8165 77899 | 0 | **38** |
| | 10 | 464 33008 69406 | 479 65680+ | 860 06369 59629+ | 8060 24852 | 50 | |
| | 20 | 473 50488 35086 | 563 70554+ | 849 78309 34778 | 7954 73912+ | 40 | |
| | 30 | 482 68052 05641 | 647 77015+ | 839 50354 60865 | 7849 25081 | 30 | |
| | 40 | 491 85699 82656 | 731 85063 | 829 22505 35784 | 7743 78356 | 20 | |
| | 50 | 501 03431 67719 | 815 94697+ | 818 94761 57428 | 7638 33737+ | 10 | |
| **23** | 0 | 510 21247 62416+ | 900 05919+ | 808 67123 23691 | 7532 91224+ | 0 | **37** |
| | 10 | 519 39147 68336+ | 9 17984 18729+ | 798 39590 32466+ | 7427 50816+ | 50 | |
| | 20 | 528 57131 87066 | 9 18068 33128 | 788 12162 81650 | 7322 12513+ | 40 | |
| | 30 | 537 75200 20193+ | 152 49114+ | 777 84840 69136+ | 7216 76314+ | 30 | |
| | 40 | 546 93352 69308+ | 236 66690+ | 767 57623 92821+ | 7111 42219+ | 20 | |
| | 50 | 556 11589 35998+ | 320 85855+ | 757 30512 50602+ | 7006 10227 | 10 | |
| **24** | 0 | 565 29910 21854+ | 405 06610+ | 747 03506 40375+ | 6900 80337+ | 0 | **36** |
| | 10 | 574 48315 28464+ | 489 28955+ | 736 76605 60038 | 6795 52549+ | 50 | |
| | 20 | 583 66804 57420 | 573 52890+ | 726 49810 07488+ | 6690 26863+ | 40 | |
| | 30 | 592 85378 10310+ | 657 78417 | 716 23119 80625 | 6585 03278+ | 30 | |
| | 40 | 602 04035 88727+ | 742 05534+ | 705 96534 77346+ | 6479 81793+ | 20 | |
| | 50 | 611 22777 94262 | 826 34243+ | 695 70054 95553 | 6374 62408+ | 10 | |
| **25** | 0 | 620 41604 28505 | 910 64544 | 685 43680 33144+ | 6269 45123 | 0 | **35** |
| | 10 | 629 60514 93049+ | 9 18994 96437+ | 675 17410 88021+ | 6164 29936+ | 50 | |
| | 20 | 638 79509 89486+ | 9 19079 29923+ | 664 91246 58085 | 6059 16848 | 40 | |
| | 30 | 647 98589 19410 | 163 65002+ | 654 65187 41237 | 5954 05857+ | 30 | |
| | 40 | 657 17752 84412+ | 248 01674+ | 644 39233 35379+ | 5848 96964 | 20 | |
| | 50 | 666 37000 86087 | 332 39941 | 634 13384 38415+ | 5743 90167+ | 10 | |
| **26** | 0 | 675 56333 26028 | 416 79801 | 623 87640 48248 | 5638 85467 | 0 | **34** |
| | 10 | 684 75750 05829 | 501 21256 | 613 62001 62781 | 5533 82862+ | 50 | |
| | 20 | 693 95251 27085+ | 585 64306 | 603 36467 79918+ | 5428 82353 | 40 | |
| | 30 | 703 14836 91391+ | 670 08951 | 593 11038 97565+ | 5323 83938 | 30 | |
| | 40 | 712 34507 00342+ | 754 55192 | 582 85715 13627+ | 5218 87617 | 20 | |
| | 50 | 721 54261 55534+ | 839 03028+ | 572 60496 26010 | 5113 93390 | 10 | |
| **27** | 0 | 730 74100 58563 | 9 19923 52462 | 562 35382 32620+ | 5009 01255+ | 0 | **33** |
| | 10 | 739 94024 11024+ | 9 20008 03492 | 552 10373 31365 | 4904 11214 | 50 | |
| | 20 | 749 14032 14516+ | 092 56119 | 541 85469 20151 | 4799 23264 | 40 | |
| | 30 | 758 34124 70635+ | 177 10343+ | 531 60669 96887 | 4694 37405+ | 30 | |
| | 40 | 767 54301 80979 | 261 66166 | 521 35975 59481+ | 4589 53638+ | 20 | |
| | 50 | 776 74563 47145+ | 346 23587 | 511 11386 05843 | 4484 71961+ | 10 | |
| **28** | 0 | 785 94909 70732 | 430 82606+ | 500 86901 33881+ | 4379 92374 | 0 | **32** |
| | 10 | 795 15340 53338+ | 515 43225 | 490 62521 41507+ | 4275 14876+ | 50 | |
| | 20 | 804 35855 96563+ | 600 05443 | 480 38246 26631 | 4170 39467+ | 40 | |
| | 30 | 813 56456 02006+ | 684 69260+ | 470 14075 87163+ | 4065 66147 | 30 | |
| | 40 | 822 77140 71267 | 769 34678 | 459 90010 21016+ | 3960 94914 | 20 | |
| | 50 | 831 97910 05945 | 854 01696+ | 449 66049 26102+ | 3856 25768+ | 10 | |
| **29** | 0 | 841 18764 07641+ | 9 20938 70315+ | 439 42193 00334 | 3751 58709+ | 0 | **31** |
| | 10 | 850 39702 77957 | 9 21023 40536 | 429 18441 41624+ | 3646 93737 | 50 | |
| | 20 | 859 60726 18493 | 108 12358 | 418 94794 47888 | 3542 30849+ | 40 | |
| | 30 | 868 81834 30851 | 192 85782 | 408 71252 17038 | 3437 70048 | 30 | |
| | 40 | 878 03027 16633+ | 277 60808+ | 398 47814 46990 | 3333 11330+ | 20 | |
| | 50 | 887 24304 77442 | 9 21362 37438 | 388 24481 35659+ | 10 23228 54697+ | 10 | |
| **30** | 0 | 0,94896 45667 14880 | | 1,05378 01252 80962 | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,94896 45667 14880 | 9 21447 15670 | 1,05378 01252 80962 | 10 23124 00148 | 0 | **30** |
| | 10 | 905 67114 30550 | 1531 95506 | 367 78128 80814+ | 3019 47681+ | 50 | |
| | 20 | 914 88646 26056 | 1616 76945+ | 357 55109 33133 | 2914 97297+ | 40 | |
| | 30 | 924 10263 03001+ | 1701 59989+ | 347 32194 35836 | 2810 48995 | 30 | |
| | 40 | 933 31964 62991+ | 1786 44638+ | 337 09383 86840+ | 2706 02774+ | 20 | |
| | 50 | 942 53751 07629+ | 1871 30892 | 326 86677 84066 | 2601 58635 | 10 | |
| **31** | 0 | 951 75622 38521+ | 1956 18751 | 316 64076 25430+ | 2497 16576 | 0 | **29** |
| | 10 | 960 97578 57272+ | 2041 08215+ | 306 41579 08854+ | 2392 76596+ | 50 | |
| | 20 | 970 19619 65488 | 2125 99286+ | 296 19186 32258 | 2288 38697 | 40 | |
| | 30 | 979 41745 64774+ | 2210 91964 | 285 96897 93561 | 2184 02876 | 30 | |
| | 40 | 988 63956 56738+ | 2295 86248 | 275 74713 90685+ | 2079 69133 | 20 | |
| | 50 | 0,94997 86252 42986+ | 2380 82139+ | 265 52634 21552 | 1975 37468+ | 10 | |
| **32** | 0 | 0,95007 08633 25126+ | 2465 79639 | 255 30658 84083+ | 1871 07881 | 0 | **28** |
| | 10 | 016 31099 04765+ | 2550 78746 | 245 08787 76203 | 1766 80370 | 50 | |
| | 20 | 025 53649 83511+ | 2635 79461+ | 234 87020 95832+ | 1662 54935+ | 40 | |
| | 30 | 034 76285 62973 | 2720 81786 | 224 65358 40897 | 1558 31577 | 30 | |
| | 40 | 043 99006 44759 | 2805 85719+ | 214 43800 09320+ | 1454 10293 | 20 | |
| | 50 | 053 21812 30478+ | 2890 91262+ | 204 22345 99027 | 1349 91084+ | 10 | |
| **33** | 0 | 062 44703 21741 | 2975 98415+ | 194 00996 07942+ | 1245 73949+ | 0 | **27** |
| | 10 | 071 67679 20156+ | 3061 07178+ | 183 79750 33993 | 1141 58888+ | 50 | |
| | 20 | 080 90740 27335 | 3146 17552+ | 173 58608 75104+ | 1037 45900+ | 40 | |
| | 30 | 090 13886 44887 | 3231 29537 | 163 37571 29204 | 0933 34985+ | 30 | |
| | 40 | 099 37117 74424+ | 3316 43133+ | 153 16637 94218+ | 0829 26142 | 20 | |
| | 50 | 108 60434 17558 | 3401 58341+ | 142 95808 68076+ | 0725 19370+ | 10 | |
| **34** | 0 | 117 83835 75899 | 3486 75161+ | 132 75083 48706 | 0621 14669+ | 0 | **26** |
| | 10 | 127 07322 51061 | 3571 93594+ | 122 54462 34036+ | 0517 12039+ | 50 | |
| | 20 | 136 30894 44655 | 3657 13640 | 112 33945 21997 | 0413 11479+ | 40 | |
| | 30 | 145 54551 58295 | 3742 35299 | 102 13532 10517+ | 0309 12989 | 30 | |
