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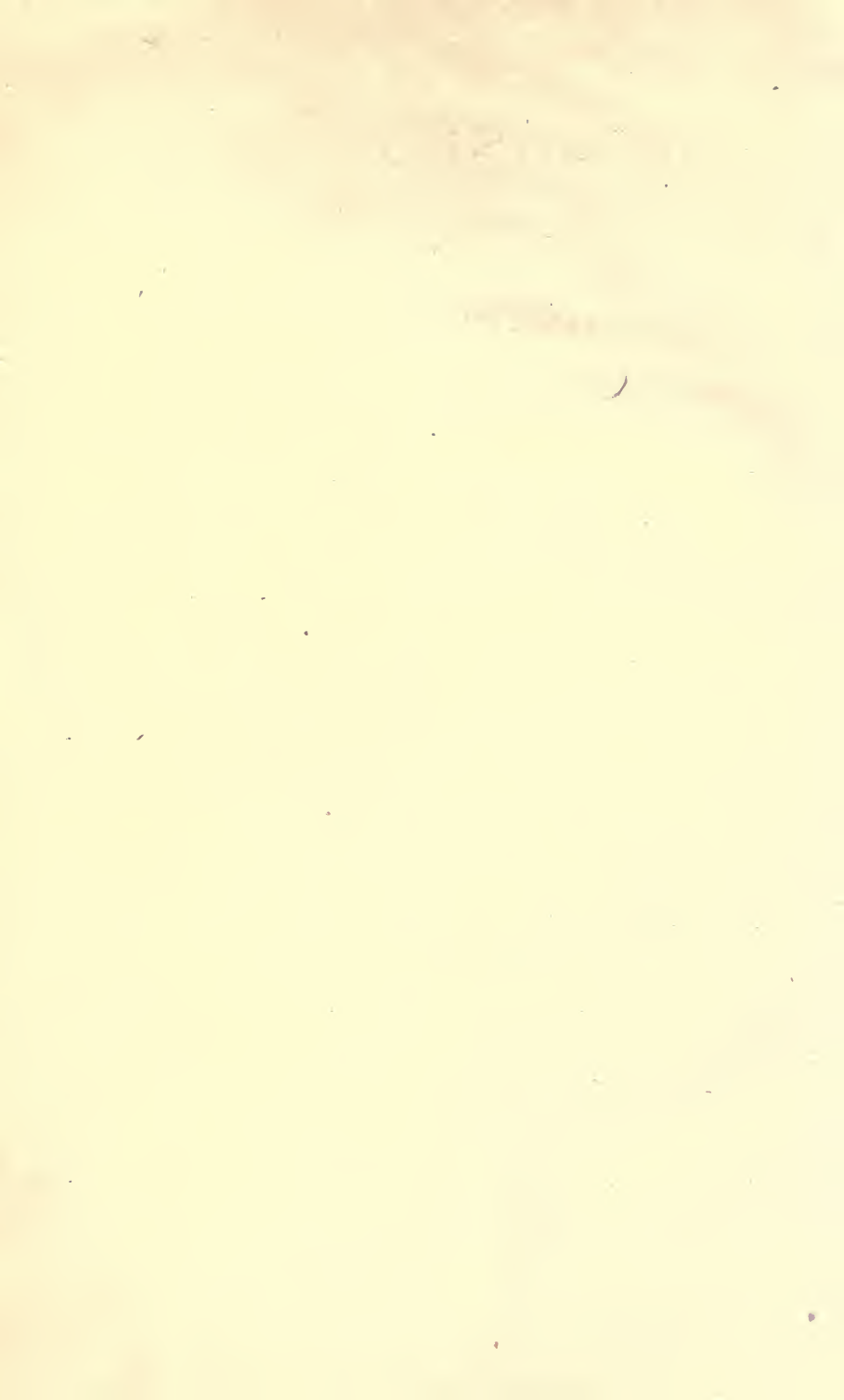
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# TRAVERSE TABLES

WITH AN INTRODUCTORY CHAPTER ON

CO-ORDINATE SURVEYING

BY

HENRY LOUIS, M.A., A.R.S.M., F.I.C., F.G.S., ETC.

PROFESSOR OF MINING AND LECTURER ON SURVEYING, DURHAM COLLEGE  
OF SCIENCE, NEWCASTLE-ON-TYNE  
EXAMINER IN MINE SURVEYING TO THE CITY AND GUILDS OF LONDON INSTITUTE

AND

GEORGE WILLIAM CAUNT, M.A.

LECTURER IN MATHEMATICS, DURHAM COLLEGE OF SCIENCE, NEWCASTLE-ON-TYNE



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## P R E F A C E.

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THE publication of this little work is due to the writer's conviction, gained in many years of miscellaneous surveying practice, as well as in some spent in the teaching of surveying, that the co-ordinate method of plotting traverses is far preferable to any other, on the score of both accuracy and expedition. There are, of course, several traverse tables already in existence; but whilst some of these are calculated with a degree of accuracy greater than is required in ordinary surveying, and more especially in ordinary mine surveying, others are not accurate enough, inasmuch as their calculations are not extended to every minute of the degree. The price of the former works is, moreover, somewhat prohibitive, at any rate as far as the ordinary mine surveyor is concerned.

At the present day it is usual to employ, in ordinary underground and surface work, instruments divided into single minutes, so that the tables must be calculated for this unit to be of any real use. In ordinary chaining it may be taken that it is rare for any traverse to exceed ten chains in length, whilst the limit of accuracy for such lengths is about one link. The tables are therefore calculated to five significant places (four places of decimals), so that their accuracy is about ten times as great as is attained in ordinary actual work. This limit is therefore sufficiently near for all practical purposes, and, at the same time, does not involve any undue amount of arithmetical work.

These tables are not intended for cadastral surveys, for which seven decimal places are required, or at times even more. The arrangement of the tables is one which the writer finds in practice to be convenient for rapid work, all the figures needed for any given angle being found at one opening of the pages and in one line. The tables have been entirely recalculated by Mr. Caunt, and checked in all possible ways, and every precaution has been taken to ensure accuracy in printing, so as to warrant the hope that they may be found free from error. The writer ventures to hope that their publication may serve to popularize this most convenient method of working out traverse surveys in this country.

HENRY LOUIS.

NEWCASTLE-ON-TYNE,  
*December, 1900.*



# TRAVERSE TABLES.



## CO-ORDINATE SURVEYING.

CO-ORDINATE surveying, or, to speak more precisely, co-ordinate plotting, is the name given to a method of recording the results of traverse surveys in which the draughtsman represents each draft of the survey by means of its rectangular co-ordinates. It cannot well be applied to any other than traverse surveying, hence its utility is mainly restricted to such forms of survey work as depend upon traverses, that is to say, mine surveys, surveys of roads, rivers, or railways, and surveys of areas. In a traverse survey the lengths and directions of the various traverses or drafts are determined in the field by methods with which all surveyors are familiar; it need only be here observed that, however determined, the direction of any traverse is the angle which it makes with any determinate direction; the latter may either be an absolutely fixed direction, such as the terrestrial meridian, or it may be comparatively fixed, as the magnetic meridian, or it may be purely arbitrary, such as the direction of the first draft of the survey, or of any other traverse, or of one of the main directions in which the survey extends, *e.g.* the main road of a large colliery, the principal street of a town, etc. In mining surveys it is customary in this country to refer all directions to the magnetic meridian, in spite of several obvious inconveniences to which this practice is subject; although it is certainly better to use the terrestrial meridian, yet the method of plotting by co-ordinates is exactly the same whatever

be the line of reference that is used. For the sake of simplicity it will here be supposed that a method of surveying has been adopted by which the angle which each traverse makes with the terrestrial meridian can be accurately determined.

Thus, in Fig. 1, let the traverse line of length  $OA (= l)$  make an angle  $a$  with the meridian line  $YY'$  through  $O$ , and

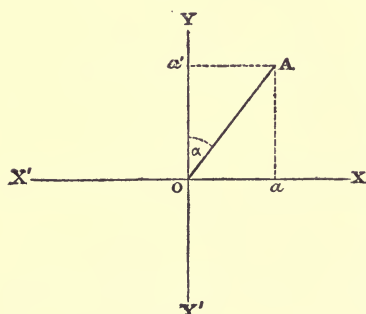


FIG. 1.

let  $XX'$  be drawn at right angles to  $YOY'$ . Draw  $Aa$  and  $Aa'$  perpendicular respectively to the lines  $XX'$  and  $YY'$ ; then  $Aa = Oa' = l \cos a$ , and  $Aa' = Oa = l \sin a$ , are the co-ordinates of the point  $A$  referred to its origin  $O$ , or the co-ordinates of the traverse  $OA$ .  $Oa'$ , the meridian co-ordinate, is usually spoken of as the *difference of latitude* (generally

abbreviated into *latitude*), and  $Oa$ , the equatorial co-ordinate, is generally called the *departure* of the traverse  $OA$ , and these words, latitude and departure, are adhered to even when the reference lines,  $YY'$  and  $XX'$ , do not correspond with either the terrestrial or the magnetic meridian and equator respectively. It is obvious that the co-ordinates of any traverse can be calculated by the aid of a table of sines and cosines, but this is a laborious and slow operation. Traverse tables are merely tables in which the results of these calculations are recorded so as to save time; in the present traverse tables the latitude and departure are given for every minute of angle and for all lengths from 1 to 10, so that the co-ordinates for any desired length can be taken out by simple addition, at the same time moving the decimal point as may be required. Thus, required the co-ordinates of a traverse 1638 links long, making an angle of  $27^\circ 49'$  with the meridian line. Entering the table headed  $27^\circ$ , the minutes are found in the column at the left hand (headed Min.), and looking horizontally along the line corresponding to  $49'$ , the several figures are taken out under the unit distances (Dist.) which head each double column of latitude (Lat.) and departure (Dep.), thus—



27° 49'

Dist.	Lat.	Dep.
1000	884·5	466·6
600	530·7	280·0
30	26·5	14·0
8	7·1	3·7
<hr style="width: 50%; margin: 0 auto;"/> 1638	<hr style="width: 50%; margin: 0 auto;"/> 1448·8	<hr style="width: 50%; margin: 0 auto;"/> 764·3

