

# A reconstruction of Bürgi's sine table at 1' intervals (ca. 1587)

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Denis Roegel. A reconstruction of Bürgi's sine table at 1' intervals (ca. 1587). 2016. hal-01316359

**HAL Id: hal-01316359**
**https://inria.hal.science/hal-01316359**

Preprint submitted on 16 May 2016

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# A reconstruction of Bürgi's sine table at $1'$ intervals (ca. 1587)

**Denis Roegel**

**2016**

**(last version: 26 march 2016)**

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This document gives a reconstruction of the sine table contained in Jost Bürgi's *Fundamentum Astronomiæ*, a manuscript recently discovered by Menso Folkerts [3, 4] and edited by Dieter Launert [5].

This table gives the sines for every minute of the quadrant, to 5 sexagesimal places between 0° and 88°, and to 6 and 7 sexagesimal places for the last two degrees. The sexagesimal values are given such that the *sinus totus* is equal to 60. The last value of the table is therefore 60,0,0,0,0,0,0, corresponding to the sine of 90°. The sine of the first minute is 0,1,2,49,55, corresponding to the modern value $((((55/60 + 49)/60 + 2)/60 + 1)/60 + 0)/60 = 0.000290888\ldots$.

Given a modern value of the sine, we can easily obtain its sexagesimal digits by multiplying repeatedly by 60 and taking the fractional parts. The integer parts are the sexagesimal digits. For instance, if we start with $\sin 1'$, we have

$$\begin{aligned}
\sin 1' &= 0.00029088820456\ldots && (1)\\
60\sin 1' &= 0.01745329227380\ldots && (2)\\
&\rightarrow \quad d_0 = 0\\
(60\sin 1' - d_0)\times 60 &= 1.04719753642832\ldots && (3)\\
&\rightarrow \quad d_1 = 1\\
((60\sin 1' - d_0)\times 60 - d_1)\times 60 &= 2.83185218569971\ldots && (4)\\
&\rightarrow \quad d_2 = 2\\
(((60\sin 1' - d_0)\times 60 - d_1)\times 60 - d_2)\times 60 &= 49.91113114198276\ldots && (5)\\
&\rightarrow \quad d_3 = 49\\
((((60\sin 1' - d_0)\times 60 - d_1)\times 60 - d_2)\times 60 - d_3)\times 60 &= 54.66786851896614\ldots && (6)\\
&\rightarrow \quad d_4 = 54
\end{aligned}$$

and we see that the sexagesimal expression of $\sin 1'$ is in fact 0,1,2,49,54,.... The value given by Bürgi, and also in our reconstruction, is 0,1,2,49,55, because the last figure is rounded.

Each page of the table covers five degrees, the left hand pages give the minutes from 0 to 30, and the right hand pages give the minutes from 30 to 60. The differences between consecutive values are shown in red. These are the differences between the rounded values, not the rounded exact differences, of course.

A comparison between the original table[1] and our reconstruction reveals that the table is very accurate. There are a few errors and typos, but apparently very few. For

[1] This table is available on line at `http://www.bibliotekacyfrowa.pl/dlibra/doccontent?id=45624`, as well as at `http://locomat.loria.fr`.

instance, $\sin 4^\circ$ is given as 4,11,17,23,54, instead of the correct 4,11,7,23,54, but since the difference between $\sin 4^\circ$ and $\sin 4^\circ 1'$ is given correctly, this is obviously a copying error. For $\sin 6^\circ 10'$, Bürgi gives 6,26,42,55,41, but the correctly rounded result is 6,26,42,55,42, because the next figure is 30. There may be a few similar errors, but only very few.

It is also easy to see that the computations were done to a greater number of places, but that only five places were kept. This table was computed using pivots, that is values which were computed beforehand, for instance using Bürgi's iterative algorithm, and then by applying an interpolation scheme based on the accumulation of higher differences. These techniques are described by Launert [5], as well as in several of our notes [8, 9, 10].

We have used the layout of this table to produce a tentative reconstruction [11] of Bürgi's table of sines with $2''$ intervals and 8 sexagesimal places, assuming such a table did really exist.

# References

The following list covers the most important references[2] related to Bürgi's table. 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] Jost Bürgi. *Arithmetische und Geometrische Progress Tabulen, sambt gründlichem Unterricht, wie solche nützlich in allerley Rechnungen zugebrauchen, und verstanden werden sol.* Prague, 1620. [These tables were recomputed in 2010 by D. Roegel [7]]

[2] Kathleen Clark. *Jost Bürgi's Aritmetische und Geometrische Progreß Tabulen (1620).* New York: Springer, 2015.

[3] Menso Folkerts. Eine bisher unbekannte Schrift von Jost Bürgi zur Trigonometrie. In Rainer Gebhardt, editor, *Arithmetik, Geometrie und Algebra in der frühen Neuzeit*, pages 107–114. Annaberg-Buchholz: Adam-Ries-Bund, 2014. [not seen]

[4] Menso Folkerts, Dieter Launert, and Andreas Thom. Jost Bürgi's method for calculating sines, 2015. [uploaded on arXiv on 12 October 2015, id 1510.03180v1; a preprint dated 19 September 2015 is also available online; a second version was put on arXiv on 2 February 2016]

[5] Dieter Launert. *Nova Kepleriana : Bürgis Kunstweg im Fundamentum Astronomiae — Entschlüsselung seines Rätsels.* München: Bayerische Akademie der Wissenschaften, 2015.

[6] Christian Riedweg. Bürgi's "Kunstweg" — geometric approach, 2016. [uploaded on arXiv on 25 February 2016]

[7] Denis Roegel. Bürgi's *Progress Tabulen* (1620): logarithmic tables without logarithms. Technical report, LORIA, Nancy, 2010. [This is a recalculation of the tables of [1].]

[8] Denis Roegel. Jost Bürgi's skillful computation of sines. Technical report, LORIA, Nancy, 2015.

[9] Denis Roegel. A note on the complexity of Bürgi's algorithm for the computation of sines. Technical report, LORIA, Nancy, 2016.

[10] Denis Roegel. A preliminary note on Bürgi's computation of the sine of the first minute. Technical report, LORIA, Nancy, 2016.


[2] **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.

[11] Denis Roegel. A tentative reconstruction of Bürgi's sine table at $2''$ intervals (ca. 1600). Technical report, LORIA, Nancy, 2016.

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 0° | | | | | 1° | | | | | 2° | | | | | 3° | | | | | 4° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 49 | 43 | 11 | 2 | 5 | 38 | 17 | 29 | 3 | 8 | 24 | 34 | 0 | 4 | 11 | 7 | 23 | 54 | 0 |
| | | 1 | 2 | 49 | 55 | | 1 | 2 | 49 | 20 | | 1 | 2 | 47 | 35 | | 1 | 2 | 44 | 43 | | 1 | 2 | 40 | 41 | |
| 1 | | 1 | 2 | 49 | 55 | | 3 | 52 | 32 | 31 | | 6 | 41 | 5 | 4 | | 9 | 27 | 18 | 43 | | 12 | 10 | 4 | 35 | 1 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 18 | | 1 | 2 | 47 | 34 | | 1 | 2 | 44 | 39 | | 1 | 2 | 40 | 37 | |
| 2 | | 2 | 5 | 39 | 49 | | 4 | 55 | 21 | 49 | | 7 | 43 | 52 | 38 | | 10 | 30 | 3 | 22 | | 13 | 12 | 45 | 12 | 2 |
| | | 1 | 2 | 49 | 55 | | 1 | 2 | 49 | 18 | | 1 | 2 | 47 | 31 | | 1 | 2 | 44 | 36 | | 1 | 2 | 40 | 32 | |
| 3 | | 3 | 8 | 29 | 44 | | 5 | 58 | 11 | 7 | | 8 | 46 | 40 | 9 | | 11 | 32 | 47 | 58 | | 14 | 15 | 25 | 44 | 3 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 16 | | 1 | 2 | 47 | 29 | | 1 | 2 | 44 | 33 | | 1 | 2 | 40 | 28 | |
| 4 | | 4 | 11 | 19 | 38 | | 7 | 1 | 0 | 23 | | 9 | 49 | 27 | 38 | | 12 | 35 | 32 | 31 | | 15 | 18 | 6 | 12 | 4 |
| | | 1 | 2 | 49 | 55 | | 1 | 2 | 49 | 15 | | 1 | 2 | 47 | 26 | | 1 | 2 | 44 | 29 | | 1 | 2 | 40 | 23 | |
| 5 | | 5 | 14 | 9 | 33 | | 8 | 3 | 49 | 38 | | 10 | 52 | 15 | 4 | | 13 | 38 | 17 | 0 | | 16 | 20 | 46 | 35 | 5 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 13 | | 1 | 2 | 47 | 24 | | 1 | 2 | 44 | 25 | | 1 | 2 | 40 | 18 | |
| 6 | | 6 | 16 | 59 | 27 | | 9 | 6 | 38 | 51 | | 11 | 55 | 2 | 28 | | 14 | 41 | 1 | 25 | | 17 | 23 | 26 | 53 | 6 |
| | | 1 | 2 | 49 | 55 | | 1 | 2 | 49 | 13 | | 1 | 2 | 47 | 21 | | 1 | 2 | 44 | 22 | | 1 | 2 | 40 | 13 | |
| 7 | | 7 | 19 | 49 | 22 | | 10 | 9 | 28 | 4 | | 12 | 57 | 49 | 49 | | 15 | 43 | 45 | 47 | | 18 | 26 | 7 | 6 | 7 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 11 | | 1 | 2 | 47 | 20 | | 1 | 2 | 44 | 18 | | 1 | 2 | 40 | 9 | |
| 8 | | 8 | 22 | 39 | 16 | | 11 | 12 | 17 | 15 | | 14 | 0 | 37 | 9 | | 16 | 46 | 30 | 5 | | 19 | 28 | 47 | 15 | 8 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 9 | | 1 | 2 | 47 | 16 | | 1 | 2 | 44 | 15 | | 1 | 2 | 40 | 4 | |
| 9 | | 9 | 25 | 29 | 10 | | 12 | 15 | 6 | 24 | | 15 | 3 | 24 | 25 | | 17 | 49 | 14 | 20 | | 20 | 31 | 27 | 19 | 9 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 9 | | 1 | 2 | 47 | 14 | | 1 | 2 | 44 | 11 | | 1 | 2 | 39 | 59 | |
| 10 | 0 | 10 | 28 | 19 | 4 | 1 | 13 | 17 | 55 | 33 | 2 | 16 | 6 | 11 | 39 | 3 | 18 | 51 | 58 | 31 | 4 | 21 | 34 | 7 | 18 | 10 |
| | | 1 | 2 | 49 | 53 | | 1 | 2 | 49 | 7 | | 1 | 2 | 47 | 12 | | 1 | 2 | 44 | 7 | | 1 | 2 | 39 | 54 | |
| 11 | | 11 | 31 | 8 | 57 | | 14 | 20 | 44 | 40 | | 17 | 8 | 58 | 51 | | 19 | 54 | 42 | 38 | | 22 | 36 | 47 | 12 | 11 |
| | | 1 | 2 | 49 | 54 | | 1 | 2 | 49 | 6 | | 1 | 2 | 47 | 9 | | 1 | 2 | 44 | 4 | | 1 | 2 | 39 | 50 | |
| 12 | | 12 | 33 | 58 | 51 | | 15 | 23 | 33 | 46 | | 18 | 11 | 46 | 0 | | 20 | 57 | 26 | 42 | | 23 | 39 | 27 | 2 | 12 |
| | | 1 | 2 | 49 | 53 | | 1 | 2 | 49 | 4 | | 1 | 2 | 47 | 7 | | 1 | 2 | 44 | 0 | | 1 | 2 | 39 | 45 | |
| 13 | | 13 | 36 | 48 | 44 | | 16 | 26 | 22 | 50 | | 19 | 14 | 33 | 7 | | 22 | 0 | 10 | 42 | | 24 | 42 | 6 | 47 | 13 |
| | | 1 | 2 | 49 | 53 | | 1 | 2 | 49 | 3 | | 1 | 2 | 47 | 4 | | 1 | 2 | 43 | 57 | | 1 | 2 | 39 | 40 | |
| 14 | | 14 | 39 | 38 | 37 | | 17 | 29 | 11 | 53 | | 20 | 17 | 20 | 11 | | 23 | 2 | 54 | 39 | | 25 | 44 | 46 | 27 | 14 |
| | | 1 | 2 | 49 | 52 | | 1 | 2 | 49 | 2 | | 1 | 2 | 47 | 2 | | 1 | 2 | 43 | 53 | | 1 | 2 | 39 | 35 | |
| 15 | | 15 | 42 | 28 | 29 | | 18 | 32 | 0 | 55 | | 21 | 20 | 7 | 13 | | 24 | 5 | 38 | 32 | | 26 | 47 | 26 | 2 | 15 |
| | | 1 | 2 | 49 | 53 | | 1 | 2 | 49 | 0 | | 1 | 2 | 46 | 59 | | 1 | 2 | 43 | 49 | | 1 | 2 | 39 | 30 | |
| 16 | | 16 | 45 | 18 | 22 | | 19 | 34 | 49 | 55 | | 22 | 22 | 54 | 12 | | 25 | 8 | 22 | 21 | | 27 | 50 | 5 | 32 | 16 |
| | | 1 | 2 | 49 | 52 | | 1 | 2 | 48 | 58 | | 1 | 2 | 46 | 56 | | 1 | 2 | 43 | 45 | | 1 | 2 | 39 | 26 | |
| 17 | | 17 | 48 | 8 | 14 | | 20 | 37 | 38 | 53 | | 23 | 25 | 41 | 8 | | 26 | 11 | 6 | 6 | | 28 | 52 | 44 | 58 | 17 |
| | | 1 | 2 | 49 | 51 | | 1 | 2 | 48 | 58 | | 1 | 2 | 46 | 54 | | 1 | 2 | 43 | 41 | | 1 | 2 | 39 | 20 | |
| 18 | | 18 | 50 | 58 | 5 | | 21 | 40 | 27 | 51 | | 24 | 28 | 28 | 2 | | 27 | 13 | 49 | 47 | | 29 | 55 | 24 | 18 | 18 |
| | | 1 | 2 | 49 | 52 | | 1 | 2 | 48 | 55 | | 1 | 2 | 46 | 51 | | 1 | 2 | 43 | 38 | | 1 | 2 | 39 | 15 | |
| 19 | | 19 | 53 | 47 | 57 | | 22 | 43 | 16 | 46 | | 25 | 31 | 14 | 53 | | 28 | 16 | 33 | 25 | | 30 | 58 | 3 | 33 | 19 |
| | | 1 | 2 | 49 | 51 | | 1 | 2 | 48 | 54 | | 1 | 2 | 46 | 48 | | 1 | 2 | 43 | 34 | | 1 | 2 | 39 | 11 | |
| 20 | 0 | 20 | 56 | 37 | 48 | 1 | 23 | 46 | 5 | 40 | 2 | 26 | 34 | 1 | 41 | 3 | 29 | 19 | 16 | 59 | 4 | 32 | 0 | 42 | 44 | 20 |
| | | 1 | 2 | 49 | 51 | | 1 | 2 | 48 | 53 | | 1 | 2 | 46 | 46 | | 1 | 2 | 43 | 30 | | 1 | 2 | 39 | 6 | |
| 21 | | 21 | 59 | 27 | 39 | | 24 | 48 | 54 | 33 | | 27 | 36 | 48 | 27 | | 30 | 22 | 0 | 29 | | 33 | 3 | 21 | 50 | 21 |
| | | 1 | 2 | 49 | 50 | | 1 | 2 | 48 | 51 | | 1 | 2 | 46 | 43 | | 1 | 2 | 43 | 26 | | 1 | 2 | 39 | 0 | |
| 22 | | 23 | 2 | 17 | 29 | | 25 | 51 | 43 | 24 | | 28 | 39 | 35 | 10 | | 31 | 24 | 43 | 55 | | 34 | 6 | 0 | 50 | 22 |
| | | 1 | 2 | 49 | 50 | | 1 | 2 | 48 | 50 | | 1 | 2 | 46 | 41 | | 1 | 2 | 43 | 23 | | 1 | 2 | 38 | 56 | |
| 23 | | 24 | 5 | 7 | 19 | | 26 | 54 | 32 | 14 | | 29 | 42 | 21 | 51 | | 32 | 27 | 27 | 18 | | 35 | 8 | 39 | 46 | 23 |
| | | 1 | 2 | 49 | 49 | | 1 | 2 | 48 | 48 | | 1 | 2 | 46 | 37 | | 1 | 2 | 43 | 18 | | 1 | 2 | 38 | 50 | |
| 24 | | 25 | 7 | 57 | 8 | | 27 | 57 | 21 | 2 | | 30 | 45 | 8 | 28 | | 33 | 30 | 10 | 36 | | 36 | 11 | 18 | 36 | 24 |
| | | 1 | 2 | 49 | 49 | | 1 | 2 | 48 | 46 | | 1 | 2 | 46 | 35 | | 1 | 2 | 43 | 15 | | 1 | 2 | 38 | 46 | |
| 25 | | 26 | 10 | 46 | 57 | | 29 | 0 | 9 | 48 | | 31 | 47 | 55 | 3 | | 34 | 32 | 53 | 51 | | 37 | 13 | 57 | 22 | 25 |
| | | 1 | 2 | 49 | 48 | | 1 | 2 | 48 | 45 | | 1 | 2 | 46 | 32 | | 1 | 2 | 43 | 10 | | 1 | 2 | 38 | 40 | |
| 26 | | 27 | 13 | 36 | 45 | | 30 | 2 | 58 | 33 | | 32 | 50 | 41 | 35 | | 35 | 35 | 37 | 1 | | 38 | 16 | 36 | 2 | 26 |
| | | 1 | 2 | 49 | 48 | | 1 | 2 | 48 | 43 | | 1 | 2 | 46 | 30 | | 1 | 2 | 43 | 7 | | 1 | 2 | 38 | 36 | |
| 27 | | 28 | 16 | 26 | 33 | | 31 | 5 | 47 | 16 | | 33 | 53 | 28 | 5 | | 36 | 38 | 20 | 8 | | 39 | 19 | 14 | 38 | 27 |
| | | 1 | 2 | 49 | 48 | | 1 | 2 | 48 | 41 | | 1 | 2 | 46 | 26 | | 1 | 2 | 43 | 3 | | 1 | 2 | 38 | 30 | |
| 28 | | 29 | 19 | 16 | 21 | | 32 | 8 | 35 | 57 | | 34 | 56 | 14 | 31 | | 37 | 41 | 3 | 11 | | 40 | 21 | 53 | 8 | 28 |
| | | 1 | 2 | 49 | 47 | | 1 | 2 | 48 | 40 | | 1 | 2 | 46 | 24 | | 1 | 2 | 42 | 59 | | 1 | 2 | 38 | 25 | |
| 29 | | 30 | 22 | 6 | 8 | | 33 | 11 | 24 | 37 | | 35 | 59 | 0 | 55 | | 38 | 43 | 46 | 10 | | 41 | 24 | 31 | 33 | 29 |
| | | 1 | 2 | 49 | 46 | | 1 | 2 | 48 | 38 | | 1 | 2 | 46 | 21 | | 1 | 2 | 42 | 54 | | 1 | 2 | 38 | 20 | |
| 30 | 0 | 31 | 24 | 55 | 54 | 1 | 34 | 14 | 13 | 15 | 2 | 37 | 1 | 47 | 16 | 3 | 39 | 46 | 29 | 4 | 4 | 42 | 27 | 9 | 53 | 30 |
| | | 1 | 2 | 49 | 46 | | 1 | 2 | 48 | 36 | | 1 | 2 | 46 | 18 | | 1 | 2 | 42 | 51 | | 1 | 2 | 38 | 15 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 0° | | | | | 1° | | | | | 2° | | | | | 3° | | | | | 4° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 0 | 31 | 24 | 55 | 54 | 1 | 34 | 14 | 13 | 15 | 2 | 37 | 1 | 47 | 16 | 3 | 39 | 46 | 29 | 4 | 4 | 42 | 27 | 9 | 53 | 30 |
| | | 1 | 2 | 49 | 46 | | 1 | 2 | 48 | 36 | | 1 | 2 | 46 | 18 | | 1 | 2 | 42 | 51 | | 1 | 2 | 38 | 15 | |
| 31 | | 32 | 27 | 45 | 40 | | 35 | 17 | 1 | 51 | | 38 | 4 | 33 | 34 | | 40 | 49 | 11 | 55 | | 43 | 29 | 48 | 8 | 31 |
| | | 1 | 2 | 49 | 45 | | 1 | 2 | 48 | 35 | | 1 | 2 | 46 | 15 | | 1 | 2 | 42 | 47 | | 1 | 2 | 38 | 9 | |
| 32 | | 33 | 30 | 35 | 25 | | 36 | 19 | 50 | 26 | | 39 | 7 | 19 | 49 | | 41 | 51 | 54 | 42 | | 44 | 32 | 26 | 17 | 32 |
| | | 1 | 2 | 49 | 45 | | 1 | 2 | 48 | 33 | | 1 | 2 | 46 | 12 | | 1 | 2 | 42 | 42 | | 1 | 2 | 38 | 5 | |
| 33 | | 34 | 33 | 25 | 10 | | 37 | 22 | 38 | 59 | | 40 | 10 | 6 | 1 | | 42 | 54 | 37 | 24 | | 45 | 35 | 4 | 22 | 33 |
| | | 1 | 2 | 49 | 43 | | 1 | 2 | 48 | 31 | | 1 | 2 | 46 | 9 | | 1 | 2 | 42 | 39 | | 1 | 2 | 37 | 59 | |
| 34 | | 35 | 36 | 14 | 53 | | 38 | 25 | 27 | 30 | | 41 | 12 | 52 | 10 | | 43 | 57 | 20 | 3 | | 46 | 37 | 42 | 21 | 34 |
| | | 1 | 2 | 49 | 44 | | 1 | 2 | 48 | 29 | | 1 | 2 | 46 | 6 | | 1 | 2 | 42 | 35 | | 1 | 2 | 37 | 54 | |
| 35 | | 36 | 39 | 4 | 37 | | 39 | 28 | 15 | 59 | | 42 | 15 | 38 | 16 | | 45 | 0 | 2 | 38 | | 47 | 40 | 20 | 15 | 35 |
| | | 1 | 2 | 49 | 42 | | 1 | 2 | 48 | 27 | | 1 | 2 | 46 | 4 | | 1 | 2 | 42 | 30 | | 1 | 2 | 37 | 49 | |
| 36 | | 37 | 41 | 54 | 19 | | 40 | 31 | 4 | 26 | | 43 | 18 | 24 | 20 | | 46 | 2 | 45 | 8 | | 48 | 42 | 58 | 4 | 36 |
| | | 1 | 2 | 49 | 42 | | 1 | 2 | 48 | 26 | | 1 | 2 | 46 | 0 | | 1 | 2 | 42 | 26 | | 1 | 2 | 37 | 43 | |
| 37 | | 38 | 44 | 44 | 1 | | 41 | 33 | 52 | 52 | | 44 | 21 | 10 | 20 | | 47 | 5 | 27 | 34 | | 49 | 45 | 35 | 47 | 37 |
| | | 1 | 2 | 49 | 41 | | 1 | 2 | 48 | 24 | | 1 | 2 | 45 | 57 | | 1 | 2 | 42 | 22 | | 1 | 2 | 37 | 38 | |
| 38 | | 39 | 47 | 33 | 42 | | 42 | 36 | 41 | 16 | | 45 | 23 | 56 | 17 | | 48 | 8 | 9 | 56 | | 50 | 48 | 13 | 25 | 38 |
| | | 1 | 2 | 49 | 41 | | 1 | 2 | 48 | 21 | | 1 | 2 | 45 | 55 | | 1 | 2 | 42 | 18 | | 1 | 2 | 37 | 33 | |
| 39 | | 40 | 50 | 23 | 23 | | 43 | 39 | 29 | 37 | | 46 | 26 | 42 | 12 | | 49 | 10 | 52 | 14 | | 51 | 50 | 50 | 58 | 39 |
| | | 1 | 2 | 49 | 40 | | 1 | 2 | 48 | 20 | | 1 | 2 | 45 | 51 | | 1 | 2 | 42 | 14 | | 1 | 2 | 37 | 27 | |
| 40 | 0 | 41 | 53 | 13 | 3 | 1 | 44 | 42 | 17 | 57 | 2 | 47 | 29 | 28 | 3 | 3 | 50 | 13 | 34 | 28 | 4 | 52 | 53 | 28 | 25 | 40 |
| | | 1 | 2 | 49 | 39 | | 1 | 2 | 48 | 18 | | 1 | 2 | 45 | 48 | | 1 | 2 | 42 | 10 | | 1 | 2 | 37 | 23 | |
| 41 | | 42 | 56 | 2 | 42 | | 45 | 45 | 6 | 15 | | 48 | 32 | 13 | 51 | | 51 | 16 | 16 | 38 | | 53 | 56 | 5 | 48 | 41 |
| | | 1 | 2 | 49 | 38 | | 1 | 2 | 48 | 16 | | 1 | 2 | 45 | 45 | | 1 | 2 | 42 | 5 | | 1 | 2 | 37 | 16 | |
| 42 | | 43 | 58 | 52 | 20 | | 46 | 47 | 54 | 31 | | 49 | 34 | 59 | 36 | | 52 | 18 | 58 | 43 | | 54 | 58 | 43 | 4 | 42 |
| | | 1 | 2 | 49 | 37 | | 1 | 2 | 48 | 15 | | 1 | 2 | 45 | 42 | | 1 | 2 | 42 | 1 | | 1 | 2 | 37 | 12 | |
| 43 | | 45 | 1 | 41 | 57 | | 47 | 50 | 42 | 46 | | 50 | 37 | 45 | 18 | | 53 | 21 | 40 | 44 | | 56 | 1 | 20 | 16 | 43 |
| | | 1 | 2 | 49 | 37 | | 1 | 2 | 48 | 12 | | 1 | 2 | 45 | 39 | | 1 | 2 | 41 | 57 | | 1 | 2 | 37 | 6 | |
| 44 | | 46 | 4 | 31 | 34 | | 48 | 53 | 30 | 58 | | 51 | 40 | 30 | 57 | | 54 | 24 | 22 | 41 | | 57 | 3 | 57 | 22 | 44 |
| | | 1 | 2 | 49 | 36 | | 1 | 2 | 48 | 10 | | 1 | 2 | 45 | 36 | | 1 | 2 | 41 | 52 | | 1 | 2 | 37 | 0 | |
| 45 | | 47 | 7 | 21 | 10 | | 49 | 56 | 19 | 8 | | 52 | 43 | 16 | 33 | | 55 | 27 | 4 | 33 | | 58 | 6 | 34 | 22 | 45 |
| | | 1 | 2 | 49 | 34 | | 1 | 2 | 48 | 8 | | 1 | 2 | 45 | 32 | | 1 | 2 | 41 | 49 | | 1 | 2 | 36 | 55 | |
| 46 | | 48 | 10 | 10 | 44 | | 50 | 59 | 7 | 16 | | 53 | 46 | 2 | 5 | | 56 | 29 | 46 | 22 | | 59 | 9 | 11 | 17 | 46 |
| | | 1 | 2 | 49 | 34 | | 1 | 2 | 48 | 6 | | 1 | 2 | 45 | 30 | | 1 | 2 | 41 | 43 | | 1 | 2 | 36 | 50 | |
| 47 | | 49 | 13 | 0 | 18 | | 52 | 1 | 55 | 22 | | 54 | 48 | 47 | 35 | | 57 | 32 | 28 | 5 | 5 | 0 | 11 | 48 | 7 | 47 |
| | | 1 | 2 | 49 | 33 | | 1 | 2 | 48 | 4 | | 1 | 2 | 45 | 26 | | 1 | 2 | 41 | 40 | | 1 | 2 | 36 | 44 | |
| 48 | | 50 | 15 | 49 | 51 | | 53 | 4 | 43 | 26 | | 55 | 51 | 33 | 1 | | 58 | 35 | 9 | 45 | | 1 | 14 | 24 | 51 | 48 |
| | | 1 | 2 | 49 | 33 | | 1 | 2 | 48 | 2 | | 1 | 2 | 45 | 23 | | 1 | 2 | 41 | 35 | | 1 | 2 | 36 | 39 | |
| 49 | | 51 | 18 | 39 | 24 | | 54 | 7 | 31 | 28 | | 56 | 54 | 18 | 24 | | 59 | 37 | 51 | 20 | | 2 | 17 | 1 | 30 | 49 |
| | | 1 | 2 | 49 | 31 | | 1 | 2 | 48 | 0 | | 1 | 2 | 45 | 20 | | 1 | 2 | 41 | 31 | | 1 | 2 | 36 | 33 | |
| 50 | 0 | 52 | 21 | 28 | 55 | 1 | 55 | 10 | 19 | 28 | 2 | 57 | 57 | 3 | 44 | 4 | 0 | 40 | 32 | 51 | 5 | 3 | 19 | 38 | 3 | 50 |
| | | 1 | 2 | 49 | 30 | | 1 | 2 | 47 | 58 | | 1 | 2 | 45 | 16 | | 1 | 2 | 41 | 26 | | 1 | 2 | 36 | 27 | |
| 51 | | 53 | 24 | 18 | 25 | | 56 | 13 | 7 | 26 | | 58 | 59 | 49 | 0 | | 1 | 43 | 14 | 17 | | 4 | 22 | 14 | 30 | 51 |
| | | 1 | 2 | 49 | 29 | | 1 | 2 | 47 | 56 | | 1 | 2 | 45 | 14 | | 1 | 2 | 41 | 22 | | 1 | 2 | 36 | 22 | |
| 52 | | 54 | 27 | 7 | 54 | | 57 | 15 | 55 | 22 | 3 | 0 | 2 | 34 | 14 | | 2 | 45 | 55 | 39 | | 5 | 24 | 50 | 52 | 52 |
| | | 1 | 2 | 49 | 29 | | 1 | 2 | 47 | 53 | | 1 | 2 | 45 | 10 | | 1 | 2 | 41 | 18 | | 1 | 2 | 36 | 17 | |
| 53 | | 55 | 29 | 57 | 23 | | 58 | 18 | 43 | 15 | | 1 | 5 | 19 | 24 | | 3 | 48 | 36 | 57 | | 6 | 27 | 27 | 9 | 53 |
| | | 1 | 2 | 49 | 27 | | 1 | 2 | 47 | 52 | | 1 | 2 | 45 | 6 | | 1 | 2 | 41 | 13 | | 1 | 2 | 36 | 10 | |
| 54 | | 56 | 32 | 46 | 50 | | 59 | 21 | 31 | 7 | | 2 | 8 | 4 | 30 | | 4 | 51 | 18 | 10 | | 7 | 30 | 3 | 19 | 54 |
| | | 1 | 2 | 49 | 26 | | 1 | 2 | 47 | 49 | | 1 | 2 | 45 | 4 | | 1 | 2 | 41 | 9 | | 1 | 2 | 36 | 6 | |
| 55 | | 57 | 35 | 36 | 16 | 2 | 0 | 24 | 18 | 56 | | 3 | 10 | 49 | 34 | | 5 | 53 | 59 | 19 | | 8 | 32 | 39 | 25 | 55 |
| | | 1 | 2 | 49 | 25 | | 1 | 2 | 47 | 47 | | 1 | 2 | 45 | 0 | | 1 | 2 | 41 | 4 | | 1 | 2 | 35 | 59 | |
| 56 | | 58 | 38 | 25 | 41 | | 1 | 27 | 6 | 43 | | 4 | 13 | 34 | 34 | | 6 | 56 | 40 | 23 | | 9 | 35 | 15 | 24 | 56 |
| | | 1 | 2 | 49 | 25 | | 1 | 2 | 47 | 45 | | 1 | 2 | 44 | 56 | | 1 | 2 | 40 | 59 | | 1 | 2 | 35 | 54 | |
| 57 | | 59 | 41 | 15 | 6 | | 2 | 29 | 54 | 28 | | 5 | 16 | 19 | 30 | | 7 | 59 | 21 | 22 | | 10 | 37 | 51 | 18 | 57 |
| | | 1 | 2 | 49 | 23 | | 1 | 2 | 47 | 42 | | 1 | 2 | 44 | 53 | | 1 | 2 | 40 | 55 | | 1 | 2 | 35 | 48 | |
| 58 | 1 | 0 | 44 | 4 | 29 | | 3 | 32 | 42 | 10 | | 6 | 19 | 4 | 23 | | 9 | 2 | 2 | 17 | | 11 | 40 | 27 | 6 | 58 |
| | | 1 | 2 | 49 | 21 | | 1 | 2 | 47 | 41 | | 1 | 2 | 44 | 50 | | 1 | 2 | 40 | 51 | | 1 | 2 | 35 | 43 | |
| 59 | | 1 | 46 | 53 | 50 | | 4 | 35 | 29 | 51 | | 7 | 21 | 49 | 13 | | 10 | 4 | 43 | 8 | | 12 | 43 | 2 | 49 | 59 |
| | | 1 | 2 | 49 | 21 | | 1 | 2 | 47 | 38 | | 1 | 2 | 44 | 47 | | 1 | 2 | 40 | 46 | | 1 | 2 | 35 | 37 | |
| 60 | 1 | 2 | 49 | 43 | 11 | 2 | 5 | 38 | 17 | 29 | 3 | 8 | 24 | 34 | 0 | 4 | 11 | 7 | 23 | 54 | 5 | 13 | 45 | 38 | 26 | 60 |
| | | 1 | 2 | 49 | 20 | | 1 | 2 | 47 | 35 | | 1 | 2 | 44 | 43 | | 1 | 2 | 40 | 41 | | 1 | 2 | 35 | 31 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 5° | | | | | 6° | | | | | 7° | | | | | 8° | | | | | 9° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 5 | 13 | 45 | 38 | 26 | 6 | 16 | 18 | 8 | 53 | 7 | 18 | 43 | 46 | 41 | 8 | 21 | 1 | 23 | 23 | 9 | 23 | 9 | 50 | 40 | 0 |
| | | 1 | 2 | 35 | 31 | | 1 | 2 | 29 | 12 | | 1 | 2 | 21 | 45 | | 1 | 2 | 13 | 9 | | 1 | 2 | 3 | 25 | |
| 1 | | 14 | 48 | 13 | 57 | | 17 | 20 | 38 | 5 | | 19 | 46 | 8 | 26 | | 22 | 3 | 36 | 32 | | 24 | 11 | 54 | 5 | 1 |
| | | 1 | 2 | 35 | 25 | | 1 | 2 | 29 | 5 | | 1 | 2 | 21 | 37 | | 1 | 2 | 13 | 0 | | 1 | 2 | 3 | 14 | |
| 2 | | 15 | 50 | 49 | 22 | | 18 | 23 | 7 | 10 | | 20 | 48 | 30 | 3 | | 23 | 5 | 49 | 32 | | 25 | 13 | 57 | 19 | 2 |
| | | 1 | 2 | 35 | 19 | | 1 | 2 | 28 | 59 | | 1 | 2 | 21 | 28 | | 1 | 2 | 12 | 50 | | 1 | 2 | 3 | 4 | |
| 3 | | 16 | 53 | 24 | 41 | | 19 | 25 | 36 | 9 | | 21 | 50 | 51 | 31 | | 24 | 8 | 2 | 22 | | 26 | 16 | 0 | 23 | 3 |
| | | 1 | 2 | 35 | 14 | | 1 | 2 | 28 | 51 | | 1 | 2 | 21 | 21 | | 1 | 2 | 12 | 41 | | 1 | 2 | 2 | 54 | |
| 4 | | 17 | 55 | 59 | 55 | | 20 | 28 | 5 | 0 | | 22 | 53 | 12 | 52 | | 25 | 10 | 15 | 3 | | 27 | 18 | 3 | 17 | 4 |
| | | 1 | 2 | 35 | 8 | | 1 | 2 | 28 | 44 | | 1 | 2 | 21 | 12 | | 1 | 2 | 12 | 32 | | 1 | 2 | 2 | 43 | |
| 5 | | 18 | 58 | 35 | 3 | | 21 | 30 | 33 | 44 | | 23 | 55 | 34 | 4 | | 26 | 12 | 27 | 35 | | 28 | 20 | 6 | 0 | 5 |
| | | 1 | 2 | 35 | 2 | | 1 | 2 | 28 | 38 | | 1 | 2 | 21 | 4 | | 1 | 2 | 12 | 23 | | 1 | 2 | 2 | 33 | |
| 6 | | 20 | 1 | 10 | 5 | | 22 | 33 | 2 | 22 | | 24 | 57 | 55 | 8 | | 27 | 14 | 39 | 58 | | 29 | 22 | 8 | 33 | 6 |
| | | 1 | 2 | 34 | 56 | | 1 | 2 | 28 | 30 | | 1 | 2 | 20 | 56 | | 1 | 2 | 12 | 13 | | 1 | 2 | 2 | 23 | |
| 7 | | 21 | 3 | 45 | 1 | | 23 | 35 | 30 | 52 | | 26 | 0 | 16 | 4 | | 28 | 16 | 52 | 11 | | 30 | 24 | 10 | 56 | 7 |
| | | 1 | 2 | 34 | 51 | | 1 | 2 | 28 | 24 | | 1 | 2 | 20 | 48 | | 1 | 2 | 12 | 5 | | 1 | 2 | 2 | 12 | |
| 8 | | 22 | 6 | 19 | 52 | | 24 | 37 | 59 | 16 | | 27 | 2 | 36 | 52 | | 29 | 19 | 4 | 16 | | 31 | 26 | 13 | 8 | 8 |
| | | 1 | 2 | 34 | 44 | | 1 | 2 | 28 | 16 | | 1 | 2 | 20 | 40 | | 1 | 2 | 11 | 54 | | 1 | 2 | 2 | 1 | |
| 9 | | 23 | 8 | 54 | 36 | | 25 | 40 | 27 | 32 | | 28 | 4 | 57 | 32 | | 30 | 21 | 16 | 10 | | 32 | 28 | 15 | 9 | 9 |
| | | 1 | 2 | 34 | 39 | | 1 | 2 | 28 | 10 | | 1 | 2 | 20 | 32 | | 1 | 2 | 11 | 46 | | 1 | 2 | 1 | 52 | |
| 10 | 5 | 24 | 11 | 29 | 15 | 6 | 26 | 42 | 55 | 42 | 7 | 29 | 7 | 18 | 4 | 8 | 31 | 23 | 27 | 56 | 9 | 33 | 30 | 17 | 1 | 10 |
| | | 1 | 2 | 34 | 33 | | 1 | 2 | 28 | 2 | | 1 | 2 | 20 | 23 | | 1 | 2 | 11 | 36 | | 1 | 2 | 1 | 40 | |
| 11 | | 25 | 14 | 3 | 48 | | 27 | 45 | 23 | 44 | | 30 | 9 | 38 | 27 | | 32 | 25 | 39 | 32 | | 34 | 32 | 18 | 41 | 11 |
| | | 1 | 2 | 34 | 26 | | 1 | 2 | 27 | 55 | | 1 | 2 | 20 | 15 | | 1 | 2 | 11 | 27 | | 1 | 2 | 1 | 31 | |
| 12 | | 26 | 16 | 38 | 14 | | 28 | 47 | 51 | 39 | | 31 | 11 | 58 | 42 | | 33 | 27 | 50 | 59 | | 35 | 34 | 20 | 12 | 12 |
| | | 1 | 2 | 34 | 21 | | 1 | 2 | 27 | 48 | | 1 | 2 | 20 | 7 | | 1 | 2 | 11 | 17 | | 1 | 2 | 1 | 19 | |
| 13 | | 27 | 19 | 12 | 35 | | 29 | 50 | 19 | 27 | | 32 | 14 | 18 | 49 | | 34 | 30 | 2 | 16 | | 36 | 36 | 21 | 31 | 13 |
| | | 1 | 2 | 34 | 15 | | 1 | 2 | 27 | 41 | | 1 | 2 | 19 | 59 | | 1 | 2 | 11 | 8 | | 1 | 2 | 1 | 9 | |
| 14 | | 28 | 21 | 46 | 50 | | 30 | 52 | 47 | 8 | | 33 | 16 | 38 | 48 | | 35 | 32 | 13 | 24 | | 37 | 38 | 22 | 40 | 14 |
| | | 1 | 2 | 34 | 9 | | 1 | 2 | 27 | 34 | | 1 | 2 | 19 | 50 | | 1 | 2 | 10 | 59 | | 1 | 2 | 0 | 59 | |
| 15 | | 29 | 24 | 20 | 59 | | 31 | 55 | 14 | 42 | | 34 | 18 | 58 | 38 | | 36 | 34 | 24 | 23 | | 38 | 40 | 23 | 39 | 15 |
| | | 1 | 2 | 34 | 2 | | 1 | 2 | 27 | 27 | | 1 | 2 | 19 | 42 | | 1 | 2 | 10 | 49 | | 1 | 2 | 0 | 48 | |
| 16 | | 30 | 26 | 55 | 1 | | 32 | 57 | 42 | 9 | | 35 | 21 | 18 | 20 | | 37 | 36 | 35 | 12 | | 39 | 42 | 24 | 27 | 16 |
| | | 1 | 2 | 33 | 57 | | 1 | 2 | 27 | 19 | | 1 | 2 | 19 | 34 | | 1 | 2 | 10 | 40 | | 1 | 2 | 0 | 37 | |
| 17 | | 31 | 29 | 28 | 58 | | 34 | 0 | 9 | 28 | | 36 | 23 | 37 | 54 | | 38 | 38 | 45 | 52 | | 40 | 44 | 25 | 4 | 17 |
| | | 1 | 2 | 33 | 51 | | 1 | 2 | 27 | 12 | | 1 | 2 | 19 | 26 | | 1 | 2 | 10 | 30 | | 1 | 2 | 0 | 27 | |
| 18 | | 32 | 32 | 2 | 49 | | 35 | 2 | 36 | 40 | | 37 | 25 | 57 | 20 | | 39 | 40 | 56 | 22 | | 41 | 46 | 25 | 31 | 18 |
| | | 1 | 2 | 33 | 44 | | 1 | 2 | 27 | 5 | | 1 | 2 | 19 | 17 | | 1 | 2 | 10 | 21 | | 1 | 2 | 0 | 16 | |
| 19 | | 33 | 34 | 36 | 33 | | 36 | 5 | 3 | 45 | | 38 | 28 | 16 | 37 | | 40 | 43 | 6 | 43 | | 42 | 48 | 25 | 47 | 19 |
| | | 1 | 2 | 33 | 39 | | 1 | 2 | 26 | 58 | | 1 | 2 | 19 | 8 | | 1 | 2 | 10 | 11 | | 1 | 2 | 0 | 6 | |
| 20 | 5 | 34 | 37 | 10 | 12 | 6 | 37 | 7 | 30 | 43 | 7 | 39 | 30 | 35 | 45 | 8 | 41 | 45 | 16 | 54 | 9 | 43 | 50 | 25 | 53 | 20 |
| | | 1 | 2 | 33 | 32 | | 1 | 2 | 26 | 51 | | 1 | 2 | 19 | 1 | | 1 | 2 | 10 | 1 | | 1 | 1 | 59 | 55 | |
| 21 | | 35 | 39 | 43 | 44 | | 38 | 9 | 57 | 34 | | 40 | 32 | 54 | 46 | | 42 | 47 | 26 | 55 | | 44 | 52 | 25 | 48 | 21 |
| | | 1 | 2 | 33 | 26 | | 1 | 2 | 26 | 43 | | 1 | 2 | 18 | 52 | | 1 | 2 | 9 | 53 | | 1 | 1 | 59 | 44 | |
| 22 | | 36 | 42 | 17 | 10 | | 39 | 12 | 24 | 17 | | 41 | 35 | 13 | 38 | | 43 | 49 | 36 | 48 | | 45 | 54 | 25 | 32 | 22 |
| | | 1 | 2 | 33 | 21 | | 1 | 2 | 26 | 36 | | 1 | 2 | 18 | 43 | | 1 | 2 | 9 | 42 | | 1 | 1 | 59 | 34 | |
| 23 | | 37 | 44 | 50 | 31 | | 40 | 14 | 50 | 53 | | 42 | 37 | 32 | 21 | | 44 | 51 | 46 | 30 | | 46 | 56 | 25 | 6 | 23 |
| | | 1 | 2 | 33 | 13 | | 1 | 2 | 26 | 29 | | 1 | 2 | 18 | 35 | | 1 | 2 | 9 | 33 | | 1 | 1 | 59 | 22 | |
| 24 | | 38 | 47 | 23 | 44 | | 41 | 17 | 17 | 22 | | 43 | 39 | 50 | 56 | | 45 | 53 | 56 | 3 | | 47 | 58 | 24 | 28 | 24 |
| | | 1 | 2 | 33 | 8 | | 1 | 2 | 26 | 21 | | 1 | 2 | 18 | 26 | | 1 | 2 | 9 | 23 | | 1 | 1 | 59 | 12 | |
| 25 | | 39 | 49 | 56 | 52 | | 42 | 19 | 43 | 43 | | 44 | 42 | 9 | 22 | | 46 | 56 | 5 | 26 | | 49 | 0 | 23 | 40 | 25 |
| | | 1 | 2 | 33 | 2 | | 1 | 2 | 26 | 14 | | 1 | 2 | 18 | 18 | | 1 | 2 | 9 | 14 | | 1 | 1 | 59 | 1 | |
| 26 | | 40 | 52 | 29 | 54 | | 43 | 22 | 9 | 57 | | 45 | 44 | 27 | 40 | | 47 | 58 | 14 | 40 | | 50 | 2 | 22 | 41 | 26 |
| | | 1 | 2 | 32 | 55 | | 1 | 2 | 26 | 7 | | 1 | 2 | 18 | 10 | | 1 | 2 | 9 | 4 | | 1 | 1 | 58 | 51 | |
| 27 | | 41 | 55 | 2 | 49 | | 44 | 24 | 36 | 4 | | 46 | 46 | 45 | 50 | | 49 | 0 | 23 | 44 | | 51 | 4 | 21 | 32 | 27 |
| | | 1 | 2 | 32 | 49 | | 1 | 2 | 25 | 59 | | 1 | 2 | 18 | 1 | | 1 | 2 | 8 | 54 | | 1 | 1 | 58 | 40 | |
| 28 | | 42 | 57 | 35 | 38 | | 45 | 27 | 2 | 3 | | 47 | 49 | 3 | 51 | | 50 | 2 | 32 | 38 | | 52 | 6 | 20 | 12 | 28 |
| | | 1 | 2 | 32 | 43 | | 1 | 2 | 25 | 52 | | 1 | 2 | 17 | 52 | | 1 | 2 | 8 | 45 | | 1 | 1 | 58 | 28 | |
| 29 | | 44 | 0 | 8 | 21 | | 46 | 29 | 27 | 55 | | 48 | 51 | 21 | 43 | | 51 | 4 | 41 | 23 | | 53 | 8 | 18 | 40 | 29 |
| | | 1 | 2 | 32 | 36 | | 1 | 2 | 25 | 44 | | 1 | 2 | 17 | 44 | | 1 | 2 | 8 | 35 | | 1 | 1 | 58 | 18 | |
| 30 | 5 | 45 | 2 | 40 | 57 | 6 | 47 | 31 | 53 | 39 | 7 | 49 | 53 | 39 | 27 | 8 | 52 | 6 | 49 | 58 | 9 | 54 | 10 | 16 | 58 | 30 |
| | | 1 | 2 | 32 | 30 | | 1 | 2 | 25 | 37 | | 1 | 2 | 17 | 35 | | 1 | 2 | 8 | 25 | | 1 | 1 | 58 | 7 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 5° | | | | | 6° | | | | | 7° | | | | | 8° | | | | | 9° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 5 | 45 | 2 | 40 | 57 | 6 | 47 | 31 | 53 | 39 | 7 | 49 | 53 | 39 | 27 | 8 | 52 | 6 | 49 | 58 | 9 | 54 | 10 | 16 | 58 | 30 |
| | | 1 | 2 | 32 | 30 | | 1 | 2 | 25 | 37 | | 1 | 2 | 17 | 35 | | 1 | 2 | 8 | 25 | | 1 | 1 | 58 | 7 | |
| 31 | | 46 | 5 | 13 | 27 | | 48 | 34 | 19 | 16 | | 50 | 55 | 57 | 2 | | 53 | 8 | 58 | 23 | | 55 | 12 | 15 | 5 | 31 |
| | | 1 | 2 | 32 | 24 | | 1 | 2 | 25 | 29 | | 1 | 2 | 17 | 27 | | 1 | 2 | 8 | 16 | | 1 | 1 | 57 | 57 | |
| 32 | | 47 | 7 | 45 | 51 | | 49 | 36 | 44 | 45 | | 51 | 58 | 14 | 29 | | 54 | 11 | 6 | 39 | | 56 | 14 | 13 | 2 | 32 |
| | | 1 | 2 | 32 | 18 | | 1 | 2 | 25 | 22 | | 1 | 2 | 17 | 18 | | 1 | 2 | 8 | 6 | | 1 | 1 | 57 | 45 | |
| 33 | | 48 | 10 | 18 | 9 | | 50 | 39 | 10 | 7 | | 53 | 0 | 31 | 47 | | 55 | 13 | 14 | 45 | | 57 | 16 | 10 | 47 | 33 |
| | | 1 | 2 | 32 | 11 | | 1 | 2 | 25 | 15 | | 1 | 2 | 17 | 9 | | 1 | 2 | 7 | 56 | | 1 | 1 | 57 | 34 | |
| 34 | | 49 | 12 | 50 | 20 | | 51 | 41 | 35 | 22 | | 54 | 2 | 48 | 56 | | 56 | 15 | 22 | 41 | | 58 | 18 | 8 | 21 | 34 |
| | | 1 | 2 | 32 | 5 | | 1 | 2 | 25 | 7 | | 1 | 2 | 17 | 1 | | 1 | 2 | 7 | 46 | | 1 | 1 | 57 | 24 | |
| 35 | | 50 | 15 | 22 | 25 | | 52 | 44 | 0 | 29 | | 55 | 5 | 5 | 57 | | 57 | 17 | 30 | 27 | | 59 | 20 | 5 | 45 | 35 |
| | | 1 | 2 | 31 | 58 | | 1 | 2 | 24 | 59 | | 1 | 2 | 16 | 52 | | 1 | 2 | 7 | 36 | | 1 | 1 | 57 | 12 | |
| 36 | | 51 | 17 | 54 | 23 | | 53 | 46 | 25 | 28 | | 56 | 7 | 22 | 49 | | 58 | 19 | 38 | 3 | 10 | 0 | 22 | 2 | 57 | 36 |
| | | 1 | 2 | 31 | 52 | | 1 | 2 | 24 | 52 | | 1 | 2 | 16 | 43 | | 1 | 2 | 7 | 27 | | 1 | 1 | 57 | 2 | |
| 37 | | 52 | 20 | 26 | 15 | | 54 | 48 | 50 | 20 | | 57 | 9 | 39 | 32 | | 59 | 21 | 45 | 30 | | 1 | 23 | 59 | 59 | 37 |
| | | 1 | 2 | 31 | 45 | | 1 | 2 | 24 | 44 | | 1 | 2 | 16 | 35 | | 1 | 2 | 7 | 16 | | 1 | 1 | 56 | 51 | |
| 38 | | 53 | 22 | 58 | 0 | | 55 | 51 | 15 | 4 | | 58 | 11 | 56 | 7 | 9 | 0 | 23 | 52 | 46 | | 2 | 25 | 56 | 50 | 38 |
| | | 1 | 2 | 31 | 39 | | 1 | 2 | 24 | 37 | | 1 | 2 | 16 | 26 | | 1 | 2 | 7 | 7 | | 1 | 1 | 56 | 39 | |
| 39 | | 54 | 25 | 29 | 39 | | 56 | 53 | 39 | 41 | | 59 | 14 | 12 | 33 | | 1 | 25 | 59 | 53 | | 3 | 27 | 53 | 29 | 39 |
| | | 1 | 2 | 31 | 33 | | 1 | 2 | 24 | 29 | | 1 | 2 | 16 | 17 | | 1 | 2 | 6 | 57 | | 1 | 1 | 56 | 29 | |
| 40 | 5 | 55 | 28 | 1 | 12 | 6 | 57 | 56 | 4 | 10 | 8 | 0 | 16 | 28 | 50 | 9 | 2 | 28 | 6 | 50 | 10 | 4 | 29 | 49 | 58 | 40 |
| | | 1 | 2 | 31 | 26 | | 1 | 2 | 24 | 21 | | 1 | 2 | 16 | 8 | | 1 | 2 | 6 | 47 | | 1 | 1 | 56 | 17 | |
| 41 | | 56 | 30 | 32 | 38 | | 58 | 58 | 28 | 31 | | 1 | 18 | 44 | 58 | | 3 | 30 | 13 | 37 | | 5 | 31 | 46 | 15 | 41 |
| | | 1 | 2 | 31 | 19 | | 1 | 2 | 24 | 14 | | 1 | 2 | 16 | 0 | | 1 | 2 | 6 | 37 | | 1 | 1 | 56 | 7 | |
| 42 | | 57 | 33 | 3 | 57 | 7 | 0 | 0 | 52 | 45 | | 2 | 21 | 0 | 58 | | 4 | 32 | 20 | 14 | | 6 | 33 | 42 | 22 | 42 |
| | | 1 | 2 | 31 | 13 | | 1 | 2 | 24 | 6 | | 1 | 2 | 15 | 50 | | 1 | 2 | 6 | 27 | | 1 | 1 | 55 | 55 | |
| 43 | | 58 | 35 | 35 | 10 | | 1 | 3 | 16 | 51 | | 3 | 23 | 16 | 48 | | 5 | 34 | 26 | 41 | | 7 | 35 | 38 | 17 | 43 |
| | | 1 | 2 | 31 | 7 | | 1 | 2 | 23 | 59 | | 1 | 2 | 15 | 42 | | 1 | 2 | 6 | 17 | | 1 | 1 | 55 | 44 | |
| 44 | | 59 | 38 | 6 | 17 | | 2 | 5 | 40 | 50 | | 4 | 25 | 32 | 30 | | 6 | 36 | 32 | 58 | | 8 | 37 | 34 | 1 | 44 |
| | | 1 | 2 | 31 | 0 | | 1 | 2 | 23 | 50 | | 1 | 2 | 15 | 33 | | 1 | 2 | 6 | 7 | | 1 | 1 | 55 | 33 | |
| 45 | 6 | 0 | 40 | 37 | 17 | | 3 | 8 | 4 | 40 | | 5 | 27 | 48 | 3 | | 7 | 38 | 39 | 5 | | 9 | 39 | 29 | 34 | 45 |
| | | 1 | 2 | 30 | 53 | | 1 | 2 | 23 | 43 | | 1 | 2 | 15 | 25 | | 1 | 2 | 5 | 57 | | 1 | 1 | 55 | 22 | |
| 46 | | 1 | 43 | 8 | 10 | | 4 | 10 | 28 | 23 | | 6 | 30 | 3 | 28 | | 8 | 40 | 45 | 2 | | 10 | 41 | 24 | 56 | 46 |
| | | 1 | 2 | 30 | 47 | | 1 | 2 | 23 | 35 | | 1 | 2 | 15 | 15 | | 1 | 2 | 5 | 47 | | 1 | 1 | 55 | 11 | |
| 47 | | 2 | 45 | 38 | 57 | | 5 | 12 | 51 | 58 | | 7 | 32 | 18 | 43 | | 9 | 42 | 50 | 49 | | 11 | 43 | 20 | 7 | 47 |
| | | 1 | 2 | 30 | 40 | | 1 | 2 | 23 | 28 | | 1 | 2 | 15 | 6 | | 1 | 2 | 5 | 37 | | 1 | 1 | 55 | 0 | |
| 48 | | 3 | 48 | 9 | 37 | | 6 | 15 | 15 | 26 | | 8 | 34 | 33 | 49 | | 10 | 44 | 56 | 26 | | 12 | 45 | 15 | 7 | 48 |
| | | 1 | 2 | 30 | 33 | | 1 | 2 | 23 | 19 | | 1 | 2 | 14 | 58 | | 1 | 2 | 5 | 27 | | 1 | 1 | 54 | 48 | |
| 49 | | 4 | 50 | 40 | 10 | | 7 | 17 | 38 | 45 | | 9 | 36 | 48 | 47 | | 11 | 47 | 1 | 53 | | 13 | 47 | 9 | 55 | 49 |
| | | 1 | 2 | 30 | 27 | | 1 | 2 | 23 | 12 | | 1 | 2 | 14 | 48 | | 1 | 2 | 5 | 17 | | 1 | 1 | 54 | 37 | |
| 50 | 6 | 5 | 53 | 10 | 37 | 7 | 8 | 20 | 1 | 57 | 8 | 10 | 39 | 3 | 35 | 9 | 12 | 49 | 7 | 10 | 10 | 14 | 49 | 4 | 32 | 50 |
| | | 1 | 2 | 30 | 20 | | 1 | 2 | 23 | 4 | | 1 | 2 | 14 | 40 | | 1 | 2 | 5 | 7 | | 1 | 1 | 54 | 26 | |
| 51 | | 6 | 55 | 40 | 57 | | 9 | 22 | 25 | 1 | | 11 | 41 | 18 | 15 | | 13 | 51 | 12 | 17 | | 15 | 50 | 58 | 58 | 51 |
| | | 1 | 2 | 30 | 13 | | 1 | 2 | 22 | 56 | | 1 | 2 | 14 | 30 | | 1 | 2 | 4 | 57 | | 1 | 1 | 54 | 15 | |
| 52 | | 7 | 58 | 11 | 10 | | 10 | 24 | 47 | 57 | | 12 | 43 | 32 | 45 | | 14 | 53 | 17 | 14 | | 16 | 52 | 53 | 13 | 52 |
| | | 1 | 2 | 30 | 7 | | 1 | 2 | 22 | 49 | | 1 | 2 | 14 | 22 | | 1 | 2 | 4 | 46 | | 1 | 1 | 54 | 3 | |
| 53 | | 9 | 0 | 41 | 17 | | 11 | 27 | 10 | 46 | | 13 | 45 | 47 | 7 | | 15 | 55 | 22 | 0 | | 17 | 54 | 47 | 16 | 53 |
| | | 1 | 2 | 30 | 0 | | 1 | 2 | 22 | 40 | | 1 | 2 | 14 | 12 | | 1 | 2 | 4 | 36 | | 1 | 1 | 53 | 52 | |
| 54 | | 10 | 3 | 11 | 17 | | 12 | 29 | 33 | 26 | | 14 | 48 | 1 | 19 | | 16 | 57 | 26 | 36 | | 18 | 56 | 41 | 8 | 54 |
| | | 1 | 2 | 29 | 53 | | 1 | 2 | 22 | 32 | | 1 | 2 | 14 | 3 | | 1 | 2 | 4 | 27 | | 1 | 1 | 53 | 41 | |
| 55 | | 11 | 5 | 41 | 10 | | 13 | 31 | 55 | 58 | | 15 | 50 | 15 | 22 | | 17 | 59 | 31 | 3 | | 19 | 58 | 34 | 49 | 55 |
| | | 1 | 2 | 29 | 46 | | 1 | 2 | 22 | 25 | | 1 | 2 | 13 | 55 | | 1 | 2 | 4 | 16 | | 1 | 1 | 53 | 30 | |
| 56 | | 12 | 8 | 10 | 56 | | 14 | 34 | 18 | 23 | | 16 | 52 | 29 | 17 | | 19 | 1 | 35 | 19 | | 21 | 0 | 28 | 19 | 56 |
| | | 1 | 2 | 29 | 40 | | 1 | 2 | 22 | 16 | | 1 | 2 | 13 | 45 | | 1 | 2 | 4 | 5 | | 1 | 1 | 53 | 18 | |
| 57 | | 13 | 10 | 40 | 36 | | 15 | 36 | 40 | 39 | | 17 | 54 | 43 | 2 | | 20 | 3 | 39 | 24 | | 22 | 2 | 21 | 37 | 57 |
| | | 1 | 2 | 29 | 32 | | 1 | 2 | 22 | 9 | | 1 | 2 | 13 | 36 | | 1 | 2 | 3 | 56 | | 1 | 1 | 53 | 7 | |
| 58 | | 14 | 13 | 10 | 8 | | 16 | 39 | 2 | 48 | | 18 | 56 | 56 | 38 | | 21 | 5 | 43 | 20 | | 23 | 4 | 14 | 44 | 58 |
| | | 1 | 2 | 29 | 26 | | 1 | 2 | 22 | 1 | | 1 | 2 | 13 | 27 | | 1 | 2 | 3 | 45 | | 1 | 1 | 52 | 55 | |
| 59 | | 15 | 15 | 39 | 34 | | 17 | 41 | 24 | 49 | | 19 | 59 | 10 | 5 | | 22 | 7 | 47 | 5 | | 24 | 6 | 7 | 39 | 59 |
| | | 1 | 2 | 29 | 19 | | 1 | 2 | 21 | 52 | | 1 | 2 | 13 | 18 | | 1 | 2 | 3 | 35 | | 1 | 1 | 52 | 44 | |
| 60 | 6 | 16 | 18 | 8 | 53 | 7 | 18 | 43 | 46 | 41 | 8 | 21 | 1 | 23 | 23 | 9 | 23 | 9 | 50 | 40 | 10 | 25 | 8 | 0 | 23 | 60 |
| | | 1 | 2 | 29 | 12 | | 1 | 2 | 21 | 45 | | 1 | 2 | 13 | 9 | | 1 | 2 | 3 | 25 | | 1 | 1 | 52 | 33 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 10° | | | | | 11° | | | | | 12° | | | | | 13° | | | | | 14° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10 | 25 | 8 | 0 | 23 | 11 | 26 | 54 | 44 | 35 | 12 | 28 | 28 | 55 | 31 | 13 | 29 | 49 | 25 | 40 | 14 | 30 | 55 | 7 | 46 | 0 |
| | | 1 | 1 | 52 | 33 | | 1 | 1 | 40 | 32 | | 1 | 1 | 27 | 25 | | 1 | 1 | 13 | 10 | | 1 | 0 | 57 | 48 | |
| 1 | | 26 | 9 | 52 | 56 | | 27 | 56 | 25 | 7 | | 29 | 30 | 22 | 56 | | 30 | 50 | 38 | 50 | | 31 | 56 | 5 | 34 | 1 |
| | | 1 | 1 | 52 | 21 | | 1 | 1 | 40 | 20 | | 1 | 1 | 27 | 11 | | 1 | 1 | 12 | 55 | | 1 | 0 | 57 | 32 | |
| 2 | | 27 | 11 | 45 | 17 | | 28 | 58 | 5 | 27 | | 30 | 31 | 50 | 7 | | 31 | 51 | 51 | 45 | | 32 | 57 | 3 | 6 | 2 |
| | | 1 | 1 | 52 | 9 | | 1 | 1 | 40 | 8 | | 1 | 1 | 26 | 57 | | 1 | 1 | 12 | 40 | | 1 | 0 | 57 | 15 | |
| 3 | | 28 | 13 | 37 | 26 | | 29 | 59 | 45 | 35 | | 31 | 33 | 17 | 4 | | 32 | 53 | 4 | 25 | | 33 | 58 | 0 | 21 | 3 |
| | | 1 | 1 | 51 | 58 | | 1 | 1 | 39 | 55 | | 1 | 1 | 26 | 44 | | 1 | 1 | 12 | 26 | | 1 | 0 | 57 | 0 | |
| 4 | | 29 | 15 | 29 | 24 | | 31 | 1 | 25 | 30 | | 32 | 34 | 43 | 48 | | 33 | 54 | 16 | 51 | | 34 | 58 | 57 | 21 | 4 |
| | | 1 | 1 | 51 | 47 | | 1 | 1 | 39 | 42 | | 1 | 1 | 26 | 30 | | 1 | 1 | 12 | 10 | | 1 | 0 | 56 | 44 | |
| 5 | | 30 | 17 | 21 | 11 | | 32 | 3 | 5 | 12 | | 33 | 36 | 10 | 18 | | 34 | 55 | 29 | 1 | | 35 | 59 | 54 | 5 | 5 |
| | | 1 | 1 | 51 | 35 | | 1 | 1 | 39 | 29 | | 1 | 1 | 26 | 17 | | 1 | 1 | 11 | 56 | | 1 | 0 | 56 | 28 | |
| 6 | | 31 | 19 | 12 | 46 | | 33 | 4 | 44 | 41 | | 34 | 37 | 36 | 35 | | 35 | 56 | 40 | 57 | | 37 | 0 | 50 | 33 | 6 |
| | | 1 | 1 | 51 | 24 | | 1 | 1 | 39 | 17 | | 1 | 1 | 26 | 2 | | 1 | 1 | 11 | 40 | | 1 | 0 | 56 | 12 | |
| 7 | | 32 | 21 | 4 | 10 | | 34 | 6 | 23 | 58 | | 35 | 39 | 2 | 37 | | 36 | 57 | 52 | 37 | | 38 | 1 | 46 | 45 | 7 |
| | | 1 | 1 | 51 | 12 | | 1 | 1 | 39 | 4 | | 1 | 1 | 25 | 49 | | 1 | 1 | 11 | 26 | | 1 | 0 | 55 | 56 | |
| 8 | | 33 | 22 | 55 | 22 | | 35 | 8 | 3 | 2 | | 36 | 40 | 28 | 26 | | 37 | 59 | 4 | 3 | | 39 | 2 | 42 | 41 | 8 |
| | | 1 | 1 | 51 | 0 | | 1 | 1 | 38 | 52 | | 1 | 1 | 25 | 34 | | 1 | 1 | 11 | 11 | | 1 | 0 | 55 | 40 | |
| 9 | | 34 | 24 | 46 | 22 | | 36 | 9 | 41 | 54 | | 37 | 41 | 54 | 0 | | 39 | 0 | 15 | 14 | | 40 | 3 | 38 | 21 | 9 |
| | | 1 | 1 | 50 | 49 | | 1 | 1 | 38 | 38 | | 1 | 1 | 25 | 21 | | 1 | 1 | 10 | 56 | | 1 | 0 | 55 | 23 | |
| 10 | 10 | 35 | 26 | 37 | 11 | 11 | 37 | 11 | 20 | 32 | 12 | 38 | 43 | 19 | 21 | 13 | 40 | 1 | 26 | 10 | 14 | 41 | 4 | 33 | 44 | 10 |
| | | 1 | 1 | 50 | 37 | | 1 | 1 | 38 | 26 | | 1 | 1 | 25 | 8 | | 1 | 1 | 10 | 41 | | 1 | 0 | 55 | 8 | |
| 11 | | 36 | 28 | 27 | 48 | | 38 | 12 | 58 | 58 | | 39 | 44 | 44 | 29 | | 41 | 2 | 36 | 51 | | 42 | 5 | 28 | 52 | 11 |
| | | 1 | 1 | 50 | 26 | | 1 | 1 | 38 | 14 | | 1 | 1 | 24 | 53 | | 1 | 1 | 10 | 26 | | 1 | 0 | 54 | 51 | |
| 12 | | 37 | 30 | 18 | 14 | | 39 | 14 | 37 | 12 | | 40 | 46 | 9 | 22 | | 42 | 3 | 47 | 17 | | 43 | 6 | 23 | 43 | 12 |
| | | 1 | 1 | 50 | 14 | | 1 | 1 | 38 | 0 | | 1 | 1 | 24 | 39 | | 1 | 1 | 10 | 10 | | 1 | 0 | 54 | 36 | |
| 13 | | 38 | 32 | 8 | 28 | | 40 | 16 | 15 | 12 | | 41 | 47 | 34 | 1 | | 43 | 4 | 57 | 27 | | 44 | 7 | 18 | 19 | 13 |
| | | 1 | 1 | 50 | 2 | | 1 | 1 | 37 | 48 | | 1 | 1 | 24 | 25 | | 1 | 1 | 9 | 56 | | 1 | 0 | 54 | 19 | |
| 14 | | 39 | 33 | 58 | 30 | | 41 | 17 | 53 | 0 | | 42 | 48 | 58 | 26 | | 44 | 6 | 7 | 23 | | 45 | 8 | 12 | 38 | 14 |
| | | 1 | 1 | 49 | 51 | | 1 | 1 | 37 | 34 | | 1 | 1 | 24 | 12 | | 1 | 1 | 9 | 41 | | 1 | 0 | 54 | 3 | |
| 15 | | 40 | 35 | 48 | 21 | | 42 | 19 | 30 | 34 | | 43 | 50 | 22 | 38 | | 45 | 7 | 17 | 4 | | 46 | 9 | 6 | 41 | 15 |
| | | 1 | 1 | 49 | 39 | | 1 | 1 | 37 | 22 | | 1 | 1 | 23 | 57 | | 1 | 1 | 9 | 26 | | 1 | 0 | 53 | 46 | |
| 16 | | 41 | 37 | 38 | 0 | | 43 | 21 | 7 | 56 | | 44 | 51 | 46 | 35 | | 46 | 8 | 26 | 30 | | 47 | 10 | 0 | 27 | 16 |
| | | 1 | 1 | 49 | 27 | | 1 | 1 | 37 | 10 | | 1 | 1 | 23 | 44 | | 1 | 1 | 9 | 10 | | 1 | 0 | 53 | 31 | |
| 17 | | 42 | 39 | 27 | 27 | | 44 | 22 | 45 | 6 | | 45 | 53 | 10 | 19 | | 47 | 9 | 35 | 40 | | 48 | 10 | 53 | 58 | 17 |
| | | 1 | 1 | 49 | 15 | | 1 | 1 | 36 | 56 | | 1 | 1 | 23 | 29 | | 1 | 1 | 8 | 56 | | 1 | 0 | 53 | 14 | |
| 18 | | 43 | 41 | 16 | 42 | | 45 | 24 | 22 | 2 | | 46 | 54 | 33 | 48 | | 48 | 10 | 44 | 36 | | 49 | 11 | 47 | 12 | 18 |
| | | 1 | 1 | 49 | 4 | | 1 | 1 | 36 | 43 | | 1 | 1 | 23 | 16 | | 1 | 1 | 8 | 40 | | 1 | 0 | 52 | 58 | |
| 19 | | 44 | 43 | 5 | 46 | | 46 | 25 | 58 | 45 | | 47 | 55 | 57 | 4 | | 49 | 11 | 53 | 16 | | 50 | 12 | 40 | 10 | 19 |
| | | 1 | 1 | 48 | 52 | | 1 | 1 | 36 | 31 | | 1 | 1 | 23 | 1 | | 1 | 1 | 8 | 25 | | 1 | 0 | 52 | 42 | |
| 20 | 10 | 45 | 44 | 54 | 38 | 11 | 47 | 27 | 35 | 16 | 12 | 48 | 57 | 20 | 5 | 13 | 50 | 13 | 1 | 41 | 14 | 51 | 13 | 32 | 52 | 20 |
| | | 1 | 1 | 48 | 40 | | 1 | 1 | 36 | 17 | | 1 | 1 | 22 | 48 | | 1 | 1 | 8 | 10 | | 1 | 0 | 52 | 26 | |
| 21 | | 46 | 46 | 43 | 18 | | 48 | 29 | 11 | 33 | | 49 | 58 | 42 | 53 | | 51 | 14 | 9 | 51 | | 52 | 14 | 25 | 18 | 21 |
| | | 1 | 1 | 48 | 28 | | 1 | 1 | 36 | 5 | | 1 | 1 | 22 | 33 | | 1 | 1 | 7 | 55 | | 1 | 0 | 52 | 9 | |
| 22 | | 47 | 48 | 31 | 46 | | 49 | 30 | 47 | 38 | | 51 | 0 | 5 | 26 | | 52 | 15 | 17 | 46 | | 53 | 15 | 17 | 27 | 22 |
| | | 1 | 1 | 48 | 17 | | 1 | 1 | 35 | 51 | | 1 | 1 | 22 | 19 | | 1 | 1 | 7 | 39 | | 1 | 0 | 51 | 53 | |
| 23 | | 48 | 50 | 20 | 3 | | 50 | 32 | 23 | 29 | | 52 | 1 | 27 | 45 | | 53 | 16 | 25 | 25 | | 54 | 16 | 9 | 20 | 23 |
| | | 1 | 1 | 48 | 4 | | 1 | 1 | 35 | 39 | | 1 | 1 | 22 | 5 | | 1 | 1 | 7 | 25 | | 1 | 0 | 51 | 36 | |
| 24 | | 49 | 52 | 8 | 7 | | 51 | 33 | 59 | 8 | | 53 | 2 | 49 | 50 | | 54 | 17 | 32 | 50 | | 55 | 17 | 0 | 56 | 24 |
| | | 1 | 1 | 47 | 53 | | 1 | 1 | 35 | 25 | | 1 | 1 | 21 | 51 | | 1 | 1 | 7 | 9 | | 1 | 0 | 51 | 20 | |
| 25 | | 50 | 53 | 56 | 0 | | 52 | 35 | 34 | 33 | | 54 | 4 | 11 | 41 | | 55 | 18 | 39 | 59 | | 56 | 17 | 52 | 16 | 25 |
| | | 1 | 1 | 47 | 41 | | 1 | 1 | 35 | 13 | | 1 | 1 | 21 | 37 | | 1 | 1 | 6 | 54 | | 1 | 0 | 51 | 4 | |
| 26 | | 51 | 55 | 43 | 41 | | 53 | 37 | 9 | 46 | | 55 | 5 | 33 | 18 | | 56 | 19 | 46 | 53 | | 57 | 18 | 43 | 20 | 26 |
| | | 1 | 1 | 47 | 29 | | 1 | 1 | 35 | 0 | | 1 | 1 | 21 | 23 | | 1 | 1 | 6 | 38 | | 1 | 0 | 50 | 48 | |
| 27 | | 52 | 57 | 31 | 10 | | 54 | 38 | 44 | 46 | | 56 | 6 | 54 | 41 | | 57 | 20 | 53 | 31 | | 58 | 19 | 34 | 8 | 27 |
| | | 1 | 1 | 47 | 17 | | 1 | 1 | 34 | 46 | | 1 | 1 | 21 | 8 | | 1 | 1 | 6 | 23 | | 1 | 0 | 50 | 31 | |
| 28 | | 53 | 59 | 18 | 27 | | 55 | 40 | 19 | 32 | | 57 | 8 | 15 | 49 | | 58 | 21 | 59 | 54 | | 59 | 20 | 24 | 39 | 28 |
| | | 1 | 1 | 47 | 5 | | 1 | 1 | 34 | 34 | | 1 | 1 | 20 | 55 | | 1 | 1 | 6 | 8 | | 1 | 0 | 50 | 14 | |
| 29 | | 55 | 1 | 5 | 32 | | 56 | 41 | 54 | 6 | | 58 | 9 | 36 | 44 | | 59 | 23 | 6 | 2 | 15 | 0 | 21 | 14 | 53 | 29 |
| | | 1 | 1 | 46 | 53 | | 1 | 1 | 34 | 20 | | 1 | 1 | 20 | 40 | | 1 | 1 | 5 | 53 | | 1 | 0 | 49 | 58 | |
| 30 | 10 | 56 | 2 | 52 | 25 | 11 | 57 | 43 | 28 | 26 | 12 | 59 | 10 | 57 | 24 | 14 | 0 | 24 | 11 | 55 | 15 | 1 | 22 | 4 | 51 | 30 |
| | | 1 | 1 | 46 | 41 | | 1 | 1 | 34 | 7 | | 1 | 1 | 20 | 26 | | 1 | 1 | 5 | 37 | | 1 | 0 | 49 | 42 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 10° | | | | | 11° | | | | | 12° | | | | | 13° | | | | | 14° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 10 | 56 | 2 | 52 | 25 | 11 | 57 | 43 | 28 | 26 | 12 | 59 | 10 | 57 | 24 | 14 | 0 | 24 | 11 | 55 | 15 | 1 | 22 | 4 | 51 | 30 |
| | | 1 | 1 | 46 | 41 | | 1 | 1 | 34 | 7 | | 1 | 1 | 20 | 26 | | 1 | 1 | 5 | 37 | | 1 | 0 | 49 | 42 | |
| 31 | | 57 | 4 | 39 | 6 | | 58 | 45 | 2 | 33 | 13 | 0 | 12 | 17 | 50 | | 1 | 25 | 17 | 32 | | 2 | 22 | 54 | 33 | 31 |
| | | 1 | 1 | 46 | 29 | | 1 | 1 | 33 | 54 | | 1 | 1 | 20 | 11 | | 1 | 1 | 5 | 22 | | 1 | 0 | 49 | 25 | |
| 32 | | 58 | 6 | 25 | 35 | | 59 | 46 | 36 | 27 | | 1 | 13 | 38 | 1 | | 2 | 26 | 22 | 54 | | 3 | 23 | 43 | 58 | 32 |
| | | 1 | 1 | 46 | 17 | | 1 | 1 | 33 | 41 | | 1 | 1 | 19 | 57 | | 1 | 1 | 5 | 6 | | 1 | 0 | 49 | 8 | |
| 33 | | 59 | 8 | 11 | 52 | 12 | 0 | 48 | 10 | 8 | | 2 | 14 | 57 | 58 | | 3 | 27 | 28 | 0 | | 4 | 24 | 33 | 6 | 33 |
| | | 1 | 1 | 46 | 5 | | 1 | 1 | 33 | 28 | | 1 | 1 | 19 | 43 | | 1 | 1 | 4 | 51 | | 1 | 0 | 48 | 53 | |
| 34 | 11 | 0 | 9 | 57 | 57 | | 1 | 49 | 43 | 36 | | 3 | 16 | 17 | 41 | | 4 | 28 | 32 | 51 | | 5 | 25 | 21 | 59 | 34 |
| | | 1 | 1 | 45 | 52 | | 1 | 1 | 33 | 14 | | 1 | 1 | 19 | 29 | | 1 | 1 | 4 | 36 | | 1 | 0 | 48 | 35 | |
| 35 | | 1 | 11 | 43 | 49 | | 2 | 51 | 16 | 50 | | 4 | 17 | 37 | 10 | | 5 | 29 | 37 | 27 | | 6 | 26 | 10 | 34 | 35 |
| | | 1 | 1 | 45 | 41 | | 1 | 1 | 33 | 1 | | 1 | 1 | 19 | 15 | | 1 | 1 | 4 | 20 | | 1 | 0 | 48 | 19 | |
| 36 | | 2 | 13 | 29 | 30 | | 3 | 52 | 49 | 51 | | 5 | 18 | 56 | 25 | | 6 | 30 | 41 | 47 | | 7 | 26 | 58 | 53 | 36 |
| | | 1 | 1 | 45 | 29 | | 1 | 1 | 32 | 49 | | 1 | 1 | 19 | 0 | | 1 | 1 | 4 | 5 | | 1 | 0 | 48 | 2 | |
| 37 | | 3 | 15 | 14 | 59 | | 4 | 54 | 22 | 40 | | 6 | 20 | 15 | 25 | | 7 | 31 | 45 | 52 | | 8 | 27 | 46 | 55 | 37 |
| | | 1 | 1 | 45 | 16 | | 1 | 1 | 32 | 34 | | 1 | 1 | 18 | 45 | | 1 | 1 | 3 | 49 | | 1 | 0 | 47 | 46 | |
| 38 | | 4 | 17 | 0 | 15 | | 5 | 55 | 55 | 14 | | 7 | 21 | 34 | 10 | | 8 | 32 | 49 | 41 | | 9 | 28 | 34 | 41 | 38 |
| | | 1 | 1 | 45 | 5 | | 1 | 1 | 32 | 22 | | 1 | 1 | 18 | 31 | | 1 | 1 | 3 | 34 | | 1 | 0 | 47 | 29 | |
| 39 | | 5 | 18 | 45 | 20 | | 6 | 57 | 27 | 36 | | 8 | 22 | 52 | 41 | | 9 | 33 | 53 | 15 | | 10 | 29 | 22 | 10 | 39 |
| | | 1 | 1 | 44 | 52 | | 1 | 1 | 32 | 8 | | 1 | 1 | 18 | 17 | | 1 | 1 | 3 | 18 | | 1 | 0 | 47 | 13 | |
| 40 | 11 | 6 | 20 | 30 | 12 | 12 | 7 | 58 | 59 | 44 | 13 | 9 | 24 | 10 | 58 | 14 | 10 | 34 | 56 | 33 | 15 | 11 | 30 | 9 | 23 | 40 |
| | | 1 | 1 | 44 | 40 | | 1 | 1 | 31 | 55 | | 1 | 1 | 18 | 3 | | 1 | 1 | 3 | 2 | | 1 | 0 | 46 | 56 | |
| 41 | | 7 | 22 | 14 | 52 | | 9 | 0 | 31 | 39 | | 10 | 25 | 29 | 1 | | 11 | 35 | 59 | 35 | | 12 | 30 | 56 | 19 | 41 |
| | | 1 | 1 | 44 | 28 | | 1 | 1 | 31 | 42 | | 1 | 1 | 17 | 48 | | 1 | 1 | 2 | 47 | | 1 | 0 | 46 | 39 | |
| 42 | | 8 | 23 | 59 | 20 | | 10 | 2 | 3 | 21 | | 11 | 26 | 46 | 49 | | 12 | 37 | 2 | 22 | | 13 | 31 | 42 | 58 | 42 |
| | | 1 | 1 | 44 | 16 | | 1 | 1 | 31 | 28 | | 1 | 1 | 17 | 33 | | 1 | 1 | 2 | 32 | | 1 | 0 | 46 | 22 | |
| 43 | | 9 | 25 | 43 | 36 | | 11 | 3 | 34 | 49 | | 12 | 28 | 4 | 22 | | 13 | 38 | 4 | 54 | | 14 | 32 | 29 | 20 | 43 |
| | | 1 | 1 | 44 | 3 | | 1 | 1 | 31 | 15 | | 1 | 1 | 17 | 19 | | 1 | 1 | 2 | 16 | | 1 | 0 | 46 | 6 | |
| 44 | | 10 | 27 | 27 | 39 | | 12 | 5 | 6 | 4 | | 13 | 29 | 21 | 41 | | 14 | 39 | 7 | 10 | | 15 | 33 | 15 | 26 | 44 |
| | | 1 | 1 | 43 | 51 | | 1 | 1 | 31 | 2 | | 1 | 1 | 17 | 4 | | 1 | 1 | 2 | 0 | | 1 | 0 | 45 | 49 | |
| 45 | | 11 | 29 | 11 | 30 | | 13 | 6 | 37 | 6 | | 14 | 30 | 38 | 45 | | 15 | 40 | 9 | 10 | | 16 | 34 | 1 | 15 | 45 |
| | | 1 | 1 | 43 | 39 | | 1 | 1 | 30 | 48 | | 1 | 1 | 16 | 50 | | 1 | 1 | 1 | 44 | | 1 | 0 | 45 | 32 | |
| 46 | | 12 | 30 | 55 | 9 | | 14 | 8 | 7 | 54 | | 15 | 31 | 55 | 35 | | 16 | 41 | 10 | 54 | | 17 | 34 | 46 | 47 | 46 |
| | | 1 | 1 | 43 | 27 | | 1 | 1 | 30 | 35 | | 1 | 1 | 16 | 36 | | 1 | 1 | 1 | 29 | | 1 | 0 | 45 | 16 | |
| 47 | | 13 | 32 | 38 | 36 | | 15 | 9 | 38 | 29 | | 16 | 33 | 12 | 11 | | 17 | 42 | 12 | 23 | | 18 | 35 | 32 | 3 | 47 |
| | | 1 | 1 | 43 | 14 | | 1 | 1 | 30 | 21 | | 1 | 1 | 16 | 21 | | 1 | 1 | 1 | 14 | | 1 | 0 | 44 | 58 | |
| 48 | | 14 | 34 | 21 | 50 | | 16 | 11 | 8 | 50 | | 17 | 34 | 28 | 32 | | 18 | 43 | 13 | 37 | | 19 | 36 | 17 | 1 | 48 |
| | | 1 | 1 | 43 | 2 | | 1 | 1 | 30 | 8 | | 1 | 1 | 16 | 6 | | 1 | 1 | 0 | 57 | | 1 | 0 | 44 | 42 | |
| 49 | | 15 | 36 | 4 | 52 | | 17 | 12 | 38 | 58 | | 18 | 35 | 44 | 38 | | 19 | 44 | 14 | 34 | | 20 | 37 | 1 | 43 | 49 |
| | | 1 | 1 | 42 | 50 | | 1 | 1 | 29 | 54 | | 1 | 1 | 15 | 52 | | 1 | 1 | 0 | 42 | | 1 | 0 | 44 | 25 | |
| 50 | 11 | 16 | 37 | 47 | 42 | 12 | 18 | 14 | 8 | 52 | 13 | 19 | 37 | 0 | 30 | 14 | 20 | 45 | 15 | 16 | 15 | 21 | 37 | 46 | 8 | 50 |
| | | 1 | 1 | 42 | 37 | | 1 | 1 | 29 | 41 | | 1 | 1 | 15 | 37 | | 1 | 1 | 0 | 26 | | 1 | 0 | 44 | 9 | |
| 51 | | 17 | 39 | 30 | 19 | | 19 | 15 | 38 | 33 | | 20 | 38 | 16 | 7 | | 21 | 46 | 15 | 42 | | 22 | 38 | 30 | 17 | 51 |
| | | 1 | 1 | 42 | 25 | | 1 | 1 | 29 | 27 | | 1 | 1 | 15 | 22 | | 1 | 1 | 0 | 10 | | 1 | 0 | 43 | 51 | |
| 52 | | 18 | 41 | 12 | 44 | | 20 | 17 | 8 | 0 | | 21 | 39 | 31 | 29 | | 22 | 47 | 15 | 52 | | 23 | 39 | 14 | 8 | 52 |
| | | 1 | 1 | 42 | 12 | | 1 | 1 | 29 | 14 | | 1 | 1 | 15 | 8 | | 1 | 0 | 59 | 55 | | 1 | 0 | 43 | 34 | |
| 53 | | 19 | 42 | 54 | 56 | | 21 | 18 | 37 | 14 | | 22 | 40 | 46 | 37 | | 23 | 48 | 15 | 47 | | 24 | 39 | 57 | 42 | 53 |
| | | 1 | 1 | 42 | 0 | | 1 | 1 | 29 | 1 | | 1 | 1 | 14 | 53 | | 1 | 0 | 59 | 39 | | 1 | 0 | 43 | 18 | |
| 54 | | 20 | 44 | 36 | 56 | | 22 | 20 | 6 | 15 | | 23 | 42 | 1 | 30 | | 24 | 49 | 15 | 26 | | 25 | 40 | 41 | 0 | 54 |
| | | 1 | 1 | 41 | 48 | | 1 | 1 | 28 | 46 | | 1 | 1 | 14 | 39 | | 1 | 0 | 59 | 23 | | 1 | 0 | 43 | 1 | |
| 55 | | 21 | 46 | 18 | 44 | | 23 | 21 | 35 | 1 | | 24 | 43 | 16 | 9 | | 25 | 50 | 14 | 49 | | 26 | 41 | 24 | 1 | 55 |
| | | 1 | 1 | 41 | 35 | | 1 | 1 | 28 | 33 | | 1 | 1 | 14 | 23 | | 1 | 0 | 59 | 7 | | 1 | 0 | 42 | 43 | |
| 56 | | 22 | 48 | 0 | 19 | | 24 | 23 | 3 | 34 | | 25 | 44 | 30 | 32 | | 26 | 51 | 13 | 56 | | 27 | 42 | 6 | 44 | 56 |
| | | 1 | 1 | 41 | 23 | | 1 | 1 | 28 | 20 | | 1 | 1 | 14 | 9 | | 1 | 0 | 58 | 51 | | 1 | 0 | 42 | 27 | |
| 57 | | 23 | 49 | 41 | 42 | | 25 | 24 | 31 | 54 | | 26 | 45 | 44 | 41 | | 27 | 52 | 12 | 47 | | 28 | 42 | 49 | 11 | 57 |
| | | 1 | 1 | 41 | 10 | | 1 | 1 | 28 | 6 | | 1 | 1 | 13 | 55 | | 1 | 0 | 58 | 36 | | 1 | 0 | 42 | 10 | |
| 58 | | 24 | 51 | 22 | 52 | | 26 | 26 | 0 | 0 | | 27 | 46 | 58 | 36 | | 28 | 53 | 11 | 23 | | 29 | 43 | 31 | 21 | 58 |
| | | 1 | 1 | 40 | 58 | | 1 | 1 | 27 | 52 | | 1 | 1 | 13 | 39 | | 1 | 0 | 58 | 19 | | 1 | 0 | 41 | 53 | |
| 59 | | 25 | 53 | 3 | 50 | | 27 | 27 | 27 | 52 | | 28 | 48 | 12 | 15 | | 29 | 54 | 9 | 42 | | 30 | 44 | 13 | 14 | 59 |
| | | 1 | 1 | 40 | 45 | | 1 | 1 | 27 | 39 | | 1 | 1 | 13 | 25 | | 1 | 0 | 58 | 4 | | 1 | 0 | 41 | 35 | |
| 60 | 11 | 26 | 54 | 44 | 35 | 12 | 28 | 28 | 55 | 31 | 13 | 29 | 49 | 25 | 40 | 14 | 30 | 55 | 7 | 46 | 15 | 31 | 44 | 54 | 49 | 60 |
| | | 1 | 1 | 40 | 32 | | 1 | 1 | 27 | 25 | | 1 | 1 | 13 | 10 | | 1 | 0 | 57 | 48 | | 1 | 0 | 41 | 19 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 15° | | | | | 16° | | | | | 17° | | | | | 18° | | | | | 19° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 15 | 31 | 44 | 54 | 49 | 16 | 32 | 17 | 40 | 8 | 17 | 32 | 32 | 17 | 18 | 18 | 32 | 27 | 40 | 15 | 19 | 32 | 2 | 43 | 17 | 0 |
| | | 1 | 0 | 41 | 19 | | 1 | 0 | 23 | 43 | | 1 | 0 | 5 | 1 | | | 59 | 45 | 14 | | | 59 | 24 | 20 | |
| 1 | | 32 | 45 | 36 | 8 | | 33 | 18 | 3 | 51 | | 33 | 32 | 22 | 19 | | 33 | 27 | 25 | 29 | | 33 | 2 | 7 | 37 | 1 |
| | | 1 | 0 | 41 | 2 | | 1 | 0 | 23 | 25 | | 1 | 0 | 4 | 42 | | | 59 | 44 | 53 | | | 59 | 24 | 0 | |
| 2 | | 33 | 46 | 17 | 10 | | 34 | 18 | 27 | 16 | | 34 | 32 | 27 | 1 | | 34 | 27 | 10 | 22 | | 34 | 1 | 31 | 37 | 2 |
| | | 1 | 0 | 40 | 45 | | 1 | 0 | 23 | 7 | | 1 | 0 | 4 | 23 | | | 59 | 44 | 33 | | | 59 | 23 | 37 | |
| 3 | | 34 | 46 | 57 | 55 | | 35 | 18 | 50 | 23 | | 35 | 32 | 31 | 24 | | 35 | 26 | 54 | 55 | | 35 | 0 | 55 | 14 | 3 |
| | | 1 | 0 | 40 | 27 | | 1 | 0 | 22 | 49 | | 1 | 0 | 4 | 4 | | | 59 | 44 | 13 | | | 59 | 23 | 16 | |
| 4 | | 35 | 47 | 38 | 22 | | 36 | 19 | 13 | 12 | | 36 | 32 | 35 | 28 | | 36 | 26 | 39 | 8 | | 36 | 0 | 18 | 30 | 4 |
| | | 1 | 0 | 40 | 11 | | 1 | 0 | 22 | 30 | | 1 | 0 | 3 | 44 | | | 59 | 43 | 52 | | | 59 | 22 | 55 | |
| 5 | | 36 | 48 | 18 | 33 | | 37 | 19 | 35 | 42 | | 37 | 32 | 39 | 12 | | 37 | 26 | 23 | 0 | | 36 | 59 | 41 | 25 | 5 |
| | | 1 | 0 | 39 | 53 | | 1 | 0 | 22 | 12 | | 1 | 0 | 3 | 25 | | | 59 | 43 | 32 | | | 59 | 22 | 33 | |
| 6 | | 37 | 48 | 58 | 26 | | 38 | 19 | 57 | 54 | | 38 | 32 | 42 | 37 | | 38 | 26 | 6 | 32 | | 37 | 59 | 3 | 58 | 6 |
| | | 1 | 0 | 39 | 36 | | 1 | 0 | 21 | 54 | | 1 | 0 | 3 | 6 | | | 59 | 43 | 11 | | | 59 | 22 | 12 | |
| 7 | | 38 | 49 | 38 | 2 | | 39 | 20 | 19 | 48 | | 39 | 32 | 45 | 43 | | 39 | 25 | 49 | 43 | | 38 | 58 | 26 | 10 | 7 |
| | | 1 | 0 | 39 | 19 | | 1 | 0 | 21 | 36 | | 1 | 0 | 2 | 46 | | | 59 | 42 | 51 | | | 59 | 21 | 50 | |
| 8 | | 39 | 50 | 17 | 21 | | 40 | 20 | 41 | 24 | | 40 | 32 | 48 | 29 | | 40 | 25 | 32 | 34 | | 39 | 57 | 48 | 0 | 8 |
| | | 1 | 0 | 39 | 2 | | 1 | 0 | 21 | 18 | | 1 | 0 | 2 | 27 | | | 59 | 42 | 30 | | | 59 | 21 | 29 | |
| 9 | | 40 | 50 | 56 | 23 | | 41 | 21 | 2 | 42 | | 41 | 32 | 50 | 56 | | 41 | 25 | 15 | 4 | | 40 | 57 | 9 | 29 | 9 |
| | | 1 | 0 | 38 | 45 | | 1 | 0 | 20 | 59 | | 1 | 0 | 2 | 7 | | | 59 | 42 | 10 | | | 59 | 21 | 6 | |
| 10 | 15 | 41 | 51 | 35 | 8 | 16 | 42 | 21 | 23 | 41 | 17 | 42 | 32 | 53 | 3 | 18 | 42 | 24 | 57 | 14 | 19 | 41 | 56 | 30 | 35 | 10 |
| | | 1 | 0 | 38 | 27 | | 1 | 0 | 20 | 41 | | 1 | 0 | 1 | 48 | | | 59 | 41 | 50 | | | 59 | 20 | 46 | |
| 11 | | 42 | 52 | 13 | 35 | | 43 | 21 | 44 | 22 | | 43 | 32 | 54 | 51 | | 43 | 24 | 39 | 4 | | 42 | 55 | 51 | 21 | 11 |
| | | 1 | 0 | 38 | 10 | | 1 | 0 | 20 | 22 | | 1 | 0 | 1 | 29 | | | 59 | 41 | 29 | | | 59 | 20 | 24 | |
| 12 | | 43 | 52 | 51 | 45 | | 44 | 22 | 4 | 44 | | 44 | 32 | 56 | 20 | | 44 | 24 | 20 | 33 | | 43 | 55 | 11 | 45 | 12 |
| | | 1 | 0 | 37 | 53 | | 1 | 0 | 20 | 4 | | 1 | 0 | 1 | 9 | | | 59 | 41 | 8 | | | 59 | 20 | 2 | |
| 13 | | 44 | 53 | 29 | 38 | | 45 | 22 | 24 | 48 | | 45 | 32 | 57 | 29 | | 45 | 24 | 1 | 41 | | 44 | 54 | 31 | 47 | 13 |
| | | 1 | 0 | 37 | 36 | | 1 | 0 | 19 | 46 | | 1 | 0 | 0 | 50 | | | 59 | 40 | 48 | | | 59 | 19 | 40 | |
| 14 | | 45 | 54 | 7 | 14 | | 46 | 22 | 44 | 34 | | 46 | 32 | 58 | 19 | | 46 | 23 | 42 | 29 | | 45 | 53 | 51 | 27 | 14 |
| | | 1 | 0 | 37 | 18 | | 1 | 0 | 19 | 27 | | 1 | 0 | 0 | 30 | | | 59 | 40 | 27 | | | 59 | 19 | 19 | |
| 15 | | 46 | 54 | 44 | 32 | | 47 | 23 | 4 | 1 | | 47 | 32 | 58 | 49 | | 47 | 23 | 22 | 56 | | 46 | 53 | 10 | 46 | 15 |
| | | 1 | 0 | 37 | 1 | | 1 | 0 | 19 | 9 | | 1 | 0 | 0 | 10 | | | 59 | 40 | 6 | | | 59 | 18 | 57 | |
| 16 | | 47 | 55 | 21 | 33 | | 48 | 23 | 23 | 10 | | 48 | 32 | 58 | 59 | | 48 | 23 | 3 | 2 | | 47 | 52 | 29 | 43 | 16 |
| | | 1 | 0 | 36 | 44 | | 1 | 0 | 18 | 51 | | | 59 | 59 | 51 | | | 59 | 39 | 46 | | | 59 | 18 | 35 | |
| 17 | | 48 | 55 | 58 | 17 | | 49 | 23 | 42 | 1 | | 49 | 32 | 58 | 50 | | 49 | 22 | 42 | 48 | | 48 | 51 | 48 | 18 | 17 |
| | | 1 | 0 | 36 | 27 | | 1 | 0 | 18 | 32 | | | 59 | 59 | 32 | | | 59 | 39 | 26 | | | 59 | 18 | 14 | |
| 18 | | 49 | 56 | 34 | 44 | | 50 | 24 | 0 | 33 | | 50 | 32 | 58 | 22 | | 50 | 22 | 22 | 14 | | 49 | 51 | 6 | 32 | 18 |
| | | 1 | 0 | 36 | 9 | | 1 | 0 | 18 | 13 | | | 59 | 59 | 12 | | | 59 | 39 | 4 | | | 59 | 17 | 52 | |
| 19 | | 50 | 57 | 10 | 53 | | 51 | 24 | 18 | 46 | | 51 | 32 | 57 | 34 | | 51 | 22 | 1 | 18 | | 50 | 50 | 24 | 24 | 19 |
| | | 1 | 0 | 35 | 51 | | 1 | 0 | 17 | 56 | | | 59 | 58 | 53 | | | 59 | 38 | 44 | | | 59 | 17 | 30 | |
| 20 | 15 | 51 | 57 | 46 | 44 | 16 | 52 | 24 | 36 | 42 | 17 | 52 | 32 | 56 | 27 | 18 | 52 | 21 | 40 | 2 | 19 | 51 | 49 | 41 | 54 | 20 |
| | | 1 | 0 | 35 | 35 | | 1 | 0 | 17 | 36 | | | 59 | 58 | 32 | | | 59 | 38 | 24 | | | 59 | 17 | 8 | |
| 21 | | 52 | 58 | 22 | 19 | | 53 | 24 | 54 | 18 | | 53 | 32 | 54 | 59 | | 53 | 21 | 18 | 26 | | 52 | 48 | 59 | 2 | 21 |
| | | 1 | 0 | 35 | 17 | | 1 | 0 | 17 | 18 | | | 59 | 58 | 14 | | | 59 | 38 | 2 | | | 59 | 16 | 47 | |
| 22 | | 53 | 58 | 57 | 36 | | 54 | 25 | 11 | 36 | | 54 | 32 | 53 | 13 | | 54 | 20 | 56 | 28 | | 53 | 48 | 15 | 49 | 22 |
| | | 1 | 0 | 34 | 59 | | 1 | 0 | 17 | 0 | | | 59 | 57 | 53 | | | 59 | 37 | 42 | | | 59 | 16 | 24 | |
| 23 | | 54 | 59 | 32 | 35 | | 55 | 25 | 28 | 36 | | 55 | 32 | 51 | 6 | | 55 | 20 | 34 | 10 | | 54 | 47 | 32 | 13 | 23 |
| | | 1 | 0 | 34 | 42 | | 1 | 0 | 16 | 41 | | | 59 | 57 | 34 | | | 59 | 37 | 21 | | | 59 | 16 | 3 | |
| 24 | | 56 | 0 | 7 | 17 | | 56 | 25 | 45 | 17 | | 56 | 32 | 48 | 40 | | 56 | 20 | 11 | 31 | | 55 | 46 | 48 | 16 | 24 |
| | | 1 | 0 | 34 | 24 | | 1 | 0 | 16 | 22 | | | 59 | 57 | 14 | | | 59 | 37 | 0 | | | 59 | 15 | 41 | |
| 25 | | 57 | 0 | 41 | 41 | | 57 | 26 | 1 | 39 | | 57 | 32 | 45 | 54 | | 57 | 19 | 48 | 31 | | 56 | 46 | 3 | 57 | 25 |
| | | 1 | 0 | 34 | 7 | | 1 | 0 | 16 | 4 | | | 59 | 56 | 55 | | | 59 | 36 | 40 | | | 59 | 15 | 19 | |
| 26 | | 58 | 1 | 15 | 48 | | 58 | 26 | 17 | 43 | | 58 | 32 | 42 | 49 | | 58 | 19 | 25 | 11 | | 57 | 45 | 19 | 16 | 26 |
| | | 1 | 0 | 33 | 50 | | 1 | 0 | 15 | 45 | | | 59 | 56 | 35 | | | 59 | 36 | 19 | | | 59 | 14 | 58 | |
| 27 | | 59 | 1 | 49 | 38 | | 59 | 26 | 33 | 28 | | 59 | 32 | 39 | 24 | | 59 | 19 | 1 | 30 | | 58 | 44 | 34 | 14 | 27 |
| | | 1 | 0 | 33 | 32 | | 1 | 0 | 15 | 27 | | | 59 | 56 | 15 | | | 59 | 35 | 58 | | | 59 | 14 | 35 | |
| 28 | 16 | 0 | 2 | 23 | 10 | 17 | 0 | 26 | 48 | 55 | 18 | 0 | 32 | 35 | 39 | 19 | 0 | 18 | 37 | 28 | | 59 | 43 | 48 | 49 | 28 |
| | | 1 | 0 | 33 | 14 | | 1 | 0 | 15 | 8 | | | 59 | 55 | 55 | | | 59 | 35 | 37 | | | 59 | 14 | 13 | |
| 29 | | 1 | 2 | 56 | 24 | | 1 | 27 | 4 | 3 | | 1 | 32 | 31 | 34 | | 1 | 18 | 13 | 5 | 20 | 0 | 43 | 3 | 2 | 29 |
| | | 1 | 0 | 32 | 57 | | 1 | 0 | 14 | 49 | | | 59 | 55 | 36 | | | 59 | 35 | 16 | | | 59 | 13 | 52 | |
| 30 | 16 | 2 | 3 | 29 | 21 | 17 | 2 | 27 | 18 | 52 | 18 | 2 | 32 | 27 | 10 | 19 | 2 | 17 | 48 | 21 | 20 | 1 | 42 | 16 | 54 | 30 |
| | | 1 | 0 | 32 | 40 | | 1 | 0 | 14 | 31 | | | 59 | 55 | 15 | | | 59 | 34 | 55 | | | 59 | 13 | 29 | |