| | 40 | 154 78293 93594 | 3827 58571+ | 091 93222 97528+ | 0205 16567 | 20 | |
| | 50 | 164 02121 52165 | 3912 83458 | 081 73017 80961+ | 10 20101 22214 | 10 | |
| **35** | 0 | 173 26034 35623 | 3998 09959 | 071 52916 58747+ | 10 19997 29928+ | 0 | **25** |
| | 10 | 182 50032 45582+ | 4083 38075 | 061 32919 28819 | 9893 39710+ | 50 | |
| | 20 | 191 74115 83657 | 4168 67806 | 051 13025 89108+ | 9789 51559+ | 40 | |
| | 30 | 200 98284 51463 | 4253 99152+ | 040 93236 37548+ | 9685 65475 | 30 | |
| | 40 | 210 22538 50615+ | 4339 32115 | 030 73550 72073+ | 9581 81456+ | 20 | |
| | 50 | 219 46877 82730+ | 4424 66694 | 020 53968 90617+ | 9477 99503 | 10 | |
| **36** | 0 | 228 71302 49424+ | 4510 02889+ | 010 34490 91114+ | 9374 19614 | 0 | **24** |
| | 10 | 237 95812 52314 | 4595 40702 | 1,05000 15116 71500+ | 9270 41790 | 50 | |
| | 20 | 247 20407 93016 | 4680 80132 | 1,04989 95846 29710+ | 9166 66029 | 40 | |
| | 30 | 256 45088 73148 | 4766 21180 | 979 76679 63681 | 9062 92332 | 30 | |
| | 40 | 265 69854 94328 | 4851 63846 | 969 57616 71349+ | 8959 20697+ | 20 | |
| | 50 | 274 94706 58174 | 4937 08130+ | 959 38657 50652 | 8855 51125 | 10 | |
| **37** | 0 | 284 19643 66304+ | 5022 54034+ | 949 19801 99527 | 8751 83614+ | 0 | **23** |
| | 10 | 293 44666 20339 | 5108 01557+ | 939 01050 15912+ | 8648 18165 | 50 | |
| | 20 | 302 69774 21896+ | 5193 50700 | 928 82401 97747+ | 8544 54776 | 40 | |
| | 30 | 311 94967 72596+ | 5279 01463 | 918 63857 42971+ | 8440 93447+ | 30 | |
| | 40 | 321 20246 74059+ | 5364 53846+ | 908 45416 49523+ | 8337 34178+ | 20 | |
| | 50 | 330 45611 27905+ | 5450 07850+ | 898 27079 15345 | 8233 76969 | 10 | |
| **38** | 0 | 339 71061 35756 | 5535 63476 | 888 08845 38376+ | 8130 21817+ | 0 | **22** |
| | 10 | 348 96596 99232 | 5621 20723 | 877 90715 16558+ | 8026 68724+ | 50 | |
| | 20 | 358 22218 19955 | 5706 79592 | 867 72688 47834+ | 7923 17689 | 40 | |
| | 30 | 367 47924 99547 | 5792 40083+ | 857 54765 30145+ | 7819 68710+ | 30 | |
| | 40 | 376 73717 39630+ | 5878 02197+ | 847 36945 61435 | 7716 21788+ | 20 | |
| | 50 | 385 99595 41828 | 5963 65935 | 837 19229 39646+ | 7612 76922+ | 10 | |
| **39** | 0 | 395 25559 07763+ | 6049 31296 | 827 01616 62724 | 7509 34112 | 0 | **21** |
| | 10 | 404 51608 39059+ | 6134 98281 | 816 84107 28612 | 7405 93356+ | 50 | |
| | 20 | 413 77743 37340 | 6220 66890 | 806 66701 35255+ | 7302 54655+ | 40 | |
| | 30 | 423 03964 04230 | 6306 37124 | 796 49398 80600 | 7199 18009 | 30 | |
| | 40 | 432 30270 41354 | 6392 08982+ | 786 32199 62591 | 7095 83415+ | 20 | |
| | 50 | 441 56662 50336+ | 9 26477 82467 | 776 15103 79175+ | 10 16992 50874+ | 10 | |
| **40** | 0 | 0,95450 83140 32803+ | | 1,04765 98111 28301 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,95450 83140 32803+ | 9 26563 57577 | 1,04765 98111 28301 | 10 16889 20386+ | 0 | **20** |
| | 10 | 460 09703 90380+ | 6649 34313+ | 755 81222 07914+ | 6785 91950+ | 50 | |
| | 20 | 469 36353 24694 | 6735 12676 | 745 64436 15964 | 6682 65565+ | 40 | |
| | 30 | 478 63088 37370 | 6820 92666 | 735 47753 50398+ | 6579 41231+ | 30 | |
| | 40 | 487 89909 30036 | 6906 74283+ | 725 31174 09167 | 6476 18948 | 20 | |
| | 50 | 497 16816 04319+ | 6992 57528 | 715 14697 90219 | 6372 98714+ | 10 | |
| **41** | 0 | 506 43808 61847+ | 7078 42401 | 704 98324 91504+ | 6269 80530 | 0 | **19** |
| | 10 | 515 70887 04249 | 7164 28902+ | 694 82055 10974+ | 6166 64394+ | 50 | |
| | 20 | 524 98051 33151+ | 7250 17033 | 684 65888 46580 | 6063 50307+ | 40 | |
| | 30 | 534 25301 50184+ | 7336 06793 | 674 49824 96272+ | 5960 38268 | 30 | |
| | 40 | 543 52637 56977+ | 7421 98182 | 664 33864 58005 | 5857 28276 | 20 | |
| | 50 | 552 80059 55159+ | 7507 91201+ | 654 18007 29729 | 5754 20330+ | 10 | |
| **42** | 0 | 562 07567 46361 | 7593 85851 | 644 02253 09398+ | 5651 14431+ | 0 | **18** |
| | 10 | 571 35161 32212 | 7679 82131+ | 633 86601 94967 | 5548 10578 | 50 | |
| | 20 | 580 62841 14343+ | 7765 80043+ | 623 71053 84389 | 5445 08770 | 40 | |
| | 30 | 589 90606 94387 | 7851 79586+ | 613 55608 75619 | 5342 09006+ | 30 | |
| | 40 | 599 18458 73973+ | 7937 80761+ | 603 40266 66612+ | 5239 11287+ | 20 | |
| | 50 | 608 46396 54735+ | 8023 83569 | 593 25027 55324+ | 5136 15612+ | 10 | |
| **43** | 0 | 617 74420 38304+ | 8109 88009+ | 583 09891 39712+ | 5033 21980 | 0 | **17** |
| | 10 | 627 02530 26314 | 8195 94082+ | 572 94858 17732+ | 4930 30390+ | 50 | |
| | 20 | 636 30726 20396+ | 8282 01789+ | 562 79927 87341+ | 4827 40843+ | 40 | |
| | 30 | 645 59008 22186 | 8368 11130 | 552 65100 46498+ | 4724 53337+ | 30 | |
| | 40 | 654 87376 33316 | 8454 22105 | 542 50375 93161 | 4621 67873 | 20 | |
| | 50 | 664 15830 55421 | 8540 34714+ | 532 35754 25288 | 4518 84449+ | 10 | |
| **44** | 0 | 673 44370 90135+ | 8626 48959 | 522 21235 40838+ | 4416 03065+ | 0 | **16** |
| | 10 | 682 72997 39094 | 8712 64838+ | 512 06819 37773 | 4313 23721+ | 50 | |
| | 20 | 692 01710 03933 | 8798 82354+ | 501 92506 14051+ | 4210 46416+ | 40 | |
| | 30 | 701 30508 86287+ | 8885 01506 | 491 78295 67635 | 4107 71150 | 30 | |
| | 40 | 710 59393 87793+ | 8971 22294+ | 481 64187 96485 | 4004 97922 | 20 | |
| | 50 | 719 88365 10088 | 9057 44720 | 471 50182 98563 | 3902 26731 | 10 | |
| **45** | 0 | 729 17422 54808 | 9143 68782+ | 461 36280 71832 | 3799 57577+ | 0 | **15** |
| | 10 | 738 46566 23590+ | 9229 94483 | 451 22481 14254+ | 3696 90460+ | 50 | |
| | 20 | 747 75796 18073 | 9316 21821 | 441 08784 23794 | 3594 25379+ | 40 | |
| | 30 | 757 05112 39894+ | 9402 50798 | 430 95189 98414+ | 3491 62334 | 30 | |
| | 40 | 766 34514 90692+ | 9488 81414 | 420 81698 36080+ | 3389 01323+ | 20 | |
| | 50 | 775 64003 72106 | 9575 13668+ | 410 68309 34757 | 3286 42348 | 10 | |
| **46** | 0 | 784 93578 85775 | 9661 47563+ | 400 55022 92409 | 3183 85406 | 0 | **14** |
| | 10 | 794 23240 33338+ | 9747 83098 | 390 41839 07003 | 3081 30497+ | 50 | |
| | 20 | 803 52988 16436 | 9834 20273 | 380 28757 76505+ | 2978 77622+ | 40 | |
| | 30 | 812 82822 36709 | 9 29920 59089 | 370 15778 98883+ | 2876 26779+ | 30 | |
| | 40 | 822 12742 95798 | 9 30006 99545+ | 360 02902 72104 | 2773 77968+ | 20 | |
| | 50 | 831 42749 95343+ | 0093 41644+ | 349 90128 94135 | 2671 31189+ | 10 | |