So that the required latitude is 1449 links, and the required departure 764 links. It will be noticed that the figures are only taken out to the first decimal place; in ordinary surveying fractions of links are not recognized, so that the co-ordinates are merely required to be correct to the nearest unit; there is therefore no object in using more than one decimal place. Whenever the angle given exceeds 45°, the angle must be sought for at the bottom right-hand corner, and the minutes read upwards in the last right-hand column; care must be taken also to read the latitudes and departures upwards in accordance with the respective designations at the bottom of the page. In this connection it is worth remembering that when the angle is less than 45°, latitudes are greater than departures, and when the angle exceeds 45°, latitudes are less than departures. A useful check is also obtained by noting that—

$$(\text{Distance})^2 = (\text{Latitude})^2 + (\text{Departure})^2$$

When one traverse only has to be plotted, but little is gained by the use of co-ordinates; but when a number of successive traverses have to be laid down, as is the case in an ordinary traverse survey, the advantage is evident, as the various latitudes and departures can be added together arithmetically, and thus the exact position of the end point determined before the survey is plotted. Thus, let  $OA$ ,  $AB$ , and  $BC$  (Fig. 2) be three traverses, of which the lengths and the angles which they make with the meridian are known. Then  $Oa'$  and  $Oa$  are, as before, the co-ordinates of the traverse  $OA$  or of the point  $A$  referred to its origin  $O$ ; similarly,  $Bm$  and  $Am$  are the co-ordinates of  $B$  referred to its origin  $A$ . But  $Ob = Oa + ab = Oa + Am$ , and  $Ob' = Oa' + a'b' = Oa' + Mb$ ; therefore the co-ordinates of the point  $B$  referred to the origin  $O$  are the sums of the respective latitudes and departures of the two traverses  $OA$  and  $AB$ . In the same way  $Oc$  and  $Oc'$ , the co-ordinates of the point



$C$  referred to the origin  $O$ , are the sums of the co-ordinates  $OA$ ,  $AB$ , and  $BC$ , it being noted that  $BC$  runs in the opposite direction to  $OA$  and  $AB$ , and its latitude is therefore negative. In other words, the meridian and equatorial co-ordinates of any point that is reached by a series of traverses, are the algebraical sums of the respective latitudes and departures of each one of the component traverses. It is usual to treat the directions  $OX$  and  $OY$  as positive, and  $OX'$  and  $OY'$  as negative; in other words, northerly latitudes and easterly departures are treated

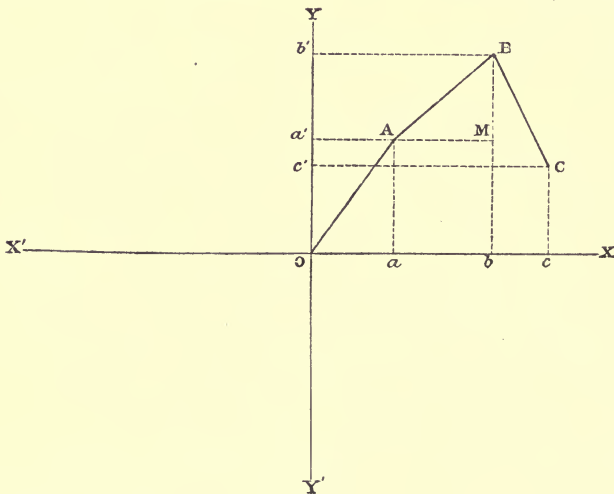


FIG. 2.

as + quantities, and southerly latitudes and westerly departures as - quantities.

In loose-needle surveys either meridian or quadrant angles may be read at the will of the surveyor. In ordinary theodolite surveys and in "racking" or "fixed-needle" surveys with the Vernier dial, the angles are determined that any given traverse makes with the meridian (or other arbitrary direction), so that any angle may be registered from  $0^\circ$  to  $360^\circ$ . The first step is therefore to reduce these meridian angles (or azimuths, as they are often called) to quadrant angles by the following rules:—

*If the meridian angle is between  $0^\circ$  and  $90^\circ$ , the quadrant is N.E., and the quadrant angle = meridian angle.*

If the meridian angle is between  $90^\circ$  and  $180^\circ$ , the quadrant is *S.E.*, and the quadrant angle =  $180^\circ - \text{meridian angle}$ .

If the meridian angle is between  $180^\circ$  and  $270^\circ$ , the quadrant angle is *S.W.*, and the quadrant angle =  $\text{meridian angle} - 180^\circ$ .

If the meridian angle is between  $270^\circ$  and  $360^\circ$ , the quadrant is *N.W.*, and the quadrant angle =  $360^\circ - \text{meridian angle}$ .

For example, to find the quadrant angles corresponding to the following meridian angles: (a)  $17^\circ 23'$ ; (b)  $141^\circ 44'$ ; (c)  $250^\circ 21'$ ; (d)  $339^\circ 08'$ .

Meridian angle.	Quadrant angle.
(a) $17^\circ 23'$	N. $17^\circ 23'$ E.
(b) $141^\circ 44'$ S. ( $180^\circ - 141^\circ 44'$ ) E.	= S. $38^\circ 16'$ E.
(c) $250^\circ 21'$ S. ( $250^\circ 21' - 180^\circ$ ) W.	= S. $70^\circ 21'$ W.
(d) $339^\circ 08'$ N. ( $360^\circ - 339^\circ 08'$ ) W.	= N. $20^\circ 52'$ W.

Sometimes these angles are simply written  $+17^\circ 23'$ ,  $-38^\circ 16'$ ,  $-70^\circ 21'$ ,  $+20^\circ 52'$ , this method being specially convenient when any arbitrary line is selected as the direction of reference in preference to a meridian; it is under-

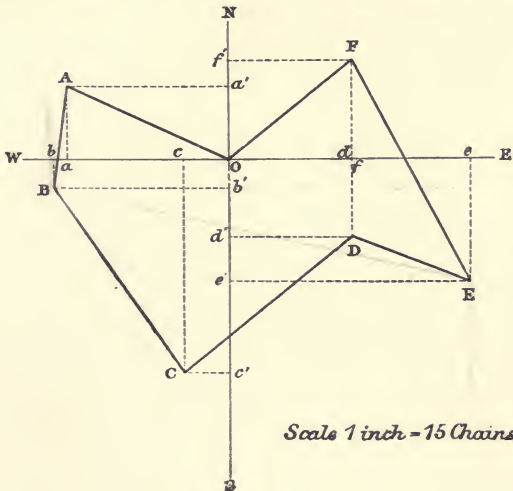


FIG. 3.

stood that the first sign always refers to the latitude and the last to the departure.

The successive stages in working out a traverse survey by co-ordinates, preparatory to plotting, are best illustrated by an example. Let Fig. 3 represent a traverse survey of an area

bounded by straight lines, executed by the “double fore-sight” method with an ordinary theodolite, the area forming a seven-sided polygon. The first two columns (see p. xii), namely the measured lengths of the sides and the observed theodolite readings, are obtained in the field and taken from the field-book in which they were entered.<sup>1</sup> At the beginning of the survey the theodolite is supposed to be pointed due north; the first reading gives therefore the meridian bearing of the first traverse  $OA$ ; the meridian bearings, or azimuths, of the subsequent traverses are obtained by the well-known rule: Add the observed theodolite reading to the last meridian bearing and subtract  $180^\circ$  from, or add  $180^\circ$  to, the sum, according as that sum is greater or less than  $180^\circ$ . The result in this case is as follows:—

Meridian bearing of $OA$	...	...	...	$295^\circ 12'$
Theodolite reading of $AB$	...	...	...	$72^\circ 13'$
				<hr/>
				$367^\circ 25'$
				$180^\circ$
				<hr/>
Meridian bearing of $AB$	...	...	...	$187^\circ 25'$
Theodolite reading of $BC$	...	...	...	$135^\circ 37'$
				<hr/>
				$323^\circ 02'$
				$180^\circ$
				<hr/>
Meridian bearing of $BC$	...	...	...	$143^\circ 02'$
Theodolite reading of $CD$	...	...	...	$87^\circ 26'$
				<hr/>
				$230^\circ 28'$
				$180^\circ$
				<hr/>
Meridian bearing of $CD$	...	...	...	$50^\circ 28'$
Theodolite reading of $DE$	...	...	...	$240^\circ 05'$
				<hr/>
				$290^\circ 33'$
				$180^\circ$
				<hr/>
Meridian bearing of $DE$	...	...	...	$110^\circ 33'$
Theodolite reading of $EF$	...	...	...	$41^\circ 26'$
				<hr/>
				$151^\circ 59'$
				$180^\circ$
				<hr/>
Meridian bearing of $EF$	...	...	...	$331^\circ 59'$
Theodolite reading of $FO$	...	...	...	$79^\circ 10'$
				<hr/>
				$411^\circ 09'$
				$180^\circ$
				<hr/>
Meridian bearing of $FO$	...	...	...	$231^\circ 09'$

The meridian bearings thus obtained are entered in their

<sup>1</sup> It goes without saying that the closing angle at  $O$ , which in this case should be equal to  $244^\circ 03'$ , is observed and noted in the field-book as a check, though it is not required for these calculations.

proper column, and then the column of quadrant bearings is at once filled in (see p. xii), in accordance with the rules already given. By reference to the tables, the latitudes and departures are then determined by simple addition; the first two may be given in full by way of example:—

64° 48'	Dist.	Lat.	Dep.
	1000	425·78	904·83
	400	170·31	361·93
	8	3·41	7·24
	<hr style="width: 100%;"/>		
	1408	599·5	1274·0
7° 25'	800	793·31	103·27
	40	39·67	5·16
	7	6·94	0·90
	<hr style="width: 100%;"/>		
	847	839·9	109·3

The latitudes and departures are entered in their respective columns. As this is a closed survey, returning to the starting point *O*, the total north and south latitudes and the total east and west departures ought to be respectively equal to each other, and it will be seen that such is practically the case, fractions of a link being disregarded.

The last two columns, headed total latitudes and departures, are really the successive co-ordinates of each of the survey stations; they are obtained by the successive algebraical additions of the latitudes and departures respectively, the sum or difference taking the same sign as the larger of the two figures. Thus, to take the latitudes, the latitude of the point *A* is evidently 599·5 links *N*; then we have:

Latitude of point *B* = 599·5 *N*. + 839·9 *S*. = (839·9 - 599·5) *S*. = 240·4 *S*.  
 Latitude of point *C* = 240·4 *S*. + 1428·6 *S*. = 1669·0 *S*.  
 Latitude of point *D* = 1669·0 *S*. + 1059·2 *N*. = (1669·0 - 1059·2) *S*. = 609·8 *S*.  
 Latitude of point *E* = 609·8 *S*. + 347·9 *S*. = 957·7 *S*.  
 Latitude of point *F* = 957·7 *S*. + 1743·6 *N*. = (1743·6 - 957·7) *N*. = 785·9 *N*.  
 Latitude of point *O* = 785·9 *N*. + 786·0 *S*. = (786·0 - 785·9) *S*. = 0·1 *S*.

The total departures are calculated in precisely the same way. The clerical work of the addition is checked by adding up the two columns of latitude and the two of departure; the differences between these respective pairs should be equal to the final total latitudes and departures.