| ′ | 15° | | | | | 16° | | | | | 17° | | | | | 18° | | | | | 19° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 16 | 2 | 3 | 29 | 21 | 17 | 2 | 27 | 18 | 52 | 18 | 2 | 32 | 27 | 10 | 19 | 2 | 17 | 48 | 21 | 20 | 1 | 42 | 16 | 54 | 30 |
| | | 1 | 0 | 32 | 40 | | 1 | 0 | 14 | 31 | | | 59 | 55 | 15 | | | 59 | 34 | 55 | | | 59 | 13 | 29 | |
| 31 | | 3 | 4 | 2 | 1 | | 3 | 27 | 33 | 23 | | 3 | 32 | 22 | 25 | | 3 | 17 | 23 | 16 | | 2 | 41 | 30 | 23 | 31 |
| | | 1 | 0 | 32 | 21 | | 1 | 0 | 14 | 11 | | | 59 | 54 | 56 | | | 59 | 34 | 35 | | | 59 | 13 | 8 | |
| 32 | | 4 | 4 | 34 | 22 | | 4 | 27 | 47 | 34 | | 4 | 32 | 17 | 21 | | 4 | 16 | 57 | 51 | | 3 | 40 | 43 | 31 | 32 |
| | | 1 | 0 | 32 | 4 | | 1 | 0 | 13 | 54 | | | 59 | 54 | 37 | | | 59 | 34 | 13 | | | 59 | 12 | 45 | |
| 33 | | 5 | 5 | 6 | 26 | | 5 | 28 | 1 | 28 | | 5 | 32 | 11 | 58 | | 5 | 16 | 32 | 4 | | 4 | 39 | 56 | 16 | 33 |
| | | 1 | 0 | 31 | 47 | | 1 | 0 | 13 | 34 | | | 59 | 54 | 16 | | | 59 | 33 | 53 | | | 59 | 12 | 24 | |
| 34 | | 6 | 5 | 38 | 13 | | 6 | 28 | 15 | 2 | | 6 | 32 | 6 | 14 | | 6 | 16 | 5 | 57 | | 5 | 39 | 8 | 40 | 34 |
| | | 1 | 0 | 31 | 28 | | 1 | 0 | 13 | 16 | | | 59 | 53 | 56 | | | 59 | 33 | 31 | | | 59 | 12 | 1 | |
| 35 | | 7 | 6 | 9 | 41 | | 7 | 28 | 28 | 18 | | 7 | 32 | 0 | 10 | | 7 | 15 | 39 | 28 | | 6 | 38 | 20 | 41 | 35 |
| | | 1 | 0 | 31 | 12 | | 1 | 0 | 12 | 56 | | | 59 | 53 | 37 | | | 59 | 33 | 11 | | | 59 | 11 | 40 | |
| 36 | | 8 | 6 | 40 | 53 | | 8 | 28 | 41 | 14 | | 8 | 31 | 53 | 47 | | 8 | 15 | 12 | 39 | | 7 | 37 | 32 | 21 | 36 |
| | | 1 | 0 | 30 | 53 | | 1 | 0 | 12 | 39 | | | 59 | 53 | 17 | | | 59 | 32 | 50 | | | 59 | 11 | 17 | |
| 37 | | 9 | 7 | 11 | 46 | | 9 | 28 | 53 | 53 | | 9 | 31 | 47 | 4 | | 9 | 14 | 45 | 29 | | 8 | 36 | 43 | 38 | 37 |
| | | 1 | 0 | 30 | 36 | | 1 | 0 | 12 | 19 | | | 59 | 52 | 57 | | | 59 | 32 | 28 | | | 59 | 10 | 55 | |
| 38 | | 10 | 7 | 42 | 22 | | 10 | 29 | 6 | 12 | | 10 | 31 | 40 | 1 | | 10 | 14 | 17 | 57 | | 9 | 35 | 54 | 33 | 38 |
| | | 1 | 0 | 30 | 18 | | 1 | 0 | 12 | 0 | | | 59 | 52 | 36 | | | 59 | 32 | 8 | | | 59 | 10 | 33 | |
| 39 | | 11 | 8 | 12 | 40 | | 11 | 29 | 18 | 12 | | 11 | 31 | 32 | 37 | | 11 | 13 | 50 | 5 | | 10 | 35 | 5 | 6 | 39 |
| | | 1 | 0 | 30 | 0 | | 1 | 0 | 11 | 42 | | | 59 | 52 | 17 | | | 59 | 31 | 46 | | | 59 | 10 | 11 | |
| 40 | 16 | 12 | 8 | 42 | 40 | 17 | 12 | 29 | 29 | 54 | 18 | 12 | 31 | 24 | 54 | 19 | 12 | 13 | 21 | 51 | 20 | 11 | 34 | 15 | 17 | 40 |
| | | 1 | 0 | 29 | 42 | | 1 | 0 | 11 | 22 | | | 59 | 51 | 57 | | | 59 | 31 | 26 | | | 59 | 9 | 49 | |
| 41 | | 13 | 9 | 12 | 22 | | 13 | 29 | 41 | 16 | | 13 | 31 | 16 | 51 | | 13 | 12 | 53 | 17 | | 12 | 33 | 25 | 6 | 41 |
| | | 1 | 0 | 29 | 25 | | 1 | 0 | 11 | 4 | | | 59 | 51 | 37 | | | 59 | 31 | 4 | | | 59 | 9 | 27 | |
| 42 | | 14 | 9 | 41 | 47 | | 14 | 29 | 52 | 20 | | 14 | 31 | 8 | 28 | | 14 | 12 | 24 | 21 | | 13 | 32 | 34 | 33 | 42 |
| | | 1 | 0 | 29 | 7 | | 1 | 0 | 10 | 45 | | | 59 | 51 | 17 | | | 59 | 30 | 44 | | | 59 | 9 | 4 | |
| 43 | | 15 | 10 | 10 | 54 | | 15 | 30 | 3 | 5 | | 15 | 30 | 59 | 45 | | 15 | 11 | 55 | 5 | | 14 | 31 | 43 | 37 | 43 |
| | | 1 | 0 | 28 | 49 | | 1 | 0 | 10 | 26 | | | 59 | 50 | 57 | | | 59 | 30 | 22 | | | 59 | 8 | 43 | |
| 44 | | 16 | 10 | 39 | 43 | | 16 | 30 | 13 | 31 | | 16 | 30 | 50 | 42 | | 16 | 11 | 25 | 27 | | 15 | 30 | 52 | 20 | 44 |
| | | 1 | 0 | 28 | 31 | | 1 | 0 | 10 | 7 | | | 59 | 50 | 37 | | | 59 | 30 | 1 | | | 59 | 8 | 20 | |
| 45 | | 17 | 11 | 8 | 14 | | 17 | 30 | 23 | 38 | | 17 | 30 | 41 | 19 | | 17 | 10 | 55 | 28 | | 16 | 30 | 0 | 40 | 45 |
| | | 1 | 0 | 28 | 13 | | 1 | 0 | 9 | 48 | | | 59 | 50 | 17 | | | 59 | 29 | 40 | | | 59 | 7 | 58 | |
| 46 | | 18 | 11 | 36 | 27 | | 18 | 30 | 33 | 26 | | 18 | 30 | 31 | 36 | | 18 | 10 | 25 | 8 | | 17 | 29 | 8 | 38 | 46 |
| | | 1 | 0 | 27 | 56 | | 1 | 0 | 9 | 29 | | | 59 | 49 | 56 | | | 59 | 29 | 19 | | | 59 | 7 | 35 | |
| 47 | | 19 | 12 | 4 | 23 | | 19 | 30 | 42 | 55 | | 19 | 30 | 21 | 32 | | 19 | 9 | 54 | 27 | | 18 | 28 | 16 | 13 | 47 |
| | | 1 | 0 | 27 | 37 | | 1 | 0 | 9 | 10 | | | 59 | 49 | 37 | | | 59 | 28 | 58 | | | 59 | 7 | 14 | |
| 48 | | 20 | 12 | 32 | 0 | | 20 | 30 | 52 | 5 | | 20 | 30 | 11 | 9 | | 20 | 9 | 23 | 25 | | 19 | 27 | 23 | 27 | 48 |
| | | 1 | 0 | 27 | 20 | | 1 | 0 | 8 | 51 | | | 59 | 49 | 17 | | | 59 | 28 | 36 | | | 59 | 6 | 51 | |
| 49 | | 21 | 12 | 59 | 20 | | 21 | 31 | 0 | 56 | | 21 | 30 | 0 | 26 | | 21 | 8 | 52 | 1 | | 20 | 26 | 30 | 18 | 49 |
| | | 1 | 0 | 27 | 1 | | 1 | 0 | 8 | 32 | | | 59 | 48 | 56 | | | 59 | 28 | 15 | | | 59 | 6 | 29 | |
| 50 | 16 | 22 | 13 | 26 | 21 | 17 | 22 | 31 | 9 | 28 | 18 | 22 | 29 | 49 | 22 | 19 | 22 | 8 | 20 | 16 | 20 | 21 | 25 | 36 | 47 | 50 |
| | | 1 | 0 | 26 | 44 | | 1 | 0 | 8 | 13 | | | 59 | 48 | 36 | | | 59 | 27 | 54 | | | 59 | 6 | 6 | |
| 51 | | 23 | 13 | 53 | 5 | | 23 | 31 | 17 | 41 | | 23 | 29 | 37 | 58 | | 23 | 7 | 48 | 10 | | 22 | 24 | 42 | 53 | 51 |
| | | 1 | 0 | 26 | 26 | | 1 | 0 | 7 | 54 | | | 59 | 48 | 16 | | | 59 | 27 | 33 | | | 59 | 5 | 44 | |
| 52 | | 24 | 14 | 19 | 31 | | 24 | 31 | 25 | 35 | | 24 | 29 | 26 | 14 | | 24 | 7 | 15 | 43 | | 23 | 23 | 48 | 37 | 52 |
| | | 1 | 0 | 26 | 8 | | 1 | 0 | 7 | 35 | | | 59 | 47 | 56 | | | 59 | 27 | 11 | | | 59 | 5 | 22 | |
| 53 | | 25 | 14 | 45 | 39 | | 25 | 31 | 33 | 10 | | 25 | 29 | 14 | 10 | | 25 | 6 | 42 | 54 | | 24 | 22 | 53 | 59 | 53 |
| | | 1 | 0 | 25 | 49 | | 1 | 0 | 7 | 16 | | | 59 | 47 | 36 | | | 59 | 26 | 50 | | | 59 | 4 | 59 | |
| 54 | | 26 | 15 | 11 | 28 | | 26 | 31 | 40 | 26 | | 26 | 29 | 1 | 46 | | 26 | 6 | 9 | 44 | | 25 | 21 | 58 | 58 | 54 |
| | | 1 | 0 | 25 | 32 | | 1 | 0 | 6 | 56 | | | 59 | 47 | 15 | | | 59 | 26 | 29 | | | 59 | 4 | 37 | |
| 55 | | 27 | 15 | 37 | 0 | | 27 | 31 | 47 | 22 | | 27 | 28 | 49 | 1 | | 27 | 5 | 36 | 13 | | 26 | 21 | 3 | 35 | 55 |
| | | 1 | 0 | 25 | 14 | | 1 | 0 | 6 | 38 | | | 59 | 46 | 56 | | | 59 | 26 | 8 | | | 59 | 4 | 15 | |
| 56 | | 28 | 16 | 2 | 14 | | 28 | 31 | 54 | 0 | | 28 | 28 | 35 | 57 | | 28 | 5 | 2 | 21 | | 27 | 20 | 7 | 50 | 56 |
| | | 1 | 0 | 24 | 56 | | 1 | 0 | 6 | 18 | | | 59 | 46 | 35 | | | 59 | 25 | 46 | | | 59 | 3 | 52 | |
| 57 | | 29 | 16 | 27 | 10 | | 29 | 32 | 0 | 18 | | 29 | 28 | 22 | 32 | | 29 | 4 | 28 | 7 | | 28 | 19 | 11 | 42 | 57 |
| | | 1 | 0 | 24 | 37 | | 1 | 0 | 5 | 59 | | | 59 | 46 | 14 | | | 59 | 25 | 25 | | | 59 | 3 | 30 | |
| 58 | | 30 | 16 | 51 | 47 | | 30 | 32 | 6 | 17 | | 30 | 28 | 8 | 46 | | 30 | 3 | 53 | 32 | | 29 | 18 | 15 | 12 | 58 |
| | | 1 | 0 | 24 | 20 | | 1 | 0 | 5 | 40 | | | 59 | 45 | 55 | | | 59 | 25 | 3 | | | 59 | 3 | 7 | |
| 59 | | 31 | 17 | 16 | 7 | | 31 | 32 | 11 | 57 | | 31 | 27 | 54 | 41 | | 31 | 3 | 18 | 35 | | 30 | 17 | 18 | 19 | 59 |
| | | 1 | 0 | 24 | 1 | | 1 | 0 | 5 | 21 | | | 59 | 45 | 34 | | | 59 | 24 | 42 | | | 59 | 2 | 44 | |
| 60 | 16 | 32 | 17 | 40 | 8 | 17 | 32 | 32 | 17 | 18 | 18 | 32 | 27 | 40 | 15 | 19 | 32 | 2 | 43 | 17 | 20 | 31 | 16 | 21 | 3 | 60 |
| | | 1 | 0 | 23 | 43 | | 1 | 0 | 5 | 1 | | | 59 | 45 | 14 | | | 59 | 24 | 20 | | | 59 | 2 | 23 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 20° | | | | | 21° | | | | | 22° | | | | | 23° | | | | | 24° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20 | 31 | 16 | 21 | 3 | 21 | 30 | 7 | 28 | 38 | 22 | 28 | 35 | 1 | 27 | 23 | 26 | 37 | 55 | 26 | 24 | 24 | 15 | 6 | 54 | 0 |
| | | | 59 | 2 | 23 | | | 58 | 39 | 19 | | | 58 | 15 | 12 | | | 57 | 50 | 0 | | | 57 | 23 | 45 | |
| 1 | | 32 | 15 | 23 | 26 | | 31 | 6 | 7 | 57 | | 29 | 33 | 16 | 39 | | 27 | 35 | 45 | 26 | | 25 | 12 | 30 | 39 | 1 |
| | | | 59 | 1 | 59 | | | 58 | 38 | 55 | | | 58 | 14 | 47 | | | 57 | 49 | 35 | | | 57 | 23 | 19 | |
| 2 | | 33 | 14 | 25 | 25 | | 32 | 4 | 46 | 52 | | 30 | 31 | 31 | 26 | | 28 | 33 | 35 | 1 | | 26 | 9 | 53 | 58 | 2 |
| | | | 59 | 1 | 37 | | | 58 | 38 | 32 | | | 58 | 14 | 22 | | | 57 | 49 | 9 | | | 57 | 22 | 52 | |
| 3 | | 34 | 13 | 27 | 2 | | 33 | 3 | 25 | 24 | | 31 | 29 | 45 | 48 | | 29 | 31 | 24 | 10 | | 27 | 7 | 16 | 50 | 3 |
| | | | 59 | 1 | 15 | | | 58 | 38 | 8 | | | 58 | 13 | 58 | | | 57 | 48 | 43 | | | 57 | 22 | 26 | |
| 4 | | 35 | 12 | 28 | 17 | | 34 | 2 | 3 | 32 | | 32 | 27 | 59 | 46 | | 30 | 29 | 12 | 53 | | 28 | 4 | 39 | 16 | 4 |
| | | | 59 | 0 | 52 | | | 58 | 37 | 45 | | | 58 | 13 | 33 | | | 57 | 48 | 17 | | | 57 | 21 | 58 | |
| 5 | | 36 | 11 | 29 | 9 | | 35 | 0 | 41 | 17 | | 33 | 26 | 13 | 19 | | 31 | 27 | 1 | 10 | | 29 | 2 | 1 | 14 | 5 |
| | | | 59 | 0 | 30 | | | 58 | 37 | 21 | | | 58 | 13 | 8 | | | 57 | 47 | 52 | | | 57 | 21 | 32 | |
| 6 | | 37 | 10 | 29 | 39 | | 35 | 59 | 18 | 38 | | 34 | 24 | 26 | 27 | | 32 | 24 | 49 | 2 | | 29 | 59 | 22 | 46 | 6 |
| | | | 59 | 0 | 6 | | | 58 | 36 | 57 | | | 58 | 12 | 43 | | | 57 | 47 | 26 | | | 57 | 21 | 5 | |
| 7 | | 38 | 9 | 29 | 45 | | 36 | 57 | 55 | 35 | | 35 | 22 | 39 | 10 | | 33 | 22 | 36 | 28 | | 30 | 56 | 43 | 51 | 7 |
| | | | 58 | 59 | 44 | | | 58 | 36 | 34 | | | 58 | 12 | 19 | | | 57 | 47 | 0 | | | 57 | 20 | 38 | |
| 8 | | 39 | 8 | 29 | 29 | | 37 | 56 | 32 | 9 | | 36 | 20 | 51 | 29 | | 34 | 20 | 23 | 28 | | 31 | 54 | 4 | 29 | 8 |
| | | | 58 | 59 | 22 | | | 58 | 36 | 10 | | | 58 | 11 | 54 | | | 57 | 46 | 34 | | | 57 | 20 | 11 | |
| 9 | | 40 | 7 | 28 | 51 | | 38 | 55 | 8 | 19 | | 37 | 19 | 3 | 23 | | 35 | 18 | 10 | 2 | | 32 | 51 | 24 | 40 | 9 |
| | | | 58 | 58 | 59 | | | 58 | 35 | 46 | | | 58 | 11 | 29 | | | 57 | 46 | 8 | | | 57 | 19 | 44 | |
| 10 | 20 | 41 | 6 | 27 | 50 | 21 | 39 | 53 | 44 | 5 | 22 | 38 | 17 | 14 | 52 | 23 | 36 | 15 | 56 | 10 | 24 | 33 | 48 | 44 | 24 | 10 |
| | | | 58 | 58 | 36 | | | 58 | 35 | 22 | | | 58 | 11 | 4 | | | 57 | 45 | 42 | | | 57 | 19 | 17 | |
| 11 | | 42 | 5 | 26 | 26 | | 40 | 52 | 19 | 27 | | 39 | 15 | 25 | 56 | | 37 | 13 | 41 | 52 | | 34 | 46 | 3 | 41 | 11 |
| | | | 58 | 58 | 14 | | | 58 | 34 | 59 | | | 58 | 10 | 40 | | | 57 | 45 | 17 | | | 57 | 18 | 50 | |
| 12 | | 43 | 4 | 24 | 40 | | 41 | 50 | 54 | 26 | | 40 | 13 | 36 | 36 | | 38 | 11 | 27 | 9 | | 35 | 43 | 22 | 31 | 12 |
| | | | 58 | 57 | 50 | | | 58 | 34 | 34 | | | 58 | 10 | 14 | | | 57 | 44 | 50 | | | 57 | 18 | 23 | |
| 13 | | 44 | 3 | 22 | 30 | | 42 | 49 | 29 | 0 | | 41 | 11 | 46 | 50 | | 39 | 9 | 11 | 59 | | 36 | 40 | 40 | 54 | 13 |
| | | | 58 | 57 | 28 | | | 58 | 34 | 11 | | | 58 | 9 | 50 | | | 57 | 44 | 25 | | | 57 | 17 | 57 | |
| 14 | | 45 | 2 | 19 | 58 | | 43 | 48 | 3 | 11 | | 42 | 9 | 56 | 40 | | 40 | 6 | 56 | 24 | | 37 | 37 | 58 | 51 | 14 |
| | | | 58 | 57 | 6 | | | 58 | 33 | 48 | | | 58 | 9 | 25 | | | 57 | 43 | 59 | | | 57 | 17 | 29 | |
| 15 | | 46 | 1 | 17 | 4 | | 44 | 46 | 36 | 59 | | 43 | 8 | 6 | 5 | | 41 | 4 | 40 | 23 | | 38 | 35 | 16 | 20 | 15 |
| | | | 58 | 56 | 42 | | | 58 | 33 | 23 | | | 58 | 9 | 0 | | | 57 | 43 | 32 | | | 57 | 17 | 2 | |
| 16 | | 47 | 0 | 13 | 46 | | 45 | 45 | 10 | 22 | | 44 | 6 | 15 | 5 | | 42 | 2 | 23 | 55 | | 39 | 32 | 33 | 22 | 16 |
| | | | 58 | 56 | 20 | | | 58 | 32 | 59 | | | 58 | 8 | 35 | | | 57 | 43 | 7 | | | 57 | 16 | 35 | |
| 17 | | 47 | 59 | 10 | 6 | | 46 | 43 | 43 | 21 | | 45 | 4 | 23 | 40 | | 43 | 0 | 7 | 2 | | 40 | 29 | 49 | 57 | 17 |
| | | | 58 | 55 | 57 | | | 58 | 32 | 36 | | | 58 | 8 | 10 | | | 57 | 42 | 41 | | | 57 | 16 | 8 | |
| 18 | | 48 | 58 | 6 | 3 | | 47 | 42 | 15 | 57 | | 46 | 2 | 31 | 50 | | 43 | 57 | 49 | 43 | | 41 | 27 | 6 | 5 | 18 |
| | | | 58 | 55 | 34 | | | 58 | 32 | 11 | | | 58 | 7 | 45 | | | 57 | 42 | 14 | | | 57 | 15 | 41 | |
| 19 | | 49 | 57 | 1 | 37 | | 48 | 40 | 48 | 8 | | 47 | 0 | 39 | 35 | | 44 | 55 | 31 | 57 | | 42 | 24 | 21 | 46 | 19 |
| | | | 58 | 55 | 11 | | | 58 | 31 | 48 | | | 58 | 7 | 20 | | | 57 | 41 | 49 | | | 57 | 15 | 14 | |
| 20 | 20 | 50 | 55 | 56 | 48 | 21 | 49 | 39 | 19 | 56 | 22 | 47 | 58 | 46 | 55 | 23 | 45 | 53 | 13 | 46 | 24 | 43 | 21 | 37 | 0 | 20 |
| | | | 58 | 54 | 48 | | | 58 | 31 | 24 | | | 58 | 6 | 55 | | | 57 | 41 | 23 | | | 57 | 14 | 47 | |
| 21 | | 51 | 54 | 51 | 36 | | 50 | 37 | 51 | 20 | | 48 | 56 | 53 | 50 | | 46 | 50 | 55 | 9 | | 44 | 18 | 51 | 47 | 21 |
| | | | 58 | 54 | 26 | | | 58 | 31 | 0 | | | 58 | 6 | 30 | | | 57 | 40 | 56 | | | 57 | 14 | 20 | |
| 22 | | 52 | 53 | 46 | 2 | | 51 | 36 | 22 | 20 | | 49 | 55 | 0 | 20 | | 47 | 48 | 36 | 5 | | 45 | 16 | 6 | 7 | 22 |
| | | | 58 | 54 | 2 | | | 58 | 30 | 36 | | | 58 | 6 | 5 | | | 57 | 40 | 30 | | | 57 | 13 | 52 | |
| 23 | | 53 | 52 | 40 | 4 | | 52 | 34 | 52 | 56 | | 50 | 53 | 6 | 25 | | 48 | 46 | 16 | 35 | | 46 | 13 | 19 | 59 | 23 |
| | | | 58 | 53 | 40 | | | 58 | 30 | 12 | | | 58 | 5 | 40 | | | 57 | 40 | 5 | | | 57 | 13 | 26 | |
| 24 | | 54 | 51 | 33 | 44 | | 53 | 33 | 23 | 8 | | 51 | 51 | 12 | 5 | | 49 | 43 | 56 | 40 | | 47 | 10 | 33 | 25 | 24 |
| | | | 58 | 53 | 17 | | | 58 | 29 | 47 | | | 58 | 5 | 14 | | | 57 | 39 | 38 | | | 57 | 12 | 58 | |
| 25 | | 55 | 50 | 27 | 1 | | 54 | 31 | 52 | 55 | | 52 | 49 | 17 | 19 | | 50 | 41 | 36 | 18 | | 48 | 7 | 46 | 23 | 25 |
| | | | 58 | 52 | 53 | | | 58 | 29 | 24 | | | 58 | 4 | 50 | | | 57 | 39 | 12 | | | 57 | 12 | 31 | |
| 26 | | 56 | 49 | 19 | 54 | | 55 | 30 | 22 | 19 | | 53 | 47 | 22 | 9 | | 51 | 39 | 15 | 30 | | 49 | 4 | 58 | 54 | 26 |
| | | | 58 | 52 | 31 | | | 58 | 29 | 0 | | | 58 | 4 | 25 | | | 57 | 38 | 46 | | | 57 | 12 | 4 | |
| 27 | | 57 | 48 | 12 | 25 | | 56 | 28 | 51 | 19 | | 54 | 45 | 26 | 34 | | 52 | 36 | 54 | 16 | | 50 | 2 | 10 | 58 | 27 |
| | | | 58 | 52 | 8 | | | 58 | 28 | 36 | | | 58 | 3 | 59 | | | 57 | 38 | 19 | | | 57 | 11 | 36 | |
| 28 | | 58 | 47 | 4 | 33 | | 57 | 27 | 19 | 55 | | 55 | 43 | 30 | 33 | | 53 | 34 | 32 | 35 | | 50 | 59 | 22 | 34 | 28 |
| | | | 58 | 51 | 45 | | | 58 | 28 | 11 | | | 58 | 3 | 35 | | | 57 | 37 | 54 | | | 57 | 11 | 9 | |
| 29 | | 59 | 45 | 56 | 18 | | 58 | 25 | 48 | 6 | | 56 | 41 | 34 | 8 | | 54 | 32 | 10 | 29 | | 51 | 56 | 33 | 43 | 29 |
| | | | 58 | 51 | 22 | | | 58 | 27 | 48 | | | 58 | 3 | 9 | | | 57 | 37 | 27 | | | 57 | 10 | 42 | |
| 30 | 21 | 0 | 44 | 47 | 40 | 21 | 59 | 24 | 15 | 54 | 22 | 57 | 39 | 37 | 17 | 23 | 55 | 29 | 47 | 56 | 24 | 52 | 53 | 44 | 25 | 30 |
| | | | 58 | 50 | 58 | | | 58 | 27 | 23 | | | 58 | 2 | 44 | | | 57 | 37 | 1 | | | 57 | 10 | 15 | |