| **47** | 0 | 840 72843 36988 | 0179 85385 | 339 77457 62946 | 2568 86441 | 0 | **13** |
| | 10 | 850 03023 22373 | 0266 30767+ | 329 64888 76505 | 2466 43723 | 50 | |
| | 20 | 859 33289 53140+ | 0352 77793 | 319 52422 32782 | 2364 03035 | 40 | |
| | 30 | 868 63642 30933+ | 0439 26461+ | 309 40058 29747 | 2261 64376+ | 30 | |
| | 40 | 877 94081 57395 | 0525 76774 | 299 27796 65370 | 2159 27747 | 20 | |
| | 50 | 887 24607 34169 | 0612 28730 | 289 15637 37623 | 2056 93146 | 10 | |
| **48** | 0 | 896 55219 62899 | 0698 82330 | 279 03580 44477 | 1954 60573 | 0 | **12** |
| | 10 | 905 85918 45229 | 0785 37575 | 268 91625 83904 | 1852 30027 | 50 | |
| | 20 | 915 16703 82804 | 0871 94465 | 258 79773 53877 | 1750 01508+ | 40 | |
| | 30 | 924 47575 77269 | 0958 53000+ | 248 68023 52368+ | 1647 75016 | 30 | |
| | 40 | 933 78534 30269+ | 1045 13181+ | 238 56375 77352+ | 1545 50549+ | 20 | |
| | 50 | 943 09579 43451 | 1131 75009 | 228 44830 26803 | 1443 28108+ | 10 | |
| **49** | 0 | 952 40711 18460 | 1218 38483 | 218 33386 98694+ | 1341 07692+ | 0 | **11** |
| | 10 | 961 71929 56943 | 1305 03604 | 208 22045 91002 | 1238 89300+ | 50 | |
| | 20 | 971 03234 60546+ | 1391 70372+ | 198 10807 01701+ | 1136 72932+ | 40 | |
| | 30 | 980 34626 30919 | 1478 38788+ | 187 99670 28769 | 1034 58588 | 30 | |
| | 40 | 989 66104 69707+ | 1565 08852+ | 177 88635 70180+ | 0932 46266+ | 20 | |
| | 50 | 0,95998 97669 78560 | 9 31651 80565+ | 167 77703 23914 | 10 10830 35967+ | 10 | |
| **50** | 0 | 0,96008 29321 59125+ | | 1,04157 66872 87946+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 43°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,96008 29321 59125+ | 9 31738 53927 | 1,04157 66872 87946+ | 10 10728 27690 | 0 | **10** |
| | 10 | 017 61060 13052+ | 1825 28938 | 147 56144 60256+ | 0626 21434 | 50 | |
| | 20 | 026 92885 41990+ | 1912 05598+ | 137 45518 38822+ | 0524 17199 | 40 | |
| | 30 | 036 24797 47589 | 1998 83909+ | 127 34994 21623+ | 0422 14984 | 30 | |
| | 40 | 045 56796 31498+ | 2085 63871 | 117 24572 06639 | 0320 14789+ | 20 | |
| | 50 | 054 88881 95369+ | 2172 45483 | 107 14251 91849+ | 0218 16614 | 10 | |
| **51** | 0 | 064 21054 40852+ | 2259 28746 | 097 04033 75236 | 0116 20457 | 0 | **9** |
| | 10 | 073 53313 69598+ | 2346 13661 | 086 93917 54779 | 10 10014 26318+ | 50 | |
| | 20 | 082 85659 83260 | 2433 00228+ | 076 83903 28460 | 10 09912 34198 | 40 | |
| | 30 | 092 18092 83488 | 2519 88447+ | 066 73990 94262 | 9810 44095 | 30 | |
| | 40 | 101 50612 71936 | 2606 78320 | 056 64180 50167 | 9708 56008+ | 20 | |
| | 50 | 110 83219 50256 | 2693 69845+ | 046 54471 94158+ | 9606 69938+ | 10 | |
| **52** | 0 | 120 15913 20101+ | 2780 63024+ | 036 44865 24219+ | 9504 85884+ | 0 | **8** |
| | 10 | 129 48693 83126 | 2867 57857+ | 026 35360 38335 | 9403 03845+ | 50 | |
| | 20 | 138 81561 40983+ | 2954 54345 | 016 25957 34489+ | 9301 23821+ | 40 | |
| | 30 | 148 14515 95328+ | 3041 52487 | 1,04006 16656 10668 | 9199 45812 | 30 | |
| | 40 | 157 47557 47815+ | 3128 52284+ | 1,03996 07456 64856 | 9097 69816 | 20 | |
| | 50 | 166 80686 00100 | 3215 53737+ | 985 98358 95040 | 8995 95833+ | 10 | |
| **53** | 0 | 176 13901 53837+ | 3302 56846 | 975 89362 99206 | 8894 23864 | 0 | **7** |
| | 10 | 185 47204 10683+ | 3389 61611+ | 965 80468 75342+ | 8792 53906+ | 50 | |
| | 20 | 194 80593 72295 | 3476 68033 | 955 71676 21436 | 8690 85961 | 40 | |
| | 30 | 204 14070 40328 | 3563 76112 | 945 62985 35475+ | 8589 20026+ | 30 | |
| | 40 | 213 47634 16440 | 3650 85848+ | 935 54396 15449 | 8487 56103 | 20 | |
| | 50 | 222 81285 02288+ | 3737 97243 | 925 45908 59346 | 8385 94190 | 10 | |
| **54** | 0 | 232 15022 99531+ | 3825 10295+ | 915 37522 65156 | 8284 34286+ | 0 | **6** |
| | 10 | 241 48848 09827 | 3912 25006+ | 905 29238 30869+ | 8182 76392+ | 50 | |
| | 20 | 250 82760 34833+ | 3999 41377 | 895 21055 54477 | 8081 20507 | 40 | |
| | 30 | 260 16759 76210+ | 4086 59407 | 885 12974 33970 | 7979 66630+ | 30 | |
| | 40 | 269 50846 35617 | 4173 79096+ | 875 04994 67339+ | 7878 14761 | 20 | |
| | 50 | 278 85020 14713+ | 4261 00446+ | 864 97116 52578 | 7776 64899+ | 10 | |
| **55** | 0 | 288 19281 15160 | 4348 23456+ | 854 89339 87678+ | 7675 17044+ | 0 | **5** |
| | 10 | 297 53629 38616+ | 4435 48128+ | 844 81664 70634+ | 7573 71196 | 50 | |
| | 20 | 306 88064 86745 | 4522 74461 | 834 74090 99438+ | 7472 27353 | 40 | |
| | 30 | 316 22587 61206 | 4610 02456 | 824 66618 72085+ | 7370 85515+ | 30 | |
| | 40 | 325 57197 63662 | 4697 32113 | 814 59247 86570 | 7269 45682+ | 20 | |
| | 50 | 334 91894 95775 | 4784 63432+ | 804 51978 40887+ | 7168 07854+ | 10 | |
| **56** | 0 | 344 26679 59207 | 4871 96415 | 794 44810 33033 | 7066 72029+ | 0 | **4** |
| | 10 | 353 61551 55622 | 4959 31060+ | 784 37743 61003+ | 6965 38208+ | 50 | |
| | 20 | 362 96510 86682+ | 5046 67370+ | 774 30778 22795 | 6864 06390 | 40 | |
| | 30 | 372 31557 54053 | 5134 05344 | 764 23914 16405 | 6762 76574 | 30 | |
| | 40 | 381 66691 59397 | 5221 44982+ | 754 17151 39831 | 6661 48759+ | 20 | |
| | 50 | 391 01913 04379+ | 5308 86286 | 744 10489 91071+ | 6560 22946+ | 10 | |
| **57** | 0 | 400 37221 90665+ | 5396 29254+ | 734 03929 68125 | 6458 99134+ | 0 | **3** |
| | 10 | 409 72618 19920 | 5483 73889 | 723 97470 68990+ | 6357 77322+ | 50 | |
| | 20 | 419 08101 93809 | 5571 20189+ | 713 91112 91668 | 6256 57510+ | 40 | |
| | 30 | 428 43673 13998 | 5658 68156+ | 703 84856 34157 | 6155 39698 | 30 | |
| | 40 | 437 79331 82154+ | 5746 17790+ | 693 78700 94459 | 6054 23884 | 20 | |
| | 50 | 447 15077 99945 | 5833 69091+ | 683 72646 70575 | 5953 10068+ | 10 | |
| **58** | 0 | 456 50911 69036+ | 5921 22060+ | 673 66693 60506 | 5851 98251 | 0 | **2** |
| | 10 | 465 86832 91097 | 6008 76697+ | 663 60841 62255 | 5750 88431 | 50 | |
| | 20 | 475 22841 67795 | 6096 33003 | 653 55090 73824+ | 5649 80607+ | 40 | |
| | 30 | 484 58938 00798 | 6183 90977+ | 643 49440 93217 | 5548 74780+ | 30 | |
| | 40 | 493 95121 91775+ | 6271 50621+ | 633 43892 18436+ | 5447 70949 | 20 | |
| | 50 | 503 31393 42397 | 6359 11935 | 623 38444 47487+ | 5346 69113+ | 10 | |
| **59** | 0 | 512 67752 54332 | 6446 74918+ | 613 33097 78374 | 5245 69272+ | 0 | **1** |
| | 10 | 522 04199 29250 | 6534 39572 | 603 27852 09102 | 5144 71425+ | 50 | |