Line.	Length.	Theodo- lite reading.	Meridian bearing.	Quadrant bearing.	Latitude.		Departure.		Total latitude.	Total departure.
					N.	S.	E.	W.		
<i>OA</i>	1403	295° 12'	295° 12'	N. 64° 48' W.	599.5	—	—	1274.0	N. 599.5	W. 1274.0
<i>AB</i>	847	72° 13'	187° 25'	S. 7° 25' W.	—	839.9	—	109.3	S. 240.4	W. 1383.3
<i>BC</i>	1788	135° 37'	143° 02'	S. 36° 58' E.	—	1428.6	—	—	S. 1669.0	W. 308.1
<i>CD</i>	1664	87° 26'	50° 28'	N. 56° 28' E.	1059.2	—	1075.2	—	S. 609.8	E. 975.3
<i>DE</i>	991	240° 05'	116° 33'	S. 69° 27' E.	—	347.9	927.9	—	S. 957.7	E. 1903.2
<i>EF</i>	1975	41° 26'	331° 59'	N. 28° 01' W.	1743.6	—	—	927.7	N. 783.9	E. 975.5
<i>FO</i>	1253	79° 10'	231° 03'	S. 51° 09' W.	—	786.0	—	975.8	S. 0.1	W. 0.3
					3402.3	3402.4 3402.3	3286.5	3286.8 3286.5		
						0.1		0.3		

All is now ready for plotting, which is done entirely from the column of total latitudes and departures. The N.-S. and E.-W. lines being drawn as shown in Fig. 3, the successive total latitudes are pricked off on the former, to the north or south of the starting point, according as each total latitude is N. or S. and are lettered  $a'$ ,  $b'$ ,  $c'$ , etc. The departures are laid down in the same way along the E.-W. line. Perpendiculars are then drawn through each point pricked off, and the intersections of corresponding pairs of perpendiculars give the positions of each survey station, the intersection of the perpendiculars through  $a$  and  $a'$  giving point  $A$ , through  $b$  and  $b'$  point  $B$ , etc. Instead of drawing perpendiculars a long scale and an offset scale may be used when the ordinates are not very long. It is one of the great advantages of this method that a survey may be plotted with extreme accuracy without using a scale at all, by the use of squared paper; as the survey stations are pricked down direct, this last method is also very rapid whenever it is practicable.

As the maximum departures and latitudes corresponding to the remotest points on the survey are known before plotting is commenced, it is easy to select a suitable scale and a convenient starting point, so as to be sure beforehand that the whole survey will fall within the limits of the paper on which it is to be plotted.

Obviously this method also gives at once the bearing and distance of any point of the survey from any other by a simple calculation, so that these data can be determined arithmetically, instead of having, as is the case with other methods of plotting, to be taken off the drawing. Apart from the fact that methods of surveying admit of far greater accuracy than does plotting,



the irregular expansion and contraction of even the best drawing paper<sup>1</sup> is more than enough to introduce grave inaccuracies into the best drawn plan.

As an example of the method of calculation, let it be required to determine the distance and bearing of station *E* from station *B*.

From the column of total latitudes and departures we have

Station <i>B</i> .	Lat. S. 240·4.	Dep. W. 1383·3
Station <i>E</i> .	Lat. S. 957·7.	Dep. E. 1903·2

Therefore *E* is 717·3 links S. and 3286·5 links E. of *B*.

$$\text{Bearing of line } BE = \text{S. } \tan^{-1} \frac{3286\cdot5}{717\cdot3} \text{ E.} = \text{S. } 77^\circ 41' 15'' \text{ E.}$$

$$\begin{aligned} \text{Distance } EB &= \frac{\text{lat.}}{\cos \text{ bearing}} = \frac{\text{dep.}}{\sin \text{ bearing}} = \sqrt{\text{dep.}^2 + \text{lat.}^2} = \frac{717\cdot3}{\cos 77^\circ 41' 15''} \\ &= \frac{3286\cdot5}{\sin 77^\circ 41' 15''} = \sqrt{717\cdot3^2 + 3286\cdot5^2} = 3364 \text{ links} \end{aligned}$$

These calculations are best made in the usual way by the aid of tables of logarithms. In case of need, the traverse tables can be used for them, as the departure column for distance = 1, is practically a table of natural sines, whilst the corresponding latitude column is practically a table of natural cosines, and these evidently give all the elements required for the calculation. In ordinary practice it is, however, far better to use any good table of logarithms for this portion of the work.

The above survey is an imaginary one, and there is therefore no closing error. In actual closed traverse surveys there is of course usually some error. By working out the co-ordinates, and by adding up the observed angles (including the closing angle), it is at once obvious whether the error is in the linear or in the angular measurements; in the latter case, if it is only the closing angle that has been read wrong, the co-ordinates will close, though the angles do not. If the error falls within the required limits of accuracy, it is easily distributed between the co-ordinates, and the plotting is done from the co-ordinates thus rectified.

The following is an example from actual practice, of a survey in a coal mine. A survey was started from a peg in the "flat,"

<sup>1</sup> Those interested in this matter should consult an important paper by Mr. C. C. Leach. *Transactions of the North of England Institute of Mining Engineers*, Vol. xxxiv., 1884-85, p. 175.

and was extended to a point in a "back place" to which it was desired to drive a road from the peg in the flat. The theodolite was set up in the flat, using the centre line of the flat as the axis of direction to which the survey was to be referred. A copy of the field-book is given below, many of the minor details being, however, omitted.

	=	$\frac{\triangle}{193}$ $\triangle$	Mark left here
(8)	From 112 in (7)	121° 39'	
(7)	From 53 in (6)	186° 21'	
(6)	From 143 in (5)	170° 21'	
(5)	From 129 in (4)	61° 12'	
	Left-hand bord. =	Face. 230 $\frac{\triangle}{129}$ $\triangle$	
(4)	From 73 in (3)	183° 54'	
(3)	From 203 in (2)	148° 51'	
	Left-hand headway =	$\frac{\triangle}{203}$ 100 $\triangle$	= Right-hand bord.
(2)	From 306 in (1)	176° 21'	
	Left-hand headway =	$\frac{\triangle}{306}$ 300 200 $\triangle$	= Right-hand bord. At peg in flat
(1)	180°	... ..	



The co-ordinates are worked out as previously explained, and the total latitudes and departures obtained as follows :—

Line.	Dis- tance.	Observed angle.	Meridian angle.	Quadrant angle.	Latitude.		Departure.		Total latitude.	Total depar- ture.
					+	-	+	-		
	Links.									
(1a)	200	180° 00'	180° 00'	— )	—	(200·0)	—	—	-200	—
(1b)	300	180° 00'	180° 00'	— )	—	(300·0)	—	—	-300	—
1	306	180° 00'	180° 00'	—	—	306·0	—	—	-306	—
(2a)	100	176° 21'	176° 21'	-3° 33'+)	—	(99·8)	(6·4)	—	-405·8	+6·4
2	203	176° 21'	176° 21'	-3° 39'+)	—	202·6	12·9	—	-508·6	+12·9
3	73	148° 51'	145° 12'	-34° 48'+)	—	59·9	41·7	—	-568·5	+54·6
4	129	183° 54'	149° 06'	-30° 54'+)	—	110·7	66·2	—	-679·2	+120·8
(4a)	230	183° 54'	149° 06'	-30° 54'+)	—	(197·4)	(118·1)	—	-765·9	+172·7
5	143	61° 12'	30° 18'	+30° 18'+)	123·5	—	72·1	—	-555·7	+192·9
6	53	170° 21'	20° 39'	+20° 39'+)	49·6	—	18·7	—	-506·1	+211·6
7	112	186° 21'	27° 00'	+27° 00'+)	99·8	—	50·9	—	-406·3	+262·5
8	193	121° 39'	328° 39'	+31° 21'-)	164·8	—	—	100·4	-241·5	+162·1
					437·7	679·2	262·5	100·4		
						437·7	100·4			
						241·5	162·1			

Accordingly the bearing of the station at the end of line 8 from the peg at the beginning of line 1 is by co-ordinates :—

Latitude ... -241·5                      Departure ... +162·1

$$\begin{aligned} \text{Quadrant bearing} &= -\tan^{-1} \frac{162\cdot1}{241\cdot5} + \\ &= -33^\circ 52' 15'' + \end{aligned}$$

$$\begin{aligned} \text{Distance} &= \frac{241\cdot5}{\cos 33^\circ 52' 15''} = \frac{162\cdot1}{\sin 33^\circ 52' 15''} = 290\cdot85 \\ \text{or } \sqrt{241\cdot5^2 + 162\cdot1^2} &= 290\cdot86 \end{aligned}$$

In other words, the road will have to be set off at an angle of 33° 52' 15" with the direction of the centre-line of the flat, and will be 291 links in length.

It need only be noted in addition to what has been said above, that subordinate points in the survey, that is to say, points that have to be plotted, but do not form the starting points of fresh lines, like 1a, 1b and 4a, must have their total latitudes and departures determined, so as to enable them to be plotted; but the co-ordinates of these points are not taken into account in determining total latitudes and departures. All figures relating to such points are best inclosed in brackets as shewn.

The plotting of this survey is shown in Fig. 4. It will be noticed that by the use of co-ordinates the operation of plotting

becomes one of quite secondary importance. All that is required to be known is already determined before the plotting is commenced. It may also be remarked that all the operations up to and including the taking out of the total latitudes and departures are of the utmost simplicity, involving no higher

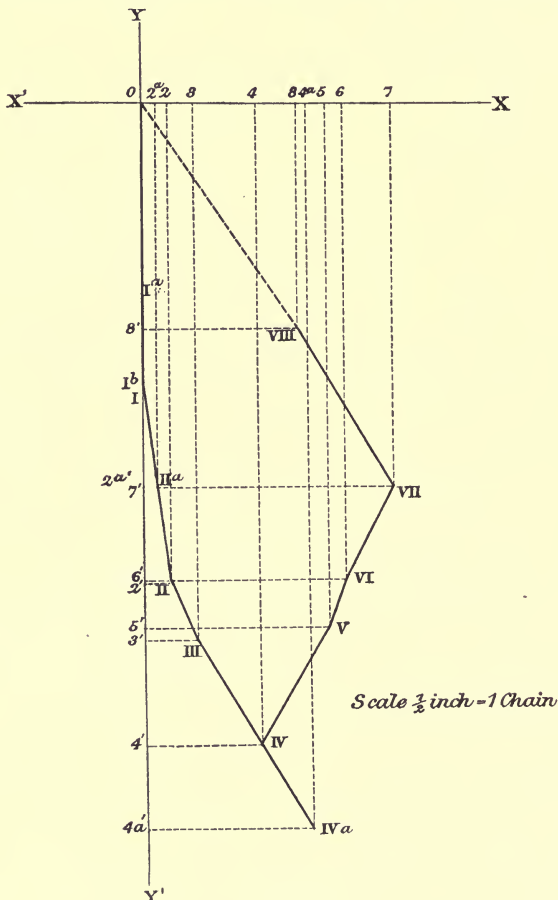


FIG. 4.

arithmetical knowledge than the addition and subtraction of decimals, and may hence be entrusted to any moderately intelligent lad, instead of occupying the time of the surveyor himself.