| ′ | 20° | | | | | 21° | | | | | 22° | | | | | 23° | | | | | 24° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 21 | 0 | 44 | 47 | 40 | 21 | 59 | 24 | 15 | 54 | 22 | 57 | 39 | 37 | 17 | 23 | 55 | 29 | 47 | 56 | 24 | 52 | 53 | 44 | 25 | 30 |
| | | | 58 | 50 | 58 | | | 58 | 27 | 23 | | | 58 | 2 | 44 | | | 57 | 37 | 1 | | | 57 | 10 | 15 | |
| 31 | | 1 | 43 | 38 | 38 | 22 | 0 | 22 | 43 | 17 | | 58 | 37 | 40 | 1 | | 56 | 27 | 24 | 57 | | 53 | 50 | 54 | 40 | 31 |
| | | | 58 | 50 | 36 | | | 58 | 27 | 0 | | | 58 | 2 | 19 | | | 57 | 36 | 35 | | | 57 | 9 | 48 | |
| 32 | | 2 | 42 | 29 | 14 | | 1 | 21 | 10 | 17 | | 59 | 35 | 42 | 20 | | 57 | 25 | 1 | 32 | | 54 | 48 | 4 | 28 | 32 |
| | | | 58 | 50 | 13 | | | 58 | 26 | 35 | | | 58 | 1 | 54 | | | 57 | 36 | 8 | | | 57 | 9 | 20 | |
| 33 | | 3 | 41 | 19 | 27 | | 2 | 19 | 36 | 52 | 23 | 0 | 33 | 44 | 14 | | 58 | 22 | 37 | 40 | | 55 | 45 | 13 | 48 | 33 |
| | | | 58 | 49 | 49 | | | 58 | 26 | 11 | | | 58 | 1 | 28 | | | 57 | 35 | 42 | | | 57 | 8 | 53 | |
| 34 | | 4 | 40 | 9 | 16 | | 3 | 18 | 3 | 3 | | 1 | 31 | 45 | 42 | | 59 | 20 | 13 | 22 | | 56 | 42 | 22 | 41 | 34 |
| | | | 58 | 49 | 27 | | | 58 | 25 | 47 | | | 58 | 1 | 3 | | | 57 | 35 | 16 | | | 57 | 8 | 25 | |
| 35 | | 5 | 38 | 58 | 43 | | 4 | 16 | 28 | 50 | | 2 | 29 | 46 | 45 | 24 | 0 | 17 | 48 | 38 | | 57 | 39 | 31 | 6 | 35 |
| | | | 58 | 49 | 3 | | | 58 | 25 | 22 | | | 58 | 0 | 38 | | | 57 | 34 | 50 | | | 57 | 7 | 58 | |
| 36 | | 6 | 37 | 47 | 46 | | 5 | 14 | 54 | 12 | | 3 | 27 | 47 | 23 | | 1 | 15 | 23 | 28 | | 58 | 36 | 39 | 4 | 36 |
| | | | 58 | 48 | 40 | | | 58 | 24 | 59 | | | 58 | 0 | 12 | | | 57 | 34 | 23 | | | 57 | 7 | 31 | |
| 37 | | 7 | 36 | 36 | 26 | | 6 | 13 | 19 | 11 | | 4 | 25 | 47 | 35 | | 2 | 12 | 57 | 51 | | 59 | 33 | 46 | 35 | 37 |
| | | | 58 | 48 | 17 | | | 58 | 24 | 34 | | | 57 | 59 | 48 | | | 57 | 33 | 57 | | | 57 | 7 | 3 | |
| 38 | | 8 | 35 | 24 | 43 | | 7 | 11 | 43 | 45 | | 5 | 23 | 47 | 23 | | 3 | 10 | 31 | 48 | 25 | 0 | 30 | 53 | 38 | 38 |
| | | | 58 | 47 | 54 | | | 58 | 24 | 10 | | | 57 | 59 | 22 | | | 57 | 33 | 30 | | | 57 | 6 | 36 | |
| 39 | | 9 | 34 | 12 | 37 | | 8 | 10 | 7 | 55 | | 6 | 21 | 46 | 45 | | 4 | 8 | 5 | 18 | | 1 | 28 | 0 | 14 | 39 |
| | | | 58 | 47 | 30 | | | 58 | 23 | 45 | | | 57 | 58 | 56 | | | 57 | 33 | 4 | | | 57 | 6 | 8 | |
| 40 | 21 | 10 | 33 | 0 | 7 | 22 | 9 | 8 | 31 | 40 | 23 | 7 | 19 | 45 | 41 | 24 | 5 | 5 | 38 | 22 | 25 | 2 | 25 | 6 | 22 | 40 |
| | | | 58 | 47 | 7 | | | 58 | 23 | 21 | | | 57 | 58 | 32 | | | 57 | 32 | 38 | | | 57 | 5 | 41 | |
| 41 | | 11 | 31 | 47 | 14 | | 10 | 6 | 55 | 1 | | 8 | 17 | 44 | 13 | | 6 | 3 | 11 | 0 | | 3 | 22 | 12 | 3 | 41 |
| | | | 58 | 46 | 45 | | | 58 | 22 | 57 | | | 57 | 58 | 6 | | | 57 | 32 | 11 | | | 57 | 5 | 14 | |
| 42 | | 12 | 30 | 33 | 59 | | 11 | 5 | 17 | 58 | | 9 | 15 | 42 | 19 | | 7 | 0 | 43 | 11 | | 4 | 19 | 17 | 17 | 42 |
| | | | 58 | 46 | 20 | | | 58 | 22 | 33 | | | 57 | 57 | 40 | | | 57 | 31 | 45 | | | 57 | 4 | 46 | |
| 43 | | 13 | 29 | 20 | 19 | | 12 | 3 | 40 | 31 | | 10 | 13 | 39 | 59 | | 7 | 58 | 14 | 56 | | 5 | 16 | 22 | 3 | 43 |
| | | | 58 | 45 | 58 | | | 58 | 22 | 8 | | | 57 | 57 | 15 | | | 57 | 31 | 18 | | | 57 | 4 | 18 | |
| 44 | | 14 | 28 | 6 | 17 | | 13 | 2 | 2 | 39 | | 11 | 11 | 37 | 14 | | 8 | 55 | 46 | 14 | | 6 | 13 | 26 | 21 | 44 |
| | | | 58 | 45 | 34 | | | 58 | 21 | 44 | | | 57 | 56 | 50 | | | 57 | 30 | 52 | | | 57 | 3 | 51 | |
| 45 | | 15 | 26 | 51 | 51 | | 14 | 0 | 24 | 23 | | 12 | 9 | 34 | 4 | | 9 | 53 | 17 | 6 | | 7 | 10 | 30 | 12 | 45 |
| | | | 58 | 45 | 11 | | | 58 | 21 | 20 | | | 57 | 56 | 24 | | | 57 | 30 | 25 | | | 57 | 3 | 23 | |
| 46 | | 16 | 25 | 37 | 2 | | 14 | 58 | 45 | 43 | | 13 | 7 | 30 | 28 | | 10 | 50 | 47 | 31 | | 8 | 7 | 33 | 35 | 46 |
| | | | 58 | 44 | 48 | | | 58 | 20 | 55 | | | 57 | 55 | 59 | | | 57 | 29 | 59 | | | 57 | 2 | 56 | |
| 47 | | 17 | 24 | 21 | 50 | | 15 | 57 | 6 | 38 | | 14 | 5 | 26 | 27 | | 11 | 48 | 17 | 30 | | 9 | 4 | 36 | 31 | 47 |
| | | | 58 | 44 | 24 | | | 58 | 20 | 31 | | | 57 | 55 | 33 | | | 57 | 29 | 32 | | | 57 | 2 | 28 | |
| 48 | | 18 | 23 | 6 | 14 | | 16 | 55 | 27 | 9 | | 15 | 3 | 22 | 0 | | 12 | 45 | 47 | 2 | | 10 | 1 | 38 | 59 | 48 |
| | | | 58 | 44 | 1 | | | 58 | 20 | 6 | | | 57 | 55 | 8 | | | 57 | 29 | 6 | | | 57 | 2 | 1 | |
| 49 | | 19 | 21 | 50 | 15 | | 17 | 53 | 47 | 15 | | 16 | 1 | 17 | 8 | | 13 | 43 | 16 | 8 | | 10 | 58 | 41 | 0 | 49 |
| | | | 58 | 43 | 37 | | | 58 | 19 | 42 | | | 57 | 54 | 42 | | | 57 | 28 | 39 | | | 57 | 1 | 33 | |
| 50 | 21 | 20 | 20 | 33 | 52 | 22 | 18 | 52 | 6 | 57 | 23 | 16 | 59 | 11 | 50 | 24 | 14 | 40 | 44 | 47 | 25 | 11 | 55 | 42 | 33 | 50 |
| | | | 58 | 43 | 15 | | | 58 | 19 | 18 | | | 57 | 54 | 17 | | | 57 | 28 | 13 | | | 57 | 1 | 5 | |
| 51 | | 21 | 19 | 17 | 7 | | 19 | 50 | 26 | 15 | | 17 | 57 | 6 | 7 | | 15 | 38 | 13 | 0 | | 12 | 52 | 43 | 38 | 51 |
| | | | 58 | 42 | 50 | | | 58 | 18 | 52 | | | 57 | 53 | 51 | | | 57 | 27 | 46 | | | 57 | 0 | 38 | |
| 52 | | 22 | 17 | 59 | 57 | | 20 | 48 | 45 | 7 | | 18 | 54 | 59 | 58 | | 16 | 35 | 40 | 46 | | 13 | 49 | 44 | 16 | 52 |
| | | | 58 | 42 | 27 | | | 58 | 18 | 29 | | | 57 | 53 | 26 | | | 57 | 27 | 19 | | | 57 | 0 | 10 | |
| 53 | | 23 | 16 | 42 | 24 | | 21 | 47 | 3 | 36 | | 19 | 52 | 53 | 24 | | 17 | 33 | 8 | 5 | | 14 | 46 | 44 | 26 | 53 |
| | | | 58 | 42 | 4 | | | 58 | 18 | 4 | | | 57 | 53 | 0 | | | 57 | 26 | 53 | | | 56 | 59 | 42 | |
| 54 | | 24 | 15 | 24 | 28 | | 22 | 45 | 21 | 40 | | 20 | 50 | 46 | 24 | | 18 | 30 | 34 | 58 | | 15 | 43 | 44 | 8 | 54 |
| | | | 58 | 41 | 41 | | | 58 | 17 | 39 | | | 57 | 52 | 34 | | | 57 | 26 | 26 | | | 56 | 59 | 15 | |
| 55 | | 25 | 14 | 6 | 9 | | 23 | 43 | 39 | 19 | | 21 | 48 | 38 | 58 | | 19 | 28 | 1 | 24 | | 16 | 40 | 43 | 23 | 55 |
| | | | 58 | 41 | 16 | | | 58 | 17 | 15 | | | 57 | 52 | 9 | | | 57 | 25 | 59 | | | 56 | 58 | 47 | |
| 56 | | 26 | 12 | 47 | 25 | | 24 | 41 | 56 | 34 | | 22 | 46 | 31 | 7 | | 20 | 25 | 27 | 23 | | 17 | 37 | 42 | 10 | 56 |
| | | | 58 | 40 | 54 | | | 58 | 16 | 50 | | | 57 | 51 | 43 | | | 57 | 25 | 33 | | | 56 | 58 | 19 | |
| 57 | | 27 | 11 | 28 | 19 | | 25 | 40 | 13 | 24 | | 23 | 44 | 22 | 50 | | 21 | 22 | 52 | 56 | | 18 | 34 | 40 | 29 | 57 |
| | | | 58 | 40 | 30 | | | 58 | 16 | 26 | | | 57 | 51 | 18 | | | 57 | 25 | 6 | | | 56 | 57 | 52 | |
| 58 | | 28 | 10 | 8 | 49 | | 26 | 38 | 29 | 50 | | 24 | 42 | 14 | 8 | | 22 | 20 | 18 | 2 | | 19 | 31 | 38 | 21 | 58 |
| | | | 58 | 40 | 6 | | | 58 | 16 | 1 | | | 57 | 50 | 51 | | | 57 | 24 | 39 | | | 56 | 57 | 23 | |
| 59 | | 29 | 8 | 48 | 55 | | 27 | 36 | 45 | 51 | | 25 | 40 | 4 | 59 | | 23 | 17 | 42 | 41 | | 20 | 28 | 35 | 44 | 59 |
| | | | 58 | 39 | 43 | | | 58 | 15 | 36 | | | 57 | 50 | 27 | | | 57 | 24 | 13 | | | 56 | 56 | 56 | |
| 60 | 21 | 30 | 7 | 28 | 38 | 22 | 28 | 35 | 1 | 27 | 23 | 26 | 37 | 55 | 26 | 24 | 24 | 15 | 6 | 54 | 25 | 21 | 25 | 32 | 40 | 60 |
| | | | 58 | 39 | 19 | | | 58 | 15 | 12 | | | 57 | 50 | 0 | | | 57 | 23 | 45 | | | 56 | 56 | 28 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 25° | | | | | 26° | | | | | 27° | | | | | 28° | | | | | 29° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 25 | 21 | 25<br>56 | 32<br>56 | 40<br>28 | 26 | 18 | 8<br>56 | 10<br>28 | 4<br>8 | 27 | 14 | 21<br>55 | 56<br>58 | 53<br>46 | 28 | 10 | 5<br>55 | 51<br>28 | 27<br>23 | 29 | 5 | 18<br>54 | 52<br>56 | 41<br>58 | 0 |
| 1 | | 22 | 22<br>56 | 29<br>56 | 8<br>1 | | 19 | 4<br>56 | 38<br>27 | 12<br>39 | | 15 | 17<br>55 | 55<br>58 | 39<br>16 | | 11 | 1<br>55 | 19<br>27 | 50<br>52 | | 6 | 13<br>54 | 49<br>56 | 39<br>27 | 1 |
| 2 | | 23 | 19<br>56 | 25<br>55 | 9<br>32 | | 20 | 1<br>56 | 5<br>27 | 51<br>10 | | 16 | 13<br>55 | 53<br>57 | 55<br>46 | | 11 | 56<br>55 | 47<br>27 | 42<br>20 | | 7 | 8<br>54 | 46<br>55 | 6<br>54 | 2 |
| 3 | | 24 | 16<br>56 | 20<br>55 | 41<br>5 | | 20 | 57<br>56 | 33<br>26 | 1<br>42 | | 17 | 9<br>55 | 51<br>57 | 41<br>16 | | 12 | 52<br>55 | 15<br>26 | 2<br>50 | | 8 | 3<br>54 | 42<br>55 | 0<br>23 | 3 |
| 4 | | 25 | 13<br>56 | 15<br>54 | 46<br>36 | | 21 | 53<br>56 | 59<br>26 | 43<br>12 | | 18 | 5<br>55 | 48<br>56 | 57<br>46 | | 13 | 47<br>55 | 41<br>26 | 52<br>19 | | 8 | 58<br>54 | 37<br>54 | 23<br>50 | 4 |
| 5 | | 26 | 10<br>56 | 10<br>54 | 22<br>9 | | 22 | 50<br>56 | 25<br>25 | 55<br>43 | | 19 | 1<br>55 | 45<br>56 | 43<br>17 | | 14 | 43<br>55 | 8<br>25 | 11<br>48 | | 9 | 53<br>54 | 32<br>54 | 13<br>19 | 5 |
| 6 | | 27 | 7<br>56 | 4<br>53 | 31<br>41 | | 23 | 46<br>56 | 51<br>25 | 38<br>15 | | 19 | 57<br>55 | 42<br>55 | 0<br>46 | | 15 | 38<br>55 | 33<br>25 | 59<br>17 | | 10 | 48<br>54 | 26<br>53 | 32<br>46 | 6 |
| 7 | | 28 | 3<br>56 | 58<br>53 | 12<br>13 | | 24 | 43<br>56 | 16<br>24 | 53<br>46 | | 20 | 53<br>55 | 37<br>55 | 46<br>17 | | 16 | 33<br>55 | 59<br>24 | 16<br>46 | | 11 | 43<br>54 | 20<br>53 | 18<br>15 | 7 |
| 8 | | 29 | 0<br>56 | 51<br>52 | 25<br>45 | | 25 | 39<br>56 | 41<br>24 | 39<br>16 | | 21 | 49<br>55 | 33<br>54 | 3<br>46 | | 17 | 29<br>55 | 24<br>24 | 2<br>14 | | 12 | 38<br>54 | 13<br>52 | 33<br>43 | 8 |
| 9 | | 29 | 57<br>56 | 44<br>52 | 10<br>17 | | 26 | 36<br>56 | 5<br>23 | 55<br>48 | | 22 | 45<br>55 | 27<br>54 | 49<br>16 | | 18 | 24<br>55 | 48<br>23 | 16<br>44 | | 13 | 33<br>54 | 6<br>52 | 16<br>10 | 9 |
| 10 | 25 | 30 | 54<br>56 | 36<br>51 | 27<br>49 | 26 | 27 | 32<br>56 | 29<br>23 | 43<br>19 | 27 | 23 | 41<br>55 | 22<br>53 | 5<br>47 | 28 | 19 | 20<br>55 | 12<br>23 | 0<br>13 | 29 | 14 | 27<br>54 | 58<br>51 | 26<br>39 | 10 |
| 11 | | 31 | 51<br>56 | 28<br>51 | 16<br>21 | | 28 | 28<br>56 | 53<br>22 | 2<br>49 | | 24 | 37<br>55 | 15<br>53 | 52<br>16 | | 20 | 15<br>55 | 35<br>22 | 13<br>42 | | 15 | 22<br>54 | 50<br>51 | 5<br>6 | 11 |
| 12 | | 32 | 48<br>56 | 19<br>50 | 37<br>53 | | 29 | 25<br>56 | 15<br>22 | 51<br>21 | | 25 | 33<br>55 | 9<br>52 | 8<br>46 | | 21 | 10<br>55 | 57<br>22 | 55<br>10 | | 16 | 17<br>54 | 41<br>50 | 11<br>34 | 12 |
| 13 | | 33 | 45<br>56 | 10<br>50 | 30<br>25 | | 30 | 21<br>56 | 38<br>21 | 12<br>51 | | 26 | 29<br>55 | 1<br>52 | 54<br>16 | | 22 | 6<br>55 | 20<br>21 | 5<br>40 | | 17 | 12<br>54 | 31<br>50 | 45<br>2 | 13 |
| 14 | | 34 | 42<br>56 | 0<br>49 | 55<br>57 | | 31 | 18<br>56 | 0<br>21 | 3<br>23 | | 27 | 24<br>55 | 54<br>51 | 10<br>46 | | 23 | 1<br>55 | 41<br>21 | 45<br>8 | | 18 | 7<br>54 | 21<br>49 | 47<br>30 | 14 |
| 15 | | 35 | 38<br>56 | 50<br>49 | 52<br>29 | | 32 | 14<br>56 | 21<br>20 | 26<br>53 | | 28 | 20<br>55 | 45<br>51 | 56<br>16 | | 23 | 57<br>55 | 2<br>20 | 53<br>37 | | 19 | 2<br>54 | 11<br>48 | 17<br>58 | 15 |
| 16 | | 36 | 35<br>56 | 40<br>49 | 21<br>1 | | 33 | 10<br>56 | 42<br>20 | 19<br>24 | | 29 | 16<br>55 | 37<br>50 | 12<br>46 | | 24 | 52<br>55 | 23<br>20 | 30<br>6 | | 19 | 57<br>54 | 0<br>48 | 15<br>26 | 16 |
| 17 | | 37 | 32<br>56 | 29<br>48 | 22<br>33 | | 34 | 7<br>56 | 2<br>19 | 43<br>55 | | 30 | 12<br>55 | 27<br>50 | 58<br>16 | | 25 | 47<br>55 | 43<br>19 | 36<br>35 | | 20 | 51<br>54 | 48<br>47 | 41<br>53 | 17 |
| 18 | | 38 | 29<br>56 | 17<br>48 | 55<br>4 | | 35 | 3<br>56 | 22<br>19 | 38<br>26 | | 31 | 8<br>55 | 18<br>49 | 14<br>45 | | 26 | 43<br>55 | 3<br>19 | 11<br>4 | | 21 | 46<br>54 | 36<br>47 | 34<br>22 | 18 |
| 19 | | 39 | 26<br>56 | 5<br>47 | 59<br>37 | | 35 | 59<br>56 | 42<br>18 | 4<br>57 | | 32 | 4<br>55 | 7<br>49 | 59<br>15 | | 27 | 38<br>55 | 22<br>18 | 15<br>33 | | 22 | 41<br>54 | 23<br>46 | 56<br>49 | 19 |
| 20 | 25 | 40 | 22<br>56 | 53<br>47 | 36<br>8 | 26 | 36 | 56<br>56 | 1<br>18 | 1<br>27 | 27 | 32 | 59<br>55 | 57<br>48 | 14<br>45 | 28 | 28 | 33<br>55 | 40<br>18 | 48<br>1 | 29 | 23 | 36<br>54 | 10<br>46 | 45<br>17 | 20 |
| 21 | | 41 | 19<br>56 | 40<br>46 | 44<br>40 | | 37 | 52<br>56 | 19<br>17 | 28<br>58 | | 33 | 55<br>55 | 45<br>48 | 59<br>15 | | 29 | 28<br>55 | 58<br>17 | 49<br>30 | | 24 | 30<br>54 | 57<br>45 | 2<br>44 | 21 |
| 22 | | 42 | 16<br>56 | 27<br>46 | 24<br>12 | | 38 | 48<br>56 | 37<br>17 | 26<br>29 | | 34 | 51<br>55 | 34<br>47 | 14<br>44 | | 30 | 24<br>55 | 16<br>16 | 19<br>59 | | 25 | 25<br>54 | 42<br>45 | 46<br>13 | 22 |
| 23 | | 43 | 13<br>56 | 13<br>45 | 36<br>44 | | 39 | 44<br>56 | 54<br>17 | 55<br>0 | | 35 | 47<br>55 | 21<br>47 | 58<br>15 | | 31 | 19<br>55 | 33<br>16 | 18<br>27 | | 26 | 20<br>54 | 27<br>44 | 59<br>40 | 23 |
| 24 | | 44 | 9<br>56 | 59<br>45 | 20<br>15 | | 40 | 41<br>56 | 11<br>16 | 55<br>31 | | 36 | 43<br>55 | 9<br>46 | 13<br>44 | | 32 | 14<br>55 | 49<br>15 | 45<br>56 | | 27 | 15<br>54 | 12<br>44 | 39<br>8 | 24 |
| 25 | | 45 | 6<br>56 | 44<br>44 | 35<br>48 | | 41 | 37<br>56 | 28<br>16 | 26<br>1 | | 37 | 38<br>55 | 55<br>46 | 57<br>13 | | 33 | 10<br>55 | 5<br>15 | 41<br>25 | | 28 | 9<br>54 | 56<br>43 | 47<br>35 | 25 |
| 26 | | 46 | 3<br>56 | 29<br>44 | 23<br>19 | | 42 | 33<br>56 | 44<br>15 | 27<br>32 | | 38 | 34<br>55 | 42<br>45 | 10<br>44 | | 34 | 5<br>55 | 21<br>14 | 6<br>54 | | 29 | 4<br>54 | 40<br>43 | 22<br>3 | 26 |
| 27 | | 47 | 0<br>56 | 13<br>43 | 42<br>50 | | 43 | 29<br>56 | 59<br>15 | 59<br>3 | | 39 | 30<br>55 | 27<br>45 | 54<br>13 | | 35 | 0<br>55 | 36<br>14 | 0<br>22 | | 29 | 59<br>54 | 23<br>42 | 25<br>31 | 27 |
| 28 | | 47 | 56<br>56 | 57<br>43 | 32<br>23 | | 44 | 26<br>56 | 15<br>14 | 2<br>33 | | 40 | 26<br>55 | 13<br>44 | 7<br>42 | | 35 | 55<br>55 | 50<br>13 | 22<br>51 | | 30 | 54<br>54 | 5<br>41 | 56<br>58 | 28 |
| 29 | | 48 | 53<br>56 | 40<br>42 | 55<br>54 | | 45 | 22<br>56 | 29<br>14 | 35<br>4 | | 41 | 21<br>55 | 57<br>44 | 49<br>13 | | 36 | 51<br>55 | 4<br>13 | 13<br>19 | | 31 | 48<br>54 | 47<br>41 | 54<br>26 | 29 |
| 30 | 25 | 49 | 50<br>56 | 23<br>42 | 49<br>26 | 26 | 46 | 18<br>56 | 43<br>13 | 39<br>35 | 27 | 42 | 17<br>55 | 42<br>43 | 2<br>42 | 28 | 37 | 46<br>55 | 17<br>12 | 32<br>48 | 29 | 32 | 43<br>54 | 29<br>40 | 20<br>54 | 30 |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 25° | | | | | 26° | | | | | 27° | | | | | 28° | | | | | 29° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 25 | 49 | 50<br>56 | 23<br>42 | 49<br>26 | 26 | 46 | 18<br>56 | 43<br>13 | 39<br>35 | 27 | 42 | 17<br>55 | 42<br>43 | 2<br>42 | 28 | 37 | 46<br>55 | 17<br>12 | 32<br>48 | 29 | 32 | 43<br>54 | 29<br>40 | 20<br>54 | 30 |
| 31 | | 50 | 47<br>56 | 6<br>41 | 15<br>57 | | 47 | 14<br>56 | 57<br>13 | 14<br>6 | | 43 | 13<br>55 | 25<br>43 | 44<br>11 | | 38 | 41<br>55 | 30<br>12 | 20<br>17 | | 33 | 38<br>54 | 10<br>40 | 14<br>21 | 31 |
| 32 | | 51 | 43<br>56 | 48<br>41 | 12<br>29 | | 48 | 11<br>56 | 10<br>12 | 20<br>35 | | 44 | 9<br>55 | 8<br>42 | 55<br>41 | | 39 | 36<br>55 | 42<br>11 | 37<br>45 | | 34 | 32<br>54 | 50<br>39 | 35<br>49 | 32 |
| 33 | | 52 | 40<br>56 | 29<br>41 | 41<br>1 | | 49 | 7<br>56 | 22<br>12 | 55<br>7 | | 45 | 4<br>55 | 51<br>42 | 36<br>11 | | 40 | 31<br>55 | 54<br>11 | 22<br>14 | | 35 | 27<br>54 | 30<br>39 | 24<br>16 | 33 |
| 34 | | 53 | 37<br>56 | 10<br>40 | 42<br>32 | | 50 | 3<br>56 | 35<br>11 | 2<br>37 | | 46 | 0<br>55 | 33<br>41 | 47<br>40 | | 41 | 27<br>55 | 5<br>10 | 36<br>42 | | 36 | 22<br>54 | 9<br>38 | 40<br>44 | 34 |
| 35 | | 54 | 33<br>56 | 51<br>40 | 14<br>4 | | 50 | 59<br>56 | 46<br>11 | 39<br>8 | | 46 | 56<br>55 | 15<br>41 | 27<br>10 | | 42 | 22<br>55 | 16<br>10 | 18<br>11 | | 37 | 16<br>54 | 48<br>38 | 24<br>11 | 35 |
| 36 | | 55 | 30<br>56 | 31<br>39 | 18<br>36 | | 51 | 55<br>56 | 57<br>10 | 47<br>38 | | 47 | 51<br>55 | 56<br>40 | 37<br>39 | | 43 | 17<br>55 | 26<br>9 | 29<br>39 | | 38 | 11<br>54 | 26<br>37 | 35<br>39 | 36 |
| 37 | | 56 | 27<br>56 | 10<br>39 | 54<br>7 | | 52 | 52<br>56 | 8<br>10 | 25<br>9 | | 48 | 47<br>55 | 37<br>40 | 16<br>9 | | 44 | 12<br>55 | 36<br>9 | 8<br>8 | | 39 | 6<br>54 | 4<br>37 | 14<br>7 | 37 |
| 38 | | 57 | 23<br>56 | 50<br>38 | 1<br>38 | | 53 | 48<br>56 | 18<br>9 | 34<br>39 | | 49 | 43<br>55 | 17<br>39 | 25<br>38 | | 45 | 7<br>55 | 45<br>8 | 16<br>36 | | 40 | 0<br>54 | 41<br>36 | 21<br>33 | 38 |
| 39 | | 58 | 20<br>56 | 28<br>38 | 39<br>10 | | 54 | 44<br>56 | 28<br>9 | 13<br>10 | | 50 | 38<br>55 | 57<br>39 | 3<br>8 | | 46 | 2<br>55 | 53<br>8 | 52<br>5 | | 40 | 55<br>54 | 17<br>36 | 54<br>2 | 39 |
| 40 | 25 | 59 | 17<br>56 | 6<br>37 | 49<br>42 | 26 | 55 | 40<br>56 | 37<br>8 | 23<br>40 | 27 | 51 | 34<br>55 | 36<br>38 | 11<br>37 | 28 | 46 | 58<br>55 | 1<br>7 | 57<br>33 | 29 | 41 | 49<br>54 | 53<br>35 | 56<br>28 | 40 |
| 41 | 26 | 0 | 13<br>56 | 44<br>37 | 31<br>13 | | 56 | 36<br>56 | 46<br>8 | 3<br>10 | | 52 | 30<br>55 | 14<br>38 | 48<br>7 | | 47 | 53<br>55 | 9<br>7 | 30<br>2 | | 42 | 44<br>54 | 29<br>34 | 24<br>57 | 41 |
| 42 | | 1 | 10<br>56 | 21<br>36 | 44<br>45 | | 57 | 32<br>56 | 54<br>7 | 13<br>41 | | 53 | 25<br>55 | 52<br>37 | 55<br>36 | | 48 | 48<br>55 | 16<br>6 | 32<br>30 | | 43 | 39<br>54 | 4<br>34 | 21<br>23 | 42 |
| 43 | | 2 | 6<br>56 | 58<br>36 | 29<br>16 | | 58 | 29<br>56 | 1<br>7 | 54<br>12 | | 54 | 21<br>55 | 30<br>37 | 31<br>5 | | 49 | 43<br>55 | 23<br>5 | 2<br>58 | | 44 | 33<br>54 | 38<br>33 | 44<br>51 | 43 |
| 44 | | 3 | 3<br>56 | 34<br>35 | 45<br>47 | | 59 | 25<br>56 | 9<br>6 | 6<br>42 | | 55 | 17<br>55 | 7<br>36 | 36<br>35 | | 50 | 38<br>55 | 29<br>5 | 0<br>27 | | 45 | 28<br>54 | 12<br>33 | 35<br>18 | 44 |
| 45 | | 4 | 0<br>56 | 10<br>35 | 32<br>19 | 27 | 0 | 21<br>56 | 15<br>6 | 48<br>12 | | 56 | 12<br>55 | 44<br>36 | 11<br>4 | | 51 | 33<br>55 | 34<br>4 | 27<br>55 | | 46 | 22<br>54 | 45<br>32 | 53<br>46 | 45 |
| 46 | | 4 | 56<br>56 | 45<br>34 | 51<br>50 | | 1 | 17<br>56 | 22<br>5 | 0<br>43 | | 57 | 8<br>55 | 20<br>35 | 15<br>34 | | 52 | 28<br>55 | 39<br>4 | 22<br>23 | | 47 | 17<br>54 | 18<br>32 | 39<br>13 | 46 |
| 47 | | 5 | 53<br>56 | 20<br>34 | 41<br>22 | | 2 | 13<br>56 | 27<br>5 | 43<br>13 | | 58 | 3<br>55 | 55<br>35 | 49<br>3 | | 53 | 23<br>55 | 43<br>3 | 45<br>52 | | 48 | 11<br>54 | 50<br>31 | 52<br>40 | 47 |
| 48 | | 6 | 49<br>56 | 55<br>33 | 3<br>53 | | 3 | 9<br>56 | 32<br>4 | 56<br>43 | | 58 | 59<br>55 | 30<br>34 | 52<br>32 | | 54 | 18<br>55 | 47<br>3 | 37<br>20 | | 49 | 6<br>54 | 22<br>31 | 32<br>8 | 48 |
| 49 | | 7 | 46<br>56 | 28<br>33 | 56<br>24 | | 4 | 5<br>56 | 37<br>4 | 39<br>14 | | 59 | 55<br>55 | 5<br>34 | 24<br>1 | | 55 | 13<br>55 | 50<br>2 | 57<br>48 | | 50 | 0<br>54 | 53<br>30 | 40<br>35 | 49 |
| 50 | 26 | 8 | 43<br>56 | 2<br>32 | 20<br>56 | 27 | 5 | 1<br>56 | 41<br>3 | 53<br>44 | 28 | 0 | 50<br>55 | 39<br>33 | 25<br>31 | 28 | 56 | 8<br>55 | 53<br>2 | 45<br>17 | 29 | 50 | 55<br>54 | 24<br>30 | 15<br>2 | 50 |
| 51 | | 9 | 39<br>56 | 35<br>32 | 16<br>27 | | 5 | 57<br>56 | 45<br>3 | 37<br>14 | | 1 | 46<br>55 | 12<br>33 | 56<br>0 | | 57 | 3<br>55 | 56<br>1 | 2<br>45 | | 51 | 49<br>54 | 54<br>29 | 17<br>29 | 51 |
| 52 | | 10 | 36<br>56 | 7<br>31 | 43<br>58 | | 6 | 53<br>56 | 48<br>2 | 51<br>44 | | 2 | 41<br>55 | 45<br>32 | 56<br>29 | | 57 | 58<br>55 | 57<br>1 | 47<br>13 | | 52 | 44<br>54 | 23<br>28 | 46<br>57 | 52 |
| 53 | | 11 | 32<br>56 | 39<br>31 | 41<br>30 | | 7 | 49<br>56 | 51<br>2 | 35<br>15 | | 3 | 37<br>55 | 18<br>31 | 25<br>59 | | 58 | 53<br>55 | 59<br>0 | 0<br>41 | | 53 | 38<br>54 | 52<br>28 | 43<br>23 | 53 |
| 54 | | 12 | 29<br>56 | 11<br>31 | 11<br>0 | | 8 | 45<br>56 | 53<br>1 | 50<br>45 | | 4 | 32<br>55 | 50<br>31 | 24<br>27 | | 59 | 48<br>55 | 59<br>0 | 41<br>10 | | 54 | 33<br>54 | 21<br>27 | 6<br>51 | 54 |
| 55 | | 13 | 25<br>56 | 42<br>30 | 11<br>32 | | 9 | 41<br>56 | 55<br>1 | 35<br>15 | | 5 | 28<br>55 | 21<br>30 | 51<br>57 | 29 | 0 | 43<br>54 | 59<br>59 | 51<br>37 | | 55 | 27<br>54 | 48<br>27 | 57<br>19 | 55 |
| 56 | | 14 | 22<br>56 | 12<br>30 | 43<br>4 | | 10 | 37<br>56 | 56<br>0 | 50<br>45 | | 6 | 23<br>55 | 52<br>30 | 48<br>26 | | 1 | 38<br>54 | 59<br>59 | 28<br>6 | | 56 | 22<br>54 | 16<br>26 | 16<br>45 | 56 |
| 57 | | 15 | 18<br>56 | 42<br>29 | 47<br>34 | | 11 | 33<br>56 | 57<br>0 | 35<br>16 | | 7 | 19<br>55 | 23<br>29 | 14<br>55 | | 2 | 33<br>54 | 58<br>58 | 34<br>34 | | 57 | 16<br>54 | 43<br>26 | 1<br>13 | 57 |
| 58 | | 16 | 15<br>56 | 12<br>29 | 21<br>6 | | 12 | 29<br>55 | 57<br>59 | 51<br>46 | | 8 | 14<br>55 | 53<br>29 | 9<br>25 | | 3 | 28<br>54 | 57<br>58 | 8<br>2 | | 58 | 11<br>54 | 9<br>25 | 14<br>39 | 58 |
| 59 | | 17 | 11<br>56 | 41<br>28 | 27<br>37 | | 13 | 25<br>55 | 57<br>59 | 37<br>16 | | 9 | 10<br>55 | 22<br>28 | 34<br>53 | | 4 | 23<br>54 | 55<br>57 | 10<br>31 | | 59 | 5<br>54 | 34<br>25 | 53<br>7 | 59 |
| 60 | 26 | 18 | 8<br>56 | 10<br>28 | 4<br>8 | 27 | 14 | 21<br>55 | 56<br>58 | 53<br>46 | 28 | 10 | 5<br>55 | 51<br>28 | 27<br>23 | 29 | 5 | 18<br>54 | 52<br>56 | 41<br>58 | 30 | 0 | 0<br>54 | 0<br>24 | 0<br>34 | 60 |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 30° | | | | | 31° | | | | | 32° | | | | | 33° | | | | | 34° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 30 | 0 | 0 | 0 | 0 | 30 | 54 | 8 | 13 | 27 | 31 | 47 | 42 | 33 | 40 | 32 | 40 | 42 | 1 | 54 | 33 | 33 | 5 | 40 | 2 | 0 |
| | | | 54 | 24 | 34 | | | 53 | 51 | 10 | | | 53 | 16 | 46 | | | 52 | 41 | 25 | | | 52 | 5 | 5 | |
| 1 | | 0 | 54 | 24 | 34 | | 55 | 2 | 4 | 37 | | 48 | 35 | 50 | 26 | | 41 | 34 | 43 | 19 | | 33 | 57 | 45 | 7 | 1 |
| | | | 54 | 24 | 1 | | | 53 | 50 | 36 | | | 53 | 16 | 12 | | | 52 | 40 | 49 | | | 52 | 4 | 29 | |
| 2 | | 1 | 48 | 48 | 35 | | 55 | 55 | 55 | 13 | | 49 | 29 | 6 | 38 | | 42 | 27 | 24 | 8 | | 34 | 49 | 49 | 36 | 2 |
| | | | 54 | 23 | 28 | | | 53 | 50 | 2 | | | 53 | 15 | 37 | | | 52 | 40 | 13 | | | 52 | 3 | 52 | |
| 3 | | 2 | 43 | 12 | 3 | | 56 | 49 | 45 | 15 | | 50 | 22 | 22 | 15 | | 43 | 20 | 4 | 21 | | 35 | 41 | 53 | 28 | 3 |
| | | | 54 | 22 | 55 | | | 53 | 49 | 27 | | | 53 | 15 | 2 | | | 52 | 39 | 37 | | | 52 | 3 | 15 | |
| 4 | | 3 | 37 | 34 | 58 | | 57 | 43 | 34 | 42 | | 51 | 15 | 37 | 17 | | 44 | 12 | 43 | 58 | | 36 | 33 | 56 | 43 | 4 |
| | | | 54 | 22 | 22 | | | 53 | 48 | 54 | | | 53 | 14 | 26 | | | 52 | 39 | 1 | | | 52 | 2 | 38 | |
| 5 | | 4 | 31 | 57 | 20 | | 58 | 37 | 23 | 36 | | 52 | 8 | 51 | 43 | | 45 | 5 | 22 | 59 | | 37 | 25 | 59 | 21 | 5 |
| | | | 54 | 21 | 49 | | | 53 | 48 | 21 | | | 53 | 13 | 52 | | | 52 | 38 | 26 | | | 52 | 2 | 1 | |
| 6 | | 5 | 26 | 19 | 9 | | 59 | 31 | 11 | 57 | | 53 | 2 | 5 | 35 | | 45 | 58 | 1 | 25 | | 38 | 18 | 1 | 22 | 6 |
| | | | 54 | 21 | 16 | | | 53 | 47 | 46 | | | 53 | 13 | 17 | | | 52 | 37 | 49 | | | 52 | 1 | 25 | |
| 7 | | 6 | 20 | 40 | 25 | 31 | 0 | 24 | 59 | 43 | | 53 | 55 | 18 | 52 | | 46 | 50 | 39 | 14 | | 39 | 10 | 2 | 47 | 7 |
| | | | 54 | 20 | 43 | | | 53 | 47 | 12 | | | 53 | 12 | 42 | | | 52 | 37 | 14 | | | 52 | 0 | 47 | |
| 8 | | 7 | 15 | 1 | 8 | | 1 | 18 | 46 | 55 | | 54 | 48 | 31 | 34 | | 47 | 43 | 16 | 28 | | 40 | 2 | 3 | 34 | 8 |
| | | | 54 | 20 | 11 | | | 53 | 46 | 38 | | | 53 | 12 | 7 | | | 52 | 36 | 38 | | | 52 | 0 | 11 | |
| 9 | | 8 | 9 | 21 | 19 | | 2 | 12 | 33 | 33 | | 55 | 41 | 43 | 41 | | 48 | 35 | 53 | 6 | | 40 | 54 | 3 | 45 | 9 |
| | | | 54 | 19 | 37 | | | 53 | 46 | 4 | | | 53 | 11 | 32 | | | 52 | 36 | 1 | | | 51 | 59 | 33 | |
| 10 | 30 | 9 | 3 | 40 | 56 | 31 | 3 | 6 | 19 | 37 | 31 | 56 | 34 | 55 | 13 | 32 | 49 | 28 | 29 | 7 | 33 | 41 | 46 | 3 | 18 | 10 |
| | | | 54 | 19 | 4 | | | 53 | 45 | 30 | | | 53 | 10 | 57 | | | 52 | 35 | 26 | | | 51 | 58 | 57 | |
| 11 | | 9 | 58 | 0 | 0 | | 4 | 0 | 5 | 7 | | 57 | 28 | 6 | 10 | | 50 | 21 | 4 | 33 | | 42 | 38 | 2 | 15 | 11 |
| | | | 54 | 18 | 30 | | | 53 | 44 | 55 | | | 53 | 10 | 22 | | | 52 | 34 | 50 | | | 51 | 58 | 20 | |
| 12 | | 10 | 52 | 18 | 30 | | 4 | 53 | 50 | 2 | | 58 | 21 | 16 | 32 | | 51 | 13 | 39 | 23 | | 43 | 30 | 0 | 35 | 12 |
| | | | 54 | 17 | 58 | | | 53 | 44 | 22 | | | 53 | 9 | 47 | | | 52 | 34 | 13 | | | 51 | 57 | 42 | |
| 13 | | 11 | 46 | 36 | 28 | | 5 | 47 | 34 | 24 | | 59 | 14 | 26 | 19 | | 52 | 6 | 13 | 36 | | 44 | 21 | 58 | 17 | 13 |
| | | | 54 | 17 | 25 | | | 53 | 43 | 48 | | | 53 | 9 | 12 | | | 52 | 33 | 38 | | | 51 | 57 | 6 | |
| 14 | | 12 | 40 | 53 | 53 | | 6 | 41 | 18 | 12 | 32 | 0 | 7 | 35 | 31 | | 52 | 58 | 47 | 14 | | 45 | 13 | 55 | 23 | 14 |
| | | | 54 | 16 | 52 | | | 53 | 43 | 14 | | | 53 | 8 | 37 | | | 52 | 33 | 1 | | | 51 | 56 | 29 | |
| 15 | | 13 | 35 | 10 | 45 | | 7 | 35 | 1 | 26 | | 1 | 0 | 44 | 8 | | 53 | 51 | 20 | 15 | | 46 | 5 | 51 | 52 | 15 |
| | | | 54 | 16 | 18 | | | 53 | 42 | 39 | | | 53 | 8 | 1 | | | 52 | 32 | 26 | | | 51 | 55 | 51 | |
| 16 | | 14 | 29 | 27 | 3 | | 8 | 28 | 44 | 5 | | 1 | 53 | 52 | 9 | | 54 | 43 | 52 | 41 | | 46 | 57 | 47 | 43 | 16 |
| | | | 54 | 15 | 45 | | | 53 | 42 | 5 | | | 53 | 7 | 27 | | | 52 | 31 | 49 | | | 51 | 55 | 15 | |
| 17 | | 15 | 23 | 42 | 48 | | 9 | 22 | 26 | 10 | | 2 | 46 | 59 | 36 | | 55 | 36 | 24 | 30 | | 47 | 49 | 42 | 58 | 17 |
| | | | 54 | 15 | 12 | | | 53 | 41 | 31 | | | 53 | 6 | 51 | | | 52 | 31 | 13 | | | 51 | 54 | 38 | |
| 18 | | 16 | 17 | 58 | 0 | | 10 | 16 | 7 | 41 | | 3 | 40 | 6 | 27 | | 56 | 28 | 55 | 43 | | 48 | 41 | 37 | 36 | 18 |
| | | | 54 | 14 | 39 | | | 53 | 40 | 57 | | | 53 | 6 | 16 | | | 52 | 30 | 37 | | | 51 | 54 | 0 | |
| 19 | | 17 | 12 | 12 | 39 | | 11 | 9 | 48 | 38 | | 4 | 33 | 12 | 43 | | 57 | 21 | 26 | 20 | | 49 | 33 | 31 | 36 | 19 |
| | | | 54 | 14 | 6 | | | 53 | 40 | 23 | | | 53 | 5 | 41 | | | 52 | 30 | 1 | | | 51 | 53 | 24 | |
| 20 | 30 | 18 | 6 | 26 | 45 | 31 | 12 | 3 | 29 | 1 | 32 | 5 | 26 | 18 | 24 | 32 | 58 | 13 | 56 | 21 | 33 | 50 | 25 | 25 | 0 | 20 |
| | | | 54 | 13 | 32 | | | 53 | 39 | 49 | | | 53 | 5 | 6 | | | 52 | 29 | 25 | | | 51 | 52 | 46 | |
| 21 | | 19 | 0 | 40 | 17 | | 12 | 57 | 8 | 50 | | 6 | 19 | 23 | 30 | | 59 | 6 | 25 | 46 | | 51 | 17 | 17 | 46 | 21 |
| | | | 54 | 12 | 59 | | | 53 | 39 | 14 | | | 53 | 4 | 30 | | | 52 | 28 | 49 | | | 51 | 52 | 9 | |
| 22 | | 19 | 54 | 53 | 16 | | 13 | 50 | 48 | 4 | | 7 | 12 | 28 | 0 | | 59 | 58 | 54 | 35 | | 52 | 9 | 9 | 55 | 22 |
| | | | 54 | 12 | 26 | | | 53 | 38 | 40 | | | 53 | 3 | 56 | | | 52 | 28 | 12 | | | 51 | 51 | 32 | |
| 23 | | 20 | 49 | 5 | 42 | | 14 | 44 | 26 | 44 | | 8 | 5 | 31 | 56 | 33 | 0 | 51 | 22 | 47 | | 53 | 1 | 1 | 27 | 23 |
| | | | 54 | 11 | 53 | | | 53 | 38 | 6 | | | 53 | 3 | 20 | | | 52 | 27 | 36 | | | 51 | 50 | 55 | |
| 24 | | 21 | 43 | 17 | 35 | | 15 | 38 | 4 | 50 | | 8 | 58 | 35 | 16 | | 1 | 43 | 50 | 23 | | 53 | 52 | 52 | 22 | 24 |
| | | | 54 | 11 | 19 | | | 53 | 37 | 31 | | | 53 | 2 | 45 | | | 52 | 27 | 1 | | | 51 | 50 | 18 | |
| 25 | | 22 | 37 | 28 | 54 | | 16 | 31 | 42 | 21 | | 9 | 51 | 38 | 1 | | 2 | 36 | 17 | 24 | | 54 | 44 | 42 | 40 | 25 |
| | | | 54 | 10 | 46 | | | 53 | 36 | 57 | | | 53 | 2 | 9 | | | 52 | 26 | 23 | | | 51 | 49 | 40 | |
| 26 | | 23 | 31 | 39 | 40 | | 17 | 25 | 19 | 18 | | 10 | 44 | 40 | 10 | | 3 | 28 | 43 | 47 | | 55 | 36 | 32 | 20 | 26 |
| | | | 54 | 10 | 13 | | | 53 | 36 | 23 | | | 53 | 1 | 34 | | | 52 | 25 | 48 | | | 51 | 49 | 3 | |
| 27 | | 24 | 25 | 49 | 53 | | 18 | 18 | 55 | 41 | | 11 | 37 | 41 | 44 | | 4 | 21 | 9 | 35 | | 56 | 28 | 21 | 23 | 27 |
| | | | 54 | 9 | 39 | | | 53 | 35 | 49 | | | 53 | 0 | 59 | | | 52 | 25 | 11 | | | 51 | 48 | 26 | |
| 28 | | 25 | 19 | 59 | 32 | | 19 | 12 | 31 | 30 | | 12 | 30 | 42 | 43 | | 5 | 13 | 34 | 46 | | 57 | 20 | 9 | 49 | 28 |
| | | | 54 | 9 | 6 | | | 53 | 35 | 14 | | | 53 | 0 | 24 | | | 52 | 24 | 35 | | | 51 | 47 | 49 | |
| 29 | | 26 | 14 | 8 | 38 | | 20 | 6 | 6 | 44 | | 13 | 23 | 43 | 7 | | 6 | 5 | 59 | 21 | | 58 | 11 | 57 | 38 | 29 |
| | | | 54 | 8 | 33 | | | 53 | 34 | 40 | | | 52 | 59 | 48 | | | 52 | 23 | 59 | | | 51 | 47 | 12 | |
| 30 | 30 | 27 | 8 | 17 | 11 | 31 | 20 | 59 | 41 | 24 | 32 | 14 | 16 | 42 | 55 | 33 | 6 | 58 | 23 | 20 | 33 | 59 | 3 | 44 | 50 | 30 |
| | | | 54 | 7 | 59 | | | 53 | 34 | 5 | | | 52 | 59 | 13 | | | 52 | 23 | 22 | | | 51 | 46 | 34 | |