| | 20 | 531 40733 68822+ | 6622 05897 | 593 22707 37676 | 5043 75573 | 40 | |
| | 30 | 540 77355 74719+ | 6709 73893 | 583 17663 62103+ | 4942 81713+ | 30 | |
| | 40 | 550 14065 48612+ | 6797 43561 | 573 12720 80389+ | 4841 89847 | 20 | |
| | 50 | 559 50862 92173+ | 9 36885 14900+ | 563 07878 90542+ | 10 04740 99973 | 10 | |
| **60** | 0 | 0,96568 87748 07074 | | 1,03553 03137 90569+ | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 46°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **0** | 0 | 0,96568 87748 07074 | 9 36972 87913 | 1,03553 03137 90569+ | 10 04640 12091 | 0 | **60** |
| | 10 | 578 24720 94987 | 7060 62598 | 542 98497 78478+ | 4539 26200 | 50 | |
| | 20 | 587 61781 57585 | 7148 38956 | 532 93958 52278+ | 4438 42300 | 40 | |
| | 30 | 596 98929 96541 | 7236 16988 | 522 89520 09978+ | 4337 60390+ | 30 | |
| | 40 | 606 36166 13529 | 7323 96694 | 512 85182 49587+ | 4236 80471 | 20 | |
| | 50 | 615 73490 10223 | 7411 78074+ | 502 80945 69116+ | 4136 02541 | 10 | |
| **1** | 0 | 625 10901 88297+ | 7499 61129+ | 492 76809 66575+ | 4035 26600 | 0 | **59** |
| | 10 | 634 48401 49427 | 7587 45860 | 482 72774 39975+ | 3934 52647 | 50 | |
| | 20 | 643 85988 95287 | 7675 32266 | 472 68839 87328+ | 3833 80682+ | 40 | |
| | 30 | 653 23664 27553 | 7763 20348 | 462 65006 06646 | 3733 10705 | 30 | |
| | 40 | 662 61427 47901+ | 7851 10106+ | 452 61272 95941+ | 3632 42714+ | 20 | |
| | 50 | 671 99278 58008 | 7939 01542 | 442 57640 53227 | 3531 76710+ | 10 | |
| **2** | 0 | 681 37217 59549+ | 8026 94654 | 432 54108 76516+ | 3431 12692+ | 0 | **58** |
| | 10 | 690 75244 54204 | 8114 89444+ | 422 50677 63824 | 3330 50660 | 50 | |
| | 20 | 700 13359 43648 | 8202 85912+ | 412 47347 13164 | 3229 90612+ | 40 | |
| | 30 | 709 51562 29560+ | 8290 84058+ | 402 44117 22551+ | 3129 32549+ | 30 | |
| | 40 | 718 89853 13619 | 8378 83884 | 392 40987 90002 | 3028 76470+ | 20 | |
| | 50 | 728 28231 97503 | 8466 85388+ | 382 37959 13531+ | 2928 22375 | 10 | |
| **3** | 0 | 737 66698 82891+ | 8554 88572+ | 372 35030 91157 | 2827 70262+ | 0 | **57** |
| | 10 | 747 05253 71463+ | 8642 93436+ | 362 32203 20894+ | 2727 20132+ | 50 | |
| | 20 | 756 43896 64900 | 8730 99980+ | 352 29476 00762 | 2626 71984+ | 40 | |
| | 30 | 765 82627 64881 | 8819 08206 | 342 26849 28778 | 2526 25818 | 30 | |
| | 40 | 775 21446 73086+ | 8907 18112 | 332 24323 02960 | 2425 81632+ | 20 | |
| | 50 | 784 60353 91199 | 8995 29700 | 322 21897 21327+ | 2325 39427+ | 10 | |
| **4** | 0 | 793 99349 20899 | 9083 42970 | 312 19571 81900 | 2224 99203 | 0 | **56** |
| | 10 | 803 38432 63869 | 9171 57922 | 302 17346 82697+ | 2124 60957+ | 50 | |
| | 20 | 812 77604 21791 | 9259 74557 | 292 15222 21739+ | 2024 24691+ | 40 | |
| | 30 | 822 16863 96348 | 9347 92875+ | 282 13197 97048 | 1923 90404 | 30 | |
| | 40 | 831 56211 89223+ | 9436 12877 | 272 11274 06644+ | 1823 58094+ | 20 | |
| | 50 | 840 95648 02100+ | 9524 34563 | 262 09450 48550 | 1723 27762+ | 10 | |
| **5** | 0 | 850 35172 36663+ | 9612 57933 | 252 07727 20787 | 1622 99408 | 0 | **55** |
| | 10 | 859 74784 94596+ | 9700 82988 | 242 06104 21379+ | 1522 73030 | 50 | |
| | 20 | 869 14485 77584 | 9789 09728 | 232 04581 48349+ | 1422 48628 | 40 | |
| | 30 | 878 54274 87312 | 9877 38153+ | 222 03158 99721+ | 1322 26201+ | 30 | |
| | 40 | 887 94152 25465+ | 9 39965 68265 | 212 01836 73520 | 1222 05750+ | 20 | |
| | 50 | 897 34117 93730+ | 9 40054 00063 | 202 00614 67769+ | 1121 87274 | 10 | |
| **6** | 0 | 906 74171 93793+ | 0142 33547+ | 191 99492 80495+ | 1021 70771+ | 0 | **54** |
| | 10 | 916 14314 27341 | 0230 68719+ | 181 98471 09724 | 0921 56243 | 50 | |
| | 20 | 925 54544 96060+ | 0319 05579 | 171 97549 53481 | 0821 43687+ | 40 | |
| | 30 | 934 94864 01639 | 0407 44126+ | 161 96728 09793 | 0721 33105 | 30 | |
| | 40 | 944 35271 45765+ | 0495 84362 | 151 96006 76688 | 0621 24494+ | 20 | |
| | 50 | 953 75767 30127+ | 0584 26286+ | 141 95385 52193+ | 0521 17856 | 10 | |
| **7** | 0 | 963 16351 56414 | 0672 69900+ | 131 94864 34337+ | 0421 13188+ | 0 | **53** |
| | 10 | 972 57024 26314+ | 0761 15203+ | 121 94443 21149 | 0321 10491+ | 50 | |
| | 20 | 981 97785 41518 | 0849 62197 | 111 94122 10657+ | 0221 09765 | 40 | |
| | 30 | 0,96991 38635 03714+ | 0938 10880+ | 101 93901 00892+ | 0121 11008+ | 30 | |
| | 40 | 0,97000 79573 14595 | 1026 61254+ | 091 93779 89884 | 10 00021 14221 | 20 | |
| | 50 | 010 20599 75849+ | 1115 13320+ | 081 93758 75662+ | 9 99921 19402+ | 10 | |
| **8** | 0 | 019 61714 89170 | 1203 67077+ | 071 93837 56260 | 9821 26552+ | 0 | **52** |
| | 10 | 029 02918 56247+ | 1292 22526+ | 061 94016 29707+ | 9721 35670 | 50 | |
| | 20 | 038 44210 78774 | 1380 79668 | 051 94294 94037+ | 9621 46755 | 40 | |
| | 30 | 047 85591 58442 | 1469 38502+ | 041 94673 47282+ | 9521 59807 | 30 | |
| | 40 | 057 27060 96944+ | 1557 99029+ | 031 95151 87475+ | 9421 74825 | 20 | |
| | 50 | 066 68618 95974 | 1646 61251 | 021 95730 12651 | 9321 91809 | 10 | |
| **9** | 0 | 076 10265 57224+ | 1735 25166 | 011 96408 20842 | 9222 10758+ | 0 | **51** |
| | 10 | 085 52000 82390+ | 1823 90775 | 1,03001 97186 10083+ | 9122 31673 | 50 | |
| | 20 | 094 93824 73165+ | 1912 58079+ | 1,02991 98063 78410+ | 9022 54551+ | 40 | |
| | 30 | 104 35737 31245 | 2001 27079 | 981 99041 23859 | 8922 79394+ | 30 | |
| | 40 | 113 77738 58324 | 2089 97773+ | 972 00118 44464+ | 8823 06200+ | 20 | |
| | 50 | 123 19828 56097+ | 9 42178 70164+ | 962 01295 38264 | 9 98723 34969+ | 10 | |
| **10** | 0 | 0,97132 62007 26262+ | | 1,02952 02572 03294 | | 0 | **50** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **10** | 0 | 0,97132 62007 26262+ | 9 42267 44252 | 1,02952 02572 03294 | 9 98623 65701+ | 0 | **50** |
| | 10 | 142 04274 70514+ | 2356 20036+ | 942 03948 37592+ | 8523 98395 | 50 | |
| | 20 | 151 46630 90550+ | 2444 97517+ | 932 05424 39197+ | 8424 33050 | 40 | |
| | 30 | 160 89075 88068+ | 2533 76696+ | 922 07000 06147+ | 8324 69666+ | 30 | |
| | 40 | 170 31609 64765 | 2622 57573+ | 912 08675 36481 | 8225 08243 | 20 | |
| | 50 | 179 74232 22339 | 2711 40149 | 902 10450 28238 | 8125 48780 | 10 | |
| **11** | 0 | 189 16943 62488 | 2800 24423+ | 892 12324 79458 | 8025 91276 | 0 | **49** |
| | 10 | 198 59743 86911+ | 2889 10397 | 882 14298 88182 | 7926 35731+ | 50 | |
| | 20 | 208 02632 97308+ | 2977 98070 | 872 16372 52450+ | 7826 82145+ | 40 | |