The advantages of the use of co-ordinates are, however,

most evident when it is necessary to determine the area included in a closed traverse. Unless co-ordinates are used the only method of determining such areas accurately is by an involved trigonometrical method, consisting of cutting the area up into triangles the apices of which meet in any assumed point. The angles of each triangle have then to be calculated, the triangles solved, and the sum of their areas thus determined. This method is so laborious that it is never used in practice. Unless this or the method of co-ordinates is used, however, the determination of the area can only be made by first plotting the survey, by which a number of errors of more or less importance are necessarily introduced.

By the use of co-ordinates, all these difficulties are avoided,

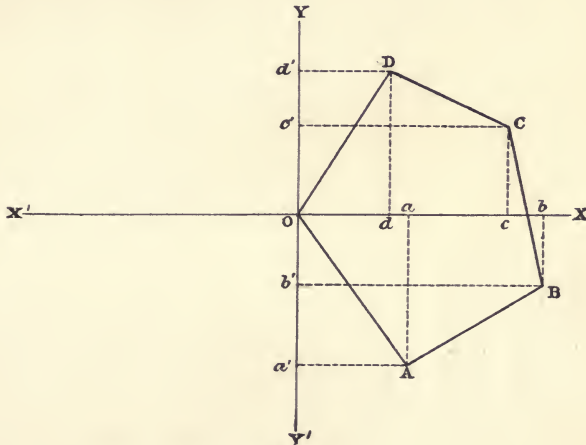


FIG. 5.

and the area of any closed traverse can be calculated directly and easily from its latitudes and departures, without any plotting at all. The principle of the calculation is best seen from a simple example :—

Let the five sided figure  $OABCD$  (Fig. 5) be the plan of a traverse survey situated wholly on one side of the meridian through the point  $O$ , and let it be required to determine the area of the figure. The total latitudes and departures are calculated in the usual manner, and we have for the respective survey stations :—

	Total latitude.	Total departure.
$O$	$0$	$0$
$A$	$Oa' (= -y)$	$Oa (= x)$
$B$	$Ob' (= -y_1)$	$Ob (= x_1)$
$C$	$Oc' (= y_2)$	$Oc (= x_2)$
$D$	$Od' (= y_3)$	$Od (= x_3)$

Then the area of the figure—

$$\begin{aligned}
 OABCD &= d'DCBAa' - d'DO - OAa' \\
 d'DCBAa' &= d'DCc' + c'Cbb' + b'BAa' \\
 d'DCc' &= \frac{1}{2}(Dd' + Cc')d'c' \\
 &= \frac{1}{2}(x_3 + x_2)(y_3 - y_2) \\
 c'Cbb' &= \frac{1}{2}(Cc' + Bb')c'b' \\
 &= \frac{1}{2}(x_2 + x_1)(y_2 - (-y_1)) \\
 b'BAa' &= \frac{1}{2}(Bb' + Aa')b'a' \\
 &= \frac{1}{2}(x_1 + x)(-y_1 - (-y)) \\
 -d'DO &= -\frac{1}{2}x_3 \cdot y_3 \\
 -OAa' &= -\frac{1}{2}x \cdot y \\
 &= \frac{1}{2}(0 + x_3)(0 - y_3) \\
 &= \frac{1}{2}(x + 0)(-y - 0)
 \end{aligned}$$

Hence—

$$\begin{aligned}
 OABCD &= \frac{1}{2}[(0 + x_3)(0 - y_3) + (x_3 + x_2)(y_3 - y_2) + (x_2 + x_1)(y_2 - (-y_1)) \\
 &\quad + (x_1 + x)(-y_1 - (-y)) + (x + 0)(-y - 0)] \\
 \therefore \text{the area } OABCD &= \frac{1}{2} \begin{cases} (\text{dep. of } O + \text{dep. of } D)(\text{lat. of } O - \text{lat. of } D) \\ (\text{dep. of } D + \text{dep. of } C)(\text{lat. of } D - \text{lat. of } C) \\ (\text{dep. of } C + \text{dep. of } B)(\text{lat. of } C - \text{lat. of } B) \\ (\text{dep. of } B + \text{dep. of } A)(\text{lat. of } B - \text{lat. of } A) \\ (\text{dep. of } A + \text{dep. of } O)(\text{lat. of } A - \text{lat. of } O) \end{cases}
 \end{aligned}$$

The rule for the calculation of the area contained by a closed traverse is therefore as follows:—

*The algebraic sum of the total departures of each pair of adjacent angular stations is multiplied by the algebraic difference of their total latitudes; the products thus obtained are added together, and the sum divided by two gives the area required.*

In applying this rule it must be borne in mind that the station points must always be taken in strict order.<sup>1</sup> To each total latitude or departure the correct algebraic sign must be prefixed, and regard must be had to it in the arithmetical

<sup>1</sup> It makes no difference whether the points be taken in the order in which they have been surveyed, or in the opposite order; the essential point is that one regular order shall be adhered to. If the points are taken in the opposite order the only difference will be that the area will have a — instead of a + sign. This is easily seen; for in the above calculation if the points be taken in the opposite order, the signs of the sums of the departures will be unaltered, and the signs of the differences of latitudes will be changed (*e.g.*  $(y_2 - y_3)$  instead of  $(y_3 - y_2)$ , etc.), so that the sign of the area will be changed, its numerical value being unaffected. The sign obtained for the area of any closed traverse depends upon the direction of the first traverse, and upon that in which the points are taken; it is always considered as positive.

operations involved. The result will be expressed in squares of the unit of measurement employed, square links if the survey was made in links, square feet or square metres if the distances were measured in feet or metres, etc.

The above rule is occasionally stated in a different way, which is sometimes more convenient for calculation.

*The total latitude of each station is multiplied by the algebraic sum of the departure of that traverse, and of the one next following; <sup>1</sup> the sum of the products thus obtained, divided by 2, gives the area required.*

The departure here referred to is not the total departure referred to the origin of the survey, but the departure of the traverse referred to its own starting station. It can easily be shown that these two rules are practically the same.

For in Fig. 5, taking the values given above, we shall have for the departures of each traverse—

Departure of point	<i>D</i>	referred to	<i>O</i>	...	$x_3$
" "	<i>C</i>	" "	<i>D</i>	...	$x_2 - x_3$
" "	<i>B</i>	" "	<i>C</i>	...	$x_1 - x_2$
" "	<i>A</i>	" "	<i>B</i>	...	$x - x_1$
" "	<i>O</i>	" "	<i>A</i>	...	$-x$

Then according to the second rule—

Twice area *OABCD* =

$$\begin{aligned}
 & y_3(x_3 + x_2 - x_3) + y_2(x_2 - x_3 + x_1 - x_2) \\
 & + (-y_1)(x_1 - x_2 + x - x_1) + (-y)(x - x_1 - x) \\
 & = y_3x_2 - y_2x_3 + y_2x_1 + y_1x_2 - y_1x + yx_1
 \end{aligned}$$

Again, according to the first rule, we have seen that—

Twice area *OABCD* =

$$\begin{aligned}
 & x_3 \cdot -y_3 \cdot + (x_3 + x_2)(y_3 - y_2) + (x_2 + x_1)(y_2 + y_1) \\
 & + (x_1 + x)(y - y_1) + x \cdot -y \\
 & = x_2y_3 - x_3y_2 + x_1y_2 + x_2y_1 - xy_1 + x_1y
 \end{aligned}$$

the same result as that given by the second rule.

All that has been said of the first rule holds equally good of the second. In both of them the words latitude and departure may also be interchanged without altering the result, so that there are really four different arithmetical operations that can be employed indifferently.

Yet another method is sometimes employed, known as that of the "double meridian distance." In this the successive latitudes are multiplied by multipliers obtained from the departures; a

<sup>1</sup> It is evident that the sums of the departures of any two traverses is equal to difference between the total departures of the point before and the point after the one being worked.



column of "double departures" is formed by adding each departure to the preceding one; from these double departures the multipliers are obtained by adding each double departure to the last multiplier, the first multiplier being always zero.

By way of example, the area of the figure *OABCD* may be calculated, the values of the departures and latitudes being as follows:—

Stations.	Latitudes.		Departures.		Total latitude.	Total departure.
	N.	S.	E.	W.		
	Links.	Links.	Links.	Links.	Links.	Links.
<i>D</i>	151	—	97	—	N. 151	E. 97
<i>C</i>	—	59	126	—	N. 92	E. 223
<i>B</i>	—	187	37	—	S. 95	E. 260
<i>A</i>	—	63	—	143	S. 158	E. 117
<i>O</i>	158	—	—	117	0	0
	309	309	260	260		

The following is the method of calculation, using (*A*) the sums of the departures and the differences of latitude, and (*B*) the sums of the latitudes and the differences of departure.

## A.

Sums of departures.	Differences of latitudes.	Product.
0 + 97 = 97	0 - 151 = -151	-14,647
97 + 223 = 320	151 - 92 = 59	+18,880
223 + 260 = 483	92 + 95 = 187	+90,321
260 + 117 = 377	-95 + 158 = 63	+23,751
117 + 0 = 117	-158 - 0 = -158	-18,486
Sum of products ... ..		99,819
Area (= $\frac{1}{2}$ sum of products) ...		49,910

## B.

Sums of latitudes.	Differences of departures.	Product.
0 + 151 = 151	0 - 97 = -97	-14,647
151 + 92 = 243	97 - 223 = -126	-30,618
92 - 95 = -3	223 - 260 = -37	+ 111
-95 - 158 = -253	260 - 117 = 143	-36,179
-158 + 0 = -158	117 - 0 = 117	-18,486
Sum of products ... ..		-99,819
Area (= $\frac{1}{2}$ sum of products) ...		49,910

In both cases the results are of course identical, namely 49,910 square links or 0.4991 acre. It will be seen that the second method of calculation here produces a negative sign; this would have been positive had the points been taken in the opposite order.

The following is an example of the application of the second rule to the same area :—

Total latitudes.	Difference of alternate departures.	Product.
+151	223 - 0 = 223	+33,673
+ 92	260 - 97 = 163	+14,996
- 95	117 - 223 = -106	+10,070
-158	0 - 260 = -260	+41,080
Sum of products ... ..		99,819
Area (= $\frac{1}{2}$ sum of products) ...		49,910

If the total departures be multiplied by the differences of alternate latitudes, keeping the order of the points the same,

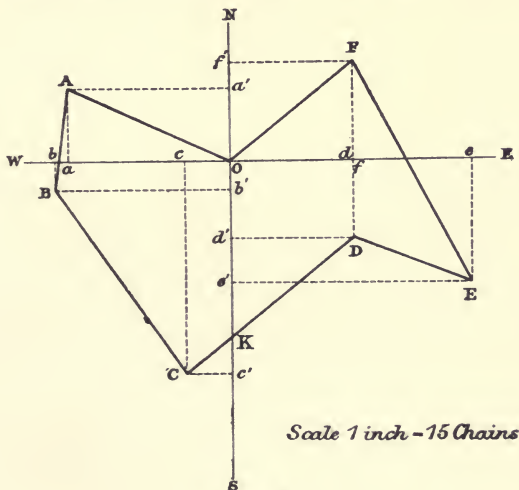


FIG. 6.

the same numerical result will again be obtained, but its sign will be negative.