| ′ | 30° | | | | | 31° | | | | | 32° | | | | | 33° | | | | | 34° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 30 | 27 | 8 | 17 | 11 | 31 | 20 | 59 | 41 | 24 | 32 | 14 | 16 | 42 | 55 | 33 | 6 | 58 | 23 | 20 | 33 | 59 | 3 | 44 | 50 | 30 |
| | | | 54 | 7 | 59 | | | 53 | 34 | 5 | | | 52 | 59 | 13 | | | 52 | 23 | 22 | | | 51 | 46 | 34 | |
| 31 | | 28 | 2 | 25 | 10 | | 21 | 53 | 15 | 29 | | 15 | 9 | 42 | 8 | | 7 | 50 | 46 | 42 | | 59 | 55 | 31 | 24 | 31 |
| | | | 54 | 7 | 26 | | | 53 | 33 | 31 | | | 52 | 58 | 38 | | | 52 | 22 | 46 | | | 51 | 45 | 57 | |
| 32 | | 28 | 56 | 32 | 36 | | 22 | 46 | 49 | 0 | | 16 | 2 | 40 | 46 | | 8 | 43 | 9 | 28 | 34 | 0 | 47 | 17 | 21 | 32 |
| | | | 54 | 6 | 52 | | | 53 | 32 | 57 | | | 52 | 58 | 2 | | | 52 | 22 | 10 | | | 51 | 45 | 20 | |
| 33 | | 29 | 50 | 39 | 28 | | 23 | 40 | 21 | 57 | | 16 | 55 | 38 | 48 | | 9 | 35 | 31 | 38 | | 1 | 39 | 2 | 41 | 33 |
| | | | 54 | 6 | 19 | | | 53 | 32 | 22 | | | 52 | 57 | 27 | | | 52 | 21 | 33 | | | 51 | 44 | 42 | |
| 34 | | 30 | 44 | 45 | 47 | | 24 | 33 | 54 | 19 | | 17 | 48 | 36 | 15 | | 10 | 27 | 53 | 11 | | 2 | 30 | 47 | 23 | 34 |
| | | | 54 | 5 | 46 | | | 53 | 31 | 48 | | | 52 | 56 | 51 | | | 52 | 20 | 57 | | | 51 | 44 | 5 | |
| 35 | | 31 | 38 | 51 | 33 | | 25 | 27 | 26 | 7 | | 18 | 41 | 33 | 6 | | 11 | 20 | 14 | 8 | | 3 | 22 | 31 | 28 | 35 |
| | | | 54 | 5 | 12 | | | 53 | 31 | 13 | | | 52 | 56 | 16 | | | 52 | 20 | 21 | | | 51 | 43 | 28 | |
| 36 | | 32 | 32 | 56 | 45 | | 26 | 20 | 57 | 20 | | 19 | 34 | 29 | 22 | | 12 | 12 | 34 | 29 | | 4 | 14 | 14 | 56 | 36 |
| | | | 54 | 4 | 38 | | | 53 | 30 | 39 | | | 52 | 55 | 41 | | | 52 | 19 | 44 | | | 51 | 42 | 51 | |
| 37 | | 33 | 27 | 1 | 23 | | 27 | 14 | 27 | 59 | | 20 | 27 | 25 | 3 | | 13 | 4 | 54 | 13 | | 5 | 5 | 57 | 47 | 37 |
| | | | 54 | 4 | 5 | | | 53 | 30 | 5 | | | 52 | 55 | 5 | | | 52 | 19 | 8 | | | 51 | 42 | 13 | |
| 38 | | 34 | 21 | 5 | 28 | | 28 | 7 | 58 | 4 | | 21 | 20 | 20 | 8 | | 13 | 57 | 13 | 21 | | 5 | 57 | 40 | 0 | 38 |
| | | | 54 | 3 | 32 | | | 53 | 29 | 30 | | | 52 | 54 | 30 | | | 52 | 18 | 31 | | | 51 | 41 | 35 | |
| 39 | | 35 | 15 | 9 | 0 | | 29 | 1 | 27 | 34 | | 22 | 13 | 14 | 38 | | 14 | 49 | 31 | 52 | | 6 | 49 | 21 | 35 | 39 |
| | | | 54 | 2 | 58 | | | 53 | 28 | 55 | | | 52 | 53 | 54 | | | 52 | 17 | 55 | | | 51 | 40 | 58 | |
| 40 | 30 | 36 | 9 | 11 | 58 | 31 | 29 | 54 | 56 | 29 | 32 | 23 | 6 | 8 | 32 | 33 | 15 | 41 | 49 | 47 | 34 | 7 | 41 | 2 | 33 | 40 |
| | | | 54 | 2 | 24 | | | 53 | 28 | 21 | | | 52 | 53 | 18 | | | 52 | 17 | 18 | | | 51 | 40 | 21 | |
| 41 | | 37 | 3 | 14 | 22 | | 30 | 48 | 24 | 50 | | 23 | 59 | 1 | 50 | | 16 | 34 | 7 | 5 | | 8 | 32 | 42 | 54 | 41 |
| | | | 54 | 1 | 51 | | | 53 | 27 | 46 | | | 52 | 52 | 43 | | | 52 | 16 | 42 | | | 51 | 39 | 43 | |
| 42 | | 37 | 57 | 16 | 13 | | 31 | 41 | 52 | 36 | | 24 | 51 | 54 | 33 | | 17 | 26 | 23 | 47 | | 9 | 24 | 22 | 37 | 42 |
| | | | 54 | 1 | 17 | | | 53 | 27 | 12 | | | 52 | 52 | 8 | | | 52 | 16 | 5 | | | 51 | 39 | 6 | |
| 43 | | 38 | 51 | 17 | 30 | | 32 | 35 | 19 | 48 | | 25 | 44 | 46 | 41 | | 18 | 18 | 39 | 52 | | 10 | 16 | 1 | 43 | 43 |
| | | | 54 | 0 | 44 | | | 53 | 26 | 37 | | | 52 | 51 | 32 | | | 52 | 15 | 29 | | | 51 | 38 | 29 | |
| 44 | | 39 | 45 | 18 | 14 | | 33 | 28 | 46 | 25 | | 26 | 37 | 38 | 13 | | 19 | 10 | 55 | 21 | | 11 | 7 | 40 | 12 | 44 |
| | | | 54 | 0 | 10 | | | 53 | 26 | 2 | | | 52 | 50 | 56 | | | 52 | 14 | 52 | | | 51 | 37 | 51 | |
| 45 | | 40 | 39 | 18 | 24 | | 34 | 22 | 12 | 27 | | 27 | 30 | 29 | 9 | | 20 | 3 | 10 | 13 | | 11 | 59 | 18 | 3 | 45 |
| | | | 53 | 59 | 36 | | | 53 | 25 | 28 | | | 52 | 50 | 21 | | | 52 | 14 | 16 | | | 51 | 37 | 13 | |
| 46 | | 41 | 33 | 18 | 0 | | 35 | 15 | 37 | 55 | | 28 | 23 | 19 | 30 | | 20 | 55 | 24 | 29 | | 12 | 50 | 55 | 16 | 46 |
| | | | 53 | 59 | 3 | | | 53 | 24 | 53 | | | 52 | 49 | 45 | | | 52 | 13 | 39 | | | 51 | 36 | 36 | |
| 47 | | 42 | 27 | 17 | 3 | | 36 | 9 | 2 | 48 | | 29 | 16 | 9 | 15 | | 21 | 47 | 38 | 8 | | 13 | 42 | 31 | 52 | 47 |
| | | | 53 | 58 | 29 | | | 53 | 24 | 19 | | | 52 | 49 | 9 | | | 52 | 13 | 3 | | | 51 | 35 | 58 | |
| 48 | | 43 | 21 | 15 | 32 | | 37 | 2 | 27 | 7 | | 30 | 8 | 58 | 24 | | 22 | 39 | 51 | 11 | | 14 | 34 | 7 | 50 | 48 |
| | | | 53 | 57 | 55 | | | 53 | 23 | 43 | | | 52 | 48 | 34 | | | 52 | 12 | 26 | | | 51 | 35 | 21 | |
| 49 | | 44 | 15 | 13 | 27 | | 37 | 55 | 50 | 50 | | 31 | 1 | 46 | 58 | | 23 | 32 | 3 | 37 | | 15 | 25 | 43 | 11 | 49 |
| | | | 53 | 57 | 22 | | | 53 | 23 | 10 | | | 52 | 47 | 58 | | | 52 | 11 | 49 | | | 51 | 34 | 43 | |
| 50 | 30 | 45 | 9 | 10 | 49 | 31 | 38 | 49 | 14 | 0 | 32 | 31 | 54 | 34 | 56 | 33 | 24 | 24 | 15 | 26 | 34 | 16 | 17 | 17 | 54 | 50 |
| | | | 53 | 56 | 47 | | | 53 | 22 | 34 | | | 52 | 47 | 23 | | | 52 | 11 | 13 | | | 51 | 34 | 6 | |
| 51 | | 46 | 3 | 7 | 36 | | 39 | 42 | 36 | 34 | | 32 | 47 | 22 | 19 | | 25 | 16 | 26 | 39 | | 17 | 8 | 52 | 0 | 51 |
| | | | 53 | 56 | 15 | | | 53 | 22 | 0 | | | 52 | 46 | 47 | | | 52 | 10 | 36 | | | 51 | 33 | 28 | |
| 52 | | 46 | 57 | 3 | 51 | | 40 | 35 | 58 | 34 | | 33 | 40 | 9 | 6 | | 26 | 8 | 37 | 15 | | 18 | 0 | 25 | 28 | 52 |
| | | | 53 | 55 | 40 | | | 53 | 21 | 25 | | | 52 | 46 | 11 | | | 52 | 9 | 59 | | | 51 | 32 | 50 | |
| 53 | | 47 | 50 | 59 | 31 | | 41 | 29 | 19 | 59 | | 34 | 32 | 55 | 17 | | 27 | 0 | 47 | 14 | | 18 | 51 | 58 | 18 | 53 |
| | | | 53 | 55 | 7 | | | 53 | 20 | 50 | | | 52 | 45 | 35 | | | 52 | 9 | 23 | | | 51 | 32 | 13 | |
| 54 | | 48 | 44 | 54 | 38 | | 42 | 22 | 40 | 49 | | 35 | 25 | 40 | 52 | | 27 | 52 | 56 | 37 | | 19 | 43 | 30 | 31 | 54 |
| | | | 53 | 54 | 32 | | | 53 | 20 | 16 | | | 52 | 45 | 0 | | | 52 | 8 | 46 | | | 51 | 31 | 35 | |
| 55 | | 49 | 38 | 49 | 10 | | 43 | 16 | 1 | 5 | | 36 | 18 | 25 | 52 | | 28 | 45 | 5 | 23 | | 20 | 35 | 2 | 6 | 55 |
| | | | 53 | 53 | 59 | | | 53 | 19 | 40 | | | 52 | 44 | 24 | | | 52 | 8 | 9 | | | 51 | 30 | 58 | |
| 56 | | 50 | 32 | 43 | 9 | | 44 | 9 | 20 | 45 | | 37 | 11 | 10 | 16 | | 29 | 37 | 13 | 32 | | 21 | 26 | 33 | 4 | 56 |
| | | | 53 | 53 | 26 | | | 53 | 19 | 6 | | | 52 | 43 | 48 | | | 52 | 7 | 33 | | | 51 | 30 | 20 | |
| 57 | | 51 | 26 | 36 | 35 | | 45 | 2 | 39 | 51 | | 38 | 3 | 54 | 4 | | 30 | 29 | 21 | 5 | | 22 | 18 | 3 | 24 | 57 |
| | | | 53 | 52 | 51 | | | 53 | 18 | 31 | | | 52 | 43 | 12 | | | 52 | 6 | 55 | | | 51 | 29 | 42 | |
| 58 | | 52 | 20 | 29 | 26 | | 45 | 55 | 58 | 22 | | 38 | 56 | 37 | 16 | | 31 | 21 | 28 | 0 | | 23 | 9 | 33 | 6 | 58 |
| | | | 53 | 52 | 17 | | | 53 | 17 | 56 | | | 52 | 42 | 37 | | | 52 | 6 | 19 | | | 51 | 29 | 4 | |
| 59 | | 53 | 14 | 21 | 43 | | 46 | 49 | 16 | 18 | | 39 | 49 | 19 | 53 | | 32 | 13 | 34 | 19 | | 24 | 1 | 2 | 10 | 59 |
| | | | 53 | 51 | 44 | | | 53 | 17 | 22 | | | 52 | 42 | 1 | | | 52 | 5 | 43 | | | 51 | 28 | 27 | |
| 60 | 30 | 54 | 8 | 13 | 27 | 31 | 47 | 42 | 33 | 40 | 32 | 40 | 42 | 1 | 54 | 33 | 33 | 5 | 40 | 2 | 34 | 24 | 52 | 30 | 37 | 60 |
| | | | 53 | 51 | 10 | | | 53 | 16 | 46 | | | 52 | 41 | 25 | | | 52 | 5 | 5 | | | 51 | 27 | 49 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 35° | | | | | 36° | | | | | 37° | | | | | 38° | | | | | 39° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 34 | 24 | 52 | 30 | 37 | 35 | 16 | 1 | 36 | 52 | 36 | 6 | 32 | 2 | 42 | 36 | 56 | 22 | 52 | 43 | 37 | 45 | 33 | 12 | 16 | 0 |
| | | | 51 | 27 | 49 | | | 50 | 49 | 36 | | | 50 | 10 | 27 | | | 49 | 30 | 24 | | | 48 | 49 | 26 | |
| 1 | | 25 | 43 | 58 | 26 | | 16 | 52 | 26 | 28 | | 7 | 22 | 13 | 9 | | 57 | 12 | 23 | 7 | | 46 | 22 | 1 | 42 | 1 |
| | | | 51 | 27 | 11 | | | 50 | 48 | 57 | | | 50 | 9 | 48 | | | 49 | 29 | 43 | | | 48 | 48 | 44 | |
| 2 | | 26 | 35 | 25 | 37 | | 17 | 43 | 15 | 25 | | 8 | 12 | 22 | 57 | | 58 | 1 | 52 | 50 | | 47 | 10 | 50 | 26 | 2 |
| | | | 51 | 26 | 33 | | | 50 | 48 | 19 | | | 50 | 9 | 8 | | | 49 | 29 | 2 | | | 48 | 48 | 3 | |
| 3 | | 27 | 26 | 52 | 10 | | 18 | 34 | 3 | 44 | | 9 | 2 | 32 | 5 | | 58 | 51 | 21 | 52 | | 47 | 59 | 38 | 29 | 3 |
| | | | 51 | 25 | 56 | | | 50 | 47 | 40 | | | 50 | 8 | 28 | | | 49 | 28 | 22 | | | 48 | 47 | 21 | |
| 4 | | 28 | 18 | 18 | 6 | | 19 | 24 | 51 | 24 | | 9 | 52 | 40 | 33 | | 59 | 40 | 50 | 14 | | 48 | 48 | 25 | 50 | 4 |
| | | | 51 | 25 | 18 | | | 50 | 47 | 1 | | | 50 | 7 | 49 | | | 49 | 27 | 42 | | | 48 | 46 | 40 | |
| 5 | | 29 | 9 | 43 | 24 | | 20 | 15 | 38 | 25 | | 10 | 42 | 48 | 22 | 37 | 0 | 30 | 17 | 56 | | 49 | 37 | 12 | 30 | 5 |
| | | | 51 | 24 | 40 | | | 50 | 46 | 22 | | | 50 | 7 | 9 | | | 49 | 27 | 1 | | | 48 | 45 | 58 | |
| 6 | | 30 | 1 | 8 | 4 | | 21 | 6 | 24 | 47 | | 11 | 32 | 55 | 31 | | 1 | 19 | 44 | 57 | | 50 | 25 | 58 | 28 | 6 |
| | | | 51 | 24 | 2 | | | 50 | 45 | 44 | | | 50 | 6 | 30 | | | 49 | 26 | 20 | | | 48 | 45 | 17 | |
| 7 | | 30 | 52 | 32 | 6 | | 21 | 57 | 10 | 31 | | 12 | 23 | 2 | 1 | | 2 | 9 | 11 | 17 | | 51 | 14 | 43 | 45 | 7 |
| | | | 51 | 23 | 25 | | | 50 | 45 | 5 | | | 50 | 5 | 49 | | | 49 | 25 | 39 | | | 48 | 44 | 35 | |
| 8 | | 31 | 43 | 55 | 31 | | 22 | 47 | 55 | 36 | | 13 | 13 | 7 | 50 | | 2 | 58 | 36 | 56 | | 52 | 3 | 28 | 20 | 8 |
| | | | 51 | 22 | 46 | | | 50 | 44 | 26 | | | 50 | 5 | 10 | | | 49 | 24 | 59 | | | 48 | 43 | 54 | |
| 9 | | 32 | 35 | 18 | 17 | | 23 | 38 | 40 | 2 | | 14 | 3 | 13 | 0 | | 3 | 48 | 1 | 55 | | 52 | 52 | 12 | 14 | 9 |
| | | | 51 | 22 | 9 | | | 50 | 43 | 47 | | | 50 | 4 | 31 | | | 49 | 24 | 19 | | | 48 | 43 | 12 | |
| 10 | 34 | 33 | 26 | 40 | 26 | 35 | 24 | 29 | 23 | 49 | 36 | 14 | 53 | 17 | 31 | 37 | 4 | 37 | 26 | 14 | 37 | 53 | 40 | 55 | 26 | 10 |
| | | | 51 | 21 | 30 | | | 50 | 43 | 9 | | | 50 | 3 | 50 | | | 49 | 23 | 37 | | | 48 | 42 | 31 | |
| 11 | | 34 | 18 | 1 | 56 | | 25 | 20 | 6 | 58 | | 15 | 43 | 21 | 21 | | 5 | 26 | 49 | 51 | | 54 | 29 | 37 | 57 | 11 |
| | | | 51 | 20 | 53 | | | 50 | 42 | 29 | | | 50 | 3 | 11 | | | 49 | 22 | 57 | | | 48 | 41 | 49 | |
| 12 | | 35 | 9 | 22 | 49 | | 26 | 10 | 49 | 27 | | 16 | 33 | 24 | 32 | | 6 | 16 | 12 | 48 | | 55 | 18 | 19 | 46 | 12 |
| | | | 51 | 20 | 15 | | | 50 | 41 | 51 | | | 50 | 2 | 31 | | | 49 | 22 | 17 | | | 48 | 41 | 7 | |
| 13 | | 36 | 0 | 43 | 4 | | 27 | 1 | 31 | 18 | | 17 | 23 | 27 | 3 | | 7 | 5 | 35 | 5 | | 56 | 7 | 0 | 53 | 13 |
| | | | 51 | 19 | 37 | | | 50 | 41 | 12 | | | 50 | 1 | 51 | | | 49 | 21 | 35 | | | 48 | 40 | 26 | |
| 14 | | 36 | 52 | 2 | 41 | | 27 | 52 | 12 | 30 | | 18 | 13 | 28 | 54 | | 7 | 54 | 56 | 40 | | 56 | 55 | 41 | 19 | 14 |
| | | | 51 | 18 | 59 | | | 50 | 40 | 33 | | | 50 | 1 | 11 | | | 49 | 20 | 55 | | | 48 | 39 | 44 | |
| 15 | | 37 | 43 | 21 | 40 | | 28 | 42 | 53 | 3 | | 19 | 3 | 30 | 5 | | 8 | 44 | 17 | 35 | | 57 | 44 | 21 | 3 | 15 |
| | | | 51 | 18 | 21 | | | 50 | 39 | 54 | | | 50 | 0 | 32 | | | 49 | 20 | 14 | | | 48 | 39 | 3 | |
| 16 | | 38 | 34 | 40 | 1 | | 29 | 33 | 32 | 57 | | 19 | 53 | 30 | 37 | | 9 | 33 | 37 | 49 | | 58 | 33 | 0 | 6 | 16 |
| | | | 51 | 17 | 43 | | | 50 | 39 | 15 | | | 49 | 59 | 51 | | | 49 | 19 | 34 | | | 48 | 38 | 21 | |
| 17 | | 39 | 25 | 57 | 44 | | 30 | 24 | 12 | 12 | | 20 | 43 | 30 | 28 | | 10 | 22 | 57 | 23 | | 59 | 21 | 38 | 27 | 17 |
| | | | 51 | 17 | 5 | | | 50 | 38 | 36 | | | 49 | 59 | 12 | | | 49 | 18 | 52 | | | 48 | 37 | 40 | |
| 18 | | 40 | 17 | 14 | 49 | | 31 | 14 | 50 | 48 | | 21 | 33 | 29 | 40 | | 11 | 12 | 16 | 15 | 38 | 0 | 10 | 16 | 7 | 18 |
| | | | 51 | 16 | 27 | | | 50 | 37 | 57 | | | 49 | 58 | 32 | | | 49 | 18 | 12 | | | 48 | 36 | 57 | |
| 19 | | 41 | 8 | 31 | 16 | | 32 | 5 | 28 | 45 | | 22 | 23 | 28 | 12 | | 12 | 1 | 34 | 27 | | 0 | 58 | 53 | 4 | 19 |
| | | | 51 | 15 | 49 | | | 50 | 37 | 18 | | | 49 | 57 | 52 | | | 49 | 17 | 31 | | | 48 | 36 | 16 | |
| 20 | 34 | 41 | 59 | 47 | 5 | 35 | 32 | 56 | 6 | 3 | 36 | 23 | 13 | 26 | 4 | 37 | 12 | 50 | 51 | 58 | 38 | 1 | 47 | 29 | 20 | 20 |
| | | | 51 | 15 | 10 | | | 50 | 36 | 40 | | | 49 | 57 | 12 | | | 49 | 16 | 50 | | | 48 | 35 | 35 | |
| 21 | | 42 | 51 | 2 | 15 | | 33 | 46 | 42 | 43 | | 24 | 3 | 23 | 16 | | 13 | 40 | 8 | 48 | | 2 | 36 | 4 | 55 | 21 |
| | | | 51 | 14 | 33 | | | 50 | 36 | 0 | | | 49 | 56 | 32 | | | 49 | 16 | 10 | | | 48 | 34 | 52 | |
| 22 | | 43 | 42 | 16 | 48 | | 34 | 37 | 18 | 43 | | 24 | 53 | 19 | 48 | | 14 | 29 | 24 | 58 | | 3 | 24 | 39 | 47 | 22 |
| | | | 51 | 13 | 55 | | | 50 | 35 | 21 | | | 49 | 55 | 53 | | | 49 | 15 | 28 | | | 48 | 34 | 11 | |
| 23 | | 44 | 33 | 30 | 43 | | 35 | 27 | 54 | 4 | | 25 | 43 | 15 | 41 | | 15 | 18 | 40 | 26 | | 4 | 13 | 13 | 58 | 23 |
| | | | 51 | 13 | 17 | | | 50 | 34 | 42 | | | 49 | 55 | 12 | | | 49 | 14 | 48 | | | 48 | 33 | 29 | |
| 24 | | 45 | 24 | 44 | 0 | | 36 | 18 | 28 | 46 | | 26 | 33 | 10 | 53 | | 16 | 7 | 55 | 14 | | 5 | 1 | 47 | 27 | 24 |
| | | | 51 | 12 | 38 | | | 50 | 34 | 3 | | | 49 | 54 | 32 | | | 49 | 14 | 7 | | | 48 | 32 | 47 | |
| 25 | | 46 | 15 | 56 | 38 | | 37 | 9 | 2 | 49 | | 27 | 23 | 5 | 25 | | 16 | 57 | 9 | 21 | | 5 | 50 | 20 | 14 | 25 |
| | | | 51 | 12 | 0 | | | 50 | 33 | 24 | | | 49 | 53 | 53 | | | 49 | 13 | 26 | | | 48 | 32 | 6 | |
| 26 | | 47 | 7 | 8 | 38 | | 37 | 59 | 36 | 13 | | 28 | 12 | 59 | 18 | | 17 | 46 | 22 | 47 | | 6 | 38 | 52 | 20 | 26 |
| | | | 51 | 11 | 23 | | | 50 | 32 | 46 | | | 49 | 53 | 12 | | | 49 | 12 | 45 | | | 48 | 31 | 24 | |
| 27 | | 47 | 58 | 20 | 1 | | 38 | 50 | 8 | 59 | | 29 | 2 | 52 | 30 | | 18 | 35 | 35 | 32 | | 7 | 27 | 23 | 44 | 27 |
| | | | 51 | 10 | 44 | | | 50 | 32 | 5 | | | 49 | 52 | 33 | | | 49 | 12 | 4 | | | 48 | 30 | 42 | |
| 28 | | 48 | 49 | 30 | 45 | | 39 | 40 | 41 | 4 | | 29 | 52 | 45 | 3 | | 19 | 24 | 47 | 36 | | 8 | 15 | 54 | 26 | 28 |
| | | | 51 | 10 | 6 | | | 50 | 31 | 27 | | | 49 | 51 | 52 | | | 49 | 11 | 23 | | | 48 | 30 | 0 | |
| 29 | | 49 | 40 | 40 | 51 | | 40 | 31 | 12 | 31 | | 30 | 42 | 36 | 55 | | 20 | 13 | 58 | 59 | | 9 | 4 | 24 | 26 | 29 |
| | | | 51 | 9 | 27 | | | 50 | 30 | 48 | | | 49 | 51 | 12 | | | 49 | 10 | 42 | | | 48 | 29 | 18 | |
| 30 | 34 | 50 | 31 | 50 | 18 | 35 | 41 | 21 | 43 | 19 | 36 | 31 | 32 | 28 | 7 | 37 | 21 | 3 | 9 | 41 | 38 | 9 | 52 | 53 | 44 | 30 |
| | | | 51 | 8 | 50 | | | 50 | 30 | 9 | | | 49 | 50 | 32 | | | 49 | 10 | 2 | | | 48 | 28 | 37 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 35° | | | | | 36° | | | | | 37° | | | | | 38° | | | | | 39° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 34 | 50 | 31 | 50 | 18 | 35 | 41 | 21 | 43 | 19 | 36 | 31 | 32 | 28 | 7 | 37 | 21 | 3 | 9 | 41 | 38 | 9 | 52 | 53 | 44 | 30 |
| | | | 51 | 8 | 50 | | | 50 | 30 | 9 | | | 49 | 50 | 32 | | | 49 | 10 | 2 | | | 48 | 28 | 37 | |
| 31 | | 51 | 22 | 59 | 8 | | 42 | 12 | 13 | 28 | | 32 | 22 | 18 | 39 | | 21 | 52 | 19 | 43 | | 10 | 41 | 22 | 21 | 31 |
| | | | 51 | 8 | 11 | | | 50 | 29 | 29 | | | 49 | 49 | 53 | | | 49 | 9 | 20 | | | 48 | 27 | 54 | |
| 32 | | 52 | 14 | 7 | 19 | | 43 | 2 | 42 | 57 | | 33 | 12 | 8 | 32 | | 22 | 41 | 29 | 3 | | 11 | 29 | 50 | 15 | 32 |
| | | | 51 | 7 | 33 | | | 50 | 28 | 50 | | | 49 | 49 | 12 | | | 49 | 8 | 39 | | | 48 | 27 | 13 | |
| 33 | | 53 | 5 | 14 | 52 | | 43 | 53 | 11 | 47 | | 34 | 1 | 57 | 44 | | 23 | 30 | 37 | 42 | | 12 | 18 | 17 | 28 | 33 |
| | | | 51 | 6 | 55 | | | 50 | 28 | 11 | | | 49 | 48 | 32 | | | 49 | 7 | 59 | | | 48 | 26 | 31 | |
| 34 | | 53 | 56 | 21 | 47 | | 44 | 43 | 39 | 58 | | 34 | 51 | 46 | 16 | | 24 | 19 | 45 | 41 | | 13 | 6 | 43 | 59 | 34 |
| | | | 51 | 6 | 16 | | | 50 | 27 | 32 | | | 49 | 47 | 52 | | | 49 | 7 | 17 | | | 48 | 25 | 48 | |
| 35 | | 54 | 47 | 28 | 3 | | 45 | 34 | 7 | 30 | | 35 | 41 | 34 | 8 | | 25 | 8 | 52 | 58 | | 13 | 55 | 9 | 47 | 35 |
| | | | 51 | 5 | 39 | | | 50 | 26 | 53 | | | 49 | 47 | 11 | | | 49 | 6 | 36 | | | 48 | 25 | 7 | |
| 36 | | 55 | 38 | 33 | 42 | | 46 | 24 | 34 | 23 | | 36 | 31 | 21 | 19 | | 25 | 57 | 59 | 34 | | 14 | 43 | 34 | 54 | 36 |
| | | | 51 | 4 | 59 | | | 50 | 26 | 13 | | | 49 | 46 | 32 | | | 49 | 5 | 56 | | | 48 | 24 | 25 | |
| 37 | | 56 | 29 | 38 | 41 | | 47 | 15 | 0 | 36 | | 37 | 21 | 7 | 51 | | 26 | 47 | 5 | 30 | | 15 | 31 | 59 | 19 | 37 |
| | | | 51 | 4 | 22 | | | 50 | 25 | 34 | | | 49 | 45 | 52 | | | 49 | 5 | 14 | | | 48 | 23 | 44 | |
| 38 | | 57 | 20 | 43 | 3 | | 48 | 5 | 26 | 10 | | 38 | 10 | 53 | 43 | | 27 | 36 | 10 | 44 | | 16 | 20 | 23 | 3 | 38 |
| | | | 51 | 3 | 43 | | | 50 | 24 | 55 | | | 49 | 45 | 11 | | | 49 | 4 | 33 | | | 48 | 23 | 1 | |
| 39 | | 58 | 11 | 46 | 46 | | 48 | 55 | 51 | 5 | | 39 | 0 | 38 | 54 | | 28 | 25 | 15 | 17 | | 17 | 8 | 46 | 4 | 39 |
| | | | 51 | 3 | 5 | | | 50 | 24 | 16 | | | 49 | 44 | 31 | | | 49 | 3 | 52 | | | 48 | 22 | 19 | |
| 40 | 34 | 59 | 2 | 49 | 51 | 35 | 49 | 46 | 15 | 21 | 36 | 39 | 50 | 23 | 25 | 37 | 29 | 14 | 19 | 9 | 38 | 17 | 57 | 8 | 23 | 40 |
| | | | 51 | 2 | 27 | | | 50 | 23 | 36 | | | 49 | 43 | 51 | | | 49 | 3 | 11 | | | 48 | 21 | 37 | |
| 41 | | 59 | 53 | 52 | 18 | | 50 | 36 | 38 | 57 | | 40 | 40 | 7 | 16 | | 30 | 3 | 22 | 20 | | 18 | 45 | 30 | 0 | 41 |
| | | | 51 | 1 | 48 | | | 50 | 22 | 57 | | | 49 | 43 | 10 | | | 49 | 2 | 30 | | | 48 | 20 | 55 | |
| 42 | 35 | 0 | 44 | 54 | 6 | | 51 | 27 | 1 | 54 | | 41 | 29 | 50 | 26 | | 30 | 52 | 24 | 50 | | 19 | 33 | 50 | 55 | 42 |
| | | | 51 | 1 | 10 | | | 50 | 22 | 18 | | | 49 | 42 | 31 | | | 49 | 1 | 48 | | | 48 | 20 | 13 | |
| 43 | | 1 | 35 | 55 | 16 | | 52 | 17 | 24 | 12 | | 42 | 19 | 32 | 57 | | 31 | 41 | 26 | 38 | | 20 | 22 | 11 | 8 | 43 |
| | | | 51 | 0 | 31 | | | 50 | 21 | 38 | | | 49 | 41 | 50 | | | 49 | 1 | 8 | | | 48 | 19 | 31 | |
| 44 | | 2 | 26 | 55 | 47 | | 53 | 7 | 45 | 50 | | 43 | 9 | 14 | 47 | | 32 | 30 | 27 | 46 | | 21 | 10 | 30 | 39 | 44 |
| | | | 50 | 59 | 53 | | | 50 | 20 | 59 | | | 49 | 41 | 10 | | | 49 | 0 | 26 | | | 48 | 18 | 49 | |
| 45 | | 3 | 17 | 55 | 40 | | 53 | 58 | 6 | 49 | | 43 | 58 | 55 | 57 | | 33 | 19 | 28 | 12 | | 21 | 58 | 49 | 28 | 45 |
| | | | 50 | 59 | 14 | | | 50 | 20 | 20 | | | 49 | 40 | 30 | | | 48 | 59 | 45 | | | 48 | 18 | 7 | |
| 46 | | 4 | 8 | 54 | 54 | | 54 | 48 | 27 | 9 | | 44 | 48 | 36 | 27 | | 34 | 8 | 27 | 57 | | 22 | 47 | 7 | 35 | 46 |
| | | | 50 | 58 | 37 | | | 50 | 19 | 40 | | | 49 | 39 | 49 | | | 48 | 59 | 4 | | | 48 | 17 | 25 | |
| 47 | | 4 | 59 | 53 | 31 | | 55 | 38 | 46 | 49 | | 45 | 38 | 16 | 16 | | 34 | 57 | 27 | 1 | | 23 | 35 | 25 | 0 | 47 |
| | | | 50 | 57 | 57 | | | 50 | 19 | 1 | | | 49 | 39 | 9 | | | 48 | 58 | 23 | | | 48 | 16 | 42 | |
| 48 | | 5 | 50 | 51 | 28 | | 56 | 29 | 5 | 50 | | 46 | 27 | 55 | 25 | | 35 | 46 | 25 | 24 | | 24 | 23 | 41 | 42 | 48 |
| | | | 50 | 57 | 19 | | | 50 | 18 | 22 | | | 49 | 38 | 29 | | | 48 | 57 | 41 | | | 48 | 16 | 1 | |
| 49 | | 6 | 41 | 48 | 47 | | 57 | 19 | 24 | 12 | | 47 | 17 | 33 | 54 | | 36 | 35 | 23 | 5 | | 25 | 11 | 57 | 43 | 49 |
| | | | 50 | 56 | 41 | | | 50 | 17 | 42 | | | 49 | 37 | 48 | | | 48 | 57 | 0 | | | 48 | 15 | 18 | |
| 50 | 35 | 7 | 32 | 45 | 28 | 35 | 58 | 9 | 41 | 54 | 36 | 48 | 7 | 11 | 42 | 37 | 37 | 24 | 20 | 5 | 38 | 26 | 0 | 13 | 1 | 50 |
| | | | 50 | 56 | 2 | | | 50 | 17 | 2 | | | 49 | 37 | 8 | | | 48 | 56 | 19 | | | 48 | 14 | 37 | |
| 51 | | 8 | 23 | 41 | 30 | | 58 | 59 | 58 | 56 | | 48 | 56 | 48 | 50 | | 38 | 13 | 16 | 24 | | 26 | 48 | 27 | 38 | 51 |
| | | | 50 | 55 | 23 | | | 50 | 16 | 23 | | | 49 | 36 | 28 | | | 48 | 55 | 38 | | | 48 | 13 | 54 | |
| 52 | | 9 | 14 | 36 | 53 | | 59 | 50 | 15 | 19 | | 49 | 46 | 25 | 18 | | 39 | 2 | 12 | 2 | | 27 | 36 | 41 | 32 | 52 |
| | | | 50 | 54 | 45 | | | 50 | 15 | 44 | | | 49 | 35 | 47 | | | 48 | 54 | 57 | | | 48 | 13 | 12 | |
| 53 | | 10 | 5 | 31 | 38 | 36 | 0 | 40 | 31 | 3 | | 50 | 36 | 1 | 5 | | 39 | 51 | 6 | 59 | | 28 | 24 | 54 | 44 | 53 |
| | | | 50 | 54 | 7 | | | 50 | 15 | 4 | | | 49 | 35 | 7 | | | 48 | 54 | 15 | | | 48 | 12 | 30 | |
| 54 | | 10 | 56 | 25 | 45 | | 1 | 30 | 46 | 7 | | 51 | 25 | 36 | 12 | | 40 | 40 | 1 | 14 | | 29 | 13 | 7 | 14 | 54 |
| | | | 50 | 53 | 27 | | | 50 | 14 | 25 | | | 49 | 34 | 26 | | | 48 | 53 | 33 | | | 48 | 11 | 47 | |
| 55 | | 11 | 47 | 19 | 12 | | 2 | 21 | 0 | 32 | | 52 | 15 | 10 | 38 | | 41 | 28 | 54 | 47 | | 30 | 1 | 19 | 1 | 55 |
| | | | 50 | 52 | 50 | | | 50 | 13 | 45 | | | 49 | 33 | 46 | | | 48 | 52 | 53 | | | 48 | 11 | 5 | |
| 56 | | 12 | 38 | 12 | 2 | | 3 | 11 | 14 | 17 | | 53 | 4 | 44 | 24 | | 42 | 17 | 47 | 40 | | 30 | 49 | 30 | 6 | 56 |
| | | | 50 | 52 | 10 | | | 50 | 13 | 6 | | | 49 | 33 | 5 | | | 48 | 52 | 11 | | | 48 | 10 | 24 | |
| 57 | | 13 | 29 | 4 | 12 | | 4 | 1 | 27 | 23 | | 53 | 54 | 17 | 29 | | 43 | 6 | 39 | 51 | | 31 | 37 | 40 | 30 | 57 |
| | | | 50 | 51 | 32 | | | 50 | 12 | 26 | | | 49 | 32 | 26 | | | 48 | 51 | 30 | | | 48 | 9 | 40 | |
| 58 | | 14 | 19 | 55 | 44 | | 4 | 51 | 39 | 49 | | 54 | 43 | 49 | 55 | | 43 | 55 | 31 | 21 | | 32 | 25 | 50 | 10 | 58 |
| | | | 50 | 50 | 54 | | | 50 | 11 | 46 | | | 49 | 31 | 44 | | | 48 | 50 | 48 | | | 48 | 8 | 59 | |
| 59 | | 15 | 10 | 46 | 38 | | 5 | 41 | 51 | 35 | | 55 | 33 | 21 | 39 | | 44 | 44 | 22 | 9 | | 33 | 13 | 59 | 9 | 59 |
| | | | 50 | 50 | 14 | | | 50 | 11 | 7 | | | 49 | 31 | 4 | | | 48 | 50 | 7 | | | 48 | 8 | 16 | |
| 60 | 35 | 16 | 1 | 36 | 52 | 36 | 6 | 32 | 2 | 42 | 36 | 56 | 22 | 52 | 43 | 37 | 45 | 33 | 12 | 16 | 38 | 34 | 2 | 7 | 25 | 60 |
| | | | 50 | 49 | 36 | | | 50 | 10 | 27 | | | 49 | 30 | 24 | | | 48 | 49 | 26 | | | 48 | 7 | 34 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 40° | | | | | 41° | | | | | 42° | | | | | 43° | | | | | 44° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 38 | 34 | 2 | 7 | 25 | 39 | 21 | 48 | 45 | 1 | 40 | 8 | 52 | 12 | 40 | 40 | 55 | 11 | 38 | 45 | 41 | 40 | 46 | 12 | 29 | 0 |
| | | | 48 | 7 | 34 | | | 47 | 24 | 50 | | | 46 | 41 | 13 | | | 45 | 56 | 46 | | | 45 | 11 | 28 | |
| 1 | | 34 | 50 | 14 | 59 | | 22 | 36 | 9 | 51 | | 9 | 38 | 53 | 53 | | 55 | 57 | 35 | 31 | | 41 | 31 | 23 | 57 | 1 |
| | | | 48 | 6 | 52 | | | 47 | 24 | 6 | | | 46 | 40 | 29 | | | 45 | 56 | 1 | | | 45 | 10 | 42 | |
| 2 | | 35 | 38 | 21 | 51 | | 23 | 23 | 33 | 57 | | 10 | 25 | 34 | 22 | | 56 | 43 | 31 | 32 | | 42 | 16 | 34 | 39 | 2 |
| | | | 48 | 6 | 9 | | | 47 | 23 | 23 | | | 46 | 39 | 46 | | | 45 | 55 | 16 | | | 45 | 9 | 57 | |
| 3 | | 36 | 26 | 28 | 0 | | 24 | 10 | 57 | 20 | | 11 | 12 | 14 | 8 | | 57 | 29 | 26 | 48 | | 43 | 1 | 44 | 36 | 3 |
| | | | 48 | 5 | 27 | | | 47 | 22 | 41 | | | 46 | 39 | 1 | | | 45 | 54 | 31 | | | 45 | 9 | 10 | |
| 4 | | 37 | 14 | 33 | 27 | | 24 | 58 | 20 | 1 | | 11 | 58 | 53 | 9 | | 58 | 15 | 21 | 19 | | 43 | 46 | 53 | 46 | 4 |
| | | | 48 | 4 | 45 | | | 47 | 21 | 56 | | | 46 | 38 | 17 | | | 45 | 53 | 46 | | | 45 | 8 | 25 | |
| 5 | | 38 | 2 | 38 | 12 | | 25 | 45 | 41 | 57 | | 12 | 45 | 31 | 26 | | 59 | 1 | 15 | 5 | | 44 | 32 | 2 | 11 | 5 |
| | | | 48 | 4 | 3 | | | 47 | 21 | 14 | | | 46 | 37 | 33 | | | 45 | 53 | 1 | | | 45 | 7 | 40 | |
| 6 | | 38 | 50 | 42 | 15 | | 26 | 33 | 3 | 11 | | 13 | 32 | 8 | 59 | | 59 | 47 | 8 | 6 | | 45 | 17 | 9 | 51 | 6 |
| | | | 48 | 3 | 19 | | | 47 | 20 | 31 | | | 46 | 36 | 49 | | | 45 | 52 | 17 | | | 45 | 6 | 53 | |
| 7 | | 39 | 38 | 45 | 34 | | 27 | 20 | 23 | 42 | | 14 | 18 | 45 | 48 | 41 | 0 | 33 | 0 | 23 | | 46 | 2 | 16 | 44 | 7 |
| | | | 48 | 2 | 38 | | | 47 | 19 | 47 | | | 46 | 36 | 5 | | | 45 | 51 | 31 | | | 45 | 6 | 8 | |
| 8 | | 40 | 26 | 48 | 12 | | 28 | 7 | 43 | 29 | | 15 | 5 | 21 | 53 | | 1 | 18 | 51 | 54 | | 46 | 47 | 22 | 52 | 8 |
| | | | 48 | 1 | 55 | | | 47 | 19 | 3 | | | 46 | 35 | 20 | | | 45 | 50 | 46 | | | 45 | 5 | 22 | |
| 9 | | 41 | 14 | 50 | 7 | | 28 | 55 | 2 | 32 | | 15 | 51 | 57 | 13 | | 2 | 4 | 42 | 40 | | 47 | 32 | 28 | 14 | 9 |
| | | | 48 | 1 | 13 | | | 47 | 18 | 21 | | | 46 | 34 | 37 | | | 45 | 50 | 2 | | | 45 | 4 | 36 | |
| 10 | 38 | 42 | 2 | 51 | 20 | 39 | 29 | 42 | 20 | 53 | 40 | 16 | 38 | 31 | 50 | 41 | 2 | 50 | 32 | 42 | 41 | 48 | 17 | 32 | 50 | 10 |
| | | | 48 | 0 | 30 | | | 47 | 17 | 37 | | | 46 | 33 | 52 | | | 45 | 49 | 16 | | | 45 | 3 | 50 | |
| 11 | | 42 | 50 | 51 | 50 | | 30 | 29 | 38 | 30 | | 17 | 25 | 5 | 42 | | 3 | 36 | 21 | 58 | | 49 | 2 | 36 | 40 | 11 |
| | | | 47 | 59 | 48 | | | 47 | 16 | 54 | | | 46 | 33 | 8 | | | 45 | 48 | 32 | | | 45 | 3 | 4 | |
| 12 | | 43 | 38 | 51 | 38 | | 31 | 16 | 55 | 24 | | 18 | 11 | 38 | 50 | | 4 | 22 | 10 | 30 | | 49 | 47 | 39 | 44 | 12 |
| | | | 47 | 59 | 5 | | | 47 | 16 | 11 | | | 46 | 32 | 24 | | | 45 | 47 | 46 | | | 45 | 2 | 18 | |
| 13 | | 44 | 26 | 50 | 43 | | 32 | 4 | 11 | 35 | | 18 | 58 | 11 | 14 | | 5 | 7 | 58 | 16 | | 50 | 32 | 42 | 2 | 13 |
| | | | 47 | 58 | 23 | | | 47 | 15 | 27 | | | 46 | 31 | 40 | | | 45 | 47 | 1 | | | 45 | 1 | 33 | |
| 14 | | 45 | 14 | 49 | 6 | | 32 | 51 | 27 | 2 | | 19 | 44 | 42 | 54 | | 5 | 53 | 45 | 17 | | 51 | 17 | 43 | 35 | 14 |
| | | | 47 | 57 | 41 | | | 47 | 14 | 44 | | | 46 | 30 | 55 | | | 45 | 46 | 16 | | | 45 | 0 | 47 | |
| 15 | | 46 | 2 | 46 | 47 | | 33 | 38 | 41 | 46 | | 20 | 31 | 13 | 49 | | 6 | 39 | 31 | 33 | | 52 | 2 | 44 | 22 | 15 |
| | | | 47 | 56 | 57 | | | 47 | 14 | 0 | | | 46 | 30 | 12 | | | 45 | 45 | 31 | | | 45 | 0 | 0 | |
| 16 | | 46 | 50 | 43 | 44 | | 34 | 25 | 55 | 46 | | 21 | 17 | 44 | 1 | | 7 | 25 | 17 | 4 | | 52 | 47 | 44 | 22 | 16 |
| | | | 47 | 56 | 16 | | | 47 | 13 | 17 | | | 46 | 29 | 27 | | | 45 | 44 | 46 | | | 44 | 59 | 15 | |
| 17 | | 47 | 38 | 40 | 0 | | 35 | 13 | 9 | 3 | | 22 | 4 | 13 | 28 | | 8 | 11 | 1 | 50 | | 53 | 32 | 43 | 37 | 17 |
| | | | 47 | 55 | 33 | | | 47 | 12 | 34 | | | 46 | 28 | 43 | | | 45 | 44 | 1 | | | 44 | 58 | 29 | |
| 18 | | 48 | 26 | 35 | 33 | | 36 | 0 | 21 | 37 | | 22 | 50 | 42 | 11 | | 8 | 56 | 45 | 51 | | 54 | 17 | 42 | 6 | 18 |
| | | | 47 | 54 | 50 | | | 47 | 11 | 50 | | | 46 | 27 | 58 | | | 45 | 43 | 16 | | | 44 | 57 | 43 | |
| 19 | | 49 | 14 | 30 | 23 | | 36 | 47 | 33 | 27 | | 23 | 37 | 10 | 9 | | 9 | 42 | 29 | 7 | | 55 | 2 | 39 | 49 | 19 |
| | | | 47 | 54 | 7 | | | 47 | 11 | 7 | | | 46 | 27 | 14 | | | 45 | 42 | 31 | | | 44 | 56 | 57 | |
| 20 | 38 | 50 | 2 | 24 | 30 | 39 | 37 | 34 | 44 | 34 | 40 | 24 | 23 | 37 | 23 | 41 | 10 | 28 | 11 | 38 | 41 | 55 | 47 | 36 | 46 | 20 |
| | | | 47 | 53 | 26 | | | 47 | 10 | 23 | | | 46 | 26 | 30 | | | 45 | 41 | 45 | | | 44 | 56 | 11 | |
| 21 | | 50 | 50 | 17 | 56 | | 38 | 21 | 54 | 57 | | 25 | 10 | 3 | 53 | | 11 | 13 | 53 | 23 | | 56 | 32 | 32 | 57 | 21 |
| | | | 47 | 52 | 42 | | | 47 | 9 | 40 | | | 46 | 25 | 46 | | | 45 | 41 | 0 | | | 44 | 55 | 25 | |
| 22 | | 51 | 38 | 10 | 38 | | 39 | 9 | 4 | 37 | | 25 | 56 | 29 | 39 | | 11 | 59 | 34 | 23 | | 57 | 17 | 28 | 22 | 22 |
| | | | 47 | 52 | 0 | | | 47 | 8 | 57 | | | 46 | 25 | 1 | | | 45 | 40 | 15 | | | 44 | 54 | 39 | |
| 23 | | 52 | 26 | 2 | 38 | | 39 | 56 | 13 | 34 | | 26 | 42 | 54 | 40 | | 12 | 45 | 14 | 38 | | 58 | 2 | 23 | 1 | 23 |
| | | | 47 | 51 | 17 | | | 47 | 8 | 12 | | | 46 | 24 | 17 | | | 45 | 39 | 30 | | | 44 | 53 | 53 | |
| 24 | | 53 | 13 | 53 | 55 | | 40 | 43 | 21 | 46 | | 27 | 29 | 18 | 57 | | 13 | 30 | 54 | 8 | | 58 | 47 | 16 | 54 | 24 |
| | | | 47 | 50 | 35 | | | 47 | 7 | 30 | | | 46 | 23 | 32 | | | 45 | 38 | 45 | | | 44 | 53 | 6 | |
| 25 | | 54 | 1 | 44 | 30 | | 41 | 30 | 29 | 16 | | 28 | 15 | 42 | 29 | | 14 | 16 | 32 | 53 | | 59 | 32 | 10 | 0 | 25 |
| | | | 47 | 49 | 52 | | | 47 | 6 | 46 | | | 46 | 22 | 48 | | | 45 | 38 | 0 | | | 44 | 52 | 21 | |
| 26 | | 54 | 49 | 34 | 22 | | 42 | 17 | 36 | 2 | | 29 | 2 | 5 | 17 | | 15 | 2 | 10 | 53 | 42 | 0 | 17 | 2 | 21 | 26 |
| | | | 47 | 49 | 9 | | | 47 | 6 | 2 | | | 46 | 22 | 4 | | | 45 | 37 | 14 | | | 44 | 51 | 35 | |
| 27 | | 55 | 37 | 23 | 31 | | 43 | 4 | 42 | 4 | | 29 | 48 | 27 | 21 | | 15 | 47 | 48 | 7 | | 1 | 1 | 53 | 56 | 27 |
| | | | 47 | 48 | 26 | | | 47 | 5 | 19 | | | 46 | 21 | 19 | | | 45 | 36 | 29 | | | 44 | 50 | 49 | |
| 28 | | 56 | 25 | 11 | 57 | | 43 | 51 | 47 | 23 | | 30 | 34 | 48 | 40 | | 16 | 33 | 24 | 36 | | 1 | 46 | 44 | 45 | 28 |
| | | | 47 | 47 | 44 | | | 47 | 4 | 35 | | | 46 | 20 | 35 | | | 45 | 35 | 44 | | | 44 | 50 | 2 | |
| 29 | | 57 | 12 | 59 | 41 | | 44 | 38 | 51 | 58 | | 31 | 21 | 9 | 15 | | 17 | 19 | 0 | 20 | | 2 | 31 | 34 | 47 | 29 |
| | | | 47 | 47 | 1 | | | 47 | 3 | 51 | | | 46 | 19 | 50 | | | 45 | 34 | 58 | | | 44 | 49 | 17 | |
| 30 | 38 | 58 | 0 | 46 | 42 | 39 | 45 | 25 | 55 | 49 | 40 | 32 | 7 | 29 | 5 | 41 | 18 | 4 | 35 | 18 | 42 | 3 | 16 | 24 | 4 | 30 |
| | | | 47 | 46 | 19 | | | 47 | 3 | 8 | | | 46 | 19 | 6 | | | 45 | 34 | 13 | | | 44 | 48 | 30 | |