| | 30 | 217 45610 95378+ | 3066 87443 | 862 18545 70304+ | 7727 30518 | 30 | |
| | 40 | 226 88677 82821+ | 3155 78517 | 852 20818 39787 | 7627 80847+ | 20 | |
| | 50 | 236 31833 61338+ | 3244 71291 | 842 23190 58939 | 7528 33134+ | 10 | |
| **12** | 0 | 245 75078 32629+ | 3333 65767 | 832 25662 25804+ | 7428 87378 | 0 | **48** |
| | 10 | 255 18411 98396+ | 3422 61944 | 822 28233 38426+ | 7329 43578 | 50 | |
| | 20 | 264 61834 60340+ | 3511 59823+ | 812 30903 94848+ | 7230 01733+ | 40 | |
| | 30 | 274 05346 20164 | 3600 59405+ | 802 33673 93115 | 7130 61844 | 30 | |
| | 40 | 283 48946 79569+ | 3689 60690 | 792 36543 31270+ | 7031 23909+ | 20 | |
| | 50 | 292 92636 40260 | 3778 63678 | 782 39512 07361 | 6931 87929+ | 10 | |
| **13** | 0 | 302 36415 03938 | 3867 68370 | 772 42580 19431+ | 6832 53903 | 0 | **47** |
| | 10 | 311 80282 72307+ | 3956 74765+ | 762 45747 65529 | 6733 21829+ | 50 | |
| | 20 | 321 24239 47073 | 4045 82865+ | 752 49014 43699 | 6633 91709 | 40 | |
| | 30 | 330 68285 29939 | 4134 92671 | 742 52380 51990 | 6534 63541 | 30 | |
| | 40 | 340 12420 22609+ | 4224 04181 | 732 55845 88449 | 6435 37324+ | 20 | |
| | 50 | 349 56644 26791 | 4313 17397+ | 722 59410 51124+ | 6336 13059+ | 10 | |
| **14** | 0 | 359 00957 44188+ | 4402 32319+ | 712 63074 38064+ | 6236 90745+ | 0 | **46** |
| | 10 | 368 45359 76508 | 4491 48948+ | 702 66837 47319 | 6137 70382 | 50 | |
| | 20 | 377 89851 25456 | 4580 67284 | 692 70699 76937 | 6038 51968 | 40 | |
| | 30 | 387 34431 92740 | 4669 87327 | 682 74661 24969 | 5939 35504 | 30 | |
| | 40 | 396 79101 80067 | 4759 09077+ | 672 78721 89465 | 5840 20988+ | 20 | |
| | 50 | 406 23860 89144+ | 4848 32536+ | 662 82881 68476+ | 5741 08421+ | 10 | |
| **15** | 0 | 415 68709 21681 | 4937 57704 | 652 87140 60055 | 5641 97802+ | 0 | **45** |
| | 10 | 425 13646 79385 | 5026 84580 | 642 91498 62252 | 5542 89131 | 50 | |
| | 20 | 434 58673 63965 | 5116 13166 | 632 95955 73121 | 5443 82407 | 40 | |
| | 30 | 444 03789 77131 | 5205 43461+ | 623 00511 90714 | 5344 77629 | 30 | |
| | 40 | 453 48995 20592+ | 5294 75467 | 613 05167 13085+ | 5245 74797 | 20 | |
| | 50 | 462 94289 96059+ | 5384 09183 | 603 09921 38288 | 5146 73911 | 10 | |
| **16** | 0 | 472 39674 05242+ | 5473 44610+ | 593 14774 64377+ | 5047 74969+ | 0 | **44** |
| | 10 | 481 85147 49853 | 5562 81749 | 583 19726 89407+ | 4948 77973 | 50 | |
| | 20 | 491 30710 31602 | 5652 20599+ | 573 24778 11434+ | 4849 82921 | 40 | |
| | 30 | 500 76362 52201+ | 5741 61162 | 563 29928 28513+ | 4750 89812 | 30 | |
| | 40 | 510 22104 13363+ | 5831 03437+ | 553 35177 38701+ | 4651 98646+ | 20 | |
| | 50 | 519 67935 16801 | 5920 47425+ | 543 40525 40054+ | 4553 09424 | 10 | |
| **17** | 0 | 529 13855 64226+ | 6009 93127+ | 533 45972 30631 | 4454 22143 | 0 | **43** |
| | 10 | 538 59865 57353+ | 6099 40543 | 523 51518 08487+ | 4355 36804+ | 50 | |
| | 20 | 548 05964 97896+ | 6188 89672+ | 513 57162 71683+ | 4256 53407 | 40 | |
| | 30 | 557 52153 87569 | 6278 40517 | 503 62906 18276+ | 4157 71950 | 30 | |
| | 40 | 566 98432 28086 | 6367 93076+ | 493 68748 46326+ | 4058 92433+ | 20 | |
| | 50 | 576 44800 21163 | 6457 47351+ | 483 74689 53893 | 3960 14857 | 10 | |
| **18** | 0 | 585 91257 68514+ | 6547 03342+ | 473 80729 39036 | 3861 39219+ | 0 | **42** |
| | 10 | 595 37804 71857 | 6636 61049+ | 463 86867 99816+ | 3762 65521 | 50 | |
| | 20 | 604 84441 32906+ | 6726 20473+ | 453 93105 34295+ | 3663 93761 | 40 | |
| | 30 | 614 31167 53380 | 6815 81614+ | 443 99441 40534+ | 3565 23939 | 30 | |
| | 40 | 623 77983 34994+ | 6905 44473 | 434 05876 16595+ | 3466 56054 | 20 | |
| | 50 | 633 24888 79467+ | 6995 09049+ | 424 12409 60541+ | 3367 90106+ | 10 | |
| **19** | 0 | 642 71883 88517+ | 7084 75344+ | 414 19041 70435 | 3269 26095+ | 0 | **41** |
| | 10 | 652 18968 63861+ | 7174 43358 | 404 25772 44339+ | 3170 64020 | 50 | |
| | 20 | 661 66143 07219+ | 7264 13090+ | 394 32601 80319+ | 3072 03880+ | 40 | |
| | 30 | 671 13407 20310 | 7353 84543 | 384 39529 76439+ | 2973 45675+ | 30 | |
| | 40 | 680 60761 04853 | 7443 57715 | 374 46556 30763+ | 2874 89405+ | 20 | |
| | 50 | 690 08204 62568 | 9 47533 32607+ | 364 53681 41358 | 9 92776 35069+ | 10 | |
| **20** | 0 | 0,97699 55737 95175+ | | 1,02354 60905 06288+ | | 0 | **40** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **20** | 0 | 0,97699 55737 95175+ | 9 47623 09221 | 1,02354 60905 06288+ | 9 92677 82667+ | 0 | **40** |
| | 10 | 709 03361 04397 | 7712 87556 | 344 68227 23621 | 2579 32198 | 50 | |
| | 20 | 718 51073 91952+ | 7802 67612 | 334 75647 91423 | 2480 83661+ | 40 | |
| | 30 | 727 98876 59565 | 7892 49390+ | 324 83167 07761+ | 2382 37057 | 30 | |
| | 40 | 737 46769 08955 | 7982 32891 | 314 90784 70704+ | 2283 92384+ | 20 | |
| | 50 | 746 94751 41846+ | 8072 18115 | 304 98500 78320 | 2185 49643 | 10 | |
| **21** | 0 | 756 42823 59961 | 8162 05061+ | 295 06315 28676+ | 2087 08832+ | 0 | **39** |
| | 10 | 765 90985 65023 | 8251 93732+ | 285 14228 19844 | 1988 69952 | 50 | |
| | 20 | 775 39237 58755 | 8341 84127 | 275 22239 49892 | 1890 33001+ | 40 | |
| | 30 | 784 87579 42882 | 8431 76246 | 265 30349 16890+ | 1791 97980+ | 30 | |
| | 40 | 794 36011 19128 | 8521 70090 | 255 38557 18909+ | 1693 64888 | 20 | |
| | 50 | 803 84532 89218+ | 8611 65659+ | 245 46863 54021+ | 1595 33724+ | 10 | |
| **22** | 0 | 813 33144 54878 | 8701 62954+ | 235 55268 20297 | 1497 04488+ | 0 | **38** |
| | 10 | 822 81846 17832+ | 8791 61976 | 225 63771 15809 | 1398 77180 | 50 | |
| | 20 | 832 30637 79808+ | 8881 62723+ | 215 72372 38629 | 1300 51798 | 40 | |
| | 30 | 841 79519 42532 | 8971 65198+ | 205 81071 86831 | 1202 28343 | 30 | |
| | 40 | 851 28491 07730+ | 9061 69400+ | 195 89869 58488 | 1104 06814 | 20 | |
| | 50 | 860 77552 77131 | 9151 75330+ | 185 98765 51674 | 1005 87210+ | 10 | |
| **23** | 0 | 870 26704 52462 | 9241 82989 | 176 07759 64463+ | 0907 69532 | 0 | **37** |
| | 10 | 879 75946 35451 | 9331 92375+ | 166 16851 94931+ | 0809 53778 | 50 | |
| | 20 | 889 25278 27826+ | 9422 03491+ | 156 26042 41153+ | 0711 39948+ | 40 | |
| | 30 | 898 74700 31318 | 9512 16337 | 146 35331 01205 | 0613 28042+ | 30 | |
| | 40 | 908 24212 47655 | 9602 30912 | 136 44717 73162+ | 0515 18059+ | 20 | |