The following is the calculation by the double meridian method :—



Latitude.	Double departures.	Multiplier.	Product.
+151	-117 + 97 = -20	20 - 20 = 0	0
- 59	97 + 126 = 223	0 + 223 = 223	-13,157
-187	126 + 37 = 163	223 + 163 = 386	-72,182
- 63	37 - 143 = -106	386 - 106 = 280	-17,640
+158	-143 - 117 = -260	280 - 260 = 20	+3,160
Sum of products ... ..			-99,819
Area (= $\frac{1}{2}$ sum of products) ...			49,910

When the survey, the area of which is required, does not lie wholly on one side of the meridian (or the equatorial) line, the same rules still hold good, however complicated the figures may be. Thus, in Fig. 6, which is identical with Fig. 3 above, in which the survey extends into all four quadrants, let the total latitudes and departures of the respective points be as follows:—

	Total latitude.	Total departure.
<i>O</i>	0	0
<i>A</i>	<i>y</i>	- <i>x</i>
<i>B</i>	- <i>y</i> <sub>1</sub>	- <i>x</i> <sub>1</sub>
<i>C</i>	- <i>y</i> <sub>2</sub>	- <i>x</i> <sub>2</sub>
<i>D</i>	- <i>y</i> <sub>3</sub>	+ <i>x</i> <sub>3</sub>
<i>E</i>	- <i>y</i> <sub>4</sub>	+ <i>x</i> <sub>4</sub>
<i>F</i>	+ <i>y</i> <sub>5</sub>	+ <i>x</i> <sub>5</sub>

Area *OFEDCBA*

$$\begin{aligned}
 &= f'FEe' - f'FO - d'DEe' + Dd'K + e'CBA\alpha' - c'CK - AO\alpha' \\
 &= f'FEe' - f'FO - d'DEe' + Dd'K + c'KD + c'CBb' + b'BA\alpha' - c'CK \\
 &\quad - c'KD - AO\alpha' \\
 &= f'FEe' - f'FO - d'DEe' + Dd'c' + c'CBb' + b'BA\alpha' - Cc'd' - AO\alpha' \\
 &= \frac{1}{2}(x_5 + x_4)\{y_5 - (-y_4)\} + \frac{1}{2}(0 + x_5)(0 - y_5) + \frac{1}{2}(x_3 + x_4)\{-y_4 - (-y_3)\} \\
 &\quad + \frac{1}{2}x_3\{-y_3 - (-y_2)\} + \frac{1}{2}\{(-x_2) + (-x_1)\}\{-y_2 - (-y_1)\} \\
 &\quad + \frac{1}{2}\{(-x_1) + (-x)\}(-y_1 - y) - \frac{1}{2}(-x_2)\{-y_2 - (-y_3)\} \\
 &\quad + \frac{1}{2}(-x + 0)(y - 0) \\
 &= \frac{1}{2}[(0 + x_5)(0 - y_5) + (x_5 + x_4)\{y_5 - (-y_4)\} + (x_4 + x_3)\{-y_4 - (-y_3)\} \\
 &\quad + (x_3 - x_2)\{-y_3 - (-y_2)\} + (-x_2 - x_1)\{-y_2 - (-y_1)\} \\
 &\quad + (-x_1 - x)(-y_1 - y) + (-x + 0)(y - 0)]
 \end{aligned}$$

which expression again represents the algebraic sums of pairs of adjacent total departures multiplied by the differences of corresponding pairs of adjacent total latitudes.

By way of illustration, the area enclosed by the traverse survey (Fig. 3) will now be calculated by both the rules here given.

Where the first rule is employed the working will be as follows —

Stations.	Total Lats.	Total Deps.	Sum of Lat.	Diff. of Dep.	Product.
A	+ 599·5	- 1274·0	+ 359·1	+ 109·3	+ 39,250
B	- 240·4	- 1383·3	- 1909·4	- 1075·2	+ 2,052,987
C	- 1669·0	- 308·1	- 2278·8	- 1283·4	+ 2,924,611
D	- 609·8	+ 975·3	- 1567·5	- 927·9	+ 1,454,483
E	- 957·7	+ 1903·2	- 171·8	+ 927·7	- 159,379
F	+ 785·9	+ 975·5	+ 785·8	+ 975·8	+ 766,783
O	- 0·1	- 0·3	+ 599·4	+ 1273·7	+ 763,456
Total ... ..					7,842,191

$$\frac{7,842,191}{2} = 3,921,096 \text{ sq. links}$$

$$= 39\cdot211 \text{ acres.}$$

The following is the calculation when the second rule is used:—

Stations.	Total Lats.	Total Deps.	Diff. of alt. Lats.	Product.
A	+ 599·5	- 1274·0	- 240·3	+ 306,142
B	- 240·4	- 1383·3	- 2268·5	+ 3,138,016
C	- 1669·0	- 308·1	- 369·4	+ 113,812
D	- 609·8	+ 975·3	+ 711·3	+ 693,731
E	- 957·7	+ 1903·2	+ 1395·7	+ 2,656,296
F	+ 785·9	+ 975·5	+ 957·6	+ 934,139
O	- 0·1	- 0·3	- 186·4	+ 56
Total ... ..				7,842,192

$$\frac{7,842,192}{2} = 3,921,096 \text{ sq. links}$$

$$= 39\cdot211 \text{ acres.}$$

It will be seen that the results obtained are practically identical, the difference being due to the small closing error in the original survey.

It should be noted that whenever the traverse lines are not the actual boundaries of the area to be measured, but are imaginary lines from which offsets are taken to the actual boundaries (as would be the case, for example, in surveying an irregular field, when the exact position of the fences would be determined by offsets), the areas of the portions included between the boundaries and the survey lines, are calculated as in an ordinary chain survey, and added to or subtracted from the area enclosed in the survey lines, as found by the method of co-ordinates. When great accuracy is not required it is best

to select the traverse lines so as to equalize as nearly as possible the offset areas on either side; this has to be done by inspection, on the ground, and of course requires a good deal of practice.

It occasionally happens that some of the points in a survey are determined by methods of triangulation instead of by traversing. Broadly speaking, the term triangulation may be applied to the determination of any point by angular measurements from the two ends of a base-line of known length; the triangle is then solved, and the lengths of the two unknown sides calculated. This calculation is simply and easily performed by means of co-ordinates.

The problem in its most general form is shown in Fig. 7. Suppose the points  $A, B$  have been already determined, their

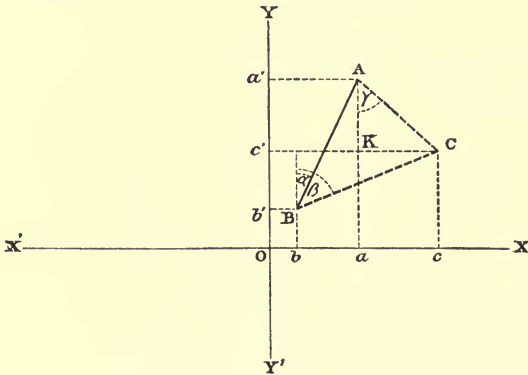


FIG. 7.

departures  $Oa$  and  $Ob$  being  $x$  and  $x_1$  and their latitudes  $Oa'$  and  $Ob'$  being  $y$  and  $y_1$  respectively. The angles  $BAC(= \alpha)$  and  $ABC(= \beta)$  are determined by observation; from these data the latitude and departure of  $C$  have to be calculated. Let the quadrant bearing of the line  $BA$  be N.  $a$  E.; then the quadrant bearing ( $\beta$ ) of the line  $BC =$  N.  $(a + b)$  E., and the quadrant bearing ( $\gamma$ ) of the line  $AC =$  S.  $(a - a)$  E. Care must be taken in every case that the signs are correct according to the particular quadrant.

$$\text{Then } \tan \gamma = \frac{ac}{a'c'} = \frac{Oc - x}{y - Oc'}$$

$$\tan \beta = \frac{bc}{b'c'} = \frac{Oc - x_1}{Oc' - y_1}$$

$$\text{Whence } Oc' = \frac{y \tan \gamma + x + y_1 \tan \beta - x_1}{\tan \gamma + \tan \beta}$$

The departure  $Oc$  may be calculated from the corresponding formula:—

$$Oc = \frac{x_1 \cot \beta + y + x \cot \gamma - y_1}{\cot \beta + \cot \gamma}$$

The above is the method generally employed, and is perhaps the most convenient when the ordinary mathematical tables are available. It is, however, possible to use a method to which the traverse tables can be applied, and the work thus considerably simplified. For in Fig. 7—

$$\begin{aligned} Oc &= Oa + ac = x + CK \\ CK &= AC \sin \gamma \text{ and } AC = \frac{AB \sin b}{\sin (a + b)} \\ \therefore Oc &= x + \frac{AB \sin b \cdot \sin \gamma}{\sin (a + b)} \end{aligned}$$

which may be written—

$$Oc = x + \frac{AB \sin b \cdot 10 \sin \gamma}{10 \sin (a + b)}$$

All these values can now be taken from the traverse tables because—

$AB \sin b$  is the departure of distance  $AB$  for the angle  $b$   
 $10 \sin \gamma$  is the departure of distance 10 for the angle  $\gamma$   
 $10 \sin (a + b)$  is the departure of distance 10 for the angle  $a + b$ ; if  $a + b$  is greater than  $90^\circ$ , the angle  $180^\circ - (a + b)$  should be used instead.

Another form for the above expression is—

$$Oc = x_1 + \frac{AB \sin a \cdot \sin \beta}{\sin (a + b)}$$

For the latitude  $Oc'$ , either of the two following expressions may be used:—

$$\begin{aligned} Oc' &= y_1 + \frac{AB \sin a \cdot \cos \beta}{\sin (a + b)} \\ Oc' &= y - \frac{AB \sin b \cdot \cos \gamma}{\sin (a + b)} \end{aligned}$$

Any of these may be used with the traverse table as above indicated, by multiplying numerator and denominator by 10, or by any other convenient number so that in the last case the second term of the formula for  $Oc'$  would read—

$$\frac{(\text{dep of } AB \text{ for angle } b) \times (\text{lat. of } 10 \text{ for angle } \gamma)}{\text{dep. of } 10 \text{ for angle } (a + b)}$$

As an example of these calculations let the co-ordinates of the two points  $A, B$  of a traverse survey be as follows:—

Lat. of  $A$  ... N. 87 links      Dep. of  $A$  ... W. 204 links  
 Lat. of  $B$  ... S. 85 ,,      Dep. of  $B$  ... E. 89 ,,

Quadrant bearing of  $AB = S. 59^\circ 35' E.$  Length of  $AB = 340$  links.