| ′ | 40° | | | | | 41° | | | | | 42° | | | | | 43° | | | | | 44° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 38 | 58 | 0 | 46 | 42 | 39 | 45 | 25 | 55 | 49 | 40 | 32 | 7 | 29 | 5 | 41 | 18 | 4 | 35 | 18 | 42 | 3 | 16 | 24 | 4 | 30 |
| | | | 47 | 46 | 19 | | | 47 | 3 | 8 | | | 46 | 19 | 6 | | | 45 | 34 | 13 | | | 44 | 48 | 30 | |
| 31 | | 58 | 48 | 33 | 1 | | 46 | 12 | 58 | 57 | | 32 | 53 | 48 | 11 | | 18 | 50 | 9 | 31 | | 4 | 1 | 12 | 34 | 31 |
| | | | 47 | 45 | 35 | | | 47 | 2 | 25 | | | 46 | 18 | 22 | | | 45 | 33 | 28 | | | 44 | 47 | 45 | |
| 32 | | 59 | 36 | 18 | 36 | | 47 | 0 | 1 | 22 | | 33 | 40 | 6 | 33 | | 19 | 35 | 42 | 59 | | 4 | 46 | 0 | 19 | 32 |
| | | | 47 | 44 | 53 | | | 47 | 1 | 41 | | | 46 | 17 | 37 | | | 45 | 32 | 43 | | | 44 | 46 | 58 | |
| 33 | 39 | 0 | 24 | 3 | 29 | | 47 | 47 | 3 | 3 | | 34 | 26 | 24 | 10 | | 20 | 21 | 15 | 42 | | 5 | 30 | 47 | 17 | 33 |
| | | | 47 | 44 | 10 | | | 47 | 0 | 57 | | | 46 | 16 | 52 | | | 45 | 31 | 57 | | | 44 | 46 | 12 | |
| 34 | | 1 | 11 | 47 | 39 | | 48 | 34 | 4 | 0 | | 35 | 12 | 41 | 2 | | 21 | 6 | 47 | 39 | | 6 | 15 | 33 | 29 | 34 |
| | | | 47 | 43 | 28 | | | 47 | 0 | 13 | | | 46 | 16 | 9 | | | 45 | 31 | 12 | | | 44 | 45 | 25 | |
| 35 | | 1 | 59 | 31 | 7 | | 49 | 21 | 4 | 13 | | 35 | 58 | 57 | 11 | | 21 | 52 | 18 | 51 | | 7 | 0 | 18 | 54 | 35 |
| | | | 47 | 42 | 44 | | | 46 | 59 | 30 | | | 46 | 15 | 23 | | | 45 | 30 | 26 | | | 44 | 44 | 40 | |
| 36 | | 2 | 47 | 13 | 51 | | 50 | 8 | 3 | 43 | | 36 | 45 | 12 | 34 | | 22 | 37 | 49 | 17 | | 7 | 45 | 3 | 34 | 36 |
| | | | 47 | 42 | 2 | | | 46 | 58 | 46 | | | 46 | 14 | 39 | | | 45 | 29 | 41 | | | 44 | 43 | 53 | |
| 37 | | 3 | 34 | 55 | 53 | | 50 | 55 | 2 | 29 | | 37 | 31 | 27 | 13 | | 23 | 23 | 18 | 58 | | 8 | 29 | 47 | 27 | 37 |
| | | | 47 | 41 | 19 | | | 46 | 58 | 2 | | | 46 | 13 | 54 | | | 45 | 28 | 56 | | | 44 | 43 | 8 | |
| 38 | | 4 | 22 | 37 | 12 | | 51 | 42 | 0 | 31 | | 38 | 17 | 41 | 7 | | 24 | 8 | 47 | 54 | | 9 | 14 | 30 | 35 | 38 |
| | | | 47 | 40 | 36 | | | 46 | 57 | 19 | | | 46 | 13 | 10 | | | 45 | 28 | 10 | | | 44 | 42 | 21 | |
| 39 | | 5 | 10 | 17 | 48 | | 52 | 28 | 57 | 50 | | 39 | 3 | 54 | 17 | | 24 | 54 | 16 | 4 | | 9 | 59 | 12 | 56 | 39 |
| | | | 47 | 39 | 53 | | | 46 | 56 | 35 | | | 46 | 12 | 26 | | | 45 | 27 | 25 | | | 44 | 41 | 34 | |
| 40 | 39 | 5 | 57 | 57 | 41 | 39 | 53 | 15 | 54 | 25 | 40 | 39 | 50 | 6 | 43 | 41 | 25 | 39 | 43 | 29 | 42 | 10 | 43 | 54 | 30 | 40 |
| | | | 47 | 39 | 10 | | | 46 | 55 | 51 | | | 46 | 11 | 40 | | | 45 | 26 | 40 | | | 44 | 40 | 49 | |
| 41 | | 6 | 45 | 36 | 51 | | 54 | 2 | 50 | 16 | | 40 | 36 | 18 | 23 | | 26 | 25 | 10 | 9 | | 11 | 28 | 35 | 19 | 41 |
| | | | 47 | 38 | 28 | | | 46 | 55 | 8 | | | 46 | 10 | 56 | | | 45 | 25 | 54 | | | 44 | 40 | 2 | |
| 42 | | 7 | 33 | 15 | 19 | | 54 | 49 | 45 | 24 | | 41 | 22 | 29 | 19 | | 27 | 10 | 36 | 3 | | 12 | 13 | 15 | 21 | 42 |
| | | | 47 | 37 | 44 | | | 46 | 54 | 23 | | | 46 | 10 | 12 | | | 45 | 25 | 8 | | | 44 | 39 | 16 | |
| 43 | | 8 | 20 | 53 | 3 | | 55 | 36 | 39 | 47 | | 42 | 8 | 39 | 31 | | 27 | 56 | 1 | 11 | | 12 | 57 | 54 | 37 | 43 |
| | | | 47 | 37 | 2 | | | 46 | 53 | 40 | | | 46 | 9 | 27 | | | 45 | 24 | 24 | | | 44 | 38 | 29 | |
| 44 | | 9 | 8 | 30 | 5 | | 56 | 23 | 33 | 27 | | 42 | 54 | 48 | 58 | | 28 | 41 | 25 | 35 | | 13 | 42 | 33 | 6 | 44 |
| | | | 47 | 36 | 19 | | | 46 | 52 | 56 | | | 46 | 8 | 42 | | | 45 | 23 | 37 | | | 44 | 37 | 44 | |
| 45 | | 9 | 56 | 6 | 24 | | 57 | 10 | 26 | 23 | | 43 | 40 | 57 | 40 | | 29 | 26 | 49 | 12 | | 14 | 27 | 10 | 50 | 45 |
| | | | 47 | 35 | 35 | | | 46 | 52 | 13 | | | 46 | 7 | 57 | | | 45 | 22 | 52 | | | 44 | 36 | 57 | |
| 46 | | 10 | 43 | 41 | 59 | | 57 | 57 | 18 | 36 | | 44 | 27 | 5 | 37 | | 30 | 12 | 12 | 4 | | 15 | 11 | 47 | 47 | 46 |
| | | | 47 | 34 | 53 | | | 46 | 51 | 28 | | | 46 | 7 | 13 | | | 45 | 22 | 7 | | | 44 | 36 | 10 | |
| 47 | | 11 | 31 | 16 | 52 | | 58 | 44 | 10 | 4 | | 45 | 13 | 12 | 50 | | 30 | 57 | 34 | 11 | | 15 | 56 | 23 | 57 | 47 |
| | | | 47 | 34 | 10 | | | 46 | 50 | 45 | | | 46 | 6 | 28 | | | 45 | 21 | 21 | | | 44 | 35 | 25 | |
| 48 | | 12 | 18 | 51 | 2 | | 59 | 31 | 0 | 49 | | 45 | 59 | 19 | 18 | | 31 | 42 | 55 | 32 | | 16 | 40 | 59 | 22 | 48 |
| | | | 47 | 33 | 26 | | | 46 | 50 | 1 | | | 46 | 5 | 44 | | | 45 | 20 | 36 | | | 44 | 34 | 38 | |
| 49 | | 13 | 6 | 24 | 28 | 40 | 0 | 17 | 50 | 50 | | 46 | 45 | 25 | 2 | | 32 | 28 | 16 | 8 | | 17 | 25 | 34 | 0 | 49 |
| | | | 47 | 32 | 44 | | | 46 | 49 | 17 | | | 46 | 4 | 58 | | | 45 | 19 | 50 | | | 44 | 33 | 51 | |
| 50 | 39 | 13 | 53 | 57 | 12 | 40 | 1 | 4 | 40 | 7 | 40 | 47 | 31 | 30 | 0 | 41 | 33 | 13 | 35 | 58 | 42 | 18 | 10 | 7 | 51 | 50 |
| | | | 47 | 32 | 1 | | | 46 | 48 | 33 | | | 46 | 4 | 14 | | | 45 | 19 | 4 | | | 44 | 33 | 5 | |
| 51 | | 14 | 41 | 29 | 13 | | 1 | 51 | 28 | 40 | | 48 | 17 | 34 | 14 | | 33 | 58 | 55 | 2 | | 18 | 54 | 40 | 56 | 51 |
| | | | 47 | 31 | 18 | | | 46 | 47 | 49 | | | 46 | 3 | 30 | | | 45 | 18 | 19 | | | 44 | 32 | 19 | |
| 52 | | 15 | 29 | 0 | 31 | | 2 | 38 | 16 | 29 | | 49 | 3 | 37 | 44 | | 34 | 44 | 13 | 21 | | 19 | 39 | 13 | 15 | 52 |
| | | | 47 | 30 | 34 | | | 46 | 47 | 5 | | | 46 | 2 | 44 | | | 45 | 17 | 33 | | | 44 | 31 | 32 | |
| 53 | | 16 | 16 | 31 | 5 | | 3 | 25 | 3 | 34 | | 49 | 49 | 40 | 28 | | 35 | 29 | 30 | 54 | | 20 | 23 | 44 | 47 | 53 |
| | | | 47 | 29 | 52 | | | 46 | 46 | 21 | | | 46 | 2 | 0 | | | 45 | 16 | 48 | | | 44 | 30 | 46 | |
| 54 | | 17 | 4 | 0 | 57 | | 4 | 11 | 49 | 55 | | 50 | 35 | 42 | 28 | | 36 | 14 | 47 | 42 | | 21 | 8 | 15 | 33 | 54 |
| | | | 47 | 29 | 8 | | | 46 | 45 | 37 | | | 46 | 1 | 15 | | | 45 | 16 | 2 | | | 44 | 30 | 0 | |
| 55 | | 17 | 51 | 30 | 5 | | 4 | 58 | 35 | 32 | | 51 | 21 | 43 | 43 | | 37 | 0 | 3 | 44 | | 21 | 52 | 45 | 33 | 55 |
| | | | 47 | 28 | 26 | | | 46 | 44 | 54 | | | 46 | 0 | 30 | | | 45 | 15 | 16 | | | 44 | 29 | 13 | |
| 56 | | 18 | 38 | 58 | 31 | | 5 | 45 | 20 | 26 | | 52 | 7 | 44 | 13 | | 37 | 45 | 19 | 0 | | 22 | 37 | 14 | 46 | 56 |
| | | | 47 | 27 | 42 | | | 46 | 44 | 9 | | | 45 | 59 | 45 | | | 45 | 14 | 31 | | | 44 | 28 | 26 | |
| 57 | | 19 | 26 | 26 | 13 | | 6 | 32 | 4 | 35 | | 52 | 53 | 43 | 58 | | 38 | 30 | 33 | 31 | | 23 | 21 | 43 | 12 | 57 |
| | | | 47 | 26 | 59 | | | 46 | 43 | 26 | | | 45 | 59 | 0 | | | 45 | 13 | 45 | | | 44 | 27 | 40 | |
| 58 | | 20 | 13 | 53 | 12 | | 7 | 18 | 48 | 1 | | 53 | 39 | 42 | 58 | | 39 | 15 | 47 | 16 | | 24 | 6 | 10 | 52 | 58 |
| | | | 47 | 26 | 16 | | | 46 | 42 | 41 | | | 45 | 58 | 16 | | | 45 | 12 | 59 | | | 44 | 26 | 54 | |
| 59 | | 21 | 1 | 19 | 28 | | 8 | 5 | 30 | 42 | | 54 | 25 | 41 | 14 | | 40 | 1 | 0 | 15 | | 24 | 50 | 37 | 46 | 59 |
| | | | 47 | 25 | 33 | | | 46 | 41 | 58 | | | 45 | 57 | 31 | | | 45 | 12 | 14 | | | 44 | 26 | 7 | |
| 60 | 39 | 21 | 48 | 45 | 1 | 40 | 8 | 52 | 12 | 40 | 40 | 55 | 11 | 38 | 45 | 41 | 40 | 46 | 12 | 29 | 42 | 25 | 35 | 3 | 53 | 60 |
| | | | 47 | 24 | 50 | | | 46 | 41 | 13 | | | 45 | 56 | 46 | | | 45 | 11 | 28 | | | 44 | 25 | 21 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 45° | | | | | 46° | | | | | 47° | | | | | 48° | | | | | 49° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 42 | 25 | 35 | 3 | 53 | 43 | 9 | 37 | 23 | 49 | 43 | 52 | 52 | 23 | 58 | 44 | 35 | 19 | 16 | 56 | 45 | 16 | 57 | 16 | 10 | 0 |
| | | | 44 | 25 | 21 | | | 43 | 38 | 24 | | | 42 | 50 | 41 | | | 42 | 2 | 10 | | | 41 | 12 | 52 | |
| 1 | | 26 | 19 | 29 | 14 | | 10 | 21 | 2 | 13 | | 53 | 35 | 14 | 39 | | 36 | 1 | 19 | 6 | | 17 | 38 | 29 | 2 | 1 |
| | | | 44 | 24 | 34 | | | 43 | 37 | 37 | | | 42 | 49 | 52 | | | 42 | 1 | 20 | | | 41 | 12 | 2 | |
| 2 | | 27 | 3 | 53 | 48 | | 11 | 4 | 39 | 50 | | 54 | 18 | 4 | 31 | | 36 | 43 | 20 | 26 | | 18 | 19 | 41 | 4 | 2 |
| | | | 44 | 23 | 47 | | | 43 | 36 | 50 | | | 42 | 49 | 4 | | | 42 | 0 | 32 | | | 41 | 11 | 13 | |
| 3 | | 27 | 48 | 17 | 35 | | 11 | 48 | 16 | 40 | | 55 | 0 | 53 | 35 | | 37 | 25 | 20 | 58 | | 19 | 0 | 52 | 17 | 3 |
| | | | 44 | 23 | 1 | | | 43 | 36 | 2 | | | 42 | 48 | 16 | | | 41 | 59 | 42 | | | 41 | 10 | 23 | |
| 4 | | 28 | 32 | 40 | 36 | | 12 | 31 | 52 | 42 | | 55 | 43 | 41 | 51 | | 38 | 7 | 20 | 40 | | 19 | 42 | 2 | 40 | 4 |
| | | | 44 | 22 | 14 | | | 43 | 35 | 15 | | | 42 | 47 | 28 | | | 41 | 58 | 54 | | | 41 | 9 | 34 | |
| 5 | | 29 | 17 | 2 | 50 | | 13 | 15 | 27 | 57 | | 56 | 26 | 29 | 19 | | 38 | 49 | 19 | 34 | | 20 | 23 | 12 | 14 | 5 |
| | | | 44 | 21 | 28 | | | 43 | 34 | 27 | | | 42 | 46 | 39 | | | 41 | 58 | 4 | | | 41 | 8 | 44 | |
| 6 | | 30 | 1 | 24 | 18 | | 13 | 59 | 2 | 24 | | 57 | 9 | 15 | 58 | | 39 | 31 | 17 | 38 | | 21 | 4 | 20 | 58 | 6 |
| | | | 44 | 20 | 41 | | | 43 | 33 | 41 | | | 42 | 45 | 51 | | | 41 | 57 | 16 | | | 41 | 7 | 54 | |
| 7 | | 30 | 45 | 44 | 59 | | 14 | 42 | 36 | 5 | | 57 | 52 | 1 | 49 | | 40 | 13 | 14 | 54 | | 21 | 45 | 28 | 52 | 7 |
| | | | 44 | 19 | 54 | | | 43 | 32 | 52 | | | 42 | 45 | 4 | | | 41 | 56 | 27 | | | 41 | 7 | 4 | |
| 8 | | 31 | 30 | 4 | 53 | | 15 | 26 | 8 | 57 | | 58 | 34 | 46 | 53 | | 40 | 55 | 11 | 21 | | 22 | 26 | 35 | 56 | 8 |
| | | | 44 | 19 | 8 | | | 43 | 32 | 5 | | | 42 | 44 | 14 | | | 41 | 55 | 37 | | | 41 | 6 | 14 | |
| 9 | | 32 | 14 | 24 | 1 | | 16 | 9 | 41 | 2 | | 59 | 17 | 31 | 7 | | 41 | 37 | 6 | 58 | | 23 | 7 | 42 | 10 | 9 |
| | | | 44 | 18 | 21 | | | 43 | 31 | 18 | | | 42 | 43 | 27 | | | 41 | 54 | 49 | | | 41 | 5 | 25 | |
| 10 | 42 | 32 | 58 | 42 | 22 | 43 | 16 | 53 | 12 | 20 | 44 | 0 | 0 | 14 | 34 | 44 | 42 | 19 | 1 | 47 | 45 | 23 | 48 | 47 | 35 | 10 |
| | | | 44 | 17 | 35 | | | 43 | 30 | 31 | | | 42 | 42 | 38 | | | 41 | 54 | 0 | | | 41 | 4 | 35 | |
| 11 | | 33 | 42 | 59 | 57 | | 17 | 36 | 42 | 51 | | 0 | 42 | 57 | 12 | | 43 | 0 | 55 | 47 | | 24 | 29 | 52 | 10 | 11 |
| | | | 44 | 16 | 48 | | | 43 | 29 | 42 | | | 42 | 41 | 51 | | | 41 | 53 | 10 | | | 41 | 3 | 45 | |
| 12 | | 34 | 27 | 16 | 45 | | 18 | 20 | 12 | 33 | | 1 | 25 | 39 | 3 | | 43 | 42 | 48 | 57 | | 25 | 10 | 55 | 55 | 12 |
| | | | 44 | 16 | 1 | | | 43 | 28 | 56 | | | 42 | 41 | 1 | | | 41 | 52 | 22 | | | 41 | 2 | 56 | |
| 13 | | 35 | 11 | 32 | 46 | | 19 | 3 | 41 | 29 | | 2 | 8 | 20 | 4 | | 44 | 24 | 41 | 19 | | 25 | 51 | 58 | 51 | 13 |
| | | | 44 | 15 | 14 | | | 43 | 28 | 8 | | | 42 | 40 | 14 | | | 41 | 51 | 32 | | | 41 | 2 | 5 | |
| 14 | | 35 | 55 | 48 | 0 | | 19 | 47 | 9 | 37 | | 2 | 51 | 0 | 18 | | 45 | 6 | 32 | 51 | | 26 | 33 | 0 | 56 | 14 |
| | | | 44 | 14 | 28 | | | 43 | 27 | 20 | | | 42 | 39 | 25 | | | 41 | 50 | 44 | | | 41 | 1 | 16 | |
| 15 | | 36 | 40 | 2 | 28 | | 20 | 30 | 36 | 57 | | 3 | 33 | 39 | 43 | | 45 | 48 | 23 | 35 | | 27 | 14 | 2 | 12 | 15 |
| | | | 44 | 13 | 41 | | | 43 | 26 | 33 | | | 42 | 38 | 37 | | | 41 | 49 | 54 | | | 41 | 0 | 26 | |
| 16 | | 37 | 24 | 16 | 9 | | 21 | 14 | 3 | 30 | | 4 | 16 | 18 | 20 | | 46 | 30 | 13 | 29 | | 27 | 55 | 2 | 38 | 16 |
| | | | 44 | 12 | 54 | | | 43 | 25 | 45 | | | 42 | 37 | 49 | | | 41 | 49 | 5 | | | 40 | 59 | 36 | |
| 17 | | 38 | 8 | 29 | 3 | | 21 | 57 | 29 | 15 | | 4 | 58 | 56 | 9 | | 47 | 12 | 2 | 34 | | 28 | 36 | 2 | 14 | 17 |
| | | | 44 | 12 | 8 | | | 43 | 24 | 58 | | | 42 | 37 | 0 | | | 41 | 48 | 17 | | | 40 | 58 | 46 | |
| 18 | | 38 | 52 | 41 | 11 | | 22 | 40 | 54 | 13 | | 5 | 41 | 33 | 9 | | 47 | 53 | 50 | 51 | | 29 | 17 | 1 | 0 | 18 |
| | | | 44 | 11 | 21 | | | 43 | 24 | 10 | | | 42 | 36 | 12 | | | 41 | 47 | 27 | | | 40 | 57 | 56 | |
| 19 | | 39 | 36 | 52 | 32 | | 23 | 24 | 18 | 23 | | 6 | 24 | 9 | 21 | | 48 | 35 | 38 | 18 | | 29 | 57 | 58 | 56 | 19 |
| | | | 44 | 10 | 34 | | | 43 | 23 | 22 | | | 42 | 35 | 24 | | | 41 | 46 | 37 | | | 40 | 57 | 6 | |
| 20 | 42 | 40 | 21 | 3 | 6 | 43 | 24 | 7 | 41 | 45 | 44 | 7 | 6 | 44 | 45 | 44 | 49 | 17 | 24 | 55 | 45 | 30 | 38 | 56 | 2 | 20 |
| | | | 44 | 9 | 47 | | | 43 | 22 | 35 | | | 42 | 34 | 35 | | | 41 | 45 | 49 | | | 40 | 56 | 17 | |
| 21 | | 41 | 5 | 12 | 53 | | 24 | 51 | 4 | 20 | | 7 | 49 | 19 | 20 | | 49 | 59 | 10 | 44 | | 31 | 19 | 52 | 19 | 21 |
| | | | 44 | 9 | 0 | | | 43 | 21 | 48 | | | 42 | 33 | 47 | | | 41 | 45 | 0 | | | 40 | 55 | 26 | |
| 22 | | 41 | 49 | 21 | 53 | | 25 | 34 | 26 | 8 | | 8 | 31 | 53 | 7 | | 50 | 40 | 55 | 44 | | 32 | 0 | 47 | 45 | 22 |
| | | | 44 | 8 | 14 | | | 43 | 20 | 59 | | | 42 | 32 | 58 | | | 41 | 44 | 10 | | | 40 | 54 | 37 | |
| 23 | | 42 | 33 | 30 | 7 | | 26 | 17 | 47 | 7 | | 9 | 14 | 26 | 5 | | 51 | 22 | 39 | 54 | | 32 | 41 | 42 | 22 | 23 |
| | | | 44 | 7 | 26 | | | 43 | 20 | 12 | | | 42 | 32 | 10 | | | 41 | 43 | 21 | | | 40 | 53 | 47 | |
| 24 | | 43 | 17 | 37 | 33 | | 27 | 1 | 7 | 19 | | 9 | 56 | 58 | 15 | | 52 | 4 | 23 | 15 | | 33 | 22 | 36 | 9 | 24 |
| | | | 44 | 6 | 40 | | | 43 | 19 | 25 | | | 42 | 31 | 21 | | | 41 | 42 | 32 | | | 40 | 52 | 56 | |
| 25 | | 44 | 1 | 44 | 13 | | 27 | 44 | 26 | 44 | | 10 | 39 | 29 | 36 | | 52 | 46 | 5 | 47 | | 34 | 3 | 29 | 5 | 25 |
| | | | 44 | 5 | 53 | | | 43 | 18 | 37 | | | 42 | 30 | 34 | | | 41 | 41 | 43 | | | 40 | 52 | 7 | |
| 26 | | 44 | 45 | 50 | 6 | | 28 | 27 | 45 | 21 | | 11 | 22 | 0 | 10 | | 53 | 27 | 47 | 30 | | 34 | 44 | 21 | 12 | 26 |
| | | | 44 | 5 | 6 | | | 43 | 17 | 49 | | | 42 | 29 | 44 | | | 41 | 40 | 53 | | | 40 | 51 | 17 | |
| 27 | | 45 | 29 | 55 | 12 | | 29 | 11 | 3 | 10 | | 12 | 4 | 29 | 54 | | 54 | 9 | 28 | 23 | | 35 | 25 | 12 | 29 | 27 |
| | | | 44 | 4 | 20 | | | 43 | 17 | 1 | | | 42 | 28 | 56 | | | 41 | 40 | 5 | | | 40 | 50 | 26 | |
| 28 | | 46 | 13 | 59 | 32 | | 29 | 54 | 20 | 11 | | 12 | 46 | 58 | 50 | | 54 | 51 | 8 | 28 | | 36 | 6 | 2 | 55 | 28 |
| | | | 44 | 3 | 32 | | | 43 | 16 | 14 | | | 42 | 28 | 8 | | | 41 | 39 | 15 | | | 40 | 49 | 37 | |
| 29 | | 46 | 58 | 3 | 4 | | 30 | 37 | 36 | 25 | | 13 | 29 | 26 | 58 | | 55 | 32 | 47 | 43 | | 36 | 46 | 52 | 32 | 29 |
| | | | 44 | 2 | 45 | | | 43 | 15 | 26 | | | 42 | 27 | 19 | | | 41 | 38 | 25 | | | 40 | 48 | 47 | |
| 30 | 42 | 47 | 42 | 5 | 49 | 43 | 31 | 20 | 51 | 51 | 44 | 14 | 11 | 54 | 17 | 44 | 56 | 14 | 26 | 8 | 45 | 37 | 27 | 41 | 19 | 30 |
| | | | 44 | 1 | 59 | | | 43 | 14 | 38 | | | 42 | 26 | 31 | | | 41 | 37 | 37 | | | 40 | 47 | 57 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 45° | | | | | 46° | | | | | 47° | | | | | 48° | | | | | 49° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 42 | 47 | 42 | 5 | 49 | 43 | 31 | 20 | 51 | 51 | 44 | 14 | 11 | 54 | 17 | 44 | 56 | 14 | 26 | 8 | 45 | 37 | 27 | 41 | 19 | 30 |
| | | | 44 | 1 | 59 | | | 43 | 14 | 38 | | | 42 | 26 | 31 | | | 41 | 37 | 37 | | | 40 | 47 | 57 | |
| 31 | | 48 | 26 | 7 | 48 | | 32 | 4 | 6 | 29 | | 14 | 54 | 20 | 48 | | 56 | 56 | 3 | 45 | | 38 | 8 | 29 | 16 | 31 |
| | | | 44 | 1 | 11 | | | 43 | 13 | 51 | | | 42 | 25 | 42 | | | 41 | 36 | 47 | | | 40 | 47 | 6 | |
| 32 | | 49 | 10 | 8 | 59 | | 32 | 47 | 20 | 20 | | 15 | 36 | 46 | 30 | | 57 | 37 | 40 | 32 | | 38 | 49 | 16 | 22 | 32 |
| | | | 44 | 0 | 25 | | | 43 | 13 | 2 | | | 42 | 24 | 53 | | | 41 | 35 | 58 | | | 40 | 46 | 17 | |
| 33 | | 49 | 54 | 9 | 24 | | 33 | 30 | 33 | 22 | | 16 | 19 | 11 | 23 | | 58 | 19 | 16 | 30 | | 39 | 30 | 2 | 39 | 33 |
| | | | 43 | 59 | 37 | | | 43 | 12 | 15 | | | 42 | 24 | 5 | | | 41 | 35 | 9 | | | 40 | 45 | 26 | |
| 34 | | 50 | 38 | 9 | 1 | | 34 | 13 | 45 | 37 | | 17 | 1 | 35 | 28 | | 59 | 0 | 51 | 39 | | 40 | 10 | 48 | 5 | 34 |
| | | | 43 | 58 | 51 | | | 43 | 11 | 28 | | | 42 | 23 | 17 | | | 41 | 34 | 19 | | | 40 | 44 | 37 | |
| 35 | | 51 | 22 | 7 | 52 | | 34 | 56 | 57 | 5 | | 17 | 43 | 58 | 45 | | 59 | 42 | 25 | 58 | | 40 | 51 | 32 | 42 | 35 |
| | | | 43 | 58 | 4 | | | 43 | 10 | 39 | | | 42 | 22 | 28 | | | 41 | 33 | 30 | | | 40 | 43 | 46 | |
| 36 | | 52 | 6 | 5 | 56 | | 35 | 40 | 7 | 44 | | 18 | 26 | 21 | 13 | 45 | 0 | 23 | 59 | 28 | | 41 | 32 | 16 | 28 | 36 |
| | | | 43 | 57 | 16 | | | 43 | 9 | 52 | | | 42 | 21 | 39 | | | 41 | 32 | 40 | | | 40 | 42 | 56 | |
| 37 | | 52 | 50 | 3 | 12 | | 36 | 23 | 17 | 36 | | 19 | 8 | 42 | 52 | | 1 | 5 | 32 | 8 | | 42 | 12 | 59 | 24 | 37 |
| | | | 43 | 56 | 30 | | | 43 | 9 | 4 | | | 42 | 20 | 51 | | | 41 | 31 | 51 | | | 40 | 42 | 6 | |
| 38 | | 53 | 33 | 59 | 42 | | 37 | 6 | 26 | 40 | | 19 | 51 | 3 | 43 | | 1 | 47 | 3 | 59 | | 42 | 53 | 41 | 30 | 38 |
| | | | 43 | 55 | 42 | | | 43 | 8 | 16 | | | 42 | 20 | 2 | | | 41 | 31 | 2 | | | 40 | 41 | 16 | |
| 39 | | 54 | 17 | 55 | 24 | | 37 | 49 | 34 | 56 | | 20 | 33 | 23 | 45 | | 2 | 28 | 35 | 1 | | 43 | 34 | 22 | 46 | 39 |
| | | | 43 | 54 | 56 | | | 43 | 7 | 28 | | | 42 | 19 | 13 | | | 41 | 30 | 13 | | | 40 | 40 | 26 | |
| 40 | 42 | 55 | 1 | 50 | 20 | 43 | 38 | 32 | 42 | 24 | 44 | 21 | 15 | 42 | 58 | 45 | 3 | 10 | 5 | 14 | 45 | 44 | 15 | 3 | 12 | 40 |
| | | | 43 | 54 | 8 | | | 43 | 6 | 40 | | | 42 | 18 | 25 | | | 41 | 29 | 23 | | | 40 | 39 | 36 | |
| 41 | | 55 | 45 | 44 | 28 | | 39 | 15 | 49 | 4 | | 21 | 58 | 1 | 23 | | 3 | 51 | 34 | 37 | | 44 | 55 | 42 | 48 | 41 |
| | | | 43 | 53 | 22 | | | 43 | 5 | 52 | | | 42 | 17 | 36 | | | 41 | 28 | 33 | | | 40 | 38 | 45 | |
| 42 | | 56 | 29 | 37 | 50 | | 39 | 58 | 54 | 56 | | 22 | 40 | 18 | 59 | | 4 | 33 | 3 | 10 | | 45 | 36 | 21 | 33 | 42 |
| | | | 43 | 52 | 34 | | | 43 | 5 | 5 | | | 42 | 16 | 48 | | | 41 | 27 | 44 | | | 40 | 37 | 55 | |
| 43 | | 57 | 13 | 30 | 24 | | 40 | 42 | 0 | 1 | | 23 | 22 | 35 | 47 | | 5 | 14 | 30 | 54 | | 46 | 16 | 59 | 28 | 43 |
| | | | 43 | 51 | 47 | | | 43 | 4 | 16 | | | 42 | 15 | 59 | | | 41 | 26 | 55 | | | 40 | 37 | 6 | |
| 44 | | 57 | 57 | 22 | 11 | | 41 | 25 | 4 | 17 | | 24 | 4 | 51 | 46 | | 5 | 55 | 57 | 49 | | 46 | 57 | 36 | 34 | 44 |
| | | | 43 | 51 | 0 | | | 43 | 3 | 29 | | | 42 | 15 | 10 | | | 41 | 26 | 5 | | | 40 | 36 | 15 | |
| 45 | | 58 | 41 | 13 | 11 | | 42 | 8 | 7 | 46 | | 24 | 47 | 6 | 56 | | 6 | 37 | 23 | 54 | | 47 | 38 | 12 | 49 | 45 |
| | | | 43 | 50 | 13 | | | 43 | 2 | 41 | | | 42 | 14 | 21 | | | 41 | 25 | 16 | | | 40 | 35 | 24 | |
| 46 | | 59 | 25 | 3 | 24 | | 42 | 51 | 10 | 27 | | 25 | 29 | 21 | 17 | | 7 | 18 | 49 | 10 | | 48 | 18 | 48 | 13 | 46 |
| | | | 43 | 49 | 26 | | | 43 | 1 | 53 | | | 42 | 13 | 33 | | | 41 | 24 | 26 | | | 40 | 34 | 35 | |
| 47 | 43 | 0 | 8 | 52 | 50 | | 43 | 34 | 12 | 20 | | 26 | 11 | 34 | 50 | | 8 | 0 | 13 | 36 | | 48 | 59 | 22 | 48 | 47 |
| | | | 43 | 48 | 39 | | | 43 | 1 | 5 | | | 42 | 12 | 44 | | | 41 | 23 | 37 | | | 40 | 33 | 44 | |
| 48 | | 0 | 52 | 41 | 29 | | 44 | 17 | 13 | 25 | | 26 | 53 | 47 | 34 | | 8 | 41 | 37 | 13 | | 49 | 39 | 56 | 32 | 48 |
| | | | 43 | 47 | 51 | | | 43 | 0 | 17 | | | 42 | 11 | 55 | | | 41 | 22 | 47 | | | 40 | 32 | 54 | |
| 49 | | 1 | 36 | 29 | 20 | | 45 | 0 | 13 | 42 | | 27 | 35 | 59 | 29 | | 9 | 23 | 0 | 0 | | 50 | 20 | 29 | 26 | 49 |
| | | | 43 | 47 | 4 | | | 42 | 59 | 29 | | | 42 | 11 | 7 | | | 41 | 21 | 58 | | | 40 | 32 | 4 | |
| 50 | 43 | 2 | 20 | 16 | 24 | 43 | 45 | 43 | 13 | 11 | 44 | 28 | 18 | 10 | 36 | 45 | 10 | 4 | 21 | 58 | 45 | 51 | 1 | 1 | 30 | 50 |
| | | | 43 | 46 | 17 | | | 42 | 58 | 41 | | | 42 | 10 | 18 | | | 41 | 21 | 8 | | | 40 | 31 | 13 | |
| 51 | | 3 | 4 | 2 | 41 | | 46 | 26 | 11 | 52 | | 29 | 0 | 20 | 54 | | 10 | 45 | 43 | 6 | | 51 | 41 | 32 | 43 | 51 |
| | | | 43 | 45 | 30 | | | 42 | 57 | 52 | | | 42 | 9 | 28 | | | 41 | 20 | 19 | | | 40 | 30 | 23 | |
| 52 | | 3 | 47 | 48 | 11 | | 47 | 9 | 9 | 44 | | 29 | 42 | 30 | 22 | | 11 | 27 | 3 | 25 | | 52 | 22 | 3 | 6 | 52 |
| | | | 43 | 44 | 43 | | | 42 | 57 | 5 | | | 42 | 8 | 41 | | | 41 | 19 | 29 | | | 40 | 29 | 33 | |
| 53 | | 4 | 31 | 32 | 54 | | 47 | 52 | 6 | 49 | | 30 | 24 | 39 | 3 | | 12 | 8 | 22 | 54 | | 53 | 2 | 32 | 39 | 53 |
| | | | 43 | 43 | 55 | | | 42 | 56 | 17 | | | 42 | 7 | 51 | | | 41 | 18 | 40 | | | 40 | 28 | 42 | |
| 54 | | 5 | 15 | 16 | 49 | | 48 | 35 | 3 | 6 | | 31 | 6 | 46 | 54 | | 12 | 49 | 41 | 34 | | 53 | 43 | 1 | 21 | 54 |
| | | | 43 | 43 | 8 | | | 42 | 55 | 29 | | | 42 | 7 | 2 | | | 41 | 17 | 50 | | | 40 | 27 | 53 | |
| 55 | | 5 | 58 | 59 | 57 | | 49 | 17 | 58 | 35 | | 31 | 48 | 53 | 56 | | 13 | 30 | 59 | 24 | | 54 | 23 | 29 | 14 | 55 |
| | | | 43 | 42 | 21 | | | 42 | 54 | 41 | | | 42 | 6 | 14 | | | 41 | 17 | 0 | | | 40 | 27 | 1 | |
| 56 | | 6 | 42 | 42 | 18 | | 50 | 0 | 53 | 16 | | 32 | 31 | 0 | 10 | | 14 | 12 | 16 | 24 | | 55 | 3 | 56 | 15 | 56 |
| | | | 43 | 41 | 34 | | | 42 | 53 | 53 | | | 42 | 5 | 25 | | | 41 | 16 | 11 | | | 40 | 26 | 12 | |
| 57 | | 7 | 26 | 23 | 52 | | 50 | 43 | 47 | 9 | | 33 | 13 | 5 | 35 | | 14 | 53 | 32 | 35 | | 55 | 44 | 22 | 27 | 57 |
| | | | 43 | 40 | 46 | | | 42 | 53 | 4 | | | 42 | 4 | 36 | | | 41 | 15 | 21 | | | 40 | 25 | 21 | |
| 58 | | 8 | 10 | 4 | 38 | | 51 | 26 | 40 | 13 | | 33 | 55 | 10 | 11 | | 15 | 34 | 47 | 56 | | 56 | 24 | 47 | 48 | 58 |
| | | | 43 | 39 | 59 | | | 42 | 52 | 17 | | | 42 | 3 | 47 | | | 41 | 14 | 32 | | | 40 | 24 | 31 | |
| 59 | | 8 | 53 | 44 | 37 | | 52 | 9 | 32 | 30 | | 34 | 37 | 13 | 58 | | 16 | 16 | 2 | 28 | | 57 | 5 | 12 | 19 | 59 |
| | | | 43 | 39 | 12 | | | 42 | 51 | 28 | | | 42 | 2 | 58 | | | 41 | 13 | 42 | | | 40 | 23 | 40 | |
| 60 | 43 | 9 | 37 | 23 | 49 | 43 | 52 | 52 | 23 | 58 | 44 | 35 | 19 | 16 | 56 | 45 | 16 | 57 | 16 | 10 | 45 | 57 | 45 | 35 | 59 | 60 |
| | | | 43 | 38 | 24 | | | 42 | 50 | 41 | | | 42 | 2 | 10 | | | 41 | 12 | 52 | | | 40 | 22 | 50 | |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 50° | | | | | 51° | | | | | 52° | | | | | 53° | | | | | 54° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 45 | 57 | 45 | 35 | 59 | 46 | 37 | 43 | 31 | 40 | 47 | 16 | 50 | 19 | 22 | 47 | 55 | 5 | 16 | 13 | 48 | 32 | 27 | 40 | 15 | 0 |
| | | | 40 | 22 | 50 | | | 39 | 32 | 3 | | | 38 | 40 | 33 | | | 37 | 48 | 21 | | | 36 | 55 | 27 | |
| 1 | | 58 | 25 | 58 | 49 | | 38 | 23 | 3 | 43 | | 17 | 28 | 59 | 55 | | 55 | 43 | 4 | 34 | | 33 | 4 | 35 | 42 | 1 |
| | | | 40 | 21 | 59 | | | 39 | 31 | 12 | | | 38 | 39 | 42 | | | 37 | 47 | 28 | | | 36 | 54 | 34 | |
| 2 | | 59 | 6 | 20 | 48 | | 39 | 2 | 34 | 55 | | 18 | 7 | 39 | 37 | | 56 | 20 | 52 | 2 | | 33 | 41 | 30 | 16 | 2 |
| | | | 40 | 21 | 9 | | | 39 | 30 | 21 | | | 38 | 38 | 50 | | | 37 | 46 | 36 | | | 36 | 53 | 41 | |
| 3 | | 59 | 46 | 41 | 57 | | 39 | 42 | 5 | 16 | | 18 | 46 | 18 | 27 | | 56 | 58 | 38 | 38 | | 34 | 18 | 23 | 57 | 3 |
| | | | 40 | 20 | 19 | | | 39 | 29 | 30 | | | 38 | 37 | 57 | | | 37 | 45 | 44 | | | 36 | 52 | 47 | |
| 4 | 46 | 0 | 27 | 2 | 16 | | 40 | 21 | 34 | 46 | | 19 | 24 | 56 | 24 | | 57 | 36 | 24 | 22 | | 34 | 55 | 16 | 44 | 4 |
| | | | 40 | 19 | 28 | | | 39 | 28 | 39 | | | 38 | 37 | 6 | | | 37 | 44 | 50 | | | 36 | 51 | 55 | |
| 5 | | 1 | 7 | 21 | 44 | | 41 | 1 | 3 | 25 | | 20 | 3 | 33 | 30 | | 58 | 14 | 9 | 12 | | 35 | 32 | 8 | 39 | 5 |
| | | | 40 | 18 | 38 | | | 39 | 27 | 47 | | | 38 | 36 | 14 | | | 37 | 43 | 58 | | | 36 | 51 | 1 | |
| 6 | | 1 | 47 | 40 | 22 | | 41 | 40 | 31 | 12 | | 20 | 42 | 9 | 44 | | 58 | 51 | 53 | 10 | | 36 | 8 | 59 | 40 | 6 |
| | | | 40 | 17 | 47 | | | 39 | 26 | 57 | | | 38 | 35 | 22 | | | 37 | 43 | 6 | | | 36 | 50 | 7 | |
| 7 | | 2 | 27 | 58 | 9 | | 42 | 19 | 58 | 9 | | 21 | 20 | 45 | 6 | | 59 | 29 | 36 | 16 | | 36 | 45 | 49 | 47 | 7 |
| | | | 40 | 16 | 57 | | | 39 | 26 | 5 | | | 38 | 34 | 31 | | | 37 | 42 | 13 | | | 36 | 49 | 15 | |
| 8 | | 3 | 8 | 15 | 6 | | 42 | 59 | 24 | 14 | | 21 | 59 | 19 | 37 | 48 | 0 | 7 | 18 | 29 | | 37 | 22 | 39 | 2 | 8 |
| | | | 40 | 16 | 6 | | | 39 | 25 | 14 | | | 38 | 33 | 38 | | | 37 | 41 | 20 | | | 36 | 48 | 21 | |
| 9 | | 3 | 48 | 31 | 12 | | 43 | 38 | 49 | 28 | | 22 | 37 | 53 | 15 | | 0 | 44 | 59 | 49 | | 37 | 59 | 27 | 23 | 9 |
| | | | 40 | 15 | 16 | | | 39 | 24 | 22 | | | 38 | 32 | 46 | | | 37 | 40 | 28 | | | 36 | 47 | 27 | |
| 10 | 46 | 4 | 28 | 46 | 28 | 46 | 44 | 18 | 13 | 50 | 47 | 23 | 16 | 26 | 1 | 48 | 1 | 22 | 40 | 17 | 48 | 38 | 36 | 14 | 50 | 10 |
| | | | 40 | 14 | 25 | | | 39 | 23 | 31 | | | 38 | 31 | 54 | | | 37 | 39 | 35 | | | 36 | 46 | 35 | |
| 11 | | 5 | 9 | 0 | 53 | | 44 | 57 | 37 | 21 | | 23 | 54 | 57 | 55 | | 2 | 0 | 19 | 52 | | 39 | 13 | 1 | 25 | 11 |
| | | | 40 | 13 | 35 | | | 39 | 22 | 41 | | | 38 | 31 | 3 | | | 37 | 38 | 42 | | | 36 | 45 | 41 | |
| 12 | | 5 | 49 | 14 | 28 | | 45 | 37 | 0 | 2 | | 24 | 33 | 28 | 58 | | 2 | 37 | 58 | 34 | | 39 | 49 | 47 | 6 | 12 |
| | | | 40 | 12 | 44 | | | 39 | 21 | 48 | | | 38 | 30 | 10 | | | 37 | 37 | 50 | | | 36 | 44 | 47 | |
| 13 | | 6 | 29 | 27 | 12 | | 46 | 16 | 21 | 50 | | 25 | 11 | 59 | 8 | | 3 | 15 | 36 | 24 | | 40 | 26 | 31 | 53 | 13 |
| | | | 40 | 11 | 54 | | | 39 | 20 | 58 | | | 38 | 29 | 18 | | | 37 | 36 | 57 | | | 36 | 43 | 55 | |
| 14 | | 7 | 9 | 39 | 6 | | 46 | 55 | 42 | 48 | | 25 | 50 | 28 | 26 | | 3 | 53 | 13 | 21 | | 41 | 3 | 15 | 48 | 14 |
| | | | 40 | 11 | 3 | | | 39 | 20 | 6 | | | 38 | 28 | 27 | | | 37 | 36 | 4 | | | 36 | 43 | 0 | |
| 15 | | 7 | 49 | 50 | 9 | | 47 | 35 | 2 | 54 | | 26 | 28 | 56 | 53 | | 4 | 30 | 49 | 25 | | 41 | 39 | 58 | 48 | 15 |
| | | | 40 | 10 | 12 | | | 39 | 19 | 15 | | | 38 | 27 | 34 | | | 37 | 35 | 11 | | | 36 | 42 | 8 | |
| 16 | | 8 | 30 | 0 | 21 | | 48 | 14 | 22 | 9 | | 27 | 7 | 24 | 27 | | 5 | 8 | 24 | 36 | | 42 | 16 | 40 | 56 | 16 |
| | | | 40 | 9 | 22 | | | 39 | 18 | 24 | | | 38 | 26 | 42 | | | 37 | 34 | 19 | | | 36 | 41 | 14 | |
| 17 | | 9 | 10 | 9 | 43 | | 48 | 53 | 40 | 33 | | 27 | 45 | 51 | 9 | | 5 | 45 | 58 | 55 | | 42 | 53 | 22 | 10 | 17 |
| | | | 40 | 8 | 31 | | | 39 | 17 | 32 | | | 38 | 25 | 50 | | | 37 | 33 | 26 | | | 36 | 40 | 21 | |
| 18 | | 9 | 50 | 18 | 14 | | 49 | 32 | 58 | 5 | | 28 | 24 | 16 | 59 | | 6 | 23 | 32 | 21 | | 43 | 30 | 2 | 31 | 18 |
| | | | 40 | 7 | 41 | | | 39 | 16 | 41 | | | 38 | 24 | 58 | | | 37 | 32 | 33 | | | 36 | 39 | 27 | |
| 19 | | 10 | 30 | 25 | 55 | | 50 | 12 | 14 | 46 | | 29 | 2 | 41 | 57 | | 7 | 1 | 4 | 54 | | 44 | 6 | 41 | 58 | 19 |
| | | | 40 | 6 | 49 | | | 39 | 15 | 49 | | | 38 | 24 | 6 | | | 37 | 31 | 41 | | | 36 | 38 | 33 | |
| 20 | 46 | 11 | 10 | 32 | 44 | 46 | 50 | 51 | 30 | 35 | 47 | 29 | 41 | 6 | 3 | 48 | 7 | 38 | 36 | 35 | 48 | 44 | 43 | 20 | 31 | 20 |
| | | | 40 | 6 | 0 | | | 39 | 14 | 58 | | | 38 | 23 | 14 | | | 37 | 30 | 47 | | | 36 | 37 | 41 | |
| 21 | | 11 | 50 | 38 | 44 | | 51 | 30 | 45 | 33 | | 30 | 19 | 29 | 17 | | 8 | 16 | 7 | 22 | | 45 | 19 | 58 | 12 | 21 |
| | | | 40 | 5 | 8 | | | 39 | 14 | 7 | | | 38 | 22 | 22 | | | 37 | 29 | 55 | | | 36 | 36 | 47 | |
| 22 | | 12 | 30 | 43 | 52 | | 52 | 9 | 59 | 40 | | 30 | 57 | 51 | 39 | | 8 | 53 | 37 | 17 | | 45 | 56 | 34 | 59 | 22 |
| | | | 40 | 4 | 18 | | | 39 | 13 | 15 | | | 38 | 21 | 30 | | | 37 | 29 | 2 | | | 36 | 35 | 53 | |
| 23 | | 13 | 10 | 48 | 10 | | 52 | 49 | 12 | 55 | | 31 | 36 | 13 | 9 | | 9 | 31 | 6 | 19 | | 46 | 33 | 10 | 52 | 23 |
| | | | 40 | 3 | 28 | | | 39 | 12 | 24 | | | 38 | 20 | 38 | | | 37 | 28 | 10 | | | 36 | 35 | 0 | |
| 24 | | 13 | 50 | 51 | 38 | | 53 | 28 | 25 | 19 | | 32 | 14 | 33 | 47 | | 10 | 8 | 34 | 29 | | 47 | 9 | 45 | 52 | 24 |
| | | | 40 | 2 | 36 | | | 39 | 11 | 33 | | | 38 | 19 | 45 | | | 37 | 27 | 16 | | | 36 | 34 | 6 | |
| 25 | | 14 | 30 | 54 | 14 | | 54 | 7 | 36 | 52 | | 32 | 52 | 53 | 32 | | 10 | 46 | 1 | 45 | | 47 | 46 | 19 | 58 | 25 |
| | | | 40 | 1 | 46 | | | 39 | 10 | 41 | | | 38 | 18 | 54 | | | 37 | 26 | 24 | | | 36 | 33 | 13 | |
| 26 | | 15 | 10 | 56 | 0 | | 54 | 46 | 47 | 33 | | 33 | 31 | 12 | 26 | | 11 | 23 | 28 | 9 | | 48 | 22 | 53 | 11 | 26 |
| | | | 40 | 0 | 55 | | | 39 | 9 | 50 | | | 38 | 18 | 1 | | | 37 | 25 | 31 | | | 36 | 32 | 19 | |
| 27 | | 15 | 50 | 56 | 55 | | 55 | 25 | 57 | 23 | | 34 | 9 | 30 | 27 | | 12 | 0 | 53 | 40 | | 48 | 59 | 25 | 30 | 27 |
| | | | 40 | 0 | 5 | | | 39 | 8 | 58 | | | 38 | 17 | 9 | | | 37 | 24 | 38 | | | 36 | 31 | 26 | |
| 28 | | 16 | 30 | 57 | 0 | | 56 | 5 | 6 | 21 | | 34 | 47 | 47 | 36 | | 12 | 38 | 18 | 18 | | 49 | 35 | 56 | 56 | 28 |
| | | | 39 | 59 | 13 | | | 39 | 8 | 7 | | | 38 | 16 | 17 | | | 37 | 23 | 45 | | | 36 | 30 | 32 | |
| 29 | | 17 | 10 | 56 | 13 | | 56 | 44 | 14 | 28 | | 35 | 26 | 3 | 53 | | 13 | 15 | 42 | 3 | | 50 | 12 | 27 | 28 | 29 |
| | | | 39 | 58 | 23 | | | 39 | 7 | 15 | | | 38 | 15 | 24 | | | 37 | 22 | 52 | | | 36 | 29 | 39 | |
| 30 | 46 | 17 | 50 | 54 | 36 | 46 | 57 | 23 | 21 | 43 | 47 | 36 | 4 | 19 | 17 | 48 | 13 | 53 | 4 | 55 | 48 | 50 | 48 | 57 | 7 | 30 |
| | | | 39 | 57 | 32 | | | 39 | 6 | 24 | | | 38 | 14 | 33 | | | 37 | 21 | 59 | | | 36 | 28 | 45 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 50° | | | | | 51° | | | | | 52° | | | | | 53° | | | | | 54° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 46 | 17 | 50 | 54 | 36 | 46 | 57 | 23 | 21 | 43 | 47 | 36 | 4 | 19 | 17 | 48 | 13 | 53 | 4 | 55 | 48 | 50 | 48 | 57 | 7 | 30 |
| | | | 39 | 57 | 32 | | | 39 | 6 | 24 | | | 38 | 14 | 33 | | | 37 | 21 | 59 | | | 36 | 28 | 45 | |
| 31 | | 18 | 30 | 52 | 8 | | 58 | 2 | 28 | 7 | | 36 | 42 | 33 | 50 | | 14 | 30 | 26 | 54 | | 51 | 25 | 25 | 52 | 31 |
| | | | 39 | 56 | 41 | | | 39 | 5 | 32 | | | 38 | 13 | 40 | | | 37 | 21 | 7 | | | 36 | 27 | 52 | |
| 32 | | 19 | 10 | 48 | 49 | | 58 | 41 | 33 | 39 | | 37 | 20 | 47 | 30 | | 15 | 7 | 48 | 1 | | 52 | 1 | 53 | 44 | 32 |
| | | | 39 | 55 | 51 | | | 39 | 4 | 40 | | | 38 | 12 | 48 | | | 37 | 20 | 13 | | | 36 | 26 | 58 | |
| 33 | | 19 | 50 | 44 | 40 | | 59 | 20 | 38 | 19 | | 37 | 59 | 0 | 18 | | 15 | 45 | 8 | 14 | | 52 | 38 | 20 | 42 | 33 |
| | | | 39 | 55 | 0 | | | 39 | 3 | 50 | | | 38 | 11 | 56 | | | 37 | 19 | 21 | | | 36 | 26 | 4 | |
| 34 | | 20 | 30 | 39 | 40 | | 59 | 59 | 42 | 9 | | 38 | 37 | 12 | 14 | | 16 | 22 | 27 | 35 | | 53 | 14 | 46 | 46 | 34 |
| | | | 39 | 54 | 9 | | | 39 | 2 | 57 | | | 38 | 11 | 4 | | | 37 | 18 | 27 | | | 36 | 25 | 11 | |
| 35 | | 21 | 10 | 33 | 49 | 47 | 0 | 38 | 45 | 6 | | 39 | 15 | 23 | 18 | | 16 | 59 | 46 | 2 | | 53 | 51 | 11 | 57 | 35 |
| | | | 39 | 53 | 18 | | | 39 | 2 | 6 | | | 38 | 10 | 11 | | | 37 | 17 | 35 | | | 36 | 24 | 17 | |
| 36 | | 21 | 50 | 27 | 7 | | 1 | 17 | 47 | 12 | | 39 | 53 | 33 | 29 | | 17 | 37 | 3 | 37 | | 54 | 27 | 36 | 14 | 36 |
| | | | 39 | 52 | 27 | | | 39 | 1 | 15 | | | 38 | 9 | 19 | | | 37 | 16 | 42 | | | 36 | 23 | 23 | |
| 37 | | 22 | 30 | 19 | 34 | | 1 | 56 | 48 | 27 | | 40 | 31 | 42 | 48 | | 18 | 14 | 20 | 19 | | 55 | 3 | 59 | 37 | 37 |
| | | | 39 | 51 | 36 | | | 39 | 0 | 23 | | | 38 | 8 | 27 | | | 37 | 15 | 48 | | | 36 | 22 | 30 | |
| 38 | | 23 | 10 | 11 | 10 | | 2 | 35 | 48 | 50 | | 41 | 9 | 51 | 15 | | 18 | 51 | 36 | 7 | | 55 | 40 | 22 | 7 | 38 |
| | | | 39 | 50 | 46 | | | 38 | 59 | 31 | | | 38 | 7 | 34 | | | 37 | 14 | 56 | | | 36 | 21 | 37 | |
| 39 | | 23 | 50 | 1 | 56 | | 3 | 14 | 48 | 21 | | 41 | 47 | 58 | 49 | | 19 | 28 | 51 | 3 | | 56 | 16 | 43 | 44 | 39 |
| | | | 39 | 49 | 55 | | | 38 | 58 | 40 | | | 38 | 6 | 42 | | | 37 | 14 | 3 | | | 36 | 20 | 42 | |
| 40 | 46 | 24 | 29 | 51 | 51 | 47 | 3 | 53 | 47 | 1 | 47 | 42 | 26 | 5 | 31 | 48 | 20 | 6 | 5 | 6 | 48 | 56 | 53 | 4 | 26 | 40 |
| | | | 39 | 49 | 3 | | | 38 | 57 | 48 | | | 38 | 5 | 50 | | | 37 | 13 | 10 | | | 36 | 19 | 49 | |
| 41 | | 25 | 9 | 40 | 54 | | 4 | 32 | 44 | 49 | | 43 | 4 | 11 | 21 | | 20 | 43 | 18 | 16 | | 57 | 29 | 24 | 15 | 41 |
| | | | 39 | 48 | 13 | | | 38 | 56 | 57 | | | 38 | 4 | 58 | | | 37 | 12 | 16 | | | 36 | 18 | 55 | |
| 42 | | 25 | 49 | 29 | 7 | | 5 | 11 | 41 | 46 | | 43 | 42 | 16 | 19 | | 21 | 20 | 30 | 32 | | 58 | 5 | 43 | 10 | 42 |
| | | | 39 | 47 | 22 | | | 38 | 56 | 5 | | | 38 | 4 | 5 | | | 37 | 11 | 24 | | | 36 | 18 | 2 | |
| 43 | | 26 | 29 | 16 | 29 | | 5 | 50 | 37 | 51 | | 44 | 20 | 20 | 24 | | 21 | 57 | 41 | 56 | | 58 | 42 | 1 | 12 | 43 |
| | | | 39 | 46 | 31 | | | 38 | 55 | 13 | | | 38 | 3 | 13 | | | 37 | 10 | 31 | | | 36 | 17 | 7 | |
| 44 | | 27 | 9 | 3 | 0 | | 6 | 29 | 33 | 4 | | 44 | 58 | 23 | 37 | | 22 | 34 | 52 | 27 | | 59 | 18 | 18 | 19 | 44 |
| | | | 39 | 45 | 40 | | | 38 | 54 | 21 | | | 38 | 2 | 20 | | | 37 | 9 | 37 | | | 36 | 16 | 14 | |
| 45 | | 27 | 48 | 48 | 40 | | 7 | 8 | 27 | 25 | | 45 | 36 | 25 | 57 | | 23 | 12 | 2 | 4 | | 59 | 54 | 34 | 33 | 45 |
| | | | 39 | 44 | 49 | | | 38 | 53 | 30 | | | 38 | 1 | 28 | | | 37 | 8 | 45 | | | 36 | 15 | 21 | |
| 46 | | 28 | 28 | 33 | 29 | | 7 | 47 | 20 | 55 | | 46 | 14 | 27 | 25 | | 23 | 49 | 10 | 49 | 49 | 0 | 30 | 49 | 54 | 46 |
| | | | 39 | 43 | 58 | | | 38 | 52 | 39 | | | 38 | 0 | 36 | | | 37 | 7 | 51 | | | 36 | 14 | 26 | |
| 47 | | 29 | 8 | 17 | 27 | | 8 | 26 | 13 | 34 | | 46 | 52 | 28 | 1 | | 24 | 26 | 18 | 40 | | 1 | 7 | 4 | 20 | 47 |
| | | | 39 | 43 | 7 | | | 38 | 51 | 46 | | | 37 | 59 | 43 | | | 37 | 6 | 59 | | | 36 | 13 | 33 | |
| 48 | | 29 | 48 | 0 | 34 | | 9 | 5 | 5 | 20 | | 47 | 30 | 27 | 44 | | 25 | 3 | 25 | 39 | | 1 | 43 | 17 | 53 | 48 |
| | | | 39 | 42 | 17 | | | 38 | 50 | 55 | | | 37 | 58 | 51 | | | 37 | 6 | 5 | | | 36 | 12 | 39 | |
| 49 | | 30 | 27 | 42 | 51 | | 9 | 43 | 56 | 15 | | 48 | 8 | 26 | 35 | | 25 | 40 | 31 | 44 | | 2 | 19 | 30 | 32 | 49 |
| | | | 39 | 41 | 25 | | | 38 | 50 | 3 | | | 37 | 57 | 59 | | | 37 | 5 | 12 | | | 36 | 11 | 45 | |
| 50 | 46 | 31 | 7 | 24 | 16 | 47 | 10 | 22 | 46 | 18 | 47 | 48 | 46 | 24 | 34 | 48 | 26 | 17 | 36 | 56 | 49 | 2 | 55 | 42 | 17 | 50 |
| | | | 39 | 40 | 34 | | | 38 | 49 | 11 | | | 37 | 57 | 6 | | | 37 | 4 | 19 | | | 36 | 10 | 52 | |
| 51 | | 31 | 47 | 4 | 50 | | 11 | 1 | 35 | 29 | | 49 | 24 | 21 | 40 | | 26 | 54 | 41 | 15 | | 3 | 31 | 53 | 9 | 51 |
| | | | 39 | 39 | 43 | | | 38 | 48 | 20 | | | 37 | 56 | 13 | | | 37 | 3 | 26 | | | 36 | 9 | 57 | |
| 52 | | 32 | 26 | 44 | 33 | | 11 | 40 | 23 | 49 | | 50 | 2 | 17 | 53 | | 27 | 31 | 44 | 41 | | 4 | 8 | 3 | 6 | 52 |
| | | | 39 | 38 | 52 | | | 38 | 47 | 28 | | | 37 | 55 | 21 | | | 37 | 2 | 33 | | | 36 | 9 | 4 | |
| 53 | | 33 | 6 | 23 | 25 | | 12 | 19 | 11 | 17 | | 50 | 40 | 13 | 14 | | 28 | 8 | 47 | 14 | | 4 | 44 | 12 | 10 | 53 |
| | | | 39 | 38 | 1 | | | 38 | 46 | 36 | | | 37 | 54 | 29 | | | 37 | 1 | 40 | | | 36 | 8 | 10 | |
| 54 | | 33 | 46 | 1 | 26 | | 12 | 57 | 57 | 53 | | 51 | 18 | 7 | 43 | | 28 | 45 | 48 | 54 | | 5 | 20 | 20 | 20 | 54 |
| | | | 39 | 37 | 10 | | | 38 | 45 | 44 | | | 37 | 53 | 36 | | | 37 | 0 | 46 | | | 36 | 7 | 16 | |
| 55 | | 34 | 25 | 38 | 36 | | 13 | 36 | 43 | 37 | | 51 | 56 | 1 | 19 | | 29 | 22 | 49 | 40 | | 5 | 56 | 27 | 36 | 55 |
| | | | 39 | 36 | 19 | | | 38 | 44 | 53 | | | 37 | 52 | 44 | | | 36 | 59 | 54 | | | 36 | 6 | 23 | |
| 56 | | 35 | 5 | 14 | 55 | | 14 | 15 | 28 | 30 | | 52 | 33 | 54 | 3 | | 29 | 59 | 49 | 34 | | 6 | 32 | 33 | 59 | 56 |
| | | | 39 | 35 | 28 | | | 38 | 44 | 1 | | | 37 | 51 | 51 | | | 36 | 59 | 0 | | | 36 | 5 | 28 | |
| 57 | | 35 | 44 | 50 | 23 | | 14 | 54 | 12 | 31 | | 53 | 11 | 45 | 54 | | 30 | 36 | 48 | 34 | | 7 | 8 | 39 | 27 | 57 |
| | | | 39 | 34 | 37 | | | 38 | 43 | 9 | | | 37 | 50 | 59 | | | 36 | 58 | 7 | | | 36 | 4 | 35 | |
| 58 | | 36 | 24 | 25 | 0 | | 15 | 32 | 55 | 40 | | 53 | 49 | 36 | 53 | | 31 | 13 | 46 | 41 | | 7 | 44 | 44 | 2 | 58 |
| | | | 39 | 33 | 45 | | | 38 | 42 | 17 | | | 37 | 50 | 6 | | | 36 | 57 | 13 | | | 36 | 3 | 41 | |
| 59 | | 37 | 3 | 58 | 45 | | 16 | 11 | 37 | 57 | | 54 | 27 | 26 | 59 | | 31 | 50 | 43 | 54 | | 8 | 20 | 47 | 43 | 59 |
| | | | 39 | 32 | 55 | | | 38 | 41 | 25 | | | 37 | 49 | 14 | | | 36 | 56 | 21 | | | 36 | 2 | 47 | |
| 60 | 46 | 37 | 43 | 31 | 40 | 47 | 16 | 50 | 19 | 22 | 47 | 55 | 5 | 16 | 13 | 48 | 32 | 27 | 40 | 15 | 49 | 8 | 56 | 50 | 30 | 60 |
| | | | 39 | 32 | 3 | | | 38 | 40 | 33 | | | 37 | 48 | 21 | | | 36 | 55 | 27 | | | 36 | 1 | 53 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 55° | | | | | 56° | | | | | 57° | | | | | 58° | | | | | 59° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 49 | 8 | 56 | 50 | 30 | 49 | 44 | 32 | 6 | 56 | 50 | 19 | 12 | 50 | 34 | 50 | 52 | 58 | 23 | 20 | 51 | 25 | 48 | 8 | 13 | 0 |
| | | | 36 | 1 | 53 | | | 35 | 7 | 40 | | | 34 | 12 | 46 | | | 33 | 17 | 17 | | | 32 | 21 | 11 | |
| 1 | | 9 | 32 | 52 | 23 | | 45 | 7 | 14 | 36 | | 19 | 47 | 3 | 20 | | 53 | 31 | 40 | 37 | | 26 | 20 | 29 | 24 | 1 |
| | | | 36 | 0 | 59 | | | 35 | 6 | 44 | | | 34 | 11 | 52 | | | 33 | 16 | 21 | | | 32 | 20 | 14 | |
| 2 | | 10 | 8 | 53 | 22 | | 45 | 42 | 21 | 20 | | 20 | 21 | 15 | 12 | | 54 | 4 | 56 | 58 | | 26 | 52 | 49 | 38 | 2 |
| | | | 36 | 0 | 5 | | | 35 | 5 | 50 | | | 34 | 10 | 57 | | | 33 | 15 | 25 | | | 32 | 19 | 18 | |
| 3 | | 10 | 44 | 53 | 27 | | 46 | 17 | 27 | 10 | | 20 | 55 | 26 | 9 | | 54 | 38 | 12 | 23 | | 27 | 25 | 8 | 56 | 3 |
| | | | 35 | 59 | 11 | | | 35 | 4 | 56 | | | 34 | 10 | 1 | | | 33 | 14 | 30 | | | 32 | 18 | 21 | |
| 4 | | 11 | 20 | 52 | 38 | | 46 | 52 | 32 | 6 | | 21 | 29 | 36 | 10 | | 55 | 11 | 26 | 53 | | 27 | 57 | 27 | 17 | 4 |
| | | | 35 | 58 | 17 | | | 35 | 4 | 1 | | | 34 | 9 | 6 | | | 33 | 13 | 33 | | | 32 | 17 | 25 | |
| 5 | | 11 | 56 | 50 | 55 | | 47 | 27 | 36 | 7 | | 22 | 3 | 45 | 16 | | 55 | 44 | 40 | 26 | | 28 | 29 | 44 | 42 | 5 |
| | | | 35 | 57 | 24 | | | 35 | 3 | 6 | | | 34 | 8 | 11 | | | 33 | 12 | 38 | | | 32 | 16 | 29 | |
| 6 | | 12 | 32 | 48 | 19 | | 48 | 2 | 39 | 13 | | 22 | 37 | 53 | 27 | | 56 | 17 | 53 | 4 | | 29 | 2 | 1 | 11 | 6 |
| | | | 35 | 56 | 29 | | | 35 | 2 | 12 | | | 34 | 7 | 15 | | | 33 | 11 | 42 | | | 32 | 15 | 32 | |
| 7 | | 13 | 8 | 44 | 48 | | 48 | 37 | 41 | 25 | | 23 | 12 | 0 | 42 | | 56 | 51 | 4 | 46 | | 29 | 34 | 16 | 43 | 7 |
| | | | 35 | 55 | 35 | | | 35 | 1 | 17 | | | 34 | 6 | 20 | | | 33 | 10 | 46 | | | 32 | 14 | 35 | |
| 8 | | 13 | 44 | 40 | 23 | | 49 | 12 | 42 | 42 | | 23 | 46 | 7 | 2 | | 57 | 24 | 15 | 32 | | 30 | 6 | 31 | 18 | 8 |
| | | | 35 | 54 | 42 | | | 35 | 0 | 22 | | | 34 | 5 | 26 | | | 33 | 9 | 51 | | | 32 | 13 | 39 | |
| 9 | | 14 | 20 | 35 | 5 | | 49 | 47 | 43 | 4 | | 24 | 20 | 12 | 28 | | 57 | 57 | 25 | 23 | | 30 | 38 | 44 | 57 | 9 |
| | | | 35 | 53 | 47 | | | 34 | 59 | 28 | | | 34 | 4 | 29 | | | 33 | 8 | 54 | | | 32 | 12 | 43 | |
| 10 | 49 | 14 | 56 | 28 | 52 | 49 | 50 | 22 | 42 | 32 | 50 | 24 | 54 | 16 | 57 | 50 | 58 | 30 | 34 | 17 | 51 | 31 | 10 | 57 | 40 | 10 |
| | | | 35 | 52 | 54 | | | 34 | 58 | 33 | | | 34 | 3 | 35 | | | 33 | 7 | 59 | | | 32 | 11 | 46 | |
| 11 | | 15 | 32 | 21 | 46 | | 50 | 57 | 41 | 5 | | 25 | 28 | 20 | 32 | | 59 | 3 | 42 | 16 | | 31 | 43 | 9 | 26 | 11 |
| | | | 35 | 51 | 59 | | | 34 | 57 | 38 | | | 34 | 2 | 39 | | | 33 | 7 | 2 | | | 32 | 10 | 50 | |
| 12 | | 16 | 8 | 13 | 45 | | 51 | 32 | 38 | 43 | | 26 | 2 | 23 | 11 | | 59 | 36 | 49 | 18 | | 32 | 15 | 20 | 16 | 12 |
| | | | 35 | 51 | 5 | | | 34 | 56 | 44 | | | 34 | 1 | 44 | | | 33 | 6 | 7 | | | 32 | 9 | 53 | |
| 13 | | 16 | 44 | 4 | 50 | | 52 | 7 | 35 | 27 | | 26 | 36 | 24 | 55 | 51 | 0 | 9 | 55 | 25 | | 32 | 47 | 30 | 9 | 13 |
| | | | 35 | 50 | 12 | | | 34 | 55 | 49 | | | 34 | 0 | 48 | | | 33 | 5 | 10 | | | 32 | 8 | 57 | |
| 14 | | 17 | 19 | 55 | 2 | | 52 | 42 | 31 | 16 | | 27 | 10 | 25 | 43 | | 0 | 43 | 0 | 35 | | 33 | 19 | 39 | 6 | 14 |
| | | | 35 | 49 | 17 | | | 34 | 54 | 55 | | | 33 | 59 | 53 | | | 33 | 4 | 15 | | | 32 | 8 | 0 | |
| 15 | | 17 | 55 | 44 | 19 | | 53 | 17 | 26 | 11 | | 27 | 44 | 25 | 36 | | 1 | 16 | 4 | 50 | | 33 | 51 | 47 | 6 | 15 |
| | | | 35 | 48 | 23 | | | 34 | 53 | 59 | | | 33 | 58 | 58 | | | 33 | 3 | 19 | | | 32 | 7 | 3 | |
| 16 | | 18 | 31 | 32 | 42 | | 53 | 52 | 20 | 10 | | 28 | 18 | 24 | 34 | | 1 | 49 | 8 | 9 | | 34 | 23 | 54 | 9 | 16 |
| | | | 35 | 47 | 29 | | | 34 | 53 | 5 | | | 33 | 58 | 3 | | | 33 | 2 | 23 | | | 32 | 6 | 7 | |
| 17 | | 19 | 7 | 20 | 11 | | 54 | 27 | 13 | 15 | | 28 | 52 | 22 | 37 | | 2 | 22 | 10 | 32 | | 34 | 56 | 0 | 16 | 17 |
| | | | 35 | 46 | 35 | | | 34 | 52 | 10 | | | 33 | 57 | 7 | | | 33 | 1 | 27 | | | 32 | 5 | 10 | |
| 18 | | 19 | 43 | 6 | 46 | | 55 | 2 | 5 | 25 | | 29 | 26 | 19 | 44 | | 2 | 55 | 11 | 59 | | 35 | 28 | 5 | 26 | 18 |
| | | | 35 | 45 | 41 | | | 34 | 51 | 16 | | | 33 | 56 | 12 | | | 33 | 0 | 31 | | | 32 | 4 | 14 | |
| 19 | | 20 | 18 | 52 | 27 | | 55 | 36 | 56 | 41 | | 30 | 0 | 15 | 56 | | 3 | 28 | 12 | 30 | | 36 | 0 | 9 | 40 | 19 |
| | | | 35 | 44 | 47 | | | 34 | 50 | 21 | | | 33 | 55 | 16 | | | 32 | 59 | 34 | | | 32 | 3 | 17 | |
| 20 | 49 | 20 | 54 | 37 | 14 | 49 | 56 | 11 | 47 | 2 | 50 | 30 | 34 | 11 | 12 | 51 | 4 | 1 | 12 | 4 | 51 | 36 | 32 | 12 | 57 | 20 |
| | | | 35 | 43 | 53 | | | 34 | 49 | 26 | | | 33 | 54 | 21 | | | 32 | 58 | 39 | | | 32 | 2 | 21 | |
| 21 | | 21 | 30 | 21 | 7 | | 56 | 46 | 36 | 28 | | 31 | 8 | 5 | 33 | | 4 | 34 | 10 | 43 | | 37 | 4 | 15 | 18 | 21 |
| | | | 35 | 42 | 58 | | | 34 | 48 | 31 | | | 33 | 53 | 26 | | | 32 | 57 | 43 | | | 32 | 1 | 24 | |
| 22 | | 22 | 6 | 4 | 5 | | 57 | 21 | 24 | 59 | | 31 | 41 | 58 | 59 | | 5 | 7 | 8 | 26 | | 37 | 36 | 16 | 42 | 22 |
| | | | 35 | 42 | 5 | | | 34 | 47 | 36 | | | 33 | 52 | 30 | | | 32 | 56 | 47 | | | 32 | 0 | 27 | |
| 23 | | 22 | 41 | 46 | 10 | | 57 | 56 | 12 | 35 | | 32 | 15 | 51 | 29 | | 5 | 40 | 5 | 13 | | 38 | 8 | 17 | 9 | 23 |
| | | | 35 | 41 | 10 | | | 34 | 46 | 42 | | | 33 | 51 | 35 | | | 32 | 55 | 51 | | | 31 | 59 | 31 | |
| 24 | | 23 | 17 | 27 | 20 | | 58 | 30 | 59 | 17 | | 32 | 49 | 43 | 4 | | 6 | 13 | 1 | 4 | | 38 | 40 | 16 | 40 | 24 |
| | | | 35 | 40 | 16 | | | 34 | 45 | 47 | | | 33 | 50 | 39 | | | 32 | 54 | 55 | | | 31 | 58 | 34 | |
| 25 | | 23 | 53 | 7 | 36 | | 59 | 5 | 45 | 4 | | 33 | 23 | 33 | 43 | | 6 | 45 | 55 | 59 | | 39 | 12 | 15 | 14 | 25 |
| | | | 35 | 39 | 22 | | | 34 | 44 | 52 | | | 33 | 49 | 44 | | | 32 | 53 | 59 | | | 31 | 57 | 38 | |
| 26 | | 24 | 28 | 46 | 58 | | 59 | 40 | 29 | 56 | | 33 | 57 | 23 | 27 | | 7 | 18 | 49 | 58 | | 39 | 44 | 12 | 52 | 26 |
| | | | 35 | 38 | 28 | | | 34 | 43 | 57 | | | 33 | 48 | 49 | | | 32 | 53 | 2 | | | 31 | 56 | 41 | |
| 27 | | 25 | 4 | 25 | 26 | 50 | 0 | 15 | 13 | 53 | | 34 | 31 | 12 | 16 | | 7 | 51 | 43 | 0 | | 40 | 16 | 9 | 33 | 27 |
| | | | 35 | 37 | 34 | | | 34 | 43 | 2 | | | 33 | 47 | 53 | | | 32 | 52 | 7 | | | 31 | 55 | 44 | |
| 28 | | 25 | 40 | 3 | 0 | | 0 | 49 | 56 | 55 | | 35 | 5 | 0 | 9 | | 8 | 24 | 35 | 7 | | 40 | 48 | 5 | 17 | 28 |
| | | | 35 | 36 | 39 | | | 34 | 42 | 8 | | | 33 | 46 | 57 | | | 32 | 51 | 10 | | | 31 | 54 | 47 | |
| 29 | | 26 | 15 | 39 | 39 | | 1 | 24 | 39 | 3 | | 35 | 38 | 47 | 6 | | 8 | 57 | 26 | 17 | | 41 | 20 | 0 | 4 | 29 |
| | | | 35 | 35 | 45 | | | 34 | 41 | 12 | | | 33 | 46 | 2 | | | 32 | 50 | 15 | | | 31 | 53 | 51 | |
| 30 | 49 | 26 | 51 | 15 | 24 | 50 | 1 | 59 | 20 | 15 | 50 | 36 | 12 | 33 | 8 | 51 | 9 | 30 | 16 | 32 | 51 | 41 | 51 | 53 | 55 | 30 |
| | | | 35 | 34 | 51 | | | 34 | 40 | 18 | | | 33 | 45 | 7 | | | 32 | 49 | 18 | | | 31 | 52 | 54 | |