| | 50 | 917 73814 78566+ | 9692 47217+ | 126 54202 55103+ | 0417 09999 | 10 | |
| **24** | 0 | 927 23507 25784 | 9782 65253+ | 116 63785 45104 | 0319 03861 | 0 | **36** |
| | 10 | 936 73289 91037+ | 9872 85020+ | 106 73466 41243 | 0220 99645 | 50 | |
| | 20 | 946 23162 76058+ | 9 49963 06519+ | 096 83245 41598 | 0122 97350 | 40 | |
| | 30 | 955 73125 82578 | 9 50053 29750 | 086 93122 44248 | 9 90024 96976 | 30 | |
| | 40 | 965 23179 12328 | 0143 54713 | 077 03097 47272 | 9 89926 98522 | 20 | |
| | 50 | 974 73322 67041 | 0233 81409 | 067 13170 48750 | 9829 01988 | 10 | |
| **25** | 0 | 984 23556 48450 | 0324 09838 | 057 23341 46762 | 9731 07373+ | 0 | **35** |
| | 10 | 0,97993 73880 58287+ | 0414 40000+ | 047 33610 39388 | 9633 14678 | 50 | |
| | 20 | 0,98003 24294 98288 | 0504 71897 | 037 43977 24710 | 9535 23901 | 40 | |
| | 30 | 012 74799 70185 | 0595 05527+ | 027 54442 00809 | 9437 35041+ | 30 | |
| | 40 | 022 25394 75712+ | 0685 40893+ | 017 65004 65767+ | 9339 48100 | 20 | |
| | 50 | 031 76080 16606 | 0775 77994+ | 1,02007 75665 17667+ | 9241 63075+ | 10 | |
| **26** | 0 | 041 26855 94600+ | 0866 16831 | 1,01997 86423 54592 | 9143 79967+ | 0 | **34** |
| | 10 | 050 77722 11431+ | 0956 57404 | 987 97279 74624+ | 9045 98775+ | 50 | |
| | 20 | 060 28678 68835+ | 1046 99713 | 978 08233 75849 | 8948 19499 | 40 | |
| | 30 | 069 79725 68548+ | 1137 43759 | 968 19285 56350 | 8850 42138 | 30 | |
| | 40 | 079 30863 12308 | 1227 89542+ | 958 30435 14212 | 8752 66691+ | 20 | |
| | 50 | 088 82091 01850+ | 1318 37064 | 948 41682 47520+ | 8654 93159 | 10 | |
| **27** | 0 | 098 33409 38914+ | 1408 86323 | 938 53027 54361+ | 8557 21540+ | 0 | **33** |
| | 10 | 107 84818 25237+ | 1499 37321 | 928 64470 32820+ | 8459 51835+ | 50 | |
| | 20 | 117 36317 62558+ | 1589 90058 | 918 76010 80985+ | 8361 84043 | 40 | |
| | 30 | 126 87907 52616+ | 1680 44534 | 908 87648 96942+ | 8264 18163 | 30 | |
| | 40 | 136 39587 97150+ | 1771 00750 | 898 99384 78779+ | 8166 54194+ | 20 | |
| | 50 | 145 91358 97900+ | 1861 58706+ | 889 11218 24585 | 8068 92137+ | 10 | |
| **28** | 0 | 155 43220 56607 | 1952 18403+ | 879 23149 32447+ | 7971 31991+ | 0 | **32** |
| | 10 | 164 95172 75010+ | 2042 79841+ | 869 35178 00456 | 7873 73756 | 50 | |
| | 20 | 174 47215 54852 | 2133 43021 | 859 47304 26699+ | 7776 17430+ | 40 | |
| | 30 | 183 99348 97873 | 2224 07942+ | 849 59528 09269 | 7678 63014+ | 30 | |
| | 40 | 193 51573 05815+ | 2314 74606 | 839 71849 46254+ | 7581 10507+ | 20 | |
| | 50 | 203 03887 80421+ | 2405 43012+ | 829 84268 35746+ | 7483 59909+ | 10 | |
| **29** | 0 | 212 56293 23434 | 2496 13162 | 819 96784 75837 | 7386 11219 | 0 | **31** |
| | 10 | 222 08789 36596+ | 2586 85055+ | 810 09398 64618 | 7288 64436+ | 50 | |
| | 20 | 231 61376 21651+ | 2677 58692+ | 800 22110 00181+ | 7191 19561 | 40 | |
| | 30 | 241 14053 80344 | 2768 34074 | 790 34918 80620+ | 7093 76592+ | 30 | |
| | 40 | 250 66822 14418 | 2859 11200+ | 780 47825 04028 | 6996 35530 | 20 | |
| | 50 | 260 19681 25618 | 9 52949 90072 | 770 60828 68498+ | 9 86898 96373 | 10 | |
| **30** | 0 | 0,98269 72631 15690 | | 1,01760 73929 72125+ | | 0 | **30** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **30** | 0 | 0,98269 72631 15690 | 9 53040 70689 | 1,01760 73929 72125+ | 9 86801 59121+ | 0 | **30** |
| | 10 | 279 25671 86379 | 3131 53052+ | 750 87128 13003+ | 6704 23775 | 50 | |
| | 20 | 288 78803 39431+ | 3222 37162 | 741 00423 89228+ | 6606 90333 | 40 | |
| | 30 | 298 32025 76594 | 3313 23019 | 731 13816 98895+ | 6509 58794+ | 30 | |
| | 40 | 307 85338 99612+ | 3404 10623 | 721 27307 40101 | 6412 29159+ | 20 | |
| | 50 | 317 38743 10235+ | 3494 99974+ | 711 40895 10941+ | 6315 01428 | 10 | |
| **31** | 0 | 326 92238 10210+ | 3585 91074+ | 701 54580 09513+ | 6217 75598+ | 0 | **29** |
| | 10 | 336 45824 01285 | 3676 83923 | 691 68362 33915 | 6120 51671 | 50 | |
| | 20 | 345 99500 85208 | 3767 78520+ | 681 82241 82244 | 6023 29645 | 40 | |
| | 30 | 355 53268 63729 | 3858 74867+ | 671 96218 52599 | 5926 09520+ | 30 | |
| | 40 | 365 07127 38596+ | 3949 72964+ | 662 10292 43078+ | 5828 91296+ | 20 | |
| | 50 | 374 61077 11561 | 4040 72811+ | 652 24463 51782+ | 5731 74972+ | 10 | |
| **32** | 0 | 384 15117 84372+ | 4131 74409 | 642 38731 76810 | 5634 60548 | 0 | **28** |
| | 10 | 393 69249 58782 | 4222 77758 | 632 53097 16261+ | 5537 48023 | 50 | |
| | 20 | 403 23472 36540 | 4313 82858+ | 622 67559 68238+ | 5440 37397 | 40 | |
| | 30 | 412 77786 19398 | 4404 89710+ | 612 82119 30841+ | 5343 28669 | 30 | |
| | 40 | 422 32191 09109 | 4495 98315+ | 602 96776 02172 | 5246 21839 | 20 | |
| | 50 | 431 86687 07424 | 4587 08672+ | 593 11529 80333 | 5149 16906+ | 10 | |
| **33** | 0 | 441 41274 16097 | 4678 20783+ | 583 26380 63426+ | 5052 13870+ | 0 | **27** |
| | 10 | 450 95952 36880 | 4769 34647+ | 573 41328 49556 | 4955 12731+ | 50 | |
| | 20 | 460 50721 71528 | 4860 50266 | 563 56373 36825 | 4858 13488 | 40 | |
| | 30 | 470 05582 21793+ | 4951 67638+ | 553 71515 23337 | 4761 16140 | 30 | |
| | 40 | 479 60533 89432 | 5042 86766 | 543 86754 07196+ | 4664 20687+ | 20 | |
| | 50 | 489 15576 76198+ | 5134 07649 | 534 02089 86509+ | 4567 27129 | 10 | |
| **34** | 0 | 498 70710 83847+ | 5225 30287+ | 524 17522 59380 | 4470 35465 | 0 | **26** |
| | 10 | 508 25936 14135 | 5316 54682+ | 514 33052 23915 | 4373 45694+ | 50 | |
| | 20 | 517 81252 68818 | 5407 80834 | 504 48678 78220+ | 4276 57817+ | 40 | |
| | 30 | 527 36660 49651+ | 5499 08742 | 494 64402 20403 | 4179 71833 | 30 | |
| | 40 | 536 92159 58394 | 5590 38408 | 484 80222 48570 | 4082 87741 | 20 | |
| | 50 | 546 47749 96802 | 5681 69831+ | 474 96139 60829 | 3986 05540+ | 10 | |
| **35** | 0 | 556 03431 66633+ | 5773 03013+ | 465 12153 55289 | 3889 25231+ | 0 | **25** |
| | 10 | 565 59204 69646+ | 5864 37954 | 455 28264 30057+ | 3792 46813 | 50 | |
| | 20 | 575 15069 07600+ | 5955 74653+ | 445 44471 83244+ | 3695 70285+ | 40 | |
| | 30 | 584 71024 82254 | 6047 13112+ | 435 60776 12959 | 3598 95647+ | 30 | |
| | 40 | 594 27071 95366+ | 6138 53331+ | 425 77177 17311+ | 3502 22899 | 20 | |
| | 50 | 603 83210 48698 | 6229 95311 | 415 93674 94412+ | 3405 52040 | 10 | |
| **36** | 0 | 613 39440 44009 | 6321 39051 | 406 10269 42372+ | 3308 83069 | 0 | **24** |