From  $A$  and  $B$ , Fig. 8, the angles between the direction  $AB$  and the lines joining these points with the two points  $C$  and  $D$ ,

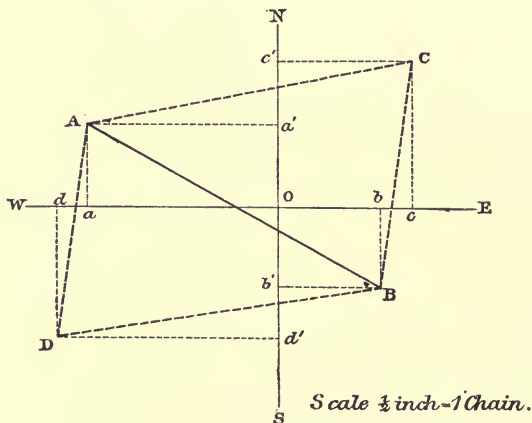


FIG. 8.

which it is desired to fix, have been observed, and found to be as follows:—

Angle  $CAB = 40^\circ 28'$   
 Angle  $DAB = 69^\circ 13'$

Angle  $ABC = 68^\circ 59'$   
 Angle  $ABD = 38^\circ 05'$

Then, to determine the point  $C$ , we have by the first method—

Meridian bearing of  $AC = 180^\circ 00' - 59^\circ 35' - 40^\circ 28' = 79^\circ 57'$

Quadrant bearing of  $AC = N. 79^\circ 57' E.$

Meridian bearing of  $BC = 360^\circ 00' - 59^\circ 35' + 68^\circ 59' = 369^\circ 24'$

Quadrant bearing of  $BC = N. 9^\circ 24' E.$

$$\begin{aligned} \text{Then } Oc' &= \frac{(87 \times \tan 79^\circ 57') + (85 \times \tan 9^\circ 24') + 89 + 204}{\tan 79^\circ 57' - \tan 9^\circ 24'} \\ &= N. 146 \end{aligned}$$

$$\begin{aligned} \text{And } Oc &= \frac{(204 \times \cot 79^\circ 57') + (89 \times \cot 9^\circ 24') + 87 + 85}{\cot 9^\circ 24' - \cot 79^\circ 57'} \\ &= E. 127 \end{aligned}$$

As a check upon the arithmetical work of the calculations we have—

$$\tan 9^\circ 24' = \frac{127 - 89}{146 + 85} = 0.165$$

To determine the point  $D$ , we have—

Meridian bearing of  $AD = 180^\circ - 59^\circ 35' + 69^\circ 13' = 189^\circ 38'$

Quadrant bearing of  $AD = S. 9^\circ 38' W.$

Meridian bearing of  $BD = 360^\circ - 59^\circ 35' - 38^\circ 05' = 262^\circ 20'$

Quadrant bearing of  $BD = S. 82^\circ 20' W.$

$$\begin{aligned} \text{Then } Od' &= \frac{(87 \times \tan 9^\circ 38') + (85 \times \tan 82^\circ 20') + 204 + 89}{\tan 82^\circ 20' - \tan 9^\circ 38'} \\ &= S. 129 \end{aligned}$$

$$\begin{aligned} \text{And } Od &= \frac{(204 \times \cot 9^\circ 38') + (89 \cot 82^\circ 20') + 87 + 85}{\cot 9^\circ 38' - \cot 82^\circ 20'} \\ &= W. 240 \end{aligned}$$

In applying these formulas special attention must be paid to the signs of the departures and latitudes.

Using now the second method given above—

$$Oc = -204 + \frac{(340 \cdot \sin 68^\circ 59')(10 \sin 79^\circ 57')}{10 \sin (68^\circ 59' + 40^\circ 28')}$$

From the tables—

Departure of 300 = 280.04 for angle  $68^\circ 59'$

Departure of 40 = 37.34

Departure of 340 = 317.38

Departure of 10 for angle  $79^\circ 57' = 9.8466$

Departure of 10 for angle  $109^\circ 27' =$  departure for angle  $70^\circ 33' = 9.4293$

$$\begin{aligned} Oc &= -204 + \frac{317.38 \times 9.8466}{9.4293} \\ &= -204 + 331.4 = +127.4 \end{aligned}$$

$$Oc' = 87 + \frac{(340 \cdot \sin 68^\circ 59') \times (10 \cos 79^\circ 57')}{10 \sin (68^\circ 59' + 40^\circ 28')}$$

From the tables—

Latitude of 10 for angle  $79^\circ 57' = 1.7451$

$$\begin{aligned} Oc' &= 87 + \frac{317.38 \times 1.7451}{9.4293} \\ &= 87 + 58.7 = +145.7 \end{aligned}$$

$$\begin{aligned} Od &= -204 - \frac{(340 \cdot \sin 38^\circ 05') \times (10 \cdot \sin 9^\circ 38')}{10 \cdot \sin (69^\circ 13' + 38^\circ 05')} \\ &= -204 - \frac{209.71 \times 1.6734}{9.5476} \\ &= -(204 + 36.7) = -240.7 \end{aligned}$$

$$\begin{aligned} Od' &= 87 - \frac{(340 \cdot \sin 38^\circ 05') \times (10 \cdot \cos 9^\circ 38')}{10 \cdot \sin (69^\circ 13' + 38^\circ 05')} \\ &= 87 - \frac{209.71 \times 9.859}{9.5476} \\ &= 87 - 216.5 = -129.5 \end{aligned}$$



The results obtained are of course practically the same if the calculations are made with a sufficient degree of accuracy, but the use of the traverse tables even in such triangulation problems is seen to very much shorten the calculations.



TRAVERSE TABLES.

# 0 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	1.0000	0.0000	2.0000	0.0000	3.0000	0.0000	4.0000	0.0000	5.0000	0.0000	
1	1.0000	0.0003	2.0000	0.0006	3.0000	0.0009	4.0000	0.0012	5.0000	0.0015	
2	1.0000	0.0006	2.0000	0.0012	3.0000	0.0017	4.0000	0.0023	5.0000	0.0029	
3	1.0000	0.0009	2.0000	0.0017	3.0000	0.0026	4.0000	0.0035	5.0000	0.0044	
4	1.0000	0.0012	2.0000	0.0023	3.0000	0.0035	4.0000	0.0047	5.0000	0.0058	
5	1.0000	0.0015	2.0000	0.0029	3.0000	0.0044	4.0000	0.0058	5.0000	0.0073	
6	1.0000	0.0017	2.0000	0.0035	3.0000	0.0052	4.0000	0.0070	5.0000	0.0087	
7	1.0000	0.0020	2.0000	0.0041	3.0000	0.0061	4.0000	0.0081	5.0000	0.0102	
8	1.0000	0.0023	2.0000	0.0047	3.0000	0.0070	4.0000	0.0093	5.0000	0.0116	
9	1.0000	0.0026	2.0000	0.0052	3.0000	0.0079	4.0000	0.0105	5.0000	0.0131	
10	1.0000	0.0029	2.0000	0.0058	3.0000	0.0087	4.0000	0.0116	5.0000	0.0145	
11	1.0000	0.0032	2.0000	0.0064	3.0000	0.0096	4.0000	0.0128	5.0000	0.0160	
12	1.0000	0.0035	2.0000	0.0070	3.0000	0.0105	4.0000	0.0140	5.0000	0.0175	
13	1.0000	0.0038	2.0000	0.0076	3.0000	0.0113	4.0000	0.0151	5.0000	0.0189	
14	1.0000	0.0041	2.0000	0.0081	3.0000	0.0122	4.0000	0.0163	5.0000	0.0204	
15	1.0000	0.0044	2.0000	0.0087	3.0000	0.0131	4.0000	0.0175	5.0000	0.0218	
16	1.0000	0.0047	2.0000	0.0093	3.0000	0.0140	4.0000	0.0186	4.9999	0.0233	
17	1.0000	0.0049	2.0000	0.0099	3.0000	0.0148	4.0000	0.0198	4.9999	0.0247	
18	1.0000	0.0052	2.0000	0.0105	3.0000	0.0157	3.9999	0.0209	4.9999	0.0262	
19	1.0000	0.0055	2.0000	0.0111	3.0000	0.0166	3.9999	0.0221	4.9999	0.0276	
20	1.0000	0.0058	2.0000	0.0116	2.9999	0.0175	3.9999	0.0233	4.9999	0.0291	
21	1.0000	0.0061	2.0000	0.0122	2.9999	0.0183	3.9999	0.0244	4.9999	0.0305	
22	1.0000	0.0064	2.0000	0.0128	2.9999	0.0192	3.9999	0.0256	4.9999	0.0320	
23	1.0000	0.0067	2.0000	0.0134	2.9999	0.0201	3.9999	0.0268	4.9999	0.0335	
24	1.0000	0.0070	2.0000	0.0140	2.9999	0.0209	3.9999	0.0279	4.9999	0.0349	
25	1.0000	0.0073	1.9999	0.0145	2.9999	0.0218	3.9999	0.0291	4.9999	0.0364	
26	1.0000	0.0076	1.9999	0.0151	2.9999	0.0227	3.9999	0.0303	4.9999	0.0378	
27	1.0000	0.0079	1.9999	0.0157	2.9999	0.0236	3.9999	0.0314	4.9998	0.0393	
28	1.0000	0.0081	1.9999	0.0163	2.9999	0.0244	3.9999	0.0326	4.9998	0.0407	
29	1.0000	0.0084	1.9999	0.0169	2.9999	0.0253	3.9999	0.0337	4.9998	0.0422	
30	1.0000	0.0087	1.9999	0.0175	2.9999	0.0262	3.9998	0.0349	4.9998	0.0436	
31	1.0000	0.0090	1.9999	0.0180	2.9999	0.0271	3.9998	0.0361	4.9998	0.0451	
32	1.0000	0.0093	1.9999	0.0186	2.9999	0.0279	3.9998	0.0372	4.9998	0.0465	
33	1.0000	0.0096	1.9999	0.0192	2.9999	0.0288	3.9998	0.0384	4.9998	0.0480	
34	1.0000	0.0099	1.9999	0.0198	2.9999	0.0297	3.9998	0.0396	4.9998	0.0495	
35	0.9999	0.0102	1.9999	0.0204	2.9998	0.0305	3.9998	0.0407	4.9997	0.0509	
36	0.9999	0.0105	1.9999	0.0209	2.9998	0.0314	3.9998	0.0419	4.9997	0.0524	
37	0.9999	0.0108	1.9999	0.0215	2.9998	0.0323	3.9998	0.0431	4.9997	0.0538	
38	0.9999	0.0111	1.9999	0.0221	2.9998	0.0332	3.9998	0.0442	4.9997	0.0553	
39	0.9999	0.0113	1.9999	0.0227	2.9998	0.0340	3.9997	0.0454	4.9997	0.0567	
40	0.9999	0.0116	1.9999	0.0233	2.9998	0.0349	3.9997	0.0465	4.9997	0.0582	
41	0.9999	0.0119	1.9999	0.0239	2.9998	0.0358	3.9997	0.0477	4.9996	0.0596	
42	0.9999	0.0122	1.9999	0.0244	2.9998	0.0367	3.9997	0.0489	4.9996	0.0611	
43	0.9999	0.0125	1.9998	0.0250	2.9998	0.0375	3.9997	0.0500	4.9996	0.0625	
44	0.9999	0.0128	1.9998	0.0256	2.9998	0.0384	3.9997	0.0512	4.9996	0.0640	
45	0.9999	0.0131	1.9998	0.0262	2.9997	0.0393	3.9997	0.0524	4.9996	0.0654	
46	0.9999	0.0134	1.9998	0.0268	2.9997	0.0401	3.9996	0.0535	4.9996	0.0669	
47	0.9999	0.0137	1.9998	0.0273	2.9997	0.0410	3.9996	0.0547	4.9995	0.0684	
48	0.9999	0.0140	1.9998	0.0279	2.9997	0.0419	3.9996	0.0558	4.9995	0.0698	
49	0.9999	0.0143	1.9998	0.0285	2.9997	0.0428	3.9996	0.0570	4.9995	0.0713	
50	0.9999	0.0145	1.9998	0.0291	2.9997	0.0436	3.9996	0.0582	4.9995	0.0727	
51	0.9999	0.0148	1.9998	0.0297	2.9997	0.0445	3.9996	0.0593	4.9995	0.0742	
52	0.9999	0.0151	1.9998	0.0303	2.9997	0.0454	3.9995	0.0605	4.9994	0.0756	
53	0.9999	0.0154	1.9998	0.0308	2.9996	0.0462	3.9995	0.0617	4.9994	0.0771	
54	0.9999	0.0157	1.9998	0.0314	2.9996	0.0471	3.9995	0.0628	4.9994	0.0785	
55	0.9999	0.0160	1.9997	0.0320	2.9996	0.0480	3.9995	0.0640	4.9994	0.0800	
56	0.9999	0.0163	1.9997	0.0326	2.9996	0.0489	3.9995	0.0652	4.9993	0.0814	
57	0.9999	0.0166	1.9997	0.0332	2.9996	0.0497	3.9995	0.0663	4.9993	0.0829	
58	0.9999	0.0169	1.9997	0.0337	2.9996	0.0506	3.9994	0.0675	4.9993	0.0844	
59	0.9999	0.0172	1.9997	0.0343	2.9996	0.0515	3.9994	0.0686	4.9993	0.0858	
60	0.9998	0.0175	1.9997	0.0349	2.9995	0.0524	3.9994	0.0698	4.9992	0.0873	

Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat.

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
6-0000	0-0000	7-0000	0-0000	8-0000	0-0000	9-0000	0-0000	10-0000	0-0000	60
6-0000	0-0017	7-0000	0-0020	8-0000	0-0023	9-0000	0-0026	10-0000	0-0029	59
6-0000	0-0035	7-0000	0-0041	8-0000	0-0047	9-0000	0-0052	10-0000	0-0058	58
6-0000	0-0052	7-0000	0-0061	8-0000	0-0070	9-0000	0-0079	10-0000	0-0087	57
6-0000	0-0070	7-0000	0-0081	8-0000	0-0093	9-0000	0-0105	10-0000	0-0116	56
6-0000	0-0087	7-0000	0-0102	8-0000	0-0116	9-0000	0-0131	10-0000	0-0145	55
6-0000	0-0105	7-0000	0-0122	8-0000	0-0140	9-0000	0-0157	10-0000	0-0175	54
6-0000	0-0122	7-0000	0-0143	8-0000	0-0163	9-0000	0-0183	10-0000	0-0204	53
6-0000	0-0140	7-0000	0-0163	8-0000	0-0186	9-0000	0-0209	10-0000	0-0233	52
6-0000	0-0157	7-0000	0-0183	8-0000	0-0209	9-0000	0-0236	10-0000	0-0262	51
6-0000	0-0175	7-0000	0-0204	8-0000	0-0233	9-0000	0-0262	10-0000	0-0291	50
6-0000	0-0192	7-0000	0-0224	8-0000	0-0256	9-0000	0-0288	9-9999	0-0320	49
6-0000	0-0209	7-0000	0-0244	8-0000	0-0279	8-9999	0-0314	9-9999	0-0349	48
6-0000	0-0227	6-9999	0-0265	7-9999	0-0303	8-9999	0-0340	9-9999	0-0378	47
6-0000	0-0244	6-9999	0-0285	7-9999	0-0326	8-9999	0-0367	9-9999	0-0407	46
5-9999	0-0262	6-9999	0-0305	7-9999	0-0349	8-9999	0-0393	9-9999	0-0436	45
5-9999	0-0279	6-9999	0-0326	7-9999	0-0372	8-9999	0-0419	9-9999	0-0465	44
5-9999	0-0297	6-9999	0-0346	7-9999	0-0396	8-9999	0-0445	9-9999	0-0495	43
5-9999	0-0314	6-9999	0-0367	7-9999	0-0419	8-9999	0-0471	9-9999	0-0524	42
5-9999	0-0332	6-9999	0-0387	7-9999	0-0442	8-9999	0-0497	9-9998	0-0553	41
5-9999	0-0349	6-9999	0-0407	7-9999	0-0465	8-9998	0-0524	9-9998	0-0582	40
5-9999	0-0367	6-9999	0-0428	7-9999	0-0489	8-9998	0-0550	9-9998	0-0611	39
5-9999	0-0384	6-9999	0-0448	7-9998	0-0512	8-9998	0-0576	9-9998	0-0640	38
5-9999	0-0401	6-9998	0-0468	7-9998	0-0535	8-9998	0-0602	9-9998	0-0669	37
5-9999	0-0419	6-9998	0-0489	7-9998	0-0559	8-9998	0-0628	9-9998	0-0698	36
5-9998	0-0436	6-9998	0-0509	7-9998	0-0582	8-9998	0-0654	9-9997	0-0727	35
5-9998	0-0454	6-9998	0-0529	7-9998	0-0605	8-9997	0-0681	9-9997	0-0756	34
5-9998	0-0471	6-9998	0-0550	7-9998	0-0628	8-9997	0-0707	9-9997	0-0785	33
5-9998	0-0489	6-9998	0-0570	7-9997	0-0652	8-9997	0-0733	9-9997	0-0814	32
5-9998	0-0506	6-9998	0-0590	7-9997	0-0675	8-9997	0-0759	9-9996	0-0844	31
5-9998	0-0524	6-9997	0-0611	7-9997	0-0698	8-9997	0-0785	9-9996	0-0873	30
5-9998	0-0541	6-9997	0-0631	7-9997	0-0721	8-9996	0-0812	9-9996	0-0902	29
5-9997	0-0558	6-9997	0-0652	7-9997	0-0745	8-9996	0-0838	9-9996	0-0931	28
5-9997	0-0576	6-9997	0-0672	7-9996	0-0768	8-9996	0-0864	9-9995	0-0960	27
5-9997	0-0593	6-9997	0-0692	7-9996	0-0791	8-9996	0-0890	9-9995	0-0989	26
5-9997	0-0611	6-9996	0-0713	7-9996	0-0814	8-9995	0-0916	9-9995	0-1018	25
5-9997	0-0628	6-9996	0-0733	7-9996	0-0838	8-9995	0-0942	9-9995	0-1047	24
5-9997	0-0646	6-9996	0-0753	7-9995	0-0861	8-9995	0-0969	9-9994	0-1076	23
5-9996	0-0663	6-9996	0-0774	7-9995	0-0884	8-9995	0-0995	9-9994	0-1105	22
5-9996	0-0681	6-9995	0-0794	7-9995	0-0908	8-9994	0-1021	9-9994	0-1134	21
5-9996	0-0698	6-9995	0-0814	7-9995	0-0931	8-9994	0-1047	9-9993	0-1164	20
5-9996	0-0716	6-9995	0-0835	7-9994	0-0954	8-9994	0-1073	9-9993	0-1193	19
5-9996	0-0733	6-9995	0-0855	7-9994	0-0977	8-9993	0-1100	9-9993	0-1222	18
5-9995	0-0750	6-9995	0-0876	7-9994	0-1001	8-9993	0-1126	9-9992	0-1251	17
5-9995	0-0768	6-9994	0-0896	7-9993	0-1024	8-9993	0-1152	9-9992	0-1280	16
5-9995	0-0785	6-9994	0-0916	7-9993	0-1047	8-9992	0-1178	9-9991	0-1309	15
5-9995	0-0803	6-9994	0-0937	7-9993	0-1070	8-9992	0-1204	9-9991	0-1338	14
5-9994	0-0820	6-9993	0-0957	7-9993	0-1094	8-9992	0-1230	9-9991	0-1367	13
5-9994	0-0838	6-9993	0-0977	7-9992	0-1117	8-9991	0-1257	9-9990	0-1396	12
5-9994	0-0855	6-9993	0-0998	7-9992	0-1140	8-9991	0-1283	9-9990	0-1425	11
5-9994	0-0873	6-9993	0-1018	7-9992	0-1164	8-9990	0-1309	9-9989	0-1454	10
5-9993	0-0890	6-9992	0-1038	7-9991	0-1187	8-9990	0-1335	9-9989	0-1483	9
5-9993	0-0908	6-9992	0-1059	7-9991	0-1210	8-9990	0-1361	9-9989	0-1513	8
5-9993	0-0925	6-9992	0-1079	7-9990	0-1233	8-9989	0-1387	9-9988	0-1542	7
5-9993	0-0942	6-9991	0-1100	7-9990	0-1257	8-9989	0-1414	9-9988	0-1571	6
5-9992	0-0960	6-9991	0-1120	7-9990	0-1280	8-9988	0-1440	9-9987	0-1600	5
5-9992	0-0977	6-9991	0-1140	7-9989	0-1303	8-9988	0-1466	9-9987	0-1629	4
5-9992	0-0995	6-9990	0-1161	7-9989	0-1326	8-9988	0-1492	9-9986	0-1658	3
5-9991	0-1012	6-9990	0-1181	7-9989	0-1350	8-9987	0-1518	9-9986	0-1687	2
5-9991	0-1030	6-9990	0-1201	7-9988	0-1373	8-9987	0-1545	9-9985	0-1716	1
5-9991	0-1047	6-9989	0-1222	7-9988	0-1396	8-9986	0-1571	9-9985	0-1745	0