| ′ | 55° | | | | | 56° | | | | | 57° | | | | | 58° | | | | | 59° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 49 | 26 | 51<br>35 | 15<br>34 | 24<br>51 | 50 | 1 | 59<br>34 | 20<br>40 | 15<br>18 | 50 | 36 | 12<br>33 | 33<br>45 | 8<br>7 | 51 | 9 | 30<br>32 | 16<br>49 | 32<br>18 | 51 | 41 | 51<br>31 | 53<br>52 | 55<br>54 | 30 |
| 31 | | 27 | 26<br>35 | 50<br>33 | 15<br>57 | | 2 | 34<br>34 | 0<br>39 | 33<br>23 | | 36 | 46<br>33 | 18<br>44 | 15<br>11 | | 10 | 3<br>32 | 5<br>48 | 50<br>22 | | 42 | 23<br>31 | 46<br>51 | 49<br>58 | 31 |
| 32 | | 28 | 2<br>35 | 24<br>33 | 12<br>2 | | 3 | 8<br>34 | 39<br>38 | 56<br>28 | | 37 | 20<br>33 | 2<br>43 | 26<br>15 | | 10 | 35<br>32 | 54<br>47 | 12<br>26 | | 42 | 55<br>31 | 38<br>51 | 47<br>0 | 32 |
| 33 | | 28 | 37<br>35 | 57<br>32 | 14<br>9 | | 3 | 43<br>34 | 18<br>37 | 24<br>33 | | 37 | 53<br>33 | 45<br>42 | 41<br>20 | | 11 | 8<br>32 | 41<br>46 | 38<br>30 | | 43 | 27<br>31 | 29<br>50 | 47<br>4 | 33 |
| 34 | | 29 | 13<br>35 | 29<br>31 | 23<br>14 | | 4 | 17<br>34 | 55<br>36 | 57<br>38 | | 38 | 27<br>33 | 28<br>41 | 1<br>25 | | 11 | 41<br>32 | 28<br>45 | 8<br>34 | | 43 | 59<br>31 | 19<br>49 | 51<br>8 | 34 |
| 35 | | 29 | 49<br>35 | 0<br>30 | 37<br>19 | | 4 | 52<br>34 | 32<br>35 | 35<br>43 | | 39 | 1<br>33 | 9<br>40 | 26<br>29 | | 12 | 14<br>32 | 13<br>44 | 42<br>38 | | 44 | 31<br>31 | 8<br>48 | 59<br>10 | 35 |
| 36 | | 30 | 24<br>35 | 30<br>29 | 56<br>26 | | 5 | 27<br>34 | 8<br>34 | 18<br>49 | | 39 | 34<br>33 | 49<br>39 | 55<br>33 | | 12 | 46<br>32 | 58<br>43 | 20<br>41 | | 45 | 2<br>31 | 57<br>47 | 9<br>14 | 36 |
| 37 | | 31 | 0<br>35 | 0<br>28 | 22<br>31 | | 6 | 1<br>34 | 43<br>33 | 7<br>53 | | 40 | 8<br>33 | 29<br>38 | 28<br>38 | | 13 | 19<br>32 | 42<br>42 | 1<br>46 | | 45 | 34<br>31 | 44<br>46 | 23<br>17 | 37 |
| 38 | | 31 | 35<br>35 | 28<br>27 | 53<br>36 | | 6 | 36<br>34 | 17<br>32 | 0<br>59 | | 40 | 42<br>33 | 8<br>37 | 6<br>42 | | 13 | 52<br>32 | 24<br>41 | 47<br>49 | | 46 | 6<br>31 | 30<br>45 | 40<br>20 | 38 |
| 39 | | 32 | 10<br>35 | 56<br>26 | 29<br>43 | | 7 | 10<br>34 | 49<br>32 | 59<br>3 | | 41 | 15<br>33 | 45<br>36 | 48<br>47 | | 14 | 25<br>32 | 6<br>40 | 36<br>53 | | 46 | 38<br>31 | 16<br>44 | 0<br>24 | 39 |
| 40 | 49 | 32 | 46<br>35 | 23<br>25 | 12<br>48 | 50 | 7 | 45<br>34 | 22<br>31 | 2<br>9 | 50 | 41 | 49<br>33 | 22<br>35 | 35<br>51 | 51 | 14 | 57<br>32 | 47<br>39 | 29<br>57 | 51 | 47 | 10<br>31 | 0<br>43 | 24<br>26 | 40 |
| 41 | | 33 | 21<br>35 | 49<br>24 | 0<br>54 | | 8 | 19<br>34 | 53<br>30 | 11<br>13 | | 42 | 22<br>33 | 58<br>34 | 26<br>56 | | 15 | 30<br>32 | 27<br>39 | 26<br>0 | | 47 | 41<br>31 | 43<br>42 | 50<br>30 | 41 |
| 42 | | 33 | 57<br>35 | 13<br>23 | 54<br>59 | | 8 | 54<br>34 | 23<br>29 | 24<br>19 | | 42 | 56<br>33 | 33<br>33 | 22<br>59 | | 16 | 3<br>32 | 6<br>38 | 26<br>5 | | 48 | 13<br>31 | 26<br>41 | 20<br>33 | 42 |
| 43 | | 34 | 32<br>35 | 37<br>23 | 53<br>5 | | 9 | 28<br>34 | 52<br>28 | 43<br>23 | | 43 | 30<br>33 | 7<br>33 | 21<br>5 | | 16 | 35<br>32 | 44<br>37 | 31<br>8 | | 48 | 45<br>31 | 7<br>40 | 53<br>36 | 43 |
| 44 | | 35 | 8<br>35 | 0<br>22 | 58<br>11 | | 10 | 3<br>34 | 21<br>27 | 6<br>29 | | 44 | 3<br>33 | 40<br>32 | 26<br>8 | | 17 | 8<br>32 | 21<br>36 | 39<br>12 | | 49 | 16<br>31 | 48<br>39 | 29<br>40 | 44 |
| 45 | | 35 | 43<br>35 | 23<br>21 | 9<br>16 | | 10 | 37<br>34 | 48<br>26 | 35<br>33 | | 44 | 37<br>33 | 12<br>31 | 34<br>13 | | 17 | 40<br>32 | 57<br>35 | 51<br>15 | | 49 | 48<br>31 | 28<br>38 | 9<br>42 | 45 |
| 46 | | 36 | 18<br>35 | 44<br>20 | 25<br>22 | | 11 | 12<br>34 | 15<br>25 | 8<br>39 | | 45 | 10<br>33 | 43<br>30 | 47<br>17 | | 18 | 13<br>32 | 33<br>34 | 6<br>20 | | 50 | 20<br>31 | 6<br>37 | 51<br>46 | 46 |
| 47 | | 36 | 54<br>35 | 4<br>19 | 47<br>28 | | 11 | 46<br>34 | 40<br>24 | 47<br>43 | | 45 | 44<br>33 | 14<br>29 | 4<br>22 | | 18 | 46<br>32 | 7<br>33 | 26<br>23 | | 50 | 51<br>31 | 44<br>36 | 37<br>49 | 47 |
| 48 | | 37 | 29<br>35 | 24<br>18 | 15<br>33 | | 12 | 21<br>34 | 5<br>23 | 30<br>48 | | 46 | 17<br>33 | 43<br>28 | 26<br>26 | | 19 | 18<br>32 | 40<br>32 | 49<br>27 | | 51 | 23<br>31 | 21<br>35 | 26<br>52 | 48 |
| 49 | | 38 | 4<br>35 | 42<br>17 | 48<br>38 | | 12 | 55<br>34 | 29<br>22 | 18<br>54 | | 46 | 51<br>33 | 11<br>27 | 52<br>30 | | 19 | 51<br>32 | 13<br>31 | 16<br>30 | | 51 | 54<br>31 | 57<br>34 | 18<br>55 | 49 |
| 50 | 49 | 38 | 40<br>35 | 0<br>16 | 26<br>44 | 50 | 13 | 29<br>34 | 52<br>21 | 12<br>58 | 50 | 47 | 24<br>33 | 39<br>26 | 22<br>35 | 51 | 20 | 23<br>32 | 44<br>30 | 46<br>34 | 51 | 52 | 26<br>31 | 32<br>33 | 13<br>58 | 50 |
| 51 | | 39 | 15<br>35 | 17<br>15 | 10<br>50 | | 14 | 4<br>34 | 14<br>21 | 10<br>3 | | 47 | 58<br>33 | 5<br>25 | 57<br>39 | | 20 | 56<br>32 | 15<br>29 | 20<br>38 | | 52 | 58<br>31 | 6<br>33 | 11<br>2 | 51 |
| 52 | | 39 | 50<br>35 | 33<br>14 | 0<br>55 | | 14 | 38<br>34 | 35<br>20 | 13<br>8 | | 48 | 31<br>33 | 31<br>24 | 36<br>43 | | 21 | 28<br>32 | 44<br>28 | 58<br>42 | | 53 | 29<br>31 | 39<br>32 | 13<br>4 | 52 |
| 53 | | 40 | 25<br>35 | 47<br>14 | 55<br>1 | | 15 | 12<br>34 | 55<br>19 | 21<br>13 | | 49 | 4<br>33 | 56<br>23 | 19<br>47 | | 22 | 1<br>32 | 13<br>27 | 40<br>45 | | 54 | 1<br>31 | 11<br>31 | 17<br>8 | 53 |
| 54 | | 41 | 1<br>35 | 1<br>13 | 56<br>7 | | 15 | 47<br>34 | 14<br>18 | 34<br>18 | | 49 | 38<br>33 | 20<br>22 | 6<br>52 | | 22 | 33<br>32 | 41<br>26 | 25<br>49 | | 54 | 32<br>31 | 42<br>30 | 25<br>10 | 54 |
| 55 | | 41 | 36<br>35 | 15<br>12 | 3<br>11 | | 16 | 21<br>34 | 32<br>17 | 52<br>22 | | 50 | 11<br>33 | 42<br>21 | 58<br>56 | | 23 | 6<br>32 | 8<br>25 | 14<br>52 | | 55 | 4<br>31 | 12<br>29 | 35<br>14 | 55 |
| 56 | | 42 | 11<br>35 | 27<br>11 | 14<br>18 | | 16 | 55<br>34 | 50<br>16 | 14<br>28 | | 50 | 45<br>33 | 4<br>21 | 54<br>0 | | 23 | 38<br>32 | 34<br>24 | 6<br>57 | | 55 | 35<br>31 | 41<br>28 | 49<br>17 | 56 |
| 57 | | 42 | 46<br>35 | 38<br>10 | 32<br>22 | | 17 | 30<br>34 | 6<br>15 | 42<br>32 | | 51 | 18<br>33 | 25<br>20 | 54<br>4 | | 24 | 10<br>32 | 59<br>24 | 3<br>0 | | 56 | 7<br>31 | 10<br>27 | 6<br>19 | 57 |
| 58 | | 43 | 21<br>35 | 48<br>9 | 54<br>29 | | 18 | 4<br>34 | 22<br>14 | 14<br>38 | | 51 | 51<br>33 | 45<br>19 | 58<br>9 | | 24 | 43<br>32 | 23<br>23 | 3<br>3 | | 56 | 38<br>31 | 37<br>26 | 25<br>23 | 58 |
| 59 | | 43 | 56<br>35 | 58<br>8 | 23<br>33 | | 18 | 38<br>34 | 36<br>13 | 52<br>42 | | 52 | 25<br>33 | 5<br>18 | 7<br>13 | | 25 | 15<br>32 | 46<br>22 | 6<br>7 | | 57 | 10<br>31 | 3<br>25 | 48<br>26 | 59 |
| 60 | 49 | 44 | 32<br>35 | 6<br>7 | 56<br>40 | 50 | 19 | 12<br>34 | 50<br>12 | 34<br>46 | 50 | 52 | 58<br>33 | 23<br>17 | 20<br>17 | 51 | 25 | 48<br>32 | 8<br>21 | 13<br>11 | 51 | 57 | 41<br>31 | 29<br>24 | 14<br>29 | 60 |

# Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 60° | | | | | 61° | | | | | 62° | | | | | 63° | | | | | 64° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 51 | 57 | 41 | 29 | 14 | 52 | 28 | 37 | 51 | 24 | 52 | 58 | 36 | 40 | 48 | 53 | 27 | 37 | 24 | 33 | 53 | 55 | 39 | 30 | 50 | 0 |
| | | | 31 | 24 | 29 | | | 30 | 27 | 13 | | | 29 | 29 | 23 | | | 28 | 31 | 1 | | | 27 | 32 | 8 | |
| 1 | | 58 | 12 | 53 | 43 | | 29 | 8 | 18 | 37 | | 59 | 6 | 10 | 11 | | 28 | 5 | 55 | 34 | | 56 | 7 | 2 | 58 | 1 |
| | | | 31 | 23 | 32 | | | 30 | 26 | 15 | | | 29 | 28 | 25 | | | 28 | 30 | 2 | | | 27 | 31 | 9 | |
| 2 | | 58 | 44 | 17 | 15 | | 29 | 38 | 44 | 52 | | 59 | 35 | 38 | 36 | | 28 | 34 | 25 | 36 | | 56 | 34 | 34 | 7 | 2 |
| | | | 31 | 22 | 35 | | | 30 | 25 | 17 | | | 29 | 27 | 27 | | | 28 | 29 | 4 | | | 27 | 30 | 9 | |
| 3 | | 59 | 15 | 39 | 50 | | 30 | 9 | 10 | 9 | 53 | 0 | 5 | 6 | 3 | | 29 | 2 | 54 | 40 | | 57 | 2 | 4 | 16 | 3 |
| | | | 31 | 21 | 37 | | | 30 | 24 | 20 | | | 29 | 26 | 28 | | | 28 | 28 | 5 | | | 27 | 29 | 10 | |
| 4 | | 59 | 47 | 1 | 27 | | 30 | 39 | 34 | 29 | | 0 | 34 | 32 | 31 | | 29 | 31 | 22 | 45 | | 57 | 29 | 33 | 26 | 4 |
| | | | 31 | 20 | 41 | | | 30 | 23 | 22 | | | 29 | 25 | 31 | | | 28 | 27 | 6 | | | 27 | 28 | 11 | |
| 5 | 52 | 0 | 18 | 22 | 8 | | 31 | 9 | 57 | 51 | | 1 | 3 | 58 | 2 | | 29 | 59 | 49 | 51 | | 57 | 57 | 1 | 37 | 5 |
| | | | 31 | 19 | 44 | | | 30 | 22 | 25 | | | 29 | 24 | 32 | | | 28 | 26 | 8 | | | 27 | 27 | 12 | |
| 6 | | 0 | 49 | 41 | 52 | | 31 | 40 | 20 | 16 | | 1 | 33 | 22 | 34 | | 30 | 28 | 15 | 59 | | 58 | 24 | 28 | 49 | 6 |
| | | | 31 | 18 | 47 | | | 30 | 21 | 27 | | | 29 | 23 | 34 | | | 28 | 25 | 9 | | | 27 | 26 | 13 | |
| 7 | | 1 | 21 | 0 | 39 | | 32 | 10 | 41 | 43 | | 2 | 2 | 46 | 8 | | 30 | 56 | 41 | 8 | | 58 | 51 | 55 | 2 | 7 |
| | | | 31 | 17 | 49 | | | 30 | 20 | 30 | | | 29 | 22 | 36 | | | 28 | 24 | 10 | | | 27 | 25 | 13 | |
| 8 | | 1 | 52 | 18 | 28 | | 32 | 41 | 2 | 13 | | 2 | 32 | 8 | 44 | | 31 | 25 | 5 | 18 | | 59 | 19 | 20 | 15 | 8 |
| | | | 31 | 16 | 53 | | | 30 | 19 | 32 | | | 29 | 21 | 38 | | | 28 | 23 | 12 | | | 27 | 24 | 14 | |
| 9 | | 2 | 23 | 35 | 21 | | 33 | 11 | 21 | 45 | | 3 | 1 | 30 | 22 | | 31 | 53 | 28 | 30 | | 59 | 46 | 44 | 29 | 9 |
| | | | 31 | 15 | 56 | | | 30 | 18 | 34 | | | 29 | 20 | 40 | | | 28 | 22 | 13 | | | 27 | 23 | 15 | |
| 10 | 52 | 2 | 54 | 51 | 17 | 52 | 33 | 41 | 40 | 19 | 53 | 3 | 30 | 51 | 2 | 53 | 32 | 21 | 50 | 43 | 54 | 0 | 14 | 7 | 44 | 10 |
| | | | 31 | 14 | 58 | | | 30 | 17 | 36 | | | 29 | 19 | 41 | | | 28 | 21 | 14 | | | 27 | 22 | 16 | |
| 11 | | 3 | 26 | 6 | 15 | | 34 | 11 | 57 | 55 | | 4 | 0 | 10 | 43 | | 32 | 50 | 11 | 57 | | 0 | 41 | 30 | 0 | 11 |
| | | | 31 | 14 | 2 | | | 30 | 16 | 39 | | | 29 | 18 | 43 | | | 28 | 20 | 15 | | | 27 | 21 | 17 | |
| 12 | | 3 | 57 | 20 | 17 | | 34 | 42 | 14 | 34 | | 4 | 29 | 29 | 26 | | 33 | 18 | 32 | 12 | | 1 | 8 | 51 | 17 | 12 |
| | | | 31 | 13 | 4 | | | 30 | 15 | 42 | | | 29 | 17 | 45 | | | 28 | 19 | 17 | | | 27 | 20 | 17 | |
| 13 | | 4 | 28 | 33 | 21 | | 35 | 12 | 30 | 16 | | 4 | 58 | 47 | 11 | | 33 | 46 | 51 | 29 | | 1 | 36 | 11 | 34 | 13 |
| | | | 31 | 12 | 7 | | | 30 | 14 | 43 | | | 29 | 16 | 47 | | | 28 | 18 | 18 | | | 27 | 19 | 18 | |
| 14 | | 4 | 59 | 45 | 28 | | 35 | 42 | 44 | 59 | | 5 | 28 | 3 | 58 | | 34 | 15 | 9 | 47 | | 2 | 3 | 30 | 52 | 14 |
| | | | 31 | 11 | 10 | | | 30 | 13 | 46 | | | 29 | 15 | 49 | | | 28 | 17 | 19 | | | 27 | 18 | 19 | |
| 15 | | 5 | 30 | 56 | 38 | | 36 | 12 | 58 | 45 | | 5 | 57 | 19 | 47 | | 34 | 43 | 27 | 6 | | 2 | 30 | 49 | 11 | 15 |
| | | | 31 | 10 | 13 | | | 30 | 12 | 48 | | | 29 | 14 | 50 | | | 28 | 16 | 21 | | | 27 | 17 | 19 | |
| 16 | | 6 | 2 | 6 | 51 | | 36 | 43 | 11 | 33 | | 6 | 26 | 34 | 37 | | 35 | 11 | 43 | 27 | | 2 | 58 | 6 | 30 | 16 |
| | | | 31 | 9 | 16 | | | 30 | 11 | 51 | | | 29 | 13 | 52 | | | 28 | 15 | 22 | | | 27 | 16 | 21 | |
| 17 | | 6 | 33 | 16 | 7 | | 37 | 13 | 23 | 24 | | 6 | 55 | 48 | 29 | | 35 | 39 | 58 | 49 | | 3 | 25 | 22 | 51 | 17 |
| | | | 31 | 8 | 19 | | | 30 | 10 | 53 | | | 29 | 12 | 54 | | | 28 | 14 | 23 | | | 27 | 15 | 21 | |
| 18 | | 7 | 4 | 24 | 26 | | 37 | 43 | 34 | 17 | | 7 | 25 | 1 | 23 | | 36 | 8 | 13 | 12 | | 3 | 52 | 38 | 12 | 18 |
| | | | 31 | 7 | 21 | | | 30 | 9 | 55 | | | 29 | 11 | 56 | | | 28 | 13 | 24 | | | 27 | 14 | 22 | |
| 19 | | 7 | 35 | 31 | 47 | | 38 | 13 | 44 | 12 | | 7 | 54 | 13 | 19 | | 36 | 36 | 26 | 36 | | 4 | 19 | 52 | 34 | 19 |
| | | | 31 | 6 | 25 | | | 30 | 8 | 57 | | | 29 | 10 | 57 | | | 28 | 12 | 25 | | | 27 | 13 | 22 | |
| 20 | 52 | 8 | 6 | 38 | 12 | 52 | 38 | 43 | 53 | 9 | 53 | 8 | 23 | 24 | 16 | 53 | 37 | 4 | 39 | 1 | 54 | 4 | 47 | 5 | 56 | 20 |
| | | | 31 | 5 | 27 | | | 30 | 8 | 0 | | | 29 | 10 | 0 | | | 28 | 11 | 27 | | | 27 | 12 | 23 | |
| 21 | | 8 | 37 | 43 | 39 | | 39 | 14 | 1 | 9 | | 8 | 52 | 34 | 16 | | 37 | 32 | 50 | 28 | | 5 | 14 | 18 | 19 | 21 |
| | | | 31 | 4 | 30 | | | 30 | 7 | 2 | | | 29 | 9 | 0 | | | 28 | 10 | 27 | | | 27 | 11 | 24 | |
| 22 | | 9 | 8 | 48 | 9 | | 39 | 44 | 8 | 11 | | 9 | 21 | 43 | 16 | | 38 | 1 | 0 | 55 | | 5 | 41 | 29 | 43 | 22 |
| | | | 31 | 3 | 33 | | | 30 | 6 | 4 | | | 29 | 8 | 3 | | | 28 | 9 | 29 | | | 27 | 10 | 24 | |
| 23 | | 9 | 39 | 51 | 42 | | 40 | 14 | 14 | 15 | | 9 | 50 | 51 | 19 | | 38 | 29 | 10 | 24 | | 6 | 8 | 40 | 7 | 23 |
| | | | 31 | 2 | 35 | | | 30 | 5 | 7 | | | 29 | 7 | 4 | | | 28 | 8 | 31 | | | 27 | 9 | 26 | |
| 24 | | 10 | 10 | 54 | 17 | | 40 | 44 | 19 | 22 | | 10 | 19 | 58 | 23 | | 38 | 57 | 18 | 55 | | 6 | 35 | 49 | 33 | 24 |
| | | | 31 | 1 | 39 | | | 30 | 4 | 8 | | | 29 | 6 | 6 | | | 28 | 7 | 31 | | | 27 | 8 | 25 | |
| 25 | | 10 | 41 | 55 | 56 | | 41 | 14 | 23 | 30 | | 10 | 49 | 4 | 29 | | 39 | 25 | 26 | 26 | | 7 | 2 | 57 | 58 | 25 |
| | | | 31 | 0 | 41 | | | 30 | 3 | 11 | | | 29 | 5 | 8 | | | 28 | 6 | 32 | | | 27 | 7 | 27 | |
| 26 | | 11 | 12 | 56 | 37 | | 41 | 44 | 26 | 41 | | 11 | 18 | 9 | 37 | | 39 | 53 | 32 | 58 | | 7 | 30 | 5 | 25 | 26 |
| | | | 30 | 59 | 44 | | | 30 | 2 | 13 | | | 29 | 4 | 9 | | | 28 | 5 | 34 | | | 27 | 6 | 27 | |
| 27 | | 11 | 43 | 56 | 21 | | 42 | 14 | 28 | 54 | | 11 | 47 | 13 | 46 | | 40 | 21 | 38 | 32 | | 7 | 57 | 11 | 52 | 27 |
| | | | 30 | 58 | 46 | | | 30 | 1 | 16 | | | 29 | 3 | 11 | | | 28 | 4 | 35 | | | 27 | 5 | 28 | |
| 28 | | 12 | 14 | 55 | 7 | | 42 | 44 | 30 | 10 | | 12 | 16 | 16 | 57 | | 40 | 49 | 43 | 7 | | 8 | 24 | 17 | 20 | 28 |
| | | | 30 | 57 | 50 | | | 30 | 0 | 17 | | | 29 | 2 | 13 | | | 28 | 3 | 36 | | | 27 | 4 | 28 | |
| 29 | | 12 | 45 | 52 | 57 | | 43 | 14 | 30 | 27 | | 12 | 45 | 19 | 10 | | 41 | 17 | 46 | 43 | | 8 | 51 | 21 | 48 | 29 |
| | | | 30 | 56 | 52 | | | 29 | 59 | 20 | | | 29 | 1 | 14 | | | 28 | 2 | 37 | | | 27 | 3 | 29 | |
| 30 | 52 | 13 | 16 | 49 | 49 | 52 | 43 | 44 | 29 | 47 | 53 | 13 | 14 | 20 | 24 | 53 | 41 | 45 | 49 | 20 | 54 | 9 | 18 | 25 | 17 | 30 |
| | | | 30 | 55 | 55 | | | 29 | 58 | 22 | | | 29 | 0 | 16 | | | 28 | 1 | 38 | | | 27 | 2 | 30 | |

| ′ | 60° | | | | | 61° | | | | | 62° | | | | | 63° | | | | | 64° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 52 | 13 | 16 | 49 | 49 | 52 | 43 | 44 | 29 | 47 | 53 | 13 | 14 | 20 | 24 | 53 | 41 | 45 | 49 | 20 | 54 | 9 | 18 | 25 | 17 | 30 |
| | | | 30 | 55 | 55 | | | 29 | 58 | 22 | | | 29 | 0 | 16 | | | 28 | 1 | 38 | | | 27 | 2 | 30 | |
| 31 | | 13 | 47 | 45 | 44 | | 44 | 14 | 28 | 9 | | 13 | 43 | 20 | 40 | | 42 | 13 | 50 | 58 | | 9 | 45 | 27 | 47 | 31 |
| | | | 30 | 54 | 58 | | | 29 | 57 | 24 | | | 28 | 59 | 17 | | | 28 | 0 | 39 | | | 27 | 1 | 30 | |
| 32 | | 14 | 18 | 40 | 42 | | 44 | 44 | 25 | 33 | | 14 | 12 | 19 | 57 | | 42 | 41 | 51 | 37 | | 10 | 12 | 29 | 17 | 32 |
| | | | 30 | 54 | 0 | | | 29 | 56 | 26 | | | 28 | 58 | 19 | | | 27 | 59 | 40 | | | 27 | 0 | 31 | |
| 33 | | 14 | 49 | 34 | 42 | | 45 | 14 | 21 | 59 | | 14 | 41 | 18 | 16 | | 43 | 9 | 51 | 17 | | 10 | 39 | 29 | 48 | 33 |
| | | | 30 | 53 | 3 | | | 29 | 55 | 28 | | | 28 | 57 | 21 | | | 27 | 58 | 42 | | | 26 | 59 | 31 | |
| 34 | | 15 | 20 | 27 | 45 | | 45 | 44 | 17 | 27 | | 15 | 10 | 15 | 37 | | 43 | 37 | 49 | 59 | | 11 | 6 | 29 | 19 | 34 |
| | | | 30 | 52 | 6 | | | 29 | 54 | 31 | | | 28 | 56 | 23 | | | 27 | 57 | 42 | | | 26 | 58 | 32 | |
| 35 | | 15 | 51 | 19 | 51 | | 46 | 14 | 11 | 58 | | 15 | 39 | 12 | 0 | | 44 | 5 | 47 | 41 | | 11 | 33 | 27 | 51 | 35 |
| | | | 30 | 51 | 9 | | | 29 | 53 | 32 | | | 28 | 55 | 23 | | | 27 | 56 | 44 | | | 26 | 57 | 33 | |
| 36 | | 16 | 22 | 11 | 0 | | 46 | 44 | 5 | 30 | | 16 | 8 | 7 | 23 | | 44 | 33 | 44 | 25 | | 12 | 0 | 25 | 24 | 36 |
| | | | 30 | 50 | 11 | | | 29 | 52 | 35 | | | 28 | 54 | 26 | | | 27 | 55 | 44 | | | 26 | 56 | 33 | |
| 37 | | 16 | 53 | 1 | 11 | | 47 | 13 | 58 | 5 | | 16 | 37 | 1 | 49 | | 45 | 1 | 40 | 9 | | 12 | 27 | 21 | 57 | 37 |
| | | | 30 | 49 | 13 | | | 29 | 51 | 37 | | | 28 | 53 | 27 | | | 27 | 54 | 46 | | | 26 | 55 | 34 | |
| 38 | | 17 | 23 | 50 | 24 | | 47 | 43 | 49 | 42 | | 17 | 5 | 55 | 16 | | 45 | 29 | 34 | 55 | | 12 | 54 | 17 | 31 | 38 |
| | | | 30 | 48 | 17 | | | 29 | 50 | 39 | | | 28 | 52 | 29 | | | 27 | 53 | 47 | | | 26 | 54 | 34 | |
| 39 | | 17 | 54 | 38 | 41 | | 48 | 13 | 40 | 21 | | 17 | 34 | 47 | 45 | | 45 | 57 | 28 | 42 | | 13 | 21 | 12 | 5 | 39 |
| | | | 30 | 47 | 19 | | | 29 | 49 | 41 | | | 28 | 51 | 30 | | | 27 | 52 | 48 | | | 26 | 53 | 35 | |
| 40 | 52 | 18 | 25 | 26 | 0 | 52 | 48 | 43 | 30 | 2 | 53 | 18 | 3 | 39 | 15 | 53 | 46 | 25 | 21 | 30 | 54 | 13 | 48 | 5 | 40 | 40 |
| | | | 30 | 46 | 22 | | | 29 | 48 | 43 | | | 28 | 50 | 32 | | | 27 | 51 | 48 | | | 26 | 52 | 35 | |
| 41 | | 18 | 56 | 12 | 22 | | 49 | 13 | 18 | 45 | | 18 | 32 | 29 | 47 | | 46 | 53 | 13 | 18 | | 14 | 14 | 58 | 15 | 41 |
| | | | 30 | 45 | 24 | | | 29 | 47 | 45 | | | 28 | 49 | 33 | | | 27 | 50 | 50 | | | 26 | 51 | 36 | |
| 42 | | 19 | 26 | 57 | 46 | | 49 | 43 | 6 | 30 | | 19 | 1 | 19 | 20 | | 47 | 21 | 4 | 8 | | 14 | 41 | 49 | 51 | 42 |
| | | | 30 | 44 | 27 | | | 29 | 46 | 47 | | | 28 | 48 | 35 | | | 27 | 49 | 51 | | | 26 | 50 | 36 | |
| 43 | | 19 | 57 | 42 | 13 | | 50 | 12 | 53 | 17 | | 19 | 30 | 7 | 55 | | 47 | 48 | 53 | 59 | | 15 | 8 | 40 | 27 | 43 |
| | | | 30 | 43 | 30 | | | 29 | 45 | 50 | | | 28 | 47 | 36 | | | 27 | 48 | 52 | | | 26 | 49 | 37 | |
| 44 | | 20 | 28 | 25 | 43 | | 50 | 42 | 39 | 7 | | 19 | 58 | 55 | 31 | | 48 | 16 | 42 | 51 | | 15 | 35 | 30 | 4 | 44 |
| | | | 30 | 42 | 32 | | | 29 | 44 | 51 | | | 28 | 46 | 38 | | | 27 | 47 | 53 | | | 26 | 48 | 37 | |
| 45 | | 20 | 59 | 8 | 15 | | 51 | 12 | 23 | 58 | | 20 | 27 | 42 | 9 | | 48 | 44 | 30 | 44 | | 16 | 2 | 18 | 41 | 45 |
| | | | 30 | 41 | 35 | | | 29 | 43 | 53 | | | 28 | 45 | 40 | | | 27 | 46 | 54 | | | 26 | 47 | 38 | |
| 46 | | 21 | 29 | 49 | 50 | | 51 | 42 | 7 | 51 | | 20 | 56 | 27 | 49 | | 49 | 12 | 17 | 38 | | 16 | 29 | 6 | 19 | 46 |
| | | | 30 | 40 | 37 | | | 29 | 42 | 56 | | | 28 | 44 | 40 | | | 27 | 45 | 54 | | | 26 | 46 | 38 | |
| 47 | | 22 | 0 | 30 | 27 | | 52 | 11 | 50 | 47 | | 21 | 25 | 12 | 29 | | 49 | 40 | 3 | 32 | | 16 | 55 | 52 | 57 | 47 |
| | | | 30 | 39 | 40 | | | 29 | 41 | 57 | | | 28 | 43 | 43 | | | 27 | 44 | 56 | | | 26 | 45 | 39 | |
| 48 | | 22 | 31 | 10 | 7 | | 52 | 41 | 32 | 44 | | 21 | 53 | 56 | 12 | | 50 | 7 | 48 | 28 | | 17 | 22 | 38 | 36 | 48 |
| | | | 30 | 38 | 43 | | | 29 | 41 | 0 | | | 28 | 42 | 44 | | | 27 | 43 | 57 | | | 26 | 44 | 39 | |
| 49 | | 23 | 1 | 48 | 50 | | 53 | 11 | 13 | 44 | | 22 | 22 | 38 | 56 | | 50 | 35 | 32 | 25 | | 17 | 49 | 23 | 15 | 49 |
| | | | 30 | 37 | 45 | | | 29 | 40 | 1 | | | 28 | 41 | 45 | | | 27 | 42 | 58 | | | 26 | 43 | 40 | |
| 50 | 52 | 23 | 32 | 26 | 35 | 52 | 53 | 40 | 53 | 45 | 53 | 22 | 51 | 20 | 41 | 53 | 51 | 3 | 15 | 23 | 54 | 18 | 16 | 6 | 55 | 50 |
| | | | 30 | 36 | 48 | | | 29 | 39 | 4 | | | 28 | 40 | 47 | | | 27 | 41 | 58 | | | 26 | 42 | 40 | |
| 51 | | 24 | 3 | 3 | 23 | | 54 | 10 | 32 | 49 | | 23 | 20 | 1 | 28 | | 51 | 30 | 57 | 21 | | 18 | 42 | 49 | 35 | 51 |
| | | | 30 | 35 | 50 | | | 29 | 38 | 5 | | | 28 | 39 | 48 | | | 27 | 41 | 0 | | | 26 | 41 | 41 | |
| 52 | | 24 | 33 | 39 | 13 | | 54 | 40 | 10 | 54 | | 23 | 48 | 41 | 16 | | 51 | 58 | 38 | 21 | | 19 | 9 | 31 | 16 | 52 |
| | | | 30 | 34 | 52 | | | 29 | 37 | 8 | | | 28 | 38 | 50 | | | 27 | 40 | 0 | | | 26 | 40 | 41 | |
| 53 | | 25 | 4 | 14 | 5 | | 55 | 9 | 48 | 2 | | 24 | 17 | 20 | 6 | | 52 | 26 | 18 | 21 | | 19 | 36 | 11 | 57 | 53 |
| | | | 30 | 33 | 56 | | | 29 | 36 | 9 | | | 28 | 37 | 51 | | | 27 | 39 | 2 | | | 26 | 39 | 41 | |
| 54 | | 25 | 34 | 48 | 1 | | 55 | 39 | 24 | 11 | | 24 | 45 | 57 | 57 | | 52 | 53 | 57 | 23 | | 20 | 2 | 51 | 38 | 54 |
| | | | 30 | 32 | 57 | | | 29 | 35 | 11 | | | 28 | 36 | 52 | | | 27 | 38 | 2 | | | 26 | 38 | 42 | |
| 55 | | 26 | 5 | 20 | 58 | | 56 | 8 | 59 | 22 | | 25 | 14 | 34 | 49 | | 53 | 21 | 35 | 25 | | 20 | 29 | 30 | 20 | 55 |
| | | | 30 | 32 | 1 | | | 29 | 34 | 14 | | | 28 | 35 | 54 | | | 27 | 37 | 4 | | | 26 | 37 | 42 | |
| 56 | | 26 | 35 | 52 | 59 | | 56 | 38 | 33 | 36 | | 25 | 43 | 10 | 43 | | 53 | 49 | 12 | 29 | | 20 | 56 | 8 | 2 | 56 |
| | | | 30 | 31 | 2 | | | 29 | 33 | 15 | | | 28 | 34 | 56 | | | 27 | 36 | 4 | | | 26 | 36 | 43 | |
| 57 | | 27 | 6 | 24 | 1 | | 57 | 8 | 6 | 51 | | 26 | 11 | 45 | 39 | | 54 | 16 | 48 | 33 | | 21 | 22 | 44 | 45 | 57 |
| | | | 30 | 30 | 5 | | | 29 | 32 | 17 | | | 28 | 33 | 57 | | | 27 | 35 | 5 | | | 26 | 35 | 43 | |
| 58 | | 27 | 36 | 54 | 6 | | 57 | 37 | 39 | 8 | | 26 | 40 | 19 | 36 | | 54 | 44 | 23 | 38 | | 21 | 49 | 20 | 28 | 58 |
| | | | 30 | 29 | 8 | | | 29 | 31 | 19 | | | 28 | 32 | 58 | | | 27 | 34 | 6 | | | 26 | 34 | 43 | |
| 59 | | 28 | 7 | 23 | 14 | | 58 | 7 | 10 | 27 | | 27 | 8 | 52 | 34 | | 55 | 11 | 57 | 44 | | 22 | 15 | 55 | 11 | 59 |
| | | | 30 | 28 | 10 | | | 29 | 30 | 21 | | | 28 | 31 | 59 | | | 27 | 33 | 6 | | | 26 | 33 | 44 | |
| 60 | 52 | 28 | 37 | 51 | 24 | 52 | 58 | 36 | 40 | 48 | 53 | 27 | 37 | 24 | 33 | 53 | 55 | 39 | 30 | 50 | 54 | 22 | 42 | 28 | 55 | 60 |
| | | | 30 | 27 | 13 | | | 29 | 29 | 23 | | | 28 | 31 | 1 | | | 27 | 32 | 8 | | | 26 | 32 | 44 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 65° | | | | | 66° | | | | | 67° | | | | | 68° | | | | | 69° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 54 | 22 | 42 | 28 | 55 | 54 | 48 | 45 | 49 | 8 | 55 | 13 | 49 | 2 | 54 | 55 | 37 | 51 | 42 | 45 | 56 | 0 | 53 | 22 | 20 | 0 |
| | | | 26 | 32 | 44 | | | 25 | 32 | 51 | | | 24 | 32 | 31 | | | 23 | 31 | 44 | | | 22 | 30 | 30 | |
| 1 | | 23 | 9 | 1 | 39 | | 49 | 11 | 21 | 59 | | 14 | 13 | 35 | 25 | | 38 | 15 | 14 | 29 | | 1 | 15 | 52 | 50 | 1 |
| | | | 26 | 31 | 45 | | | 25 | 31 | 52 | | | 24 | 31 | 30 | | | 23 | 30 | 42 | | | 22 | 29 | 29 | |
| 2 | | 23 | 35 | 33 | 24 | | 49 | 36 | 53 | 51 | | 14 | 38 | 6 | 55 | | 38 | 38 | 45 | 11 | | 1 | 38 | 22 | 19 | 2 |
| | | | 26 | 30 | 45 | | | 25 | 30 | 51 | | | 24 | 30 | 30 | | | 23 | 29 | 42 | | | 22 | 28 | 27 | |
| 3 | | 24 | 2 | 4 | 9 | | 50 | 2 | 24 | 42 | | 15 | 2 | 37 | 25 | | 39 | 2 | 14 | 53 | | 2 | 0 | 50 | 46 | 3 |
| | | | 26 | 29 | 45 | | | 25 | 29 | 52 | | | 24 | 29 | 30 | | | 23 | 28 | 40 | | | 22 | 27 | 26 | |
| 4 | | 24 | 28 | 33 | 54 | | 50 | 27 | 54 | 34 | | 15 | 27 | 6 | 55 | | 39 | 25 | 43 | 33 | | 2 | 23 | 18 | 12 | 4 |
| | | | 26 | 28 | 46 | | | 25 | 28 | 51 | | | 24 | 28 | 28 | | | 23 | 27 | 40 | | | 22 | 26 | 24 | |
| 5 | | 24 | 55 | 2 | 40 | | 50 | 53 | 23 | 25 | | 15 | 51 | 35 | 23 | | 39 | 49 | 11 | 13 | | 2 | 45 | 44 | 36 | 5 |
| | | | 26 | 27 | 46 | | | 25 | 27 | 51 | | | 24 | 27 | 28 | | | 23 | 26 | 38 | | | 22 | 25 | 23 | |
| 6 | | 25 | 21 | 30 | 26 | | 51 | 18 | 51 | 16 | | 16 | 16 | 2 | 51 | | 40 | 12 | 37 | 51 | | 3 | 8 | 9 | 59 | 6 |
| | | | 26 | 26 | 46 | | | 25 | 26 | 50 | | | 24 | 26 | 28 | | | 23 | 25 | 37 | | | 22 | 24 | 22 | |
| 7 | | 25 | 47 | 57 | 12 | | 51 | 44 | 18 | 6 | | 16 | 40 | 29 | 19 | | 40 | 36 | 3 | 28 | | 3 | 30 | 34 | 21 | 7 |
| | | | 26 | 25 | 46 | | | 25 | 25 | 51 | | | 24 | 25 | 27 | | | 23 | 24 | 37 | | | 22 | 23 | 20 | |
| 8 | | 26 | 14 | 22 | 58 | | 52 | 9 | 43 | 57 | | 17 | 4 | 54 | 46 | | 40 | 59 | 28 | 5 | | 3 | 52 | 57 | 41 | 8 |
| | | | 26 | 24 | 47 | | | 25 | 24 | 50 | | | 24 | 24 | 26 | | | 23 | 23 | 35 | | | 22 | 22 | 18 | |
| 9 | | 26 | 40 | 47 | 45 | | 52 | 35 | 8 | 47 | | 17 | 29 | 19 | 12 | | 41 | 22 | 51 | 40 | | 4 | 15 | 19 | 59 | 9 |
| | | | 26 | 23 | 47 | | | 25 | 23 | 51 | | | 24 | 23 | 25 | | | 23 | 22 | 34 | | | 22 | 21 | 17 | |
| 10 | 54 | 27 | 7 | 11 | 32 | 54 | 53 | 0 | 32 | 38 | 55 | 17 | 53 | 42 | 37 | 55 | 41 | 46 | 14 | 14 | 56 | 4 | 37 | 41 | 16 | 10 |
| | | | 26 | 22 | 48 | | | 25 | 22 | 50 | | | 24 | 22 | 25 | | | 23 | 21 | 33 | | | 22 | 20 | 16 | |
| 11 | | 27 | 33 | 34 | 20 | | 53 | 25 | 55 | 28 | | 18 | 18 | 5 | 2 | | 42 | 9 | 35 | 47 | | 5 | 0 | 1 | 32 | 11 |
| | | | 26 | 21 | 47 | | | 25 | 21 | 50 | | | 24 | 21 | 25 | | | 23 | 20 | 32 | | | 22 | 19 | 14 | |
| 12 | | 27 | 59 | 56 | 7 | | 53 | 51 | 17 | 18 | | 18 | 42 | 26 | 27 | | 42 | 32 | 56 | 19 | | 5 | 22 | 20 | 46 | 12 |
| | | | 26 | 20 | 48 | | | 25 | 20 | 49 | | | 24 | 20 | 23 | | | 23 | 19 | 31 | | | 22 | 18 | 13 | |
| 13 | | 28 | 26 | 16 | 55 | | 54 | 16 | 38 | 7 | | 19 | 6 | 46 | 50 | | 42 | 56 | 15 | 50 | | 5 | 44 | 38 | 59 | 13 |
| | | | 26 | 19 | 48 | | | 25 | 19 | 50 | | | 24 | 19 | 23 | | | 23 | 18 | 30 | | | 22 | 17 | 11 | |
| 14 | | 28 | 52 | 36 | 43 | | 54 | 41 | 57 | 57 | | 19 | 31 | 6 | 13 | | 43 | 19 | 34 | 20 | | 6 | 6 | 56 | 10 | 14 |
| | | | 26 | 18 | 49 | | | 25 | 18 | 49 | | | 24 | 18 | 23 | | | 23 | 17 | 28 | | | 22 | 16 | 9 | |
| 15 | | 29 | 18 | 55 | 32 | | 55 | 7 | 16 | 46 | | 19 | 55 | 24 | 36 | | 43 | 42 | 51 | 48 | | 6 | 29 | 12 | 19 | 15 |
| | | | 26 | 17 | 49 | | | 25 | 17 | 49 | | | 24 | 17 | 21 | | | 23 | 16 | 28 | | | 22 | 15 | 8 | |
| 16 | | 29 | 45 | 13 | 21 | | 55 | 32 | 34 | 35 | | 20 | 19 | 41 | 57 | | 44 | 6 | 8 | 16 | | 6 | 51 | 27 | 27 | 16 |
| | | | 26 | 16 | 49 | | | 25 | 16 | 49 | | | 24 | 16 | 21 | | | 23 | 15 | 26 | | | 22 | 14 | 6 | |
| 17 | | 30 | 11 | 30 | 10 | | 55 | 57 | 51 | 24 | | 20 | 43 | 58 | 18 | | 44 | 29 | 23 | 42 | | 7 | 13 | 41 | 33 | 17 |
| | | | 26 | 15 | 49 | | | 25 | 15 | 49 | | | 24 | 15 | 20 | | | 23 | 14 | 26 | | | 22 | 13 | 5 | |
| 18 | | 30 | 37 | 45 | 59 | | 56 | 23 | 7 | 13 | | 21 | 8 | 13 | 38 | | 44 | 52 | 38 | 8 | | 7 | 35 | 54 | 38 | 18 |
| | | | 26 | 14 | 49 | | | 25 | 14 | 48 | | | 24 | 14 | 20 | | | 23 | 13 | 24 | | | 22 | 12 | 4 | |
| 19 | | 31 | 4 | 0 | 48 | | 56 | 48 | 22 | 1 | | 21 | 32 | 27 | 58 | | 45 | 15 | 51 | 32 | | 7 | 58 | 6 | 42 | 19 |
| | | | 26 | 13 | 50 | | | 25 | 13 | 48 | | | 24 | 13 | 19 | | | 23 | 12 | 23 | | | 22 | 11 | 2 | |
| 20 | 54 | 31 | 30 | 14 | 38 | 54 | 57 | 13 | 35 | 49 | 55 | 21 | 56 | 41 | 17 | 55 | 45 | 39 | 3 | 55 | 56 | 8 | 20 | 17 | 44 | 20 |
| | | | 26 | 12 | 50 | | | 25 | 12 | 48 | | | 24 | 12 | 18 | | | 23 | 11 | 22 | | | 22 | 10 | 0 | |
| 21 | | 31 | 56 | 27 | 28 | | 57 | 38 | 48 | 37 | | 22 | 20 | 53 | 35 | | 46 | 2 | 15 | 17 | | 8 | 42 | 27 | 44 | 21 |
| | | | 26 | 11 | 50 | | | 25 | 11 | 47 | | | 24 | 11 | 17 | | | 23 | 10 | 20 | | | 22 | 8 | 58 | |
| 22 | | 32 | 22 | 39 | 18 | | 58 | 4 | 0 | 24 | | 22 | 45 | 4 | 52 | | 46 | 25 | 25 | 37 | | 9 | 4 | 36 | 42 | 22 |
| | | | 26 | 10 | 50 | | | 25 | 10 | 48 | | | 24 | 10 | 17 | | | 23 | 9 | 20 | | | 22 | 7 | 57 | |
| 23 | | 32 | 48 | 50 | 8 | | 58 | 29 | 11 | 12 | | 23 | 9 | 15 | 9 | | 46 | 48 | 34 | 57 | | 9 | 26 | 44 | 39 | 23 |
| | | | 26 | 9 | 50 | | | 25 | 9 | 47 | | | 24 | 9 | 16 | | | 23 | 8 | 18 | | | 22 | 6 | 56 | |
| 24 | | 33 | 14 | 59 | 58 | | 58 | 54 | 20 | 59 | | 23 | 33 | 24 | 25 | | 47 | 11 | 43 | 15 | | 9 | 48 | 51 | 35 | 24 |
| | | | 26 | 8 | 51 | | | 25 | 8 | 46 | | | 24 | 8 | 15 | | | 23 | 7 | 18 | | | 22 | 5 | 54 | |
| 25 | | 33 | 41 | 8 | 49 | | 59 | 19 | 29 | 45 | | 23 | 57 | 32 | 40 | | 47 | 34 | 50 | 33 | | 10 | 10 | 57 | 29 | 25 |
| | | | 26 | 7 | 51 | | | 25 | 7 | 47 | | | 24 | 7 | 14 | | | 23 | 6 | 16 | | | 22 | 4 | 52 | |
| 26 | | 34 | 7 | 16 | 40 | | 59 | 44 | 37 | 32 | | 24 | 21 | 39 | 54 | | 47 | 57 | 56 | 49 | | 10 | 33 | 2 | 21 | 26 |
| | | | 26 | 6 | 51 | | | 25 | 6 | 46 | | | 24 | 6 | 14 | | | 23 | 5 | 15 | | | 22 | 3 | 51 | |
| 27 | | 34 | 33 | 23 | 31 | 55 | 0 | 9 | 44 | 18 | | 24 | 45 | 46 | 8 | | 48 | 21 | 2 | 4 | | 10 | 55 | 6 | 12 | 27 |
| | | | 26 | 5 | 51 | | | 25 | 5 | 45 | | | 24 | 5 | 13 | | | 23 | 4 | 13 | | | 22 | 2 | 49 | |
| 28 | | 34 | 59 | 29 | 22 | | 0 | 34 | 50 | 3 | | 25 | 9 | 51 | 21 | | 48 | 44 | 6 | 17 | | 11 | 17 | 9 | 1 | 28 |
| | | | 26 | 4 | 51 | | | 25 | 4 | 46 | | | 24 | 4 | 12 | | | 23 | 3 | 13 | | | 22 | 1 | 48 | |
| 29 | | 35 | 25 | 34 | 13 | | 0 | 59 | 54 | 49 | | 25 | 33 | 55 | 33 | | 49 | 7 | 9 | 30 | | 11 | 39 | 10 | 49 | 29 |
| | | | 26 | 3 | 51 | | | 25 | 3 | 45 | | | 24 | 3 | 11 | | | 23 | 2 | 11 | | | 22 | 0 | 45 | |
| 30 | 54 | 35 | 51 | 38 | 4 | 55 | 1 | 24 | 58 | 34 | 55 | 25 | 57 | 58 | 44 | 55 | 49 | 30 | 11 | 41 | 56 | 12 | 1 | 11 | 34 | 30 |
| | | | 26 | 2 | 52 | | | 25 | 2 | 45 | | | 24 | 2 | 11 | | | 23 | 1 | 10 | | | 21 | 59 | 45 | |