| | 10 | 622 95761 83060+ | 6412 84552+ | 396 26960 59303+ | 3212 15986+ | 50 | |
| | 20 | 632 52174 67613 | 6504 31815+ | 386 43748 43317 | 3115 50791+ | 40 | |
| | 30 | 642 08678 99428+ | 6595 80841 | 376 60632 92525+ | 3018 87483+ | 30 | |
| | 40 | 651 65274 80269+ | 6687 31628+ | 366 77614 05041+ | 2922 26062+ | 20 | |
| | 50 | 661 21962 11898 | 6778 84179 | 356 94691 78979 | 2825 66527+ | 10 | |
| **37** | 0 | 670 78740 96076+ | 6870 38492+ | 347 11866 12451+ | 2729 08878+ | 0 | **23** |
| | 10 | 680 35611 34569+ | 6961 94570 | 337 29137 03572+ | 2632 53115 | 50 | |
| | 20 | 689 92573 29139+ | 7053 52412 | 327 46504 50457+ | 2535 99236 | 40 | |
| | 30 | 699 49626 81551+ | 7145 12018 | 317 63968 51221+ | 2439 47241+ | 30 | |
| | 40 | 709 06771 93569+ | 7236 73389+ | 307 81529 03980 | 2342 97131 | 20 | |
| | 50 | 718 64008 66959 | 7328 36526+ | 297 99186 06848+ | 2246 48904 | 10 | |
| **38** | 0 | 728 21337 03485+ | 7420 01429 | 288 16939 57944+ | 2150 02560 | 0 | **22** |
| | 10 | 737 78757 04914+ | 7511 68098 | 278 34789 55384 | 2053 58099 | 50 | |
| | 20 | 747 36268 73012 | 7603 36533+ | 268 52735 97285+ | 1957 15519+ | 40 | |
| | 30 | 756 93872 09545+ | 7695 06736+ | 258 70778 81766 | 1860 74822 | 30 | |
| | 40 | 766 51567 16282 | 7786 78706+ | 248 88918 06944 | 1764 36005+ | 20 | |
| | 50 | 776 09353 94988+ | 7878 52445 | 239 07153 70938+ | 1667 99069+ | 10 | |
| **39** | 0 | 785 67232 47433+ | 7970 27951+ | 229 25485 71869 | 1571 64014 | 0 | **21** |
| | 10 | 795 25202 75385+ | 8062 05227+ | 219 43914 07855 | 1475 30838+ | 50 | |
| | 20 | 804 83264 80612+ | 8153 84272 | 209 62438 77016+ | 1378 99542 | 40 | |
| | 30 | 814 41418 64885 | 8245 65087 | 199 81059 77474 | 1282 70124+ | 30 | |
| | 40 | 823 99664 29971+ | 8337 47671+ | 189 99777 07349+ | 1186 42585+ | 20 | |
| | 50 | 833 58001 77643 | 9 58429 32026+ | 180 18590 64763+ | 9 81090 16924+ | 10 | |
| **40** | 0 | 0,98843 16431 09669+ | | 1,01170 37500 47839 | | 0 | **20** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **40** | 0 | 0,98843 16431 09669+ | 9 58521 18153 | 1,01170 37500 47839 | 9 80993 93141 | 0 | **20** |
| | 10 | 852 74952 27822+ | 8613 06050+ | 160 56506 54698 | 0897 71234+ | 50 | |
| | 20 | 862 33565 33873 | 8704 95720 | 150 75608 83463 | 0801 51205 | 40 | |
| | 30 | 871 92270 29592+ | 8796 87161+ | 140 94807 32258+ | 0705 33051 | 30 | |
| | 40 | 881 51067 16754 | 8888 80375+ | 131 14101 99207 | 0609 16773 | 20 | |
| | 50 | 891 09955 97129+ | 8980 75363 | 121 33492 82434 | 0513 02370 | 10 | |
| **41** | 0 | 900 68936 72493 | 9072 72124 | 111 52979 80064 | 0416 89842 | 0 | **19** |
| | 10 | 910 28009 44617 | 9164 70659 | 101 72562 90222 | 0320 79188+ | 50 | |
| | 20 | 919 87174 15275+ | 9256 70968 | 091 92242 11033+ | 0224 70408+ | 40 | |
| | 30 | 929 46430 86244 | 9348 73052 | 082 12017 40625+ | 0128 63502 | 30 | |
| | 40 | 939 05779 59296 | 9440 76911+ | 072 31888 77123+ | 9 80032 58468 | 20 | |
| | 50 | 948 65220 36207+ | 9532 82546+ | 062 51856 18655+ | 9 79936 55307 | 10 | |
| **42** | 0 | 958 24753 18754 | 9624 89957+ | 052 71919 63348+ | 9840 54018 | 0 | **18** |
| | 10 | 967 84378 08711+ | 9716 99145 | 042 92079 09330+ | 9744 54600+ | 50 | |
| | 20 | 977 44095 07856+ | 9809 10109+ | 033 12334 54730+ | 9648 57054 | 40 | |
| | 30 | 987 03904 17966 | 9901 22851+ | 023 32685 97676+ | 9552 61378 | 30 | |
| | 40 | 0,98996 63805 40817+ | 9 59993 37371 | 013 53133 36298+ | 9456 67572+ | 20 | |
| | 50 | 0,99006 23798 78188+ | 9 60085 53669 | 1,01003 73676 68726 | 9360 75636+ | 10 | |
| **43** | 0 | 015 83884 31857+ | 0177 71745+ | 1,00993 94315 93090 | 9264 85569+ | 0 | **17** |
| | 10 | 025 44062 03603 | 0269 91601 | 984 15051 07520 | 9168 97372 | 50 | |
| | 20 | 035 04331 95204 | 0362 13236 | 974 35882 10148 | 9073 11042+ | 40 | |
| | 30 | 044 64694 08440+ | 0454 36651+ | 964 56808 99106 | 8977 26581 | 30 | |
| | 40 | 054 25148 45091+ | 0546 61846+ | 954 77831 72525 | 8881 43987 | 20 | |
| | 50 | 063 85695 06938 | 0638 88823 | 944 98950 28538 | 8785 63259+ | 10 | |
| **44** | 0 | 073 46333 95761 | 0731 17580+ | 935 20164 65278+ | 8689 84399 | 0 | **16** |
| | 10 | 083 07065 13341+ | 0823 48119+ | 925 41474 80879+ | 8594 07404+ | 50 | |
| | 20 | 092 67888 61461 | 0915 80440+ | 915 62880 73475 | 8498 32275+ | 40 | |
| | 30 | 102 28804 41901+ | 1008 14544+ | 905 84382 41199 | 8402 59012 | 30 | |
| | 40 | 111 89812 56446 | 1100 50431 | 896 05979 82187 | 8306 87613 | 20 | |
| | 50 | 121 50913 06877 | 1192 88101 | 886 27672 94574 | 8211 18078+ | 10 | |
| **45** | 0 | 131 12105 94978 | 1285 27555 | 876 49461 76496 | 8115 50407+ | 0 | **15** |
| | 10 | 140 73391 22533 | 1377 68793 | 866 71346 26088+ | 8019 84600 | 50 | |
| | 20 | 150 34768 91326 | 1470 11815+ | 856 93326 41488+ | 7924 20655 | 40 | |
| | 30 | 159 96239 03141+ | 1562 56623+ | 847 15402 20833 | 7828 58573 | 30 | |
| | 40 | 169 57801 59765 | 1655 03216+ | 837 37573 62260 | 7732 98353 | 20 | |
| | 50 | 179 19456 62981+ | 1747 51596 | 827 59840 63907+ | 7637 39994 | 10 | |
| **46** | 0 | 188 81204 14577+ | 1840 01761+ | 817 82203 23913 | 7541 83496+ | 0 | **14** |
| | 10 | 198 43044 16339 | 1932 53714 | 808 04661 40416+ | 7446 28859+ | 50 | |
| | 20 | 208 04976 70053 | 2025 07454 | 798 27215 11557 | 7350 76083 | 40 | |
| | 30 | 217 67001 77507 | 2117 62981 | 788 49864 35474 | 7255 25166 | 30 | |
| | 40 | 227 29119 40488 | 2210 20296+ | 778 72609 10308+ | 7159 76108 | 20 | |
| | 50 | 236 91329 60784+ | 2302 79400+ | 768 95449 34200+ | 7064 28909 | 10 | |
| **47** | 0 | 246 53632 40185+ | 2395 40293+ | 759 18385 05291+ | 6968 83568+ | 0 | **13** |
| | 10 | 256 16027 80479 | 2488 02976 | 749 41416 21723 | 6873 40085+ | 50 | |
| | 20 | 265 78515 83455 | 2580 67448 | 739 64542 81637 | 6777 98460+ | 40 | |
| | 30 | 275 41096 50903 | 2673 33710+ | 729 87764 83176+ | 6682 58692+ | 30 | |
| | 40 | 285 03769 84613+ | 2766 01764 | 720 11082 24484+ | 6587 20780+ | 20 | |
| | 50 | 294 66535 86377+ | 2858 71608 | 710 34495 03703+ | 6491 84725 | 10 | |
| **48** | 0 | 304 29394 57985+ | 2951 43244 | 700 58003 18978+ | 6396 50525 | 0 | **12** |
| | 10 | 313 92346 01229+ | 3044 16672 | 690 81606 68453+ | 6301 18180+ | 50 | |
| | 20 | 323 55390 17901+ | 3136 91892 | 681 05305 50273 | 6205 87690+ | 40 | |
| | 30 | 333 18527 09793+ | 3229 68905 | 671 29099 62583 | 6110 59054+ | 30 | |