| ′ | 65° | | | | | 66° | | | | | 67° | | | | | 68° | | | | | 69° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 54 | 35 | 51<br>26 | 38<br>2 | 4<br>52 | 55 | 1 | 24<br>25 | 58<br>2 | 34<br>45 | 55 | 25 | 57<br>24 | 58<br>2 | 44<br>11 | 55 | 49 | 30<br>23 | 11<br>1 | 41<br>10 | 56 | 12 | 1<br>21 | 11<br>59 | 34<br>45 | 30 |
| 31 | | 36 | 17<br>26 | 40<br>1 | 56<br>51 | | 1 | 50<br>25 | 1<br>1 | 19<br>44 | | 26 | 22<br>24 | 0<br>1 | 55<br>10 | | 49 | 53<br>23 | 12<br>0 | 51<br>9 | | 12 | 23<br>21 | 11<br>58 | 19<br>42 | 31 |
| 32 | | 36 | 43<br>26 | 42<br>0 | 47<br>52 | | 2 | 15<br>25 | 3<br>0 | 3<br>44 | | 26 | 46<br>24 | 2<br>0 | 5<br>9 | | 50 | 16<br>22 | 13<br>59 | 0<br>7 | | 12 | 45<br>21 | 10<br>57 | 1<br>41 | 32 |
| 33 | | 37 | 9<br>25 | 43<br>59 | 39<br>52 | | 2 | 40<br>24 | 3<br>59 | 47<br>44 | | 27 | 10<br>23 | 2<br>59 | 14<br>8 | | 50 | 39<br>22 | 12<br>58 | 7<br>7 | | 13 | 7<br>21 | 7<br>56 | 42<br>39 | 33 |
| 34 | | 37 | 35<br>25 | 43<br>58 | 31<br>52 | | 3 | 5<br>24 | 3<br>58 | 31<br>43 | | 27 | 34<br>23 | 1<br>58 | 22<br>7 | | 51 | 2<br>22 | 10<br>57 | 14<br>5 | | 13 | 29<br>21 | 4<br>55 | 21<br>38 | 34 |
| 35 | | 38 | 1<br>25 | 42<br>57 | 23<br>52 | | 3 | 30<br>24 | 2<br>57 | 14<br>43 | | 27 | 57<br>23 | 59<br>57 | 29<br>7 | | 51 | 25<br>22 | 7<br>56 | 19<br>3 | | 13 | 50<br>21 | 59<br>54 | 59<br>36 | 35 |
| 36 | | 38 | 27<br>25 | 40<br>56 | 15<br>52 | | 3 | 54<br>24 | 59<br>56 | 57<br>42 | | 28 | 21<br>23 | 56<br>56 | 36<br>5 | | 51 | 48<br>22 | 3<br>55 | 22<br>3 | | 14 | 12<br>21 | 54<br>53 | 35<br>34 | 36 |
| 37 | | 38 | 53<br>25 | 37<br>55 | 7<br>52 | | 4 | 19<br>24 | 56<br>55 | 39<br>43 | | 28 | 45<br>23 | 52<br>55 | 41<br>5 | | 52 | 10<br>22 | 58<br>54 | 25<br>1 | | 14 | 34<br>21 | 48<br>52 | 9<br>33 | 37 |
| 38 | | 39 | 19<br>25 | 32<br>54 | 59<br>52 | | 4 | 44<br>24 | 52<br>54 | 22<br>41 | | 29 | 9<br>23 | 47<br>54 | 46<br>4 | | 52 | 33<br>22 | 52<br>53 | 26<br>0 | | 14 | 56<br>21 | 40<br>51 | 42<br>31 | 38 |
| 39 | | 39 | 45<br>25 | 27<br>53 | 51<br>52 | | 5 | 9<br>24 | 47<br>53 | 3<br>42 | | 29 | 33<br>23 | 41<br>53 | 50<br>3 | | 52 | 56<br>22 | 45<br>51 | 26<br>59 | | 15 | 18<br>21 | 32<br>50 | 13<br>29 | 39 |
| 40 | 54 | 40 | 11<br>25 | 21<br>52 | 43<br>53 | 55 | 5 | 34<br>24 | 40<br>52 | 45<br>41 | 55 | 29 | 57<br>23 | 34<br>52 | 53<br>3 | 55 | 53 | 19<br>22 | 37<br>50 | 25<br>57 | 56 | 15 | 40<br>21 | 22<br>49 | 42<br>28 | 40 |
| 41 | | 40 | 37<br>25 | 14<br>51 | 36<br>52 | | 5 | 59<br>24 | 33<br>51 | 26<br>40 | | 30 | 21<br>23 | 26<br>51 | 56<br>1 | | 53 | 42<br>22 | 28<br>49 | 22<br>57 | | 16 | 2<br>21 | 12<br>48 | 10<br>26 | 41 |
| 42 | | 41 | 3<br>25 | 6<br>50 | 28<br>52 | | 6 | 24<br>24 | 25<br>50 | 6<br>40 | | 30 | 45<br>23 | 17<br>50 | 57<br>1 | | 54 | 5<br>22 | 18<br>48 | 19<br>54 | | 16 | 24<br>21 | 0<br>47 | 36<br>24 | 42 |
| 43 | | 41 | 28<br>25 | 57<br>49 | 20<br>53 | | 6 | 49<br>24 | 15<br>49 | 46<br>40 | | 31 | 9<br>23 | 7<br>48 | 58<br>59 | | 54 | 28<br>22 | 7<br>47 | 13<br>54 | | 16 | 45<br>21 | 48<br>46 | 0<br>22 | 43 |
| 44 | | 41 | 54<br>25 | 47<br>48 | 13<br>52 | | 7 | 14<br>24 | 5<br>48 | 26<br>39 | | 31 | 32<br>23 | 56<br>47 | 57<br>59 | | 54 | 50<br>22 | 55<br>46 | 7<br>52 | | 17 | 7<br>21 | 34<br>45 | 22<br>21 | 44 |
| 45 | | 42 | 20<br>25 | 36<br>47 | 5<br>53 | | 7 | 38<br>24 | 54<br>47 | 5<br>39 | | 31 | 56<br>23 | 44<br>46 | 56<br>58 | | 55 | 13<br>22 | 41<br>45 | 59<br>51 | | 17 | 29<br>21 | 19<br>44 | 43<br>19 | 45 |
| 46 | | 42 | 46<br>25 | 23<br>46 | 58<br>52 | | 8 | 3<br>24 | 41<br>46 | 44<br>38 | | 32 | 20<br>23 | 31<br>45 | 54<br>57 | | 55 | 36<br>22 | 27<br>44 | 50<br>50 | | 17 | 51<br>21 | 4<br>43 | 2<br>17 | 46 |
| 47 | | 43 | 12<br>25 | 10<br>45 | 50<br>52 | | 8 | 28<br>24 | 28<br>45 | 22<br>38 | | 32 | 44<br>23 | 17<br>44 | 51<br>56 | | 55 | 59<br>22 | 12<br>43 | 40<br>48 | | 18 | 12<br>21 | 47<br>42 | 19<br>15 | 47 |
| 48 | | 43 | 37<br>25 | 56<br>44 | 42<br>53 | | 8 | 53<br>24 | 14<br>44 | 0<br>37 | | 33 | 8<br>23 | 2<br>43 | 47<br>55 | | 56 | 21<br>22 | 56<br>42 | 28<br>47 | | 18 | 34<br>21 | 29<br>41 | 34<br>14 | 48 |
| 49 | | 44 | 3<br>25 | 41<br>43 | 35<br>52 | | 9 | 17<br>24 | 58<br>43 | 37<br>37 | | 33 | 31<br>23 | 46<br>42 | 42<br>54 | | 56 | 44<br>22 | 39<br>41 | 15<br>45 | | 18 | 56<br>21 | 10<br>40 | 48<br>12 | 49 |
| 50 | 54 | 44 | 29<br>25 | 25<br>42 | 27<br>52 | 55 | 9 | 42<br>24 | 42<br>42 | 14<br>36 | 55 | 33 | 55<br>23 | 29<br>41 | 36<br>53 | 55 | 57 | 7<br>22 | 21<br>40 | 0<br>44 | 56 | 19 | 17<br>21 | 51<br>39 | 0<br>10 | 50 |
| 51 | | 44 | 55<br>25 | 8<br>41 | 19<br>53 | | 10 | 7<br>24 | 24<br>41 | 50<br>36 | | 34 | 19<br>23 | 11<br>40 | 29<br>53 | | 57 | 30<br>22 | 1<br>39 | 44<br>43 | | 19 | 39<br>21 | 30<br>38 | 10<br>9 | 51 |
| 52 | | 45 | 20<br>25 | 50<br>40 | 12<br>52 | | 10 | 32<br>24 | 6<br>40 | 26<br>35 | | 34 | 42<br>23 | 52<br>39 | 22<br>51 | | 57 | 52<br>22 | 41<br>38 | 27<br>42 | | 20 | 1<br>21 | 8<br>37 | 19<br>7 | 52 |
| 53 | | 45 | 46<br>25 | 31<br>39 | 4<br>52 | | 10 | 56<br>24 | 47<br>39 | 1<br>35 | | 35 | 6<br>23 | 32<br>38 | 13<br>50 | | 58 | 15<br>22 | 20<br>37 | 9<br>40 | | 20 | 22<br>21 | 45<br>36 | 26<br>4 | 53 |
| 54 | | 46 | 12<br>25 | 10<br>38 | 56<br>52 | | 11 | 21<br>24 | 26<br>38 | 36<br>35 | | 35 | 30<br>23 | 11<br>37 | 3<br>50 | | 58 | 37<br>22 | 57<br>36 | 49<br>38 | | 20 | 44<br>21 | 21<br>35 | 30<br>4 | 54 |
| 55 | | 46 | 37<br>25 | 49<br>37 | 48<br>52 | | 11 | 46<br>24 | 5<br>37 | 11<br>33 | | 35 | 53<br>23 | 48<br>36 | 53<br>48 | | 59 | 0<br>22 | 34<br>35 | 27<br>38 | | 21 | 5<br>21 | 56<br>34 | 34<br>1 | 55 |
| 56 | | 47 | 3<br>25 | 27<br>36 | 40<br>52 | | 12 | 10<br>24 | 42<br>36 | 44<br>34 | | 36 | 17<br>23 | 25<br>35 | 41<br>48 | | 59 | 23<br>22 | 10<br>34 | 5<br>35 | | 21 | 27<br>21 | 30<br>32 | 35<br>59 | 56 |
| 57 | | 47 | 29<br>25 | 4<br>35 | 32<br>52 | | 12 | 35<br>24 | 19<br>35 | 18<br>32 | | 36 | 41<br>23 | 1<br>34 | 29<br>46 | | 59 | 45<br>22 | 44<br>33 | 40<br>35 | | 21 | 49<br>21 | 3<br>31 | 34<br>58 | 57 |
| 58 | | 47 | 54<br>25 | 40<br>34 | 24<br>52 | | 12 | 59<br>24 | 54<br>34 | 50<br>32 | | 37 | 4<br>23 | 36<br>33 | 15<br>46 | 56 | 0 | 8<br>22 | 18<br>32 | 15<br>33 | | 22 | 10<br>21 | 35<br>30 | 32<br>56 | 58 |
| 59 | | 48 | 20<br>25 | 15<br>33 | 16<br>52 | | 13 | 24<br>24 | 29<br>33 | 22<br>32 | | 37 | 28<br>23 | 10<br>32 | 1<br>44 | | 0 | 30<br>22 | 50<br>31 | 48<br>32 | | 22 | 32<br>21 | 6<br>29 | 28<br>54 | 59 |
| 60 | 54 | 48 | 45<br>25 | 49<br>32 | 8<br>51 | 55 | 13 | 49<br>24 | 2<br>32 | 54<br>31 | 55 | 37 | 51<br>23 | 42<br>31 | 45<br>44 | 56 | 0 | 53<br>22 | 22<br>30 | 20<br>30 | 56 | 22 | 53<br>21 | 36<br>28 | 22<br>52 | 60 |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 70° | | | | | 71° | | | | | 72° | | | | | 73° | | | | | 74° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 56 | 22 | 53 | 36 | 22 | 56 | 43 | 52 | 0 | 44 | 57 | 3 | 48 | 12 | 27 | 57 | 22 | 41 | 49 | 38 | 57 | 40 | 32 | 31 | 35 | 0 |
| | | | 21 | 28 | 52 | | | 20 | 26 | 51 | | | 19 | 24 | 27 | | | 18 | 21 | 42 | | | 17 | 18 | 36 | |
| 1 | | 23 | 15 | 5 | 14 | | 44 | 12 | 27 | 35 | | 4 | 7 | 36 | 54 | | 23 | 0 | 11 | 20 | | 40 | 49 | 50 | 11 | 1 |
| | | | 21 | 27 | 51 | | | 20 | 25 | 49 | | | 19 | 23 | 24 | | | 18 | 20 | 38 | | | 17 | 17 | 33 | |
| 2 | | 23 | 36 | 33 | 5 | | 44 | 32 | 53 | 24 | | 4 | 27 | 0 | 18 | | 23 | 18 | 31 | 58 | | 41 | 7 | 7 | 44 | 2 |
| | | | 21 | 26 | 48 | | | 20 | 24 | 46 | | | 19 | 22 | 21 | | | 18 | 19 | 36 | | | 17 | 16 | 29 | |
| 3 | | 23 | 57 | 59 | 53 | | 44 | 53 | 18 | 10 | | 4 | 46 | 22 | 39 | | 23 | 36 | 51 | 34 | | 41 | 24 | 24 | 13 | 3 |
| | | | 21 | 25 | 47 | | | 20 | 23 | 44 | | | 19 | 21 | 19 | | | 18 | 18 | 32 | | | 17 | 15 | 27 | |
| 4 | | 24 | 19 | 25 | 40 | | 45 | 13 | 41 | 54 | | 5 | 5 | 43 | 58 | | 23 | 55 | 10 | 6 | | 41 | 41 | 39 | 40 | 4 |
| | | | 21 | 24 | 45 | | | 20 | 22 | 42 | | | 19 | 20 | 17 | | | 18 | 17 | 30 | | | 17 | 14 | 23 | |
| 5 | | 24 | 40 | 50 | 25 | | 45 | 34 | 4 | 36 | | 5 | 25 | 4 | 15 | | 24 | 13 | 27 | 36 | | 41 | 58 | 54 | 3 | 5 |
| | | | 21 | 23 | 43 | | | 20 | 21 | 39 | | | 19 | 19 | 13 | | | 18 | 16 | 27 | | | 17 | 13 | 19 | |
| 6 | | 25 | 2 | 14 | 8 | | 45 | 54 | 26 | 15 | | 5 | 44 | 23 | 28 | | 24 | 31 | 44 | 3 | | 42 | 16 | 7 | 22 | 6 |
| | | | 21 | 22 | 41 | | | 20 | 20 | 37 | | | 19 | 18 | 12 | | | 18 | 15 | 24 | | | 17 | 12 | 17 | |
| 7 | | 25 | 23 | 36 | 49 | | 46 | 14 | 46 | 52 | | 6 | 3 | 41 | 40 | | 24 | 49 | 59 | 27 | | 42 | 33 | 19 | 39 | 7 |
| | | | 21 | 21 | 39 | | | 20 | 19 | 35 | | | 19 | 17 | 8 | | | 18 | 14 | 21 | | | 17 | 11 | 13 | |
| 8 | | 25 | 44 | 58 | 28 | | 46 | 35 | 6 | 27 | | 6 | 22 | 58 | 48 | | 25 | 8 | 13 | 48 | | 42 | 50 | 30 | 52 | 8 |
| | | | 21 | 20 | 37 | | | 20 | 18 | 33 | | | 19 | 16 | 6 | | | 18 | 13 | 17 | | | 17 | 10 | 10 | |
| 9 | | 26 | 6 | 19 | 5 | | 46 | 55 | 25 | 0 | | 6 | 42 | 14 | 54 | | 25 | 26 | 27 | 5 | | 43 | 7 | 41 | 2 | 9 |
| | | | 21 | 19 | 36 | | | 20 | 17 | 31 | | | 19 | 15 | 3 | | | 18 | 12 | 15 | | | 17 | 9 | 6 | |
| 10 | 56 | 26 | 27 | 38 | 41 | 56 | 47 | 15 | 42 | 31 | 57 | 7 | 1 | 29 | 57 | 57 | 25 | 44 | 39 | 20 | 57 | 43 | 24 | 50 | 8 | 10 |
| | | | 21 | 18 | 33 | | | 20 | 16 | 28 | | | 19 | 14 | 1 | | | 18 | 11 | 12 | | | 17 | 8 | 4 | |
| 11 | | 26 | 48 | 57 | 14 | | 47 | 35 | 58 | 59 | | 7 | 20 | 43 | 58 | | 26 | 2 | 50 | 32 | | 43 | 41 | 58 | 12 | 11 |
| | | | 21 | 17 | 32 | | | 20 | 15 | 26 | | | 19 | 12 | 58 | | | 18 | 10 | 9 | | | 17 | 7 | 0 | |
| 12 | | 27 | 10 | 14 | 46 | | 47 | 56 | 14 | 25 | | 7 | 39 | 56 | 56 | | 26 | 21 | 0 | 41 | | 43 | 59 | 5 | 12 | 12 |
| | | | 21 | 16 | 30 | | | 20 | 14 | 23 | | | 19 | 11 | 55 | | | 18 | 9 | 6 | | | 17 | 5 | 56 | |
| 13 | | 27 | 31 | 31 | 16 | | 48 | 16 | 28 | 48 | | 7 | 59 | 8 | 51 | | 26 | 39 | 9 | 47 | | 44 | 16 | 11 | 8 | 13 |
| | | | 21 | 15 | 28 | | | 20 | 13 | 22 | | | 19 | 10 | 53 | | | 18 | 8 | 3 | | | 17 | 4 | 54 | |
| 14 | | 27 | 52 | 46 | 44 | | 48 | 36 | 42 | 10 | | 8 | 18 | 19 | 44 | | 26 | 57 | 17 | 50 | | 44 | 33 | 16 | 2 | 14 |
| | | | 21 | 14 | 25 | | | 20 | 12 | 19 | | | 19 | 9 | 50 | | | 18 | 7 | 0 | | | 17 | 3 | 50 | |
| 15 | | 28 | 14 | 1 | 9 | | 48 | 56 | 54 | 29 | | 8 | 37 | 29 | 34 | | 27 | 15 | 24 | 50 | | 44 | 50 | 19 | 52 | 15 |
| | | | 21 | 13 | 24 | | | 20 | 11 | 16 | | | 19 | 8 | 47 | | | 18 | 5 | 57 | | | 17 | 2 | 47 | |
| 16 | | 28 | 35 | 14 | 33 | | 49 | 17 | 5 | 45 | | 8 | 56 | 38 | 21 | | 27 | 33 | 30 | 47 | | 45 | 7 | 22 | 39 | 16 |
| | | | 21 | 12 | 23 | | | 20 | 10 | 15 | | | 19 | 7 | 45 | | | 18 | 4 | 54 | | | 17 | 1 | 43 | |
| 17 | | 28 | 56 | 26 | 56 | | 49 | 37 | 16 | 0 | | 9 | 15 | 46 | 6 | | 27 | 51 | 35 | 41 | | 45 | 24 | 24 | 22 | 17 |
| | | | 21 | 11 | 20 | | | 20 | 9 | 12 | | | 19 | 6 | 42 | | | 18 | 3 | 51 | | | 17 | 0 | 40 | |
| 18 | | 29 | 17 | 38 | 16 | | 49 | 57 | 25 | 12 | | 9 | 34 | 52 | 48 | | 28 | 9 | 39 | 32 | | 45 | 41 | 25 | 2 | 18 |
| | | | 21 | 10 | 18 | | | 20 | 8 | 10 | | | 19 | 5 | 39 | | | 18 | 2 | 48 | | | 16 | 59 | 37 | |
| 19 | | 29 | 38 | 48 | 34 | | 50 | 17 | 33 | 22 | | 9 | 53 | 58 | 27 | | 28 | 27 | 42 | 20 | | 45 | 58 | 24 | 39 | 19 |
| | | | 21 | 9 | 16 | | | 20 | 7 | 7 | | | 19 | 4 | 37 | | | 18 | 1 | 45 | | | 16 | 58 | 33 | |
| 20 | 56 | 29 | 59 | 57 | 50 | 56 | 50 | 37 | 40 | 29 | 57 | 10 | 13 | 3 | 4 | 57 | 28 | 45 | 44 | 5 | 57 | 46 | 15 | 23 | 12 | 20 |
| | | | 21 | 8 | 14 | | | 20 | 6 | 5 | | | 19 | 3 | 34 | | | 18 | 0 | 42 | | | 16 | 57 | 30 | |
| 21 | | 30 | 21 | 6 | 4 | | 50 | 57 | 46 | 34 | | 10 | 32 | 6 | 38 | | 29 | 3 | 44 | 47 | | 46 | 32 | 20 | 42 | 21 |
| | | | 21 | 7 | 13 | | | 20 | 5 | 3 | | | 19 | 2 | 31 | | | 17 | 59 | 38 | | | 16 | 56 | 27 | |
| 22 | | 30 | 42 | 13 | 17 | | 51 | 17 | 51 | 37 | | 10 | 51 | 9 | 9 | | 29 | 21 | 44 | 25 | | 46 | 49 | 17 | 9 | 22 |
| | | | 21 | 6 | 10 | | | 20 | 4 | 1 | | | 19 | 1 | 28 | | | 17 | 58 | 36 | | | 16 | 55 | 23 | |
| 23 | | 31 | 3 | 19 | 27 | | 51 | 37 | 55 | 38 | | 11 | 10 | 10 | 37 | | 29 | 39 | 43 | 1 | | 47 | 6 | 12 | 32 | 23 |
| | | | 21 | 5 | 8 | | | 20 | 2 | 58 | | | 19 | 0 | 26 | | | 17 | 57 | 33 | | | 16 | 54 | 20 | |
| 24 | | 31 | 24 | 24 | 35 | | 51 | 57 | 58 | 36 | | 11 | 29 | 11 | 3 | | 29 | 57 | 40 | 34 | | 47 | 23 | 6 | 52 | 24 |
| | | | 21 | 4 | 7 | | | 20 | 1 | 55 | | | 18 | 59 | 23 | | | 17 | 56 | 30 | | | 16 | 53 | 16 | |
| 25 | | 31 | 45 | 28 | 42 | | 52 | 18 | 0 | 31 | | 11 | 48 | 10 | 26 | | 30 | 15 | 37 | 4 | | 47 | 40 | 0 | 8 | 25 |
| | | | 21 | 3 | 4 | | | 20 | 0 | 54 | | | 18 | 58 | 21 | | | 17 | 55 | 26 | | | 16 | 52 | 14 | |
| 26 | | 32 | 6 | 31 | 46 | | 52 | 38 | 1 | 25 | | 12 | 7 | 8 | 47 | | 30 | 33 | 32 | 30 | | 47 | 56 | 52 | 22 | 26 |
| | | | 21 | 2 | 2 | | | 19 | 59 | 51 | | | 18 | 57 | 17 | | | 17 | 54 | 24 | | | 16 | 51 | 9 | |
| 27 | | 32 | 27 | 33 | 48 | | 52 | 58 | 1 | 16 | | 12 | 26 | 6 | 4 | | 30 | 51 | 26 | 54 | | 48 | 13 | 43 | 31 | 27 |
| | | | 21 | 1 | 1 | | | 19 | 58 | 48 | | | 18 | 56 | 15 | | | 17 | 53 | 20 | | | 16 | 50 | 7 | |
| 28 | | 32 | 48 | 34 | 49 | | 53 | 18 | 0 | 4 | | 12 | 45 | 2 | 19 | | 31 | 9 | 20 | 14 | | 48 | 30 | 33 | 38 | 28 |
| | | | 20 | 59 | 58 | | | 19 | 57 | 46 | | | 18 | 55 | 12 | | | 17 | 52 | 18 | | | 16 | 49 | 3 | |
| 29 | | 33 | 9 | 34 | 47 | | 53 | 37 | 57 | 50 | | 13 | 3 | 57 | 31 | | 31 | 27 | 12 | 32 | | 48 | 47 | 22 | 41 | 29 |
| | | | 20 | 58 | 56 | | | 19 | 56 | 44 | | | 18 | 54 | 10 | | | 17 | 51 | 14 | | | 16 | 47 | 59 | |
| 30 | 56 | 33 | 30 | 33 | 43 | 56 | 53 | 57 | 54 | 34 | 57 | 13 | 22 | 51 | 41 | 57 | 31 | 45 | 3 | 46 | 57 | 49 | 4 | 10 | 40 | 30 |
| | | | 20 | 57 | 55 | | | 19 | 55 | 42 | | | 18 | 53 | 7 | | | 17 | 50 | 11 | | | 16 | 46 | 57 | |

| ′ | 70° | | | | | 71° | | | | | 72° | | | | | 73° | | | | | 74° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 56 | 33 | 30 | 33 | 43 | 56 | 53 | 57 | 54 | 34 | 57 | 13 | 22 | 51 | 41 | 57 | 31 | 45 | 3 | 46 | 57 | 49 | 4 | 10 | 40 | 30 |
| | | | 20 | 57 | 55 | | | 19 | 55 | 42 | | | 18 | 53 | 7 | | | 17 | 50 | 11 | | | 16 | 46 | 57 | |
| 31 | | 33 | 51 | 31 | 38 | | 54 | 17 | 50 | 16 | | 13 | 41 | 44 | 48 | | 32 | 2 | 53 | 57 | | 49 | 20 | 57 | 37 | 31 |
| | | | 20 | 56 | 52 | | | 19 | 54 | 39 | | | 18 | 52 | 3 | | | 17 | 49 | 8 | | | 16 | 45 | 52 | |
| 32 | | 34 | 12 | 28 | 30 | | 54 | 37 | 44 | 55 | | 14 | 0 | 36 | 51 | | 32 | 20 | 43 | 5 | | 49 | 37 | 43 | 29 | 32 |
| | | | 20 | 55 | 50 | | | 19 | 53 | 36 | | | 18 | 51 | 2 | | | 17 | 48 | 5 | | | 16 | 44 | 50 | |
| 33 | | 34 | 33 | 24 | 20 | | 54 | 57 | 38 | 31 | | 14 | 19 | 27 | 53 | | 32 | 38 | 31 | 10 | | 49 | 54 | 28 | 19 | 33 |
| | | | 20 | 54 | 49 | | | 19 | 52 | 35 | | | 18 | 49 | 58 | | | 17 | 47 | 2 | | | 16 | 43 | 46 | |
| 34 | | 34 | 54 | 19 | 9 | | 55 | 17 | 31 | 6 | | 14 | 38 | 17 | 51 | | 32 | 56 | 18 | 12 | | 50 | 11 | 12 | 5 | 34 |
| | | | 20 | 53 | 46 | | | 19 | 51 | 31 | | | 18 | 48 | 56 | | | 17 | 45 | 59 | | | 16 | 42 | 42 | |
| 35 | | 35 | 15 | 12 | 55 | | 55 | 37 | 22 | 37 | | 14 | 57 | 6 | 47 | | 33 | 14 | 4 | 11 | | 50 | 27 | 54 | 47 | 35 |
| | | | 20 | 52 | 44 | | | 19 | 50 | 30 | | | 18 | 47 | 52 | | | 17 | 44 | 56 | | | 16 | 41 | 39 | |
| 36 | | 35 | 36 | 5 | 39 | | 55 | 57 | 13 | 7 | | 15 | 15 | 54 | 39 | | 33 | 31 | 49 | 7 | | 50 | 44 | 36 | 26 | 36 |
| | | | 20 | 51 | 42 | | | 19 | 49 | 27 | | | 18 | 46 | 50 | | | 17 | 43 | 52 | | | 16 | 40 | 36 | |
| 37 | | 35 | 56 | 57 | 21 | | 56 | 17 | 2 | 34 | | 15 | 34 | 41 | 29 | | 33 | 49 | 32 | 59 | | 51 | 1 | 17 | 2 | 37 |
| | | | 20 | 50 | 40 | | | 19 | 48 | 24 | | | 18 | 45 | 48 | | | 17 | 42 | 50 | | | 16 | 39 | 32 | |
| 38 | | 36 | 17 | 48 | 1 | | 56 | 36 | 50 | 58 | | 15 | 53 | 27 | 17 | | 34 | 7 | 15 | 49 | | 51 | 17 | 56 | 34 | 38 |
| | | | 20 | 49 | 38 | | | 19 | 47 | 22 | | | 18 | 44 | 44 | | | 17 | 41 | 46 | | | 16 | 38 | 29 | |
| 39 | | 36 | 38 | 37 | 39 | | 56 | 56 | 38 | 20 | | 16 | 12 | 12 | 1 | | 34 | 24 | 57 | 35 | | 51 | 34 | 35 | 3 | 39 |
| | | | 20 | 48 | 36 | | | 19 | 46 | 20 | | | 18 | 43 | 42 | | | 17 | 40 | 43 | | | 16 | 37 | 25 | |
| 40 | 56 | 36 | 59 | 26 | 15 | 56 | 57 | 16 | 24 | 40 | 57 | 16 | 30 | 55 | 43 | 57 | 34 | 42 | 38 | 18 | 57 | 51 | 51 | 12 | 28 | 40 |
| | | | 20 | 47 | 33 | | | 19 | 45 | 17 | | | 18 | 42 | 39 | | | 17 | 39 | 40 | | | 16 | 36 | 22 | |
| 41 | | 37 | 20 | 13 | 48 | | 57 | 36 | 9 | 57 | | 16 | 49 | 38 | 22 | | 35 | 0 | 17 | 58 | | 52 | 7 | 48 | 50 | 41 |
| | | | 20 | 46 | 32 | | | 19 | 44 | 14 | | | 18 | 41 | 36 | | | 17 | 38 | 37 | | | 16 | 35 | 19 | |
| 42 | | 37 | 41 | 0 | 20 | | 57 | 55 | 54 | 11 | | 17 | 8 | 19 | 58 | | 35 | 17 | 56 | 35 | | 52 | 24 | 24 | 9 | 42 |
| | | | 20 | 45 | 29 | | | 19 | 43 | 13 | | | 18 | 40 | 33 | | | 17 | 37 | 34 | | | 16 | 34 | 15 | |
| 43 | | 38 | 1 | 45 | 49 | | 58 | 15 | 37 | 24 | | 17 | 27 | 0 | 31 | | 35 | 35 | 34 | 9 | | 52 | 40 | 58 | 24 | 43 |
| | | | 20 | 44 | 28 | | | 19 | 42 | 9 | | | 18 | 39 | 30 | | | 17 | 36 | 30 | | | 16 | 33 | 11 | |
| 44 | | 38 | 22 | 30 | 17 | | 58 | 35 | 19 | 33 | | 17 | 45 | 40 | 1 | | 35 | 53 | 10 | 39 | | 52 | 57 | 31 | 35 | 44 |
| | | | 20 | 43 | 25 | | | 19 | 41 | 8 | | | 18 | 38 | 28 | | | 17 | 35 | 28 | | | 16 | 32 | 8 | |
| 45 | | 38 | 43 | 13 | 42 | | 58 | 55 | 0 | 41 | | 18 | 4 | 18 | 29 | | 36 | 10 | 46 | 7 | | 53 | 14 | 3 | 43 | 45 |
| | | | 20 | 42 | 23 | | | 19 | 40 | 4 | | | 18 | 37 | 25 | | | 17 | 34 | 24 | | | 16 | 31 | 5 | |
| 46 | | 39 | 3 | 56 | 5 | | 59 | 14 | 40 | 45 | | 18 | 22 | 55 | 54 | | 36 | 28 | 20 | 31 | | 53 | 30 | 34 | 48 | 46 |
| | | | 20 | 41 | 22 | | | 19 | 39 | 3 | | | 18 | 36 | 21 | | | 17 | 33 | 21 | | | 16 | 30 | 1 | |
| 47 | | 39 | 24 | 37 | 27 | | 59 | 34 | 19 | 48 | | 18 | 41 | 32 | 15 | | 36 | 45 | 53 | 52 | | 53 | 47 | 4 | 49 | 47 |
| | | | 20 | 40 | 18 | | | 19 | 37 | 59 | | | 18 | 35 | 19 | | | 17 | 32 | 18 | | | 16 | 28 | 57 | |
| 48 | | 39 | 45 | 17 | 45 | | 59 | 53 | 57 | 47 | | 19 | 0 | 7 | 34 | | 37 | 3 | 26 | 10 | | 54 | 3 | 33 | 46 | 48 |
| | | | 20 | 39 | 17 | | | 19 | 36 | 58 | | | 18 | 34 | 17 | | | 17 | 31 | 15 | | | 16 | 27 | 54 | |
| 49 | | 40 | 5 | 57 | 2 | 57 | 0 | 13 | 34 | 45 | | 19 | 18 | 41 | 51 | | 37 | 20 | 57 | 25 | | 54 | 20 | 1 | 40 | 49 |
| | | | 20 | 38 | 15 | | | 19 | 35 | 54 | | | 18 | 33 | 13 | | | 17 | 30 | 11 | | | 16 | 26 | 51 | |
| 50 | 56 | 40 | 26 | 35 | 17 | 57 | 0 | 33 | 10 | 39 | 57 | 19 | 37 | 15 | 4 | 57 | 37 | 38 | 27 | 36 | 57 | 54 | 36 | 28 | 31 | 50 |
| | | | 20 | 37 | 12 | | | 19 | 34 | 52 | | | 18 | 32 | 10 | | | 17 | 29 | 9 | | | 16 | 25 | 47 | |
| 51 | | 40 | 47 | 12 | 29 | | 0 | 52 | 45 | 31 | | 19 | 55 | 47 | 14 | | 37 | 55 | 56 | 45 | | 54 | 52 | 54 | 18 | 51 |
| | | | 20 | 36 | 11 | | | 19 | 33 | 50 | | | 18 | 31 | 8 | | | 17 | 28 | 5 | | | 16 | 24 | 43 | |
| 52 | | 41 | 7 | 48 | 40 | | 1 | 12 | 19 | 21 | | 20 | 14 | 18 | 22 | | 38 | 13 | 24 | 50 | | 55 | 9 | 19 | 1 | 52 |
| | | | 20 | 35 | 8 | | | 19 | 32 | 47 | | | 18 | 30 | 5 | | | 17 | 27 | 2 | | | 16 | 23 | 40 | |
| 53 | | 41 | 28 | 23 | 48 | | 1 | 31 | 52 | 8 | | 20 | 32 | 48 | 27 | | 38 | 30 | 51 | 52 | | 55 | 25 | 42 | 41 | 53 |
| | | | 20 | 34 | 6 | | | 19 | 31 | 45 | | | 18 | 29 | 1 | | | 17 | 25 | 58 | | | 16 | 22 | 37 | |
| 54 | | 41 | 48 | 57 | 54 | | 1 | 51 | 23 | 53 | | 20 | 51 | 17 | 28 | | 38 | 48 | 17 | 50 | | 55 | 42 | 5 | 18 | 54 |
| | | | 20 | 33 | 4 | | | 19 | 30 | 42 | | | 18 | 27 | 59 | | | 17 | 24 | 56 | | | 16 | 21 | 33 | |
| 55 | | 42 | 9 | 30 | 58 | | 2 | 10 | 54 | 35 | | 21 | 9 | 45 | 27 | | 39 | 5 | 42 | 46 | | 55 | 58 | 26 | 51 | 55 |
| | | | 20 | 32 | 2 | | | 19 | 29 | 40 | | | 18 | 26 | 56 | | | 17 | 23 | 52 | | | 16 | 20 | 29 | |
| 56 | | 42 | 30 | 3 | 0 | | 2 | 30 | 24 | 15 | | 21 | 28 | 12 | 23 | | 39 | 23 | 6 | 38 | | 56 | 14 | 47 | 20 | 56 |
| | | | 20 | 30 | 59 | | | 19 | 28 | 37 | | | 18 | 25 | 53 | | | 17 | 22 | 49 | | | 16 | 19 | 26 | |
| 57 | | 42 | 50 | 33 | 59 | | 2 | 49 | 52 | 52 | | 21 | 46 | 38 | 16 | | 39 | 40 | 29 | 27 | | 56 | 31 | 6 | 46 | 57 |
| | | | 20 | 29 | 57 | | | 19 | 27 | 34 | | | 18 | 24 | 51 | | | 17 | 21 | 46 | | | 16 | 18 | 22 | |
| 58 | | 43 | 11 | 3 | 56 | | 3 | 9 | 20 | 26 | | 22 | 5 | 3 | 7 | | 39 | 57 | 51 | 13 | | 56 | 47 | 25 | 8 | 58 |
| | | | 20 | 28 | 55 | | | 19 | 26 | 32 | | | 18 | 23 | 47 | | | 17 | 20 | 42 | | | 16 | 17 | 19 | |
| 59 | | 43 | 31 | 32 | 51 | | 3 | 28 | 46 | 58 | | 22 | 23 | 26 | 54 | | 40 | 15 | 11 | 55 | | 57 | 3 | 42 | 27 | 59 |
| | | | 20 | 27 | 53 | | | 19 | 25 | 29 | | | 18 | 22 | 44 | | | 17 | 19 | 40 | | | 16 | 16 | 16 | |
| 60 | 56 | 43 | 52 | 0 | 44 | 57 | 3 | 48 | 12 | 27 | 57 | 22 | 41 | 49 | 38 | 57 | 40 | 32 | 31 | 35 | 57 | 57 | 19 | 58 | 43 | 60 |
| | | | 20 | 26 | 51 | | | 19 | 24 | 27 | | | 18 | 21 | 42 | | | 17 | 18 | 36 | | | 16 | 15 | 11 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 75° | | | | | 76° | | | | | 77° | | | | | 78° | | | | | 79° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 57 | 57 | 19 | 58 | 43 | 58 | 13 | 3 | 52 | 37 | 58 | 27 | 43 | 56 | 2 | 58 | 41 | 19 | 52 | 54 | 58 | 53 | 51 | 28 | 18 | 0 |
| | | | 16 | 15 | 11 | | | 15 | 11 | 29 | | | 14 | 7 | 31 | | | 13 | 3 | 17 | | | 11 | 58 | 48 | |
| 1 | | 57 | 36 | 13 | 54 | | 13 | 19 | 4 | 6 | | 27 | 58 | 3 | 33 | | 41 | 32 | 56 | 11 | | 54 | 3 | 27 | 6 | 1 |
| | | | 16 | 14 | 8 | | | 15 | 10 | 26 | | | 14 | 6 | 27 | | | 13 | 2 | 12 | | | 11 | 57 | 43 | |
| 2 | | 57 | 52 | 28 | 2 | | 13 | 34 | 14 | 32 | | 28 | 12 | 10 | 0 | | 41 | 45 | 58 | 23 | | 54 | 15 | 24 | 49 | 2 |
| | | | 16 | 13 | 5 | | | 15 | 9 | 22 | | | 14 | 5 | 22 | | | 13 | 1 | 7 | | | 11 | 56 | 38 | |
| 3 | | 58 | 8 | 41 | 7 | | 13 | 49 | 23 | 54 | | 28 | 26 | 15 | 22 | | 41 | 58 | 59 | 30 | | 54 | 27 | 21 | 27 | 3 |
| | | | 16 | 12 | 1 | | | 15 | 8 | 18 | | | 14 | 4 | 18 | | | 13 | 0 | 3 | | | 11 | 55 | 34 | |
| 4 | | 58 | 24 | 53 | 8 | | 14 | 4 | 32 | 12 | | 28 | 40 | 19 | 40 | | 42 | 11 | 59 | 33 | | 54 | 39 | 17 | 1 | 4 |
| | | | 16 | 10 | 57 | | | 15 | 7 | 14 | | | 14 | 3 | 15 | | | 12 | 58 | 59 | | | 11 | 54 | 29 | |
| 5 | | 58 | 41 | 4 | 5 | | 14 | 19 | 39 | 26 | | 28 | 54 | 22 | 55 | | 42 | 24 | 58 | 32 | | 54 | 51 | 11 | 30 | 5 |
| | | | 16 | 9 | 54 | | | 15 | 6 | 10 | | | 14 | 2 | 10 | | | 12 | 57 | 55 | | | 11 | 53 | 25 | |
| 6 | | 58 | 57 | 13 | 59 | | 14 | 34 | 45 | 36 | | 29 | 8 | 25 | 5 | | 42 | 37 | 56 | 27 | | 55 | 3 | 4 | 55 | 6 |
| | | | 16 | 8 | 51 | | | 15 | 5 | 6 | | | 14 | 1 | 6 | | | 12 | 56 | 50 | | | 11 | 52 | 20 | |
| 7 | | 59 | 13 | 22 | 50 | | 14 | 49 | 50 | 42 | | 29 | 22 | 26 | 11 | | 42 | 50 | 53 | 17 | | 55 | 14 | 57 | 15 | 7 |
| | | | 16 | 7 | 46 | | | 15 | 4 | 3 | | | 14 | 0 | 1 | | | 12 | 55 | 46 | | | 11 | 51 | 16 | |
| 8 | | 59 | 29 | 30 | 36 | | 15 | 4 | 54 | 45 | | 29 | 36 | 26 | 12 | | 43 | 3 | 49 | 3 | | 55 | 26 | 48 | 31 | 8 |
| | | | 16 | 6 | 43 | | | 15 | 2 | 59 | | | 13 | 58 | 58 | | | 12 | 54 | 41 | | | 11 | 50 | 10 | |
| 9 | | 59 | 45 | 37 | 19 | | 15 | 19 | 57 | 44 | | 29 | 50 | 25 | 10 | | 43 | 16 | 43 | 44 | | 55 | 38 | 38 | 41 | 9 |
| | | | 16 | 5 | 40 | | | 15 | 1 | 54 | | | 13 | 57 | 53 | | | 12 | 53 | 37 | | | 11 | 49 | 7 | |
| 10 | 58 | 0 | 1 | 42 | 59 | 58 | 15 | 34 | 59 | 38 | 58 | 30 | 4 | 23 | 3 | 58 | 43 | 29 | 37 | 21 | 58 | 55 | 50 | 27 | 48 | 10 |
| | | | 16 | 4 | 36 | | | 15 | 0 | 51 | | | 13 | 56 | 50 | | | 12 | 52 | 32 | | | 11 | 48 | 1 | |
| 11 | | 0 | 17 | 47 | 35 | | 15 | 50 | 0 | 29 | | 30 | 18 | 19 | 53 | | 43 | 42 | 29 | 53 | | 56 | 2 | 15 | 49 | 11 |
| | | | 16 | 3 | 32 | | | 14 | 59 | 47 | | | 13 | 55 | 45 | | | 12 | 51 | 29 | | | 11 | 46 | 57 | |
| 12 | | 0 | 33 | 51 | 7 | | 16 | 5 | 0 | 16 | | 30 | 32 | 15 | 38 | | 43 | 55 | 21 | 22 | | 56 | 14 | 2 | 46 | 12 |
| | | | 16 | 2 | 29 | | | 14 | 58 | 43 | | | 13 | 54 | 41 | | | 12 | 50 | 23 | | | 11 | 45 | 53 | |
| 13 | | 0 | 49 | 53 | 36 | | 16 | 19 | 58 | 59 | | 30 | 46 | 10 | 19 | | 44 | 8 | 11 | 45 | | 56 | 25 | 48 | 39 | 13 |
| | | | 16 | 1 | 25 | | | 14 | 57 | 39 | | | 13 | 53 | 37 | | | 12 | 49 | 20 | | | 11 | 44 | 47 | |
| 14 | | 1 | 5 | 55 | 1 | | 16 | 34 | 56 | 38 | | 31 | 0 | 3 | 56 | | 44 | 21 | 1 | 5 | | 56 | 37 | 33 | 26 | 14 |
| | | | 16 | 0 | 21 | | | 14 | 56 | 35 | | | 13 | 52 | 32 | | | 12 | 48 | 14 | | | 11 | 43 | 43 | |
| 15 | | 1 | 21 | 55 | 22 | | 16 | 49 | 53 | 13 | | 31 | 13 | 56 | 28 | | 44 | 33 | 49 | 19 | | 56 | 49 | 17 | 9 | 15 |
| | | | 15 | 59 | 18 | | | 14 | 55 | 32 | | | 13 | 51 | 29 | | | 12 | 47 | 11 | | | 11 | 42 | 39 | |
| 16 | | 1 | 37 | 54 | 40 | | 17 | 4 | 48 | 45 | | 31 | 27 | 47 | 57 | | 44 | 46 | 36 | 30 | | 57 | 0 | 59 | 48 | 16 |
| | | | 15 | 58 | 14 | | | 14 | 54 | 27 | | | 13 | 50 | 24 | | | 12 | 46 | 6 | | | 11 | 41 | 33 | |
| 17 | | 1 | 53 | 52 | 54 | | 17 | 19 | 43 | 12 | | 31 | 41 | 38 | 21 | | 44 | 59 | 22 | 36 | | 57 | 12 | 41 | 21 | 17 |
| | | | 15 | 57 | 11 | | | 14 | 53 | 24 | | | 13 | 49 | 20 | | | 12 | 45 | 2 | | | 11 | 40 | 30 | |
| 18 | | 2 | 9 | 50 | 5 | | 17 | 34 | 36 | 36 | | 31 | 55 | 27 | 41 | | 45 | 12 | 7 | 38 | | 57 | 24 | 21 | 51 | 18 |
| | | | 15 | 56 | 6 | | | 14 | 52 | 19 | | | 13 | 48 | 16 | | | 12 | 43 | 57 | | | 11 | 39 | 24 | |
| 19 | | 2 | 25 | 46 | 11 | | 17 | 49 | 28 | 55 | | 32 | 9 | 15 | 57 | | 45 | 24 | 51 | 35 | | 57 | 36 | 1 | 15 | 19 |
| | | | 15 | 55 | 4 | | | 14 | 51 | 16 | | | 13 | 47 | 12 | | | 12 | 42 | 52 | | | 11 | 38 | 20 | |
| 20 | 58 | 2 | 41 | 41 | 15 | 58 | 18 | 4 | 20 | 11 | 58 | 32 | 23 | 3 | 9 | 58 | 45 | 37 | 34 | 27 | 58 | 57 | 47 | 39 | 35 | 20 |
| | | | 15 | 53 | 59 | | | 14 | 50 | 12 | | | 13 | 46 | 8 | | | 12 | 41 | 49 | | | 11 | 37 | 15 | |
| 21 | | 2 | 57 | 35 | 14 | | 18 | 19 | 10 | 23 | | 32 | 36 | 49 | 17 | | 45 | 50 | 16 | 16 | | 57 | 59 | 16 | 50 | 21 |
| | | | 15 | 52 | 56 | | | 14 | 49 | 7 | | | 13 | 45 | 3 | | | 12 | 40 | 44 | | | 11 | 36 | 11 | |
| 22 | | 3 | 13 | 28 | 10 | | 18 | 33 | 59 | 30 | | 32 | 50 | 34 | 20 | | 46 | 2 | 57 | 0 | | 58 | 10 | 53 | 1 | 22 |
| | | | 15 | 51 | 52 | | | 14 | 48 | 4 | | | 13 | 43 | 59 | | | 12 | 39 | 39 | | | 11 | 35 | 5 | |
| 23 | | 3 | 29 | 20 | 2 | | 18 | 48 | 47 | 34 | | 33 | 4 | 18 | 19 | | 46 | 15 | 36 | 39 | | 58 | 22 | 28 | 6 | 23 |
| | | | 15 | 50 | 49 | | | 14 | 47 | 0 | | | 13 | 42 | 55 | | | 12 | 38 | 35 | | | 11 | 34 | 1 | |
| 24 | | 3 | 45 | 10 | 51 | | 19 | 3 | 34 | 34 | | 33 | 18 | 1 | 14 | | 46 | 28 | 15 | 14 | | 58 | 34 | 2 | 7 | 24 |
| | | | 15 | 49 | 45 | | | 14 | 45 | 56 | | | 13 | 41 | 51 | | | 12 | 37 | 31 | | | 11 | 32 | 57 | |
| 25 | | 4 | 1 | 0 | 36 | | 19 | 18 | 20 | 30 | | 33 | 31 | 43 | 5 | | 46 | 40 | 52 | 45 | | 58 | 45 | 35 | 4 | 25 |
| | | | 15 | 48 | 41 | | | 14 | 44 | 52 | | | 13 | 40 | 46 | | | 12 | 36 | 26 | | | 11 | 31 | 52 | |
| 26 | | 4 | 16 | 49 | 17 | | 19 | 33 | 5 | 22 | | 33 | 45 | 23 | 51 | | 46 | 53 | 29 | 11 | | 58 | 57 | 6 | 56 | 26 |
| | | | 15 | 47 | 38 | | | 14 | 43 | 48 | | | 13 | 39 | 43 | | | 12 | 35 | 21 | | | 11 | 30 | 47 | |
| 27 | | 4 | 32 | 36 | 55 | | 19 | 47 | 49 | 10 | | 33 | 59 | 3 | 34 | | 47 | 6 | 4 | 32 | | 59 | 8 | 37 | 43 | 27 |
| | | | 15 | 46 | 34 | | | 14 | 42 | 44 | | | 13 | 38 | 38 | | | 12 | 34 | 17 | | | 11 | 29 | 42 | |
| 28 | | 4 | 48 | 23 | 29 | | 20 | 2 | 31 | 54 | | 34 | 12 | 42 | 12 | | 47 | 18 | 38 | 49 | | 59 | 20 | 7 | 25 | 28 |
| | | | 15 | 45 | 30 | | | 14 | 41 | 40 | | | 13 | 37 | 34 | | | 12 | 33 | 13 | | | 11 | 28 | 38 | |
| 29 | | 5 | 4 | 8 | 59 | | 20 | 17 | 13 | 34 | | 34 | 26 | 19 | 46 | | 47 | 31 | 12 | 2 | | 59 | 31 | 36 | 3 | 29 |
| | | | 15 | 44 | 26 | | | 14 | 40 | 36 | | | 13 | 36 | 29 | | | 12 | 32 | 8 | | | 11 | 27 | 33 | |
| 30 | 58 | 5 | 19 | 53 | 25 | 58 | 20 | 31 | 54 | 10 | 58 | 34 | 39 | 56 | 15 | 58 | 47 | 43 | 44 | 10 | 58 | 59 | 43 | 3 | 36 | 30 |
| | | | 15 | 43 | 23 | | | 14 | 39 | 32 | | | 13 | 35 | 26 | | | 12 | 31 | 4 | | | 11 | 26 | 28 | |