| | 40 | 342 81756 78699 | 3322 47711+ | 661 52989 03528 | 6015 32273 | 20 | |
| | 50 | 352 45079 26410+ | 3415 28311+ | 651 76973 71255 | 5920 07344+ | 10 | |
| **49** | 0 | 362 08494 54722 | 3508 10706 | 642 01053 63911 | 5824 84269 | 0 | **11** |
| | 10 | 371 72002 65428 | 3600 94895 | 632 25228 79642 | 5729 63046 | 50 | |
| | 20 | 381 35603 60323 | 3693 80879 | 622 49499 16596 | 5634 43675 | 40 | |
| | 30 | 390 99297 41202 | 3786 68658 | 612 73864 72921 | 5539 26155+ | 30 | |
| | 40 | 400 63084 09860 | 3879 58233+ | 602 98325 46765+ | 5444 10487 | 20 | |
| | 50 | 410 26963 68093 | 9 63972 49605 | 593 22881 36278+ | 9 75348 96669+ | 10 | |
| **50** | 0 | 0,99419 90936 17698 | | 1,00583 47532 39608+ | | 0 | **10** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# 44°

| ′ | ″ | Tangente | Différence | Cotangente | Différence | ″ | ′ |
|---|---|---|---|---|---|---|---|
| **50** | 0 | 0,99419 90936 17698 | 9 64065 42773 | 1,00583 47532 39608+ | 9 75253 84702+ | 0 | **10** |
| | 10 | 429 55001 60471 | 4158 37738+ | 573 72278 54906+ | 5158 74584+ | 50 | |
| | 20 | 439 19159 98210 | 4251 34501+ | 563 97119 80321+ | 5063 66316+ | 40 | |
| | 30 | 448 83411 32711+ | 4344 33063 | 554 22056 14005 | 4968 59897 | 30 | |
| | 40 | 458 47755 65774+ | 4437 33422+ | 544 47087 54108 | 4873 55326+ | 20 | |
| | 50 | 468 12192 99197 | 4530 35581 | 534 72213 98781+ | 4778 52603+ | 10 | |
| **51** | 0 | 477 76723 34778 | 4623 39539 | 524 97435 46178+ | 4683 51728 | 0 | **9** |
| | 10 | 487 41346 74317 | 4716 45297 | 515 22751 94450+ | 4588 52699+ | 50 | |
| | 20 | 497 06063 19614 | 4809 52854+ | 505 48163 41751 | 4493 55518 | 40 | |
| | 30 | 506 70872 72468+ | 4902 62213+ | 495 73669 86233 | 4398 60182+ | 30 | |
| | 40 | 516 35775 34682 | 4995 73373 | 485 99271 26050 | 4303 66693 | 20 | |
| | 50 | 526 00771 08055 | 5088 86334+ | 476 24967 59357+ | 4208 75048+ | 10 | |
| **52** | 0 | 535 65859 94389+ | 5182 01097+ | 466 50758 84309 | 4113 85248+ | 0 | **8** |
| | 10 | 545 31041 95487 | 5275 17663 | 456 76644 99060+ | 4018 97293+ | 50 | |
| | 20 | 554 96317 13150 | 5368 36031+ | 447 02626 01767 | 3924 11182 | 40 | |
| | 30 | 564 61685 49181+ | 5461 56203+ | 437 28701 90584+ | 3829 26914+ | 30 | |
| | 40 | 574 27147 05385 | 5554 78178+ | 427 54872 63670 | 3734 44489+ | 20 | |
| | 50 | 583 92701 83563+ | 5648 01958+ | 417 81138 19180+ | 3639 63907+ | 10 | |
| **53** | 0 | 593 58349 85522 | 5741 27542+ | 408 07498 55273 | 3544 85167+ | 0 | **7** |
| | 10 | 603 24091 13064+ | 5834 54931+ | 398 33953 70105 | 3450 08269+ | 50 | |
| | 20 | 612 89925 67996 | 5927 84126+ | 388 60503 61836 | 3355 33212+ | 40 | |
| | 30 | 622 55853 52122+ | 6021 15127 | 378 87148 28623+ | 3260 59996 | 30 | |
| | 40 | 632 21874 67249 | 6114 47933+ | 369 13887 68627+ | 3165 88620+ | 20 | |
| | 50 | 641 87989 15183 | 6207 82547+ | 359 40721 80007 | 3071 19084+ | 10 | |
| **54** | 0 | 651 54196 97730 | 6301 18968 | 349 67650 60922+ | 2976 51388 | 0 | **6** |
| | 10 | 661 20498 16698+ | 6394 57196+ | 339 94674 09535 | 2881 85530+ | 50 | |
| | 20 | 670 86892 73895 | 6487 97233 | 330 21792 24004+ | 2787 21511+ | 40 | |
| | 30 | 680 53380 71128 | 6581 39078+ | 320 49005 02493 | 2692 59331 | 30 | |
| | 40 | 690 19962 10206+ | 6674 82732+ | 310 76312 43162 | 2597 98987+ | 20 | |
| | 50 | 699 86636 92939 | 6768 28195+ | 301 03714 44174+ | 2503 40482 | 10 | |
| **55** | 0 | 709 53405 21134+ | 6861 75469 | 291 31211 03692+ | 2408 83813 | 0 | **5** |
| | 10 | 719 20266 96603+ | 6955 24552+ | 281 58802 19879+ | 2314 28980 | 50 | |
| | 20 | 728 87222 21155+ | 7048 75446+ | 271 86487 90899+ | 2219 75983+ | 40 | |
| | 30 | 738 54270 96602+ | 7142 28152 | 262 14268 14916 | 2125 24822 | 30 | |
| | 40 | 748 21413 24754 | 7235 82669 | 252 42142 90094+ | 2030 75495+ | 20 | |
| | 50 | 757 88649 07423 | 7329 38998 | 242 70112 14598+ | 1936 28004 | 10 | |
| **56** | 0 | 767 55978 46421 | 7422 97139 | 232 98175 86595 | 1841 82346 | 0 | **4** |
| | 10 | 777 23401 43560 | 7516 57093+ | 223 26334 04249 | 1747 38522 | 50 | |
| | 20 | 786 90918 00653+ | 7610 18861 | 213 54586 65726+ | 1652 96531+ | 40 | |
| | 30 | 796 58528 19514+ | 7703 82442+ | 203 82933 69195+ | 1558 56373 | 30 | |
| | 40 | 806 26232 01957 | 7797 47838 | 194 11375 12822 | 1464 18047+ | 20 | |
| | 50 | 815 94029 49795 | 7891 15048+ | 184 39910 94774+ | 1369 81554 | 10 | |
| **57** | 0 | 825 61920 64843+ | 7984 84073+ | 174 68541 13221 | 1275 46891+ | 0 | **3** |
| | 10 | 835 29905 48917 | 8078 54914+ | 164 97265 66329+ | 1181 14060 | 50 | |
| | 20 | 844 97984 03831+ | 8172 27571+ | 155 26084 52269+ | 1086 83059 | 40 | |
| | 30 | 854 66156 31403 | 8266 02044+ | 145 54997 69210+ | 0992 53888+ | 30 | |
| | 40 | 864 34422 33447+ | 8359 78334+ | 135 84005 15321+ | 0898 26547+ | 20 | |
| | 50 | 874 02782 11782 | 8453 56442 | 126 13106 88774+ | 0804 01035+ | 10 | |
| **58** | 0 | 883 71235 68224 | 8547 36367 | 116 42302 87738+ | 0709 77352+ | 0 | **2** |
| | 10 | 893 39783 04591+ | 8641 18110+ | 106 71593 10386 | 0615 55498 | 50 | |
| | 20 | 903 08424 22702 | 8735 01672+ | 097 00977 54888 | 0521 35471 | 40 | |
| | 30 | 912 77159 24374+ | 8828 87053+ | 087 30456 19417 | 0427 17272 | 30 | |
| | 40 | 922 45988 11427+ | 8922 74254 | 077 60029 02145 | 0333 00899+ | 20 | |
| | 50 | 932 14910 85681+ | 9016 63274 | 067 89696 01245+ | 0238 86353+ | 10 | |
| **59** | 0 | 941 83927 48955+ | 9110 54115 | 058 19457 14892 | 0144 73634 | 0 | **1** |
| | 10 | 951 53038 03070+ | 9204 46776+ | 048 49312 41258 | 9 70050 62740 | 50 | |
| | 20 | 961 22242 49847 | 9298 41259+ | 038 79261 78518 | 9 69956 53671 | 40 | |
| | 30 | 970 91540 91106 | 9392 37564 | 029 09305 24847 | 9862 46427 | 30 | |
| | 40 | 980 60933 28670 | 9486 35690+ | 019 39442 78419+ | 9768 41007+ | 20 | |
| | 50 | 0,99990 30419 64360+ | 9 69580 35639+ | 009 69674 37412 | 9 69674 37412 | 10 | |
| **60** | 0 | 1,00000 00000 00000 | | 1,00000 00000 00000 | | 0 | **0** |
| ′ | ″ | Cotangente | Différence | Tangente | Différence | ″ | ′ |

# 45°

# TABLE DES MATIÈRES

## DU TOME II

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Pages

Tables IV B, contenant les tangentes et les cotangentes de tous les angles du quadrant de dix en dix secondes, et leurs différences, avec quinze décimales ..... 1