| ′ | 75° | | | | | 76° | | | | | 77° | | | | | 78° | | | | | 79° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 58 | 5 | 19 | 53 | 25 | 58 | 20 | 31 | 54 | 10 | 58 | 34 | 39 | 56 | 15 | 58 | 47 | 43 | 44 | 10 | 58 | 59 | 43 | 3 | 36 | 30 |
| | | | 15 | 43 | 23 | | | 14 | 39 | 32 | | | 13 | 35 | 26 | | | 12 | 31 | 4 | | | 11 | 26 | 28 | |
| 31 | | 5 | 35 | 36 | 48 | | 20 | 46 | 33 | 42 | | 34 | 53 | 31 | 41 | | 47 | 56 | 15 | 14 | | 59 | 54 | 30 | 4 | 31 |
| | | | 15 | 42 | 19 | | | 14 | 38 | 28 | | | 13 | 34 | 21 | | | 12 | 29 | 59 | | | 11 | 25 | 24 | |
| 32 | | 5 | 51 | 19 | 7 | | 21 | 1 | 12 | 10 | | 35 | 7 | 6 | 2 | | 48 | 8 | 45 | 13 | 59 | 0 | 5 | 55 | 28 | 32 |
| | | | 15 | 41 | 15 | | | 14 | 37 | 24 | | | 13 | 33 | 17 | | | 12 | 28 | 55 | | | 11 | 24 | 19 | |
| 33 | | 6 | 7 | 0 | 22 | | 21 | 15 | 49 | 34 | | 35 | 20 | 39 | 19 | | 48 | 21 | 14 | 8 | | 0 | 17 | 19 | 47 | 33 |
| | | | 15 | 40 | 12 | | | 14 | 36 | 21 | | | 13 | 32 | 12 | | | 12 | 27 | 50 | | | 11 | 23 | 14 | |
| 34 | | 6 | 22 | 40 | 34 | | 21 | 30 | 25 | 55 | | 35 | 34 | 11 | 31 | | 48 | 33 | 41 | 58 | | 0 | 28 | 43 | 1 | 34 |
| | | | 15 | 39 | 8 | | | 14 | 35 | 16 | | | 13 | 31 | 9 | | | 12 | 26 | 46 | | | 11 | 22 | 10 | |
| 35 | | 6 | 38 | 19 | 42 | | 21 | 45 | 1 | 11 | | 35 | 47 | 42 | 40 | | 48 | 46 | 8 | 44 | | 0 | 40 | 5 | 11 | 35 |
| | | | 15 | 38 | 4 | | | 14 | 34 | 12 | | | 13 | 30 | 4 | | | 12 | 25 | 41 | | | 11 | 21 | 5 | |
| 36 | | 6 | 53 | 57 | 46 | | 21 | 59 | 35 | 23 | | 36 | 1 | 12 | 44 | | 48 | 58 | 34 | 25 | | 0 | 51 | 26 | 16 | 36 |
| | | | 15 | 37 | 1 | | | 14 | 33 | 8 | | | 13 | 28 | 59 | | | 12 | 24 | 37 | | | 11 | 20 | 0 | |
| 37 | | 7 | 9 | 34 | 47 | | 22 | 14 | 8 | 31 | | 36 | 14 | 41 | 43 | | 49 | 10 | 59 | 2 | | 1 | 2 | 46 | 16 | 37 |
| | | | 15 | 35 | 56 | | | 14 | 32 | 4 | | | 13 | 27 | 56 | | | 12 | 23 | 32 | | | 11 | 18 | 55 | |
| 38 | | 7 | 25 | 10 | 43 | | 22 | 28 | 40 | 35 | | 36 | 28 | 9 | 39 | | 49 | 23 | 22 | 34 | | 1 | 14 | 5 | 11 | 38 |
| | | | 15 | 34 | 53 | | | 14 | 31 | 0 | | | 13 | 26 | 51 | | | 12 | 22 | 28 | | | 11 | 17 | 51 | |
| 39 | | 7 | 40 | 45 | 36 | | 22 | 43 | 11 | 35 | | 36 | 41 | 36 | 30 | | 49 | 35 | 45 | 2 | | 1 | 25 | 23 | 2 | 39 |
| | | | 15 | 33 | 50 | | | 14 | 29 | 56 | | | 13 | 25 | 47 | | | 12 | 21 | 23 | | | 11 | 16 | 46 | |
| 40 | 58 | 7 | 56 | 19 | 26 | 58 | 22 | 57 | 41 | 31 | 58 | 36 | 55 | 2 | 17 | 58 | 49 | 48 | 6 | 25 | 59 | 1 | 36 | 39 | 48 | 40 |
| | | | 15 | 32 | 45 | | | 14 | 28 | 52 | | | 13 | 24 | 43 | | | 12 | 20 | 19 | | | 11 | 15 | 41 | |
| 41 | | 8 | 11 | 52 | 11 | | 23 | 12 | 10 | 23 | | 37 | 8 | 27 | 0 | | 50 | 0 | 26 | 44 | | 1 | 47 | 55 | 29 | 41 |
| | | | 15 | 31 | 42 | | | 14 | 27 | 48 | | | 13 | 23 | 39 | | | 12 | 19 | 14 | | | 11 | 14 | 36 | |
| 42 | | 8 | 27 | 23 | 53 | | 23 | 26 | 38 | 11 | | 37 | 21 | 50 | 39 | | 50 | 12 | 45 | 58 | | 1 | 59 | 10 | 5 | 42 |
| | | | 15 | 30 | 38 | | | 14 | 26 | 44 | | | 13 | 22 | 34 | | | 12 | 18 | 10 | | | 11 | 13 | 32 | |
| 43 | | 8 | 42 | 54 | 31 | | 23 | 41 | 4 | 55 | | 37 | 35 | 13 | 13 | | 50 | 25 | 4 | 8 | | 2 | 10 | 23 | 37 | 43 |
| | | | 15 | 29 | 34 | | | 14 | 25 | 40 | | | 13 | 21 | 30 | | | 12 | 17 | 5 | | | 11 | 12 | 27 | |
| 44 | | 8 | 58 | 24 | 5 | | 23 | 55 | 30 | 35 | | 37 | 48 | 34 | 43 | | 50 | 37 | 21 | 13 | | 2 | 21 | 36 | 4 | 44 |
| | | | 15 | 28 | 30 | | | 14 | 24 | 36 | | | 13 | 20 | 25 | | | 12 | 16 | 1 | | | 11 | 11 | 22 | |
| 45 | | 9 | 13 | 52 | 35 | | 24 | 9 | 55 | 11 | | 38 | 1 | 55 | 8 | | 50 | 49 | 37 | 14 | | 2 | 32 | 47 | 26 | 45 |
| | | | 15 | 27 | 27 | | | 14 | 23 | 32 | | | 13 | 19 | 22 | | | 12 | 14 | 56 | | | 11 | 10 | 18 | |
| 46 | | 9 | 29 | 20 | 2 | | 24 | 24 | 18 | 43 | | 38 | 15 | 14 | 30 | | 51 | 1 | 52 | 10 | | 2 | 43 | 57 | 44 | 46 |
| | | | 15 | 26 | 23 | | | 14 | 22 | 28 | | | 13 | 18 | 17 | | | 12 | 13 | 52 | | | 11 | 9 | 13 | |
| 47 | | 9 | 44 | 46 | 25 | | 24 | 38 | 41 | 11 | | 38 | 28 | 32 | 47 | | 51 | 14 | 6 | 2 | | 2 | 55 | 6 | 57 | 47 |
| | | | 15 | 25 | 19 | | | 14 | 21 | 24 | | | 13 | 17 | 12 | | | 12 | 12 | 47 | | | 11 | 8 | 8 | |
| 48 | | 10 | 0 | 11 | 44 | | 24 | 53 | 2 | 35 | | 38 | 41 | 49 | 59 | | 51 | 26 | 18 | 49 | | 3 | 6 | 15 | 5 | 48 |
| | | | 15 | 24 | 15 | | | 14 | 20 | 20 | | | 13 | 16 | 9 | | | 12 | 11 | 42 | | | 11 | 7 | 3 | |
| 49 | | 10 | 15 | 35 | 59 | | 25 | 7 | 22 | 55 | | 38 | 55 | 6 | 8 | | 51 | 38 | 30 | 31 | | 3 | 17 | 22 | 8 | 49 |
| | | | 15 | 23 | 12 | | | 14 | 19 | 15 | | | 13 | 15 | 4 | | | 12 | 10 | 38 | | | 11 | 5 | 58 | |
| 50 | 58 | 10 | 30 | 59 | 11 | 58 | 25 | 21 | 42 | 10 | 58 | 39 | 8 | 21 | 12 | 58 | 51 | 50 | 41 | 9 | 59 | 3 | 28 | 28 | 6 | 50 |
| | | | 15 | 22 | 8 | | | 14 | 18 | 12 | | | 13 | 14 | 0 | | | 12 | 9 | 34 | | | 11 | 4 | 54 | |
| 51 | | 10 | 46 | 21 | 19 | | 25 | 36 | 0 | 22 | | 39 | 21 | 35 | 12 | | 52 | 2 | 50 | 43 | | 3 | 39 | 33 | 0 | 51 |
| | | | 15 | 21 | 4 | | | 14 | 17 | 7 | | | 13 | 12 | 55 | | | 12 | 8 | 29 | | | 11 | 3 | 49 | |
| 52 | | 11 | 1 | 42 | 23 | | 25 | 50 | 17 | 29 | | 39 | 34 | 48 | 7 | | 52 | 14 | 59 | 12 | | 3 | 50 | 36 | 49 | 52 |
| | | | 15 | 20 | 0 | | | 14 | 16 | 4 | | | 13 | 11 | 51 | | | 12 | 7 | 24 | | | 11 | 2 | 44 | |
| 53 | | 11 | 17 | 2 | 23 | | 26 | 4 | 33 | 33 | | 39 | 47 | 59 | 58 | | 52 | 27 | 6 | 36 | | 4 | 1 | 39 | 33 | 53 |
| | | | 15 | 18 | 56 | | | 14 | 14 | 59 | | | 13 | 10 | 47 | | | 12 | 6 | 20 | | | 11 | 1 | 40 | |
| 54 | | 11 | 32 | 21 | 19 | | 26 | 18 | 48 | 32 | | 40 | 1 | 10 | 45 | | 52 | 39 | 12 | 56 | | 4 | 12 | 41 | 13 | 54 |
| | | | 15 | 17 | 53 | | | 14 | 13 | 55 | | | 13 | 9 | 42 | | | 12 | 5 | 15 | | | 11 | 0 | 34 | |
| 55 | | 11 | 47 | 39 | 12 | | 26 | 33 | 2 | 27 | | 40 | 14 | 20 | 27 | | 52 | 51 | 18 | 11 | | 4 | 23 | 41 | 47 | 55 |
| | | | 15 | 16 | 48 | | | 14 | 12 | 52 | | | 13 | 8 | 38 | | | 12 | 4 | 10 | | | 10 | 59 | 30 | |
| 56 | | 12 | 2 | 56 | 0 | | 26 | 47 | 15 | 19 | | 40 | 27 | 29 | 5 | | 53 | 3 | 22 | 21 | | 4 | 34 | 41 | 17 | 56 |
| | | | 15 | 15 | 45 | | | 14 | 11 | 47 | | | 13 | 7 | 34 | | | 12 | 3 | 6 | | | 10 | 58 | 25 | |
| 57 | | 12 | 18 | 11 | 45 | | 27 | 1 | 27 | 6 | | 40 | 40 | 36 | 39 | | 53 | 15 | 25 | 27 | | 4 | 45 | 39 | 42 | 57 |
| | | | 15 | 14 | 41 | | | 14 | 10 | 43 | | | 13 | 6 | 30 | | | 12 | 2 | 2 | | | 10 | 57 | 21 | |
| 58 | | 12 | 33 | 26 | 26 | | 27 | 15 | 37 | 49 | | 40 | 53 | 43 | 9 | | 53 | 27 | 27 | 29 | | 4 | 56 | 37 | 3 | 58 |
| | | | 15 | 13 | 37 | | | 14 | 9 | 39 | | | 13 | 5 | 25 | | | 12 | 0 | 57 | | | 10 | 56 | 15 | |
| 59 | | 12 | 48 | 40 | 3 | | 27 | 29 | 47 | 28 | | 41 | 6 | 48 | 34 | | 53 | 39 | 28 | 26 | | 5 | 7 | 33 | 18 | 59 |
| | | | 15 | 12 | 34 | | | 14 | 8 | 34 | | | 13 | 4 | 20 | | | 11 | 59 | 52 | | | 10 | 55 | 11 | |
| 60 | 58 | 13 | 3 | 52 | 37 | 58 | 27 | 43 | 56 | 2 | 58 | 41 | 19 | 52 | 54 | 58 | 53 | 51 | 28 | 18 | 59 | 5 | 18 | 28 | 29 | 60 |
| | | | 15 | 11 | 29 | | | 14 | 7 | 31 | | | 13 | 3 | 17 | | | 11 | 58 | 48 | | | 10 | 54 | 6 | |

| ′ | 80° | | | | | 81° | | | | | 82° | | | | | 83° | | | | | 84° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 59 | 5 | 18<br>10 | 28<br>54 | 29<br>6 | 59 | 15 | 40<br>9 | 40<br>49 | 54<br>12 | 59 | 24 | 57<br>8 | 54<br>44 | 10<br>8 | 59 | 33 | 9<br>7 | 58<br>38 | 8<br>53 | 59 | 40 | 16<br>6 | 43<br>33 | 46<br>31 | 0 |
| 1 | | 5 | 29<br>10 | 22<br>53 | 35<br>1 | | 15 | 50<br>9 | 30<br>48 | 6<br>7 | | 25 | 6<br>8 | 38<br>43 | 18<br>2 | | 33 | 17<br>7 | 37<br>37 | 1<br>48 | | 40 | 23<br>6 | 17<br>32 | 17<br>26 | 1 |
| 2 | | 5 | 40<br>10 | 15<br>51 | 36<br>56 | | 16 | 0<br>9 | 18<br>47 | 13<br>2 | | 25 | 15<br>8 | 21<br>41 | 20<br>58 | | 33 | 25<br>7 | 14<br>36 | 49<br>43 | | 40 | 29<br>6 | 49<br>31 | 43<br>20 | 2 |
| 3 | | 5 | 51<br>10 | 7<br>50 | 32<br>51 | | 16 | 10<br>9 | 5<br>45 | 15<br>57 | | 25 | 24<br>8 | 3<br>40 | 18<br>52 | | 33 | 32<br>7 | 51<br>35 | 32<br>38 | | 40 | 36<br>6 | 21<br>30 | 3<br>14 | 3 |
| 4 | | 6 | 1<br>10 | 58<br>49 | 23<br>47 | | 16 | 19<br>9 | 51<br>44 | 12<br>52 | | 25 | 32<br>8 | 44<br>39 | 10<br>47 | | 33 | 40<br>7 | 27<br>34 | 10<br>32 | | 40 | 42<br>6 | 51<br>29 | 17<br>10 | 4 |
| 5 | | 6 | 12<br>10 | 48<br>48 | 10<br>42 | | 16 | 29<br>9 | 36<br>43 | 4<br>48 | | 25 | 41<br>8 | 23<br>38 | 57<br>42 | | 33 | 48<br>7 | 1<br>33 | 42<br>27 | | 40 | 49<br>6 | 20<br>28 | 27<br>4 | 5 |
| 6 | | 6 | 23<br>10 | 36<br>47 | 52<br>37 | | 16 | 39<br>9 | 19<br>42 | 52<br>42 | | 25 | 50<br>8 | 2<br>37 | 39<br>36 | | 33 | 55<br>7 | 35<br>32 | 9<br>22 | | 40 | 55<br>6 | 48<br>26 | 31<br>58 | 6 |
| 7 | | 6 | 34<br>10 | 24<br>46 | 29<br>32 | | 16 | 49<br>9 | 2<br>41 | 34<br>37 | | 25 | 58<br>8 | 40<br>36 | 15<br>32 | | 34 | 3<br>7 | 7<br>31 | 31<br>16 | | 41 | 2<br>6 | 15<br>25 | 29<br>53 | 7 |
| 8 | | 6 | 45<br>10 | 11<br>45 | 1<br>28 | | 16 | 58<br>9 | 44<br>40 | 11<br>32 | | 26 | 7<br>8 | 16<br>35 | 47<br>26 | | 34 | 10<br>7 | 38<br>30 | 47<br>11 | | 41 | 8<br>6 | 41<br>24 | 22<br>47 | 8 |
| 9 | | 6 | 55<br>10 | 56<br>44 | 29<br>22 | | 17 | 8<br>9 | 24<br>39 | 43<br>27 | | 26 | 15<br>8 | 52<br>34 | 13<br>21 | | 34 | 18<br>7 | 8<br>29 | 58<br>6 | | 41 | 15<br>6 | 6<br>23 | 9<br>42 | 9 |
| 10 | 59 | 7 | 6<br>10 | 40<br>43 | 51<br>18 | 59 | 17 | 18<br>9 | 4<br>38 | 10<br>22 | 59 | 26 | 24<br>8 | 26<br>33 | 34<br>16 | 59 | 34 | 25<br>7 | 38<br>28 | 4<br>0 | 59 | 41 | 21<br>6 | 29<br>22 | 51<br>37 | 10 |
| 11 | | 7 | 17<br>10 | 24<br>42 | 9<br>13 | | 17 | 27<br>9 | 42<br>37 | 32<br>17 | | 26 | 32<br>8 | 59<br>32 | 50<br>11 | | 34 | 33<br>7 | 6<br>26 | 4<br>55 | | 41 | 27<br>6 | 52<br>21 | 28<br>31 | 11 |
| 12 | | 7 | 28<br>10 | 6<br>41 | 22<br>8 | | 17 | 37<br>9 | 19<br>36 | 49<br>12 | | 26 | 41<br>8 | 32<br>31 | 1<br>5 | | 34 | 40<br>7 | 32<br>25 | 59<br>50 | | 41 | 34<br>6 | 13<br>20 | 59<br>26 | 12 |
| 13 | | 7 | 38<br>10 | 47<br>40 | 30<br>3 | | 17 | 46<br>9 | 56<br>35 | 1<br>8 | | 26 | 50<br>8 | 3<br>30 | 6<br>1 | | 34 | 47<br>7 | 58<br>24 | 49<br>44 | | 41 | 40<br>6 | 34<br>19 | 25<br>20 | 13 |
| 14 | | 7 | 49<br>10 | 27<br>38 | 33<br>59 | | 17 | 56<br>9 | 31<br>34 | 9<br>2 | | 26 | 58<br>8 | 33<br>28 | 7<br>55 | | 34 | 55<br>7 | 23<br>23 | 33<br>39 | | 41 | 46<br>6 | 53<br>18 | 45<br>15 | 14 |
| 15 | | 8 | 0<br>10 | 6<br>37 | 32<br>53 | | 18 | 6<br>9 | 5<br>32 | 11<br>57 | | 27 | 7<br>8 | 2<br>27 | 2<br>50 | | 35 | 2<br>7 | 47<br>22 | 12<br>34 | | 41 | 53<br>6 | 12<br>17 | 0<br>9 | 15 |
| 16 | | 8 | 10<br>10 | 44<br>36 | 25<br>49 | | 18 | 15<br>9 | 38<br>31 | 8<br>51 | | 27 | 15<br>8 | 29<br>26 | 52<br>45 | | 35 | 10<br>7 | 9<br>21 | 46<br>28 | | 41 | 59<br>6 | 29<br>16 | 9<br>4 | 16 |
| 17 | | 8 | 21<br>10 | 21<br>35 | 14<br>44 | | 18 | 25<br>9 | 9<br>30 | 59<br>47 | | 27 | 23<br>8 | 56<br>25 | 37<br>39 | | 35 | 17<br>7 | 31<br>20 | 14<br>23 | | 42 | 5<br>6 | 45<br>14 | 13<br>58 | 17 |
| 18 | | 8 | 31<br>10 | 56<br>34 | 58<br>39 | | 18 | 34<br>9 | 40<br>29 | 46<br>42 | | 27 | 32<br>8 | 22<br>24 | 16<br>34 | | 35 | 24<br>7 | 51<br>19 | 37<br>18 | | 42 | 12<br>6 | 0<br>13 | 11<br>53 | 18 |
| 19 | | 8 | 42<br>10 | 31<br>33 | 37<br>34 | | 18 | 44<br>9 | 10<br>28 | 28<br>37 | | 27 | 40<br>8 | 46<br>23 | 50<br>30 | | 35 | 32<br>7 | 10<br>18 | 55<br>12 | | 42 | 18<br>6 | 14<br>12 | 4<br>47 | 19 |
| 20 | 59 | 8 | 53<br>10 | 5<br>32 | 11<br>29 | 59 | 18 | 53<br>9 | 39<br>27 | 5<br>32 | 59 | 27 | 49<br>8 | 10<br>22 | 20<br>24 | 59 | 35 | 39<br>7 | 29<br>17 | 7<br>7 | 59 | 42 | 24<br>6 | 26<br>11 | 51<br>42 | 20 |
| 21 | | 9 | 3<br>10 | 37<br>31 | 40<br>24 | | 19 | 3<br>9 | 6<br>26 | 37<br>27 | | 27 | 57<br>8 | 32<br>21 | 44<br>18 | | 35 | 46<br>7 | 46<br>16 | 14<br>1 | | 42 | 30<br>6 | 38<br>10 | 33<br>37 | 21 |
| 22 | | 9 | 14<br>10 | 9<br>30 | 4<br>20 | | 19 | 12<br>9 | 33<br>25 | 4<br>21 | | 28 | 5<br>8 | 54<br>20 | 2<br>14 | | 35 | 54<br>7 | 2<br>14 | 15<br>57 | | 42 | 36<br>6 | 49<br>9 | 10<br>31 | 22 |
| 23 | | 9 | 24<br>10 | 39<br>29 | 24<br>14 | | 19 | 21<br>9 | 58<br>24 | 25<br>17 | | 28 | 14<br>8 | 14<br>19 | 16<br>8 | | 36 | 1<br>7 | 17<br>13 | 12<br>51 | | 42 | 42<br>6 | 58<br>8 | 41<br>25 | 23 |
| 24 | | 9 | 35<br>10 | 8<br>28 | 38<br>10 | | 19 | 31<br>9 | 22<br>23 | 42<br>11 | | 28 | 22<br>8 | 33<br>18 | 24<br>3 | | 36 | 8<br>7 | 31<br>12 | 3<br>45 | | 42 | 49<br>6 | 7<br>7 | 6<br>20 | 24 |
| 25 | | 9 | 45<br>10 | 36<br>27 | 48<br>5 | | 19 | 40<br>9 | 45<br>22 | 53<br>7 | | 28 | 30<br>8 | 51<br>16 | 27<br>58 | | 36 | 15<br>7 | 43<br>11 | 48<br>40 | | 42 | 55<br>6 | 14<br>6 | 26<br>15 | 25 |
| 26 | | 9 | 56<br>10 | 3<br>26 | 53<br>0 | | 19 | 50<br>9 | 8<br>21 | 0<br>1 | | 28 | 39<br>8 | 8<br>15 | 25<br>53 | | 36 | 22<br>7 | 55<br>10 | 28<br>35 | | 43 | 1<br>6 | 20<br>5 | 41<br>9 | 26 |
| 27 | | 10 | 6<br>10 | 29<br>24 | 53<br>55 | | 19 | 59<br>9 | 29<br>19 | 1<br>57 | | 28 | 47<br>8 | 24<br>14 | 18<br>47 | | 36 | 30<br>7 | 6<br>9 | 3<br>29 | | 43 | 7<br>6 | 25<br>4 | 50<br>3 | 27 |
| 28 | | 10 | 16<br>10 | 54<br>23 | 48<br>50 | | 20 | 8<br>9 | 48<br>18 | 58<br>51 | | 28 | 55<br>8 | 39<br>13 | 5<br>42 | | 36 | 37<br>7 | 15<br>8 | 32<br>24 | | 43 | 13<br>6 | 29<br>2 | 53<br>58 | 28 |
| 29 | | 10 | 27<br>10 | 18<br>22 | 38<br>46 | | 20 | 18<br>9 | 7<br>17 | 49<br>46 | | 29 | 3<br>8 | 52<br>12 | 47<br>37 | | 36 | 44<br>7 | 23<br>7 | 56<br>19 | | 43 | 19<br>6 | 32<br>1 | 51<br>53 | 29 |
| 30 | 59 | 10 | 37<br>10 | 41<br>21 | 24<br>40 | 59 | 20 | 27<br>9 | 25<br>16 | 35<br>42 | 59 | 29 | 12<br>8 | 5<br>11 | 24<br>32 | 59 | 36 | 51<br>7 | 31<br>6 | 15<br>13 | 59 | 43 | 25<br>6 | 34<br>0 | 44<br>47 | 30 |

| ′ | 80° | | | | | 81° | | | | | 82° | | | | | 83° | | | | | 84° | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 59 | 10 | 37 | 41 | 24 | 59 | 20 | 27 | 25 | 35 | 59 | 29 | 12 | 5 | 24 | 59 | 36 | 51 | 31 | 15 | 59 | 43 | 25 | 34 | 44 | 30 |
| | | | 10 | 21 | 40 | | | 9 | 16 | 42 | | | 8 | 11 | 32 | | | 7 | 6 | 13 | | | 6 | 0 | 47 | |
| 31 | | 10 | 48 | 3 | 4 | | 20 | 36 | 42 | 17 | | 29 | 20 | 16 | 56 | | 36 | 58 | 37 | 28 | | 43 | 31 | 35 | 31 | 31 |
| | | | 10 | 20 | 36 | | | 9 | 15 | 36 | | | 8 | 10 | 26 | | | 7 | 5 | 8 | | | 5 | 59 | 41 | |
| 32 | | 10 | 58 | 23 | 40 | | 20 | 45 | 57 | 53 | | 29 | 28 | 27 | 22 | | 37 | 5 | 42 | 36 | | 43 | 37 | 35 | 12 | 32 |
| | | | 10 | 19 | 30 | | | 9 | 14 | 31 | | | 8 | 9 | 22 | | | 7 | 4 | 3 | | | 5 | 58 | 37 | |
| 33 | | 11 | 8 | 43 | 10 | | 20 | 55 | 12 | 24 | | 29 | 36 | 36 | 44 | | 37 | 12 | 46 | 39 | | 43 | 43 | 33 | 49 | 33 |
| | | | 10 | 18 | 26 | | | 9 | 13 | 26 | | | 8 | 8 | 16 | | | 7 | 2 | 57 | | | 5 | 57 | 30 | |
| 34 | | 11 | 19 | 1 | 36 | | 21 | 4 | 25 | 50 | | 29 | 44 | 45 | 0 | | 37 | 19 | 49 | 36 | | 43 | 49 | 31 | 19 | 34 |
| | | | 10 | 17 | 21 | | | 9 | 12 | 20 | | | 8 | 7 | 10 | | | 7 | 1 | 52 | | | 5 | 56 | 25 | |
| 35 | | 11 | 29 | 18 | 57 | | 21 | 13 | 38 | 10 | | 29 | 52 | 52 | 10 | | 37 | 26 | 51 | 28 | | 43 | 55 | 27 | 44 | 35 |
| | | | 10 | 16 | 16 | | | 9 | 11 | 16 | | | 8 | 6 | 6 | | | 7 | 0 | 46 | | | 5 | 55 | 20 | |
| 36 | | 11 | 39 | 35 | 13 | | 21 | 22 | 49 | 26 | | 30 | 0 | 58 | 16 | | 37 | 33 | 52 | 14 | | 44 | 1 | 23 | 4 | 36 |
| | | | 10 | 15 | 11 | | | 9 | 10 | 11 | | | 8 | 5 | 0 | | | 6 | 59 | 41 | | | 5 | 54 | 14 | |
| 37 | | 11 | 49 | 50 | 24 | | 21 | 31 | 59 | 37 | | 30 | 9 | 3 | 16 | | 37 | 40 | 51 | 55 | | 44 | 7 | 17 | 18 | 37 |
| | | | 10 | 14 | 6 | | | 9 | 9 | 5 | | | 8 | 3 | 55 | | | 6 | 58 | 36 | | | 5 | 53 | 8 | |
| 38 | | 12 | 0 | 4 | 30 | | 21 | 41 | 8 | 42 | | 30 | 17 | 7 | 11 | | 37 | 47 | 50 | 31 | | 44 | 13 | 10 | 26 | 38 |
| | | | 10 | 13 | 1 | | | 9 | 8 | 1 | | | 8 | 2 | 50 | | | 6 | 57 | 30 | | | 5 | 52 | 3 | |
| 39 | | 12 | 10 | 17 | 31 | | 21 | 50 | 16 | 43 | | 30 | 25 | 10 | 1 | | 37 | 54 | 48 | 1 | | 44 | 19 | 2 | 29 | 39 |
| | | | 10 | 11 | 56 | | | 9 | 6 | 55 | | | 8 | 1 | 44 | | | 6 | 56 | 25 | | | 5 | 50 | 58 | |
| 40 | 59 | 12 | 20 | 29 | 27 | 59 | 21 | 59 | 23 | 38 | 59 | 30 | 33 | 11 | 45 | 59 | 38 | 1 | 44 | 26 | 59 | 44 | 24 | 53 | 27 | 40 |
| | | | 10 | 10 | 52 | | | 9 | 5 | 50 | | | 8 | 0 | 40 | | | 6 | 55 | 19 | | | 5 | 49 | 52 | |
| 41 | | 12 | 30 | 40 | 19 | | 22 | 8 | 29 | 28 | | 30 | 41 | 12 | 25 | | 38 | 8 | 39 | 45 | | 44 | 30 | 43 | 19 | 41 |
| | | | 10 | 9 | 46 | | | 9 | 4 | 46 | | | 7 | 59 | 34 | | | 6 | 54 | 14 | | | 5 | 48 | 46 | |
| 42 | | 12 | 40 | 50 | 5 | | 22 | 17 | 34 | 14 | | 30 | 49 | 11 | 59 | | 38 | 15 | 33 | 59 | | 44 | 36 | 32 | 5 | 42 |
| | | | 10 | 8 | 42 | | | 9 | 3 | 40 | | | 7 | 58 | 28 | | | 6 | 53 | 9 | | | 5 | 47 | 41 | |
| 43 | | 12 | 50 | 58 | 47 | | 22 | 26 | 37 | 54 | | 30 | 57 | 10 | 27 | | 38 | 22 | 27 | 8 | | 44 | 42 | 19 | 46 | 43 |
| | | | 10 | 7 | 36 | | | 9 | 2 | 35 | | | 7 | 57 | 24 | | | 6 | 52 | 3 | | | 5 | 46 | 36 | |
| 44 | | 13 | 1 | 6 | 23 | | 22 | 35 | 40 | 29 | | 31 | 5 | 7 | 51 | | 38 | 29 | 19 | 11 | | 44 | 48 | 6 | 22 | 44 |
| | | | 10 | 6 | 32 | | | 9 | 1 | 29 | | | 7 | 56 | 18 | | | 6 | 50 | 58 | | | 5 | 45 | 30 | |
| 45 | | 13 | 11 | 12 | 55 | | 22 | 44 | 41 | 58 | | 31 | 13 | 4 | 9 | | 38 | 36 | 10 | 9 | | 44 | 53 | 51 | 52 | 45 |
| | | | 10 | 5 | 26 | | | 9 | 0 | 25 | | | 7 | 55 | 13 | | | 6 | 49 | 52 | | | 5 | 44 | 24 | |
| 46 | | 13 | 21 | 18 | 21 | | 22 | 53 | 42 | 23 | | 31 | 20 | 59 | 22 | | 38 | 43 | 0 | 1 | | 44 | 59 | 36 | 16 | 46 |
| | | | 10 | 4 | 22 | | | 8 | 59 | 20 | | | 7 | 54 | 7 | | | 6 | 48 | 47 | | | 5 | 43 | 19 | |
| 47 | | 13 | 31 | 22 | 43 | | 23 | 2 | 41 | 43 | | 31 | 28 | 53 | 29 | | 38 | 49 | 48 | 48 | | 45 | 5 | 19 | 35 | 47 |
| | | | 10 | 3 | 17 | | | 8 | 58 | 14 | | | 7 | 53 | 3 | | | 6 | 47 | 42 | | | 5 | 42 | 13 | |
| 48 | | 13 | 41 | 26 | 0 | | 23 | 11 | 39 | 57 | | 31 | 36 | 46 | 32 | | 38 | 56 | 36 | 30 | | 45 | 11 | 1 | 48 | 48 |
| | | | 10 | 2 | 12 | | | 8 | 57 | 9 | | | 7 | 51 | 57 | | | 6 | 46 | 36 | | | 5 | 41 | 8 | |
| 49 | | 13 | 51 | 28 | 12 | | 23 | 20 | 37 | 6 | | 31 | 44 | 38 | 29 | | 39 | 3 | 23 | 6 | | 45 | 16 | 42 | 56 | 49 |
| | | | 10 | 1 | 6 | | | 8 | 56 | 5 | | | 7 | 50 | 52 | | | 6 | 45 | 31 | | | 5 | 40 | 3 | |
| 50 | 59 | 14 | 1 | 29 | 18 | 59 | 23 | 29 | 33 | 11 | 59 | 31 | 52 | 29 | 21 | 59 | 39 | 10 | 8 | 37 | 59 | 45 | 22 | 22 | 59 | 50 |
| | | | 10 | 0 | 2 | | | 8 | 54 | 59 | | | 7 | 49 | 46 | | | 6 | 44 | 25 | | | 5 | 38 | 56 | |
| 51 | | 14 | 11 | 29 | 20 | | 23 | 38 | 28 | 10 | | 32 | 0 | 19 | 7 | | 39 | 16 | 53 | 2 | | 45 | 28 | 1 | 55 | 51 |
| | | | 9 | 58 | 57 | | | 8 | 53 | 54 | | | 7 | 48 | 41 | | | 6 | 43 | 20 | | | 5 | 37 | 52 | |
| 52 | | 14 | 21 | 28 | 17 | | 23 | 47 | 22 | 4 | | 32 | 8 | 7 | 48 | | 39 | 23 | 36 | 22 | | 45 | 33 | 39 | 47 | 52 |
| | | | 9 | 57 | 52 | | | 8 | 52 | 49 | | | 7 | 47 | 36 | | | 6 | 42 | 14 | | | 5 | 36 | 45 | |
| 53 | | 14 | 31 | 26 | 9 | | 23 | 56 | 14 | 53 | | 32 | 15 | 55 | 24 | | 39 | 30 | 18 | 36 | | 45 | 39 | 16 | 32 | 53 |
| | | | 9 | 56 | 47 | | | 8 | 51 | 43 | | | 7 | 46 | 31 | | | 6 | 41 | 9 | | | 5 | 35 | 40 | |
| 54 | | 14 | 41 | 22 | 56 | | 24 | 5 | 6 | 36 | | 32 | 23 | 41 | 55 | | 39 | 36 | 59 | 45 | | 45 | 44 | 52 | 12 | 54 |
| | | | 9 | 55 | 42 | | | 8 | 50 | 39 | | | 7 | 45 | 25 | | | 6 | 40 | 4 | | | 5 | 34 | 35 | |
| 55 | | 14 | 51 | 18 | 38 | | 24 | 13 | 57 | 15 | | 32 | 31 | 27 | 20 | | 39 | 43 | 39 | 49 | | 45 | 50 | 26 | 47 | 55 |
| | | | 9 | 54 | 37 | | | 8 | 49 | 33 | | | 7 | 44 | 20 | | | 6 | 38 | 58 | | | 5 | 33 | 29 | |
| 56 | | 15 | 1 | 13 | 15 | | 24 | 22 | 46 | 48 | | 32 | 39 | 11 | 40 | | 39 | 50 | 18 | 47 | | 45 | 56 | 0 | 16 | 56 |
| | | | 9 | 53 | 32 | | | 8 | 48 | 28 | | | 7 | 43 | 15 | | | 6 | 37 | 53 | | | 5 | 32 | 24 | |
| 57 | | 15 | 11 | 6 | 47 | | 24 | 31 | 35 | 16 | | 32 | 46 | 54 | 55 | | 39 | 56 | 56 | 40 | | 46 | 1 | 32 | 40 | 57 |
| | | | 9 | 52 | 27 | | | 8 | 47 | 24 | | | 7 | 42 | 10 | | | 6 | 36 | 47 | | | 5 | 31 | 18 | |
| 58 | | 15 | 20 | 59 | 14 | | 24 | 40 | 22 | 40 | | 32 | 54 | 37 | 5 | | 40 | 3 | 33 | 27 | | 46 | 7 | 3 | 58 | 58 |
| | | | 9 | 51 | 23 | | | 8 | 46 | 17 | | | 7 | 41 | 4 | | | 6 | 35 | 42 | | | 5 | 30 | 12 | |
| 59 | | 15 | 30 | 50 | 37 | | 24 | 49 | 8 | 57 | | 33 | 2 | 18 | 9 | | 40 | 10 | 9 | 9 | | 46 | 12 | 34 | 10 | 59 |
| | | | 9 | 50 | 17 | | | 8 | 45 | 13 | | | 7 | 39 | 59 | | | 6 | 34 | 37 | | | 5 | 29 | 7 | |
| 60 | 59 | 15 | 40 | 40 | 54 | 59 | 24 | 57 | 54 | 10 | 59 | 33 | 9 | 58 | 8 | 59 | 40 | 16 | 43 | 46 | 59 | 46 | 18 | 3 | 17 | 60 |
| | | | 9 | 49 | 12 | | | 8 | 44 | 8 | | | 7 | 38 | 53 | | | 6 | 33 | 31 | | | 5 | 28 | 2 | |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 85° | | | | | 86° | | | | | 87° | | | | | 88° | | | | | 89° | | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 59 | 46 | 18<br>5 | 3<br>28 | 17<br>2 | 59 | 51 | 13<br>4 | 50<br>22 | 5<br>26 | 59 | 55 | 3<br>3 | 58<br>16 | 46<br>45 | 59 | 57 | 48<br>2 | 25<br>11 | 7<br>1 | 5<br>12 | 59 | 59 | 27<br>1 | 6<br>5 | 7<br>14 | 45<br>44 | 13<br>51 | 0 |
| 1 | | 46 | 23<br>5 | 31<br>26 | 19<br>55 | | 51 | 18<br>4 | 12<br>21 | 31<br>20 | | 55 | 7<br>3 | 15<br>15 | 31<br>40 | | 57 | 50<br>2 | 36<br>9 | 8<br>55 | 17<br>27 | | 59 | 28<br>1 | 11<br>4 | 22<br>8 | 30<br>57 | 4<br>36 | 1 |
| 2 | | 46 | 28<br>5 | 58<br>25 | 14<br>51 | | 51 | 22<br>4 | 33<br>20 | 51<br>15 | | 55 | 10<br>3 | 31<br>14 | 11<br>34 | | 57 | 52<br>2 | 46<br>8 | 3<br>49 | 44<br>41 | | 59 | 29<br>1 | 15<br>3 | 31<br>3 | 27<br>10 | 40<br>19 | 2 |
| 3 | | 46 | 34<br>5 | 24<br>24 | 5<br>45 | | 51 | 26<br>4 | 54<br>19 | 6<br>9 | | 55 | 13<br>3 | 45<br>13 | 45<br>28 | | 57 | 54<br>2 | 54<br>7 | 53<br>43 | 25<br>56 | | 59 | 30<br>1 | 18<br>1 | 34<br>57 | 37<br>23 | 59<br>1 | 3 |
| 4 | | 46 | 39<br>5 | 48<br>23 | 50<br>39 | | 51 | 31<br>4 | 13<br>18 | 15<br>3 | | 55 | 16<br>3 | 59<br>12 | 13<br>22 | | 57 | 57<br>2 | 2<br>6 | 37<br>38 | 21<br>10 | | 59 | 31<br>1 | 20<br>0 | 32<br>51 | 1<br>35 | 0<br>42 | 4 |
| 5 | | 46 | 45<br>5 | 12<br>22 | 29<br>33 | | 51 | 35<br>4 | 31<br>16 | 18<br>57 | | 55 | 20<br>3 | 11<br>11 | 35<br>17 | | 57 | 59<br>2 | 9<br>5 | 15<br>32 | 31<br>24 | | 59 | 32 | 21<br>59 | 23<br>45 | 36<br>48 | 42<br>22 | 5 |
| 6 | | 46 | 50<br>5 | 35<br>21 | 2<br>28 | | 51 | 39<br>4 | 48<br>15 | 15<br>52 | | 55 | 23<br>3 | 22<br>10 | 52<br>11 | | 58 | 1<br>2 | 14<br>4 | 47<br>26 | 55<br>39 | | 59 | 33 | 21<br>58 | 9<br>40 | 25<br>1 | 4<br>0 | 6 |
| 7 | | 46 | 55<br>5 | 56<br>20 | 30<br>23 | | 51 | 44<br>4 | 4<br>14 | 7<br>46 | | 55 | 26<br>3 | 33<br>9 | 3<br>5 | | 58 | 3<br>2 | 19<br>3 | 14<br>20 | 34<br>53 | | 59 | 34 | 19<br>57 | 49<br>34 | 26<br>13 | 4<br>38 | 7 |
| 8 | | 47 | 1<br>5 | 16<br>19 | 53<br>17 | | 51 | 48<br>4 | 18<br>13 | 53<br>41 | | 55 | 29<br>3 | 42<br>8 | 8<br>0 | | 58 | 5<br>2 | 22<br>2 | 35<br>15 | 27<br>7 | | 59 | 35 | 17<br>56 | 23<br>28 | 39<br>26 | 42<br>15 | 8 |
| 9 | | 47 | 6<br>5 | 36<br>18 | 10<br>11 | | 51 | 52<br>4 | 32<br>12 | 34<br>35 | | 55 | 32<br>3 | 50<br>6 | 8<br>54 | | 58 | 7<br>2 | 24<br>1 | 50<br>9 | 34<br>21 | | 59 | 36 | 13<br>55 | 52<br>22 | 5<br>38 | 57<br>50 | 9 |
| 10 | 59 | 47 | 11<br>5 | 54<br>17 | 21<br>6 | 59 | 51 | 56<br>4 | 45<br>11 | 9<br>29 | 59 | 55 | 35<br>3 | 57<br>5 | 2<br>48 | 59 | 58 | 9<br>2 | 25<br>0 | 59<br>3 | 55<br>36 | 59 | 59 | 37 | 9<br>54 | 14<br>16 | 44<br>51 | 47<br>25 | 10 |
| 11 | | 47 | 17<br>5 | 11<br>16 | 27<br>0 | | 52 | 0<br>4 | 56<br>10 | 38<br>24 | | 55 | 39<br>3 | 2<br>4 | 50<br>42 | | 58 | 11<br>1 | 26<br>58 | 3<br>57 | 31<br>49 | | 59 | 38 | 3<br>53 | 31<br>11 | 36<br>3 | 12<br>59 | 11 |
| 12 | | 47 | 22<br>5 | 27<br>14 | 27<br>55 | | 52 | 5<br>4 | 7<br>9 | 2<br>18 | | 55 | 42<br>3 | 7<br>3 | 32<br>37 | | 58 | 13<br>1 | 25<br>57 | 1<br>52 | 20<br>4 | | 59 | 38 | 56<br>52 | 42<br>5 | 40<br>16 | 11<br>31 | 12 |
| 13 | | 47 | 27<br>5 | 42<br>13 | 22<br>49 | | 52 | 9<br>4 | 16<br>8 | 20<br>12 | | 55 | 45<br>3 | 11<br>2 | 9<br>31 | | 58 | 15<br>1 | 22<br>56 | 53<br>46 | 24<br>18 | | 59 | 39 | 48<br>50 | 47<br>59 | 56<br>29 | 42<br>2 | 13 |
| 14 | | 47 | 32<br>5 | 56<br>12 | 11<br>44 | | 52 | 13<br>4 | 24<br>7 | 32<br>7 | | 55 | 48<br>3 | 13<br>1 | 40<br>25 | | 58 | 17<br>1 | 19<br>55 | 39<br>40 | 42<br>32 | | 59 | 40 | 39<br>49 | 47<br>53 | 25<br>41 | 44<br>34 | 14 |
| 15 | | 47 | 38<br>5 | 8<br>11 | 55<br>38 | | 52 | 17<br>4 | 31<br>6 | 39<br>1 | | 55 | 51<br>3 | 15<br>0 | 5<br>20 | | 58 | 19<br>1 | 15<br>54 | 20<br>34 | 14<br>46 | | 59 | 41 | 29<br>48 | 41<br>47 | 7<br>54 | 18<br>3 | 15 |
| 16 | | 47 | 43<br>5 | 20<br>10 | 33<br>32 | | 52 | 21<br>4 | 37<br>4 | 40<br>55 | | 55 | 54<br>2 | 15<br>59 | 25<br>14 | | 58 | 21<br>1 | 9<br>53 | 55<br>29 | 0<br>0 | | 59 | 42 | 18<br>47 | 29<br>42 | 1<br>6 | 21<br>32 | 16 |
| 17 | | 47 | 48<br>5 | 31<br>9 | 5<br>27 | | 52 | 25<br>4 | 42<br>3 | 35<br>50 | | 55 | 57<br>2 | 14<br>58 | 39<br>8 | | 58 | 23<br>1 | 3<br>52 | 24<br>23 | 0<br>14 | | 59 | 43 | 6<br>46 | 11<br>36 | 7<br>19 | 53<br>0 | 17 |
| 18 | | 47 | 53<br>5 | 40<br>8 | 32<br>21 | | 52 | 29<br>4 | 46<br>2 | 25<br>44 | | 56 | 0<br>2 | 12<br>57 | 47<br>2 | | 58 | 24<br>1 | 55<br>51 | 47<br>17 | 14<br>27 | | 59 | 43 | 52<br>45 | 47<br>30 | 26<br>31 | 53<br>27 | 18 |
| 19 | | 47 | 58<br>5 | 48<br>7 | 53<br>16 | | 52 | 33<br>4 | 49<br>1 | 9<br>38 | | 56 | 3<br>2 | 9<br>55 | 49<br>57 | | 58 | 26<br>1 | 47<br>50 | 4<br>11 | 41<br>42 | | 59 | 44 | 38<br>44 | 17<br>24 | 58<br>43 | 20<br>53 | 19 |
| 20 | 59 | 48 | 3<br>5 | 56<br>6 | 9<br>10 | 59 | 52 | 37<br>4 | 50<br>0 | 47<br>33 | 59 | 56 | 6<br>2 | 5<br>54 | 46<br>51 | 59 | 58 | 28<br>1 | 37<br>49 | 16<br>5 | 23<br>55 | 59 | 59 | 45 | 22<br>43 | 42<br>18 | 42<br>56 | 13<br>19 | 20 |
| 21 | | 48 | 9<br>5 | 2<br>5 | 19<br>5 | | 52 | 41<br>3 | 51<br>59 | 20<br>27 | | 56 | 9<br>2 | 0<br>53 | 37<br>45 | | 58 | 30<br>1 | 26<br>48 | 22<br>0 | 18<br>10 | | 59 | 46 | 6<br>42 | 1<br>13 | 38<br>8 | 32<br>44 | 21 |
| 22 | | 48 | 14<br>5 | 7<br>3 | 24<br>59 | | 52 | 45<br>3 | 50<br>58 | 47<br>21 | | 56 | 11<br>2 | 54<br>52 | 22<br>39 | | 58 | 32<br>1 | 14<br>46 | 22<br>54 | 28<br>23 | | 59 | 46 | 48<br>41 | 14<br>7 | 47<br>21 | 16<br>8 | 22 |
| 23 | | 48 | 19<br>5 | 11<br>2 | 23<br>53 | | 52 | 49<br>3 | 49<br>57 | 8<br>16 | | 56 | 14<br>2 | 47<br>51 | 1<br>34 | | 58 | 34<br>1 | 1<br>45 | 16<br>48 | 51<br>36 | | 59 | 47 | 29<br>40 | 22<br>1 | 8<br>33 | 24<br>31 | 23 |
| 24 | | 48 | 24<br>5 | 14<br>1 | 16<br>48 | | 52 | 53<br>3 | 46<br>56 | 24<br>10 | | 56 | 17<br>2 | 38<br>50 | 35<br>28 | | 58 | 35<br>1 | 47<br>44 | 5<br>42 | 27<br>51 | | 59 | 48 | 9<br>38 | 23<br>55 | 41<br>45 | 55<br>54 | 24 |
| 25 | | 48 | 29<br>5 | 16<br>0 | 4<br>42 | | 52 | 57<br>3 | 42<br>55 | 34<br>4 | | 56 | 20<br>2 | 29<br>49 | 3<br>22 | | 58 | 37<br>1 | 31<br>43 | 48<br>37 | 18<br>4 | | 59 | 48 | 48<br>37 | 19<br>49 | 27<br>58 | 49<br>15 | 25 |
| 26 | | 48 | 34<br>4 | 16<br>59 | 46<br>36 | | 53 | 1<br>3 | 37<br>53 | 38<br>59 | | 56 | 23<br>2 | 18<br>48 | 25<br>17 | | 58 | 39<br>1 | 15<br>42 | 25<br>31 | 22<br>17 | | 59 | 49 | 26<br>36 | 9<br>44 | 26<br>10 | 4<br>36 | 26 |
| 27 | | 48 | 39<br>4 | 16<br>58 | 22<br>31 | | 53 | 5<br>3 | 31<br>52 | 37<br>53 | | 56 | 26<br>2 | 6<br>47 | 42<br>11 | | 58 | 40<br>1 | 57<br>41 | 56<br>25 | 39<br>32 | | 59 | 50 | 2<br>35 | 53<br>38 | 36<br>22 | 40<br>57 | 27 |
| 28 | | 48 | 44<br>4 | 14<br>57 | 53<br>26 | | 53 | 9<br>3 | 24<br>51 | 30<br>48 | | 56 | 28<br>2 | 53<br>46 | 53<br>5 | | 58 | 42<br>1 | 39<br>40 | 22<br>19 | 11<br>45 | | 59 | 50 | 38<br>34 | 31<br>32 | 59<br>35 | 37<br>16 | 28 |
| 29 | | 48 | 49<br>4 | 12<br>56 | 19<br>20 | | 53 | 13<br>3 | 16<br>50 | 18<br>41 | | 56 | 31<br>2 | 39<br>44 | 58<br>59 | | 58 | 44<br>1 | 19<br>39 | 41<br>13 | 56<br>58 | | 59 | 51 | 13<br>33 | 4<br>26 | 34<br>47 | 53<br>36 | 29 |
| 30 | 59 | 48 | 54<br>4 | 8<br>55 | 39<br>14 | 59 | 53 | 17<br>3 | 6<br>49 | 59<br>36 | 59 | 56 | 34<br>2 | 24<br>43 | 57<br>54 | 59 | 58 | 45<br>1 | 58<br>38 | 55<br>8 | 54<br>12 | 59 | 59 | 51 | 46<br>32 | 31<br>20 | 22<br>59 | 29<br>54 | 30 |

Bürgi's 1′ sine table (reconstruction, D. Roegel, 2016)

| ′ | 85° | | | | | 86° | | | | | 87° | | | | | 88° | | | | | 89° | | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 59 | 48 | 54 | 8 | 39 | 59 | 53 | 17 | 6 | 59 | 59 | 56 | 34 | 24 | 57 | 59 | 58 | 45 | 58 | 55 | 54 | 59 | 59 | 51 | 46 | 31 | 22 | 29 | 30 |
| | | | 4 | 55 | 14 | | | 3 | 49 | 36 | | | 2 | 43 | 54 | | | 1 | 38 | 8 | 12 | | | | 32 | 20 | 59 | 54 | |
| 31 | | 48 | 59 | 3 | 53 | | 53 | 20 | 56 | 35 | | 56 | 37 | 8 | 51 | | 58 | 47 | 37 | 4 | 6 | | 59 | 52 | 18 | 52 | 22 | 23 | 31 |
| | | | 4 | 54 | 9 | | | 3 | 48 | 31 | | | 2 | 42 | 48 | | | 1 | 37 | 2 | 25 | | | | 31 | 15 | 12 | 12 | |
| 32 | | 49 | 3 | 58 | 2 | | 53 | 24 | 45 | 6 | | 56 | 39 | 51 | 39 | | 58 | 49 | 14 | 6 | 31 | | 59 | 52 | 50 | 7 | 34 | 35 | 32 |
| | | | 4 | 53 | 3 | | | 3 | 47 | 24 | | | 2 | 41 | 42 | | | 1 | 35 | 56 | 39 | | | | 30 | 9 | 24 | 30 | |
| 33 | | 49 | 8 | 51 | 5 | | 53 | 28 | 32 | 30 | | 56 | 42 | 33 | 21 | | 58 | 50 | 50 | 3 | 10 | | 59 | 53 | 20 | 16 | 59 | 5 | 33 |
| | | | 4 | 51 | 57 | | | 3 | 46 | 19 | | | 2 | 40 | 36 | | | 1 | 34 | 50 | 53 | | | | 29 | 3 | 36 | 46 | |
| 34 | | 49 | 13 | 43 | 2 | | 53 | 32 | 18 | 49 | | 56 | 45 | 13 | 57 | | 58 | 52 | 24 | 54 | 3 | | 59 | 53 | 49 | 20 | 35 | 51 | 34 |
| | | | 4 | 50 | 52 | | | 3 | 45 | 14 | | | 2 | 39 | 31 | | | 1 | 33 | 45 | 5 | | | | 27 | 57 | 49 | 2 | |
| 35 | | 49 | 18 | 33 | 54 | | 53 | 36 | 4 | 3 | | 56 | 47 | 53 | 28 | | 58 | 53 | 58 | 39 | 8 | | 59 | 54 | 17 | 18 | 24 | 53 | 35 |
| | | | 4 | 49 | 46 | | | 3 | 44 | 7 | | | 2 | 38 | 25 | | | 1 | 32 | 39 | 19 | | | | 26 | 52 | 1 | 18 | |
| 36 | | 49 | 23 | 23 | 40 | | 53 | 39 | 48 | 10 | | 56 | 50 | 31 | 53 | | 58 | 55 | 31 | 18 | 27 | | 59 | 54 | 44 | 10 | 26 | 11 | 36 |
| | | | 4 | 48 | 41 | | | 3 | 43 | 2 | | | 2 | 37 | 19 | | | 1 | 31 | 33 | 33 | | | | 25 | 46 | 13 | 34 | |
| 37 | | 49 | 28 | 12 | 21 | | 53 | 43 | 31 | 12 | | 56 | 53 | 9 | 12 | | 58 | 57 | 2 | 52 | 0 | | 59 | 55 | 9 | 56 | 39 | 45 | 37 |
| | | | 4 | 47 | 35 | | | 3 | 41 | 56 | | | 2 | 36 | 13 | | | 1 | 30 | 27 | 45 | | | | 24 | 40 | 25 | 48 | |
| 38 | | 49 | 32 | 59 | 56 | | 53 | 47 | 13 | 8 | | 56 | 55 | 45 | 25 | | 58 | 58 | 33 | 19 | 45 | | 59 | 55 | 34 | 37 | 5 | 33 | 38 |
| | | | 4 | 46 | 29 | | | 3 | 40 | 51 | | | 2 | 35 | 8 | | | 1 | 29 | 21 | 59 | | | | 23 | 34 | 38 | 3 | |
| 39 | | 49 | 37 | 46 | 25 | | 53 | 50 | 53 | 59 | | 56 | 58 | 20 | 33 | | 59 | 0 | 2 | 41 | 44 | | 59 | 55 | 58 | 11 | 43 | 36 | 39 |
| | | | 4 | 45 | 24 | | | 3 | 39 | 45 | | | 2 | 34 | 2 | | | 1 | 28 | 16 | 12 | | | | 22 | 28 | 50 | 16 | |
| 40 | 59 | 49 | 42 | 31 | 49 | 59 | 53 | 54 | 33 | 44 | 59 | 57 | 0 | 54 | 35 | 59 | 59 | 1 | 30 | 57 | 56 | 59 | 59 | 56 | 20 | 40 | 33 | 52 | 40 |
| | | | 4 | 44 | 18 | | | 3 | 38 | 39 | | | 2 | 32 | 56 | | | 1 | 27 | 10 | 26 | | | | 21 | 23 | 2 | 31 | |
| 41 | | 49 | 47 | 16 | 7 | | 53 | 58 | 12 | 23 | | 57 | 3 | 27 | 31 | | 59 | 2 | 58 | 8 | 22 | | 59 | 56 | 42 | 3 | 36 | 23 | 41 |
| | | | 4 | 43 | 13 | | | 3 | 37 | 34 | | | 2 | 31 | 51 | | | 1 | 26 | 4 | 39 | | | | 20 | 17 | 14 | 43 | |
| 42 | | 49 | 51 | 59 | 20 | | 54 | 1 | 49 | 57 | | 57 | 5 | 59 | 22 | | 59 | 4 | 24 | 13 | 1 | | 59 | 57 | 2 | 20 | 51 | 6 | 42 |
| | | | 4 | 42 | 7 | | | 3 | 36 | 27 | | | 2 | 30 | 44 | | | 1 | 24 | 58 | 51 | | | | 19 | 11 | 26 | 56 | |
| 43 | | 49 | 56 | 41 | 27 | | 54 | 5 | 26 | 24 | | 57 | 8 | 30 | 6 | | 59 | 5 | 49 | 11 | 52 | | 59 | 57 | 21 | 32 | 18 | 2 | 43 |
| | | | 4 | 41 | 1 | | | 3 | 35 | 23 | | | 2 | 29 | 39 | | | 1 | 23 | 53 | 5 | | | | 18 | 5 | 39 | 8 | |
| 44 | | 50 | 1 | 22 | 28 | | 54 | 9 | 1 | 47 | | 57 | 10 | 59 | 45 | | 59 | 7 | 13 | 4 | 57 | | 59 | 57 | 39 | 37 | 57 | 10 | 44 |
| | | | 4 | 39 | 56 | | | 3 | 34 | 16 | | | 2 | 28 | 34 | | | 1 | 22 | 47 | 18 | | | | 16 | 59 | 51 | 20 | |
| 45 | | 50 | 6 | 2 | 24 | | 54 | 12 | 36 | 3 | | 57 | 13 | 28 | 19 | | 59 | 8 | 35 | 52 | 15 | | 59 | 57 | 56 | 37 | 48 | 30 | 45 |
| | | | 4 | 38 | 50 | | | 3 | 33 | 11 | | | 2 | 27 | 27 | | | 1 | 21 | 41 | 32 | | | | 15 | 54 | 3 | 33 | |
| 46 | | 50 | 10 | 41 | 14 | | 54 | 16 | 9 | 14 | | 57 | 15 | 55 | 46 | | 59 | 9 | 57 | 33 | 47 | | 59 | 58 | 12 | 31 | 52 | 3 | 46 |
| | | | 4 | 37 | 45 | | | 3 | 32 | 5 | | | 2 | 26 | 22 | | | 1 | 20 | 35 | 44 | | | | 14 | 48 | 15 | 43 | |
| 47 | | 50 | 15 | 18 | 59 | | 54 | 19 | 41 | 19 | | 57 | 18 | 22 | 8 | | 59 | 11 | 18 | 9 | 31 | | 59 | 58 | 27 | 20 | 7 | 46 | 47 |
| | | | 4 | 36 | 38 | | | 3 | 30 | 59 | | | 2 | 25 | 16 | | | 1 | 19 | 29 | 57 | | | | 13 | 42 | 27 | 55 | |
| 48 | | 50 | 19 | 55 | 37 | | 54 | 23 | 12 | 18 | | 57 | 20 | 47 | 24 | | 59 | 12 | 37 | 39 | 28 | | 59 | 58 | 41 | 2 | 35 | 41 | 48 |
| | | | 4 | 35 | 34 | | | 3 | 29 | 54 | | | 2 | 24 | 10 | | | 1 | 18 | 24 | 11 | | | | 12 | 36 | 40 | 6 | |
| 49 | | 50 | 24 | 31 | 11 | | 54 | 26 | 42 | 12 | | 57 | 23 | 11 | 34 | | 59 | 13 | 56 | 3 | 39 | | 59 | 58 | 53 | 39 | 15 | 47 | 49 |
| | | | 4 | 34 | 27 | | | 3 | 28 | 48 | | | 2 | 23 | 5 | | | 1 | 17 | 18 | 23 | | | | 11 | 30 | 52 | 16 | |
| 50 | 59 | 50 | 29 | 5 | 38 | 59 | 54 | 30 | 11 | 0 | 59 | 57 | 25 | 34 | 39 | 59 | 59 | 15 | 13 | 22 | 2 | 59 | 59 | 59 | 5 | 10 | 8 | 3 | 50 |
| | | | 4 | 33 | 22 | | | 3 | 27 | 42 | | | 2 | 21 | 58 | | | 1 | 16 | 12 | 36 | | | | 10 | 25 | 4 | 27 | |
| 51 | | 50 | 33 | 39 | 0 | | 54 | 33 | 38 | 42 | | 57 | 27 | 56 | 37 | | 59 | 16 | 29 | 34 | 38 | | 59 | 59 | 15 | 35 | 12 | 30 | 51 |
| | | | 4 | 32 | 17 | | | 3 | 26 | 37 | | | 2 | 20 | 53 | | | 1 | 15 | 6 | 49 | | | | 9 | 19 | 16 | 37 | |
| 52 | | 50 | 38 | 11 | 17 | | 54 | 37 | 5 | 19 | | 57 | 30 | 17 | 30 | | 59 | 17 | 44 | 41 | 27 | | 59 | 59 | 24 | 54 | 29 | 7 | 52 |
| | | | 4 | 31 | 11 | | | 3 | 25 | 31 | | | 2 | 19 | 48 | | | 1 | 14 | 1 | 3 | | | | 8 | 13 | 28 | 48 | |
| 53 | | 50 | 42 | 42 | 28 | | 54 | 40 | 30 | 50 | | 57 | 32 | 37 | 18 | | 59 | 18 | 58 | 42 | 30 | | 59 | 59 | 33 | 7 | 57 | 55 | 53 |
| | | | 4 | 30 | 5 | | | 3 | 24 | 25 | | | 2 | 18 | 41 | | | 1 | 12 | 55 | 15 | | | | 7 | 7 | 40 | 57 | |
| 54 | | 50 | 47 | 12 | 33 | | 54 | 43 | 55 | 15 | | 57 | 34 | 55 | 59 | | 59 | 20 | 11 | 37 | 45 | | 59 | 59 | 40 | 15 | 38 | 52 | 54 |
| | | | 4 | 28 | 59 | | | 3 | 23 | 19 | | | 2 | 17 | 36 | | | 1 | 11 | 49 | 28 | | | | 6 | 1 | 53 | 7 | |
| 55 | | 50 | 51 | 41 | 32 | | 54 | 47 | 18 | 34 | | 57 | 37 | 13 | 35 | | 59 | 21 | 23 | 27 | 13 | | 59 | 59 | 46 | 17 | 31 | 59 | 55 |
| | | | 4 | 27 | 54 | | | 3 | 22 | 14 | | | 2 | 16 | 30 | | | 1 | 10 | 43 | 41 | | | | 4 | 56 | 5 | 17 | |
| 56 | | 50 | 56 | 9 | 26 | | 54 | 50 | 40 | 48 | | 57 | 39 | 30 | 5 | | 59 | 22 | 34 | 10 | 54 | | 59 | 59 | 51 | 13 | 37 | 16 | 56 |
| | | | 4 | 26 | 48 | | | 3 | 21 | 8 | | | 2 | 15 | 24 | | | 1 | 9 | 37 | 53 | | | | 3 | 50 | 17 | 27 | |
| 57 | | 51 | 0 | 36 | 14 | | 54 | 54 | 1 | 56 | | 57 | 41 | 45 | 29 | | 59 | 23 | 43 | 48 | 47 | | 59 | 59 | 55 | 3 | 54 | 43 | 57 |
| | | | 4 | 25 | 43 | | | 3 | 20 | 3 | | | 2 | 14 | 18 | | | 1 | 8 | 32 | 7 | | | | 2 | 44 | 29 | 36 | |
| 58 | | 51 | 5 | 1 | 57 | | 54 | 57 | 21 | 59 | | 57 | 43 | 59 | 47 | | 59 | 24 | 52 | 20 | 54 | | 59 | 59 | 57 | 48 | 24 | 19 | 58 |
| | | | 4 | 24 | 37 | | | 3 | 18 | 56 | | | 2 | 13 | 13 | | | 1 | 7 | 26 | 19 | | | | 1 | 38 | 41 | 46 | |
| 59 | | 51 | 9 | 26 | 34 | | 55 | 0 | 40 | 55 | | 57 | 46 | 13 | 0 | | 59 | 25 | 59 | 47 | 13 | | 59 | 59 | 59 | 27 | 6 | 5 | 59 |
| | | | 4 | 23 | 31 | | | 3 | 17 | 51 | | | 2 | 12 | 7 | | | 1 | 6 | 20 | 32 | | | | | 32 | 53 | 55 | |
| 60 | 59 | 51 | 13 | 50 | 5 | 59 | 55 | 3 | 58 | 46 | 59 | 57 | 48 | 25 | 7 | 59 | 59 | 27 | 6 | 7 | 45 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 60 |
| | | | 4 | 22 | 26 | | | 3 | 16 | 45 | | | 2 | 11 | 1 | | | 1 | 5 | 14 | 45 | | | | | | | | |