# 1 Degree.

Dist.	1		2		3		4		5	
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9998	0.0175	1.9997	0.0349	2.9995	0.0524	3.9994	0.0698	4.9992	0.0873
1	0.9998	0.0177	1.9997	0.0355	2.9995	0.0532	3.9994	0.0710	4.9992	0.0887
2	0.9998	0.0180	1.9997	0.0361	2.9995	0.0541	3.9993	0.0721	4.9992	0.0902
3	0.9998	0.0183	1.9997	0.0366	2.9995	0.0550	3.9993	0.0733	4.9992	0.0916
4	0.9998	0.0186	1.9997	0.0372	2.9995	0.0558	3.9993	0.0745	4.9991	0.0931
5	0.9998	0.0189	1.9996	0.0378	2.9995	0.0567	3.9993	0.0756	4.9991	0.0945
6	0.9998	0.0192	1.9996	0.0384	2.9994	0.0576	3.9993	0.0768	4.9991	0.0960
7	0.9998	0.0195	1.9996	0.0390	2.9994	0.0585	3.9992	0.0780	4.9991	0.0974
8	0.9998	0.0198	1.9996	0.0396	2.9994	0.0593	3.9992	0.0791	4.9990	0.0989
9	0.9998	0.0201	1.9996	0.0401	2.9994	0.0602	3.9992	0.0803	4.9990	0.1003
10	0.9998	0.0204	1.9996	0.0407	2.9994	0.0611	3.9992	0.0814	4.9990	0.1018
11	0.9998	0.0207	1.9996	0.0413	2.9994	0.0620	3.9991	0.0826	4.9989	0.1033
12	0.9998	0.0209	1.9996	0.0419	2.9993	0.0628	3.9991	0.0838	4.9989	0.1047
13	0.9998	0.0212	1.9995	0.0425	2.9993	0.0637	3.9991	0.0849	4.9989	0.1062
14	0.9998	0.0215	1.9995	0.0430	2.9993	0.0646	3.9991	0.0861	4.9988	0.1076
15	0.9998	0.0218	1.9995	0.0436	2.9993	0.0654	3.9990	0.0873	4.9988	0.1091
16	0.9998	0.0221	1.9995	0.0442	2.9993	0.0663	3.9990	0.0884	4.9988	0.1105
17	0.9997	0.0224	1.9995	0.0448	2.9992	0.0672	3.9990	0.0896	4.9987	0.1120
18	0.9997	0.0227	1.9995	0.0454	2.9992	0.0681	3.9990	0.0907	4.9987	0.1134
19	0.9997	0.0230	1.9995	0.0460	2.9992	0.0689	3.9989	0.0919	4.9987	0.1149
20	0.9997	0.0233	1.9995	0.0465	2.9992	0.0698	3.9989	0.0931	4.9986	0.1163
21	0.9997	0.0236	1.9994	0.0471	2.9992	0.0707	3.9989	0.0942	4.9986	0.1178
22	0.9997	0.0239	1.9994	0.0477	2.9991	0.0716	3.9989	0.0954	4.9986	0.1193
23	0.9997	0.0241	1.9994	0.0483	2.9991	0.0724	3.9988	0.0966	4.9985	0.1207
24	0.9997	0.0244	1.9994	0.0489	2.9991	0.0733	3.9988	0.0977	4.9985	0.1222
25	0.9997	0.0247	1.9994	0.0494	2.9991	0.0742	3.9988	0.0989	4.9985	0.1236
26	0.9997	0.0250	1.9994	0.0500	2.9991	0.0750	3.9987	0.1001	4.9984	0.1251
27	0.9997	0.0253	1.9994	0.0506	2.9990	0.0759	3.9987	0.1012	4.9984	0.1265
28	0.9997	0.0256	1.9993	0.0512	2.9990	0.0768	3.9987	0.1024	4.9984	0.1280
29	0.9997	0.0259	1.9993	0.0518	2.9990	0.0777	3.9987	0.1035	4.9983	0.1294
30	0.9997	0.0262	1.9993	0.0524	2.9990	0.0785	3.9986	0.1047	4.9983	0.1309
31	0.9996	0.0265	1.9993	0.0529	2.9989	0.0794	3.9986	0.1059	4.9982	0.1323
32	0.9996	0.0268	1.9993	0.0535	2.9989	0.0803	3.9986	0.1070	4.9982	0.1338
33	0.9996	0.0270	1.9993	0.0541	2.9989	0.0811	3.9985	0.1082	4.9982	0.1352
34	0.9996	0.0273	1.9993	0.0547	2.9989	0.0820	3.9985	0.1094	4.9981	0.1367
35	0.9996	0.0276	1.9992	0.0553	2.9989	0.0829	3.9985	0.1105	4.9981	0.1382
36	0.9996	0.0279	1.9992	0.0558	2.9988	0.0838	3.9984	0.1117	4.9981	0.1396
37	0.9996	0.0282	1.9992	0.0564	2.9988	0.0846	3.9984	0.1128	4.9980	0.1411
38	0.9996	0.0285	1.9992	0.0570	2.9988	0.0855	3.9984	0.1140	4.9980	0.1425
39	0.9996	0.0288	1.9992	0.0576	2.9988	0.0864	3.9983	0.1152	4.9979	0.1440
40	0.9996	0.0291	1.9992	0.0582	2.9987	0.0873	3.9983	0.1163	4.9979	0.1454
41	0.9996	0.0294	1.9991	0.0588	2.9987	0.0881	3.9983	0.1175	4.9978	0.1469
42	0.9996	0.0297	1.9991	0.0593	2.9987	0.0890	3.9982	0.1187	4.9978	0.1483
43	0.9996	0.0300	1.9991	0.0599	2.9987	0.0899	3.9982	0.1198	4.9978	0.1498
44	0.9995	0.0302	1.9991	0.0605	2.9986	0.0907	3.9982	0.1210	4.9977	0.1512
45	0.9995	0.0305	1.9991	0.0611	2.9986	0.0916	3.9981	0.1222	4.9977	0.1527
46	0.9995	0.0308	1.9990	0.0617	2.9986	0.0925	3.9981	0.1233	4.9976	0.1541
47	0.9995	0.0311	1.9990	0.0622	2.9985	0.0934	3.9981	0.1245	4.9976	0.1556
48	0.9995	0.0314	1.9990	0.0628	2.9985	0.0942	3.9980	0.1256	4.9975	0.1571
49	0.9995	0.0317	1.9990	0.0634	2.9985	0.0951	3.9980	0.1268	4.9975	0.1585
50	0.9995	0.0320	1.9990	0.0640	2.9985	0.0960	3.9980	0.1280	4.9974	0.1600
51	0.9995	0.0323	1.9990	0.0646	2.9984	0.0968	3.9979	0.1291	4.9974	0.1614
52	0.9995	0.0326	1.9989	0.0651	2.9984	0.0977	3.9979	0.1303	4.9973	0.1629
53	0.9995	0.0329	1.9989	0.0657	2.9984	0.0986	3.9978	0.1315	4.9973	0.1643
54	0.9995	0.0332	1.9989	0.0663	2.9984	0.0995	3.9978	0.1326	4.9973	0.1658
55	0.9994	0.0334	1.9989	0.0669	2.9983	0.1003	3.9978	0.1338	4.9972	0.1672
56	0.9994	0.0337	1.9989	0.0675	2.9983	0.1012	3.9977	0.1349	4.9972	0.1687
57	0.9994	0.0340	1.9988	0.0681	2.9983	0.1021	3.9977	0.1361	4.9971	0.1701
58	0.9994	0.0343	1.9988	0.0686	2.9982	0.1030	3.9976	0.1373	4.9971	0.1716
59	0.9994	0.0346	1.9988	0.0692	2.9982	0.1038	3.9976	0.1384	4.9970	0.1730
60	0.9994	0.0349	1.9988	0.0698	2.9982	0.1047	3.9976	0.1396	4.9970	0.1745

Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9991	0-1047	6-9989	0-1222	7-9988	0-1396	8-9986	0-1571	9-9985	0-1745	60
5-9991	0-1065	6-9989	0-1242	7-9987	0-1419	8-9986	0-1597	9-9984	0-1774	59
5-9990	0-1082	6-9989	0-1262	7-9987	0-1443	8-9985	0-1623	9-9984	0-1803	58
5-9990	0-1099	6-9988	0-1283	7-9987	0-1466	8-9985	0-1649	9-9983	0-1832	57
5-9990	0-1117	6-9988	0-1303	7-9986	0-1489	8-9984	0-1675	9-9983	0-1862	56
5-9989	0-1134	6-9987	0-1323	7-9986	0-1513	8-9984	0-1702	9-9982	0-1891	55
5-9989	0-1152	6-9987	0-1344	7-9985	0-1536	8-9983	0-1728	9-9982	0-1920	54
5-9989	0-1169	6-9987	0-1364	7-9985	0-1559	8-9983	0-1754	9-9981	0-1949	53
5-9988	0-1187	6-9986	0-1385	7-9984	0-1582	8-9982	0-1780	9-9980	0-1978	52
5-9988	0-1204	6-9986	0-1405	7-9984	0-1606	8-9982	0-1806	9-9980	0-2007	51
5-9988	0-1222	6-9985	0-1425	7-9983	0-1629	8-9981	0-1832	9-9979	0-2036	50
5-9987	0-1239	6-9985	0-1446	7-9983	0-1652	8-9981	0-1859	9-9979	0-2065	49
5-9987	0-1257	6-9985	0-1466	7-9982	0-1675	8-9980	0-1885	9-9978	0-2094	48
5-9986	0-1274	6-9984	0-1486	7-9982	0-1699	8-9980	0-1911	9-9977	0-2123	47
5-9986	0-1291	6-9984	0-1507	7-9981	0-1722	8-9979	0-1937	9-9977	0-2152	46
5-9986	0-1309	6-9983	0-1527	7-9981	0-1745	8-9979	0-1963	9-9976	0-2181	45
5-9985	0-1326	6-9983	0-1547	7-9980	0-1768	8-9978	0-1990	9-9976	0-2211	44
5-9985	0-1344	6-9982	0-1568	7-9980	0-1792	8-9977	0-2016	9-9975	0-2240	43
5-9985	0-1361	6-9982	0-1588	7-9979	0-1815	8-9977	0-2042	9-9974	0-2269	42
5-9984	0-1379	6-9982	0-1608	7-9979	0-1838	8-9976	0-2068	9-9974	0-2298	41
5-9984	0-1396	6-9981	0-1629	7-9978	0-1862	8-9976	0-2094	9-9973	0-2327	40
5-9983	0-1414	6-9981	0-1649	7-9978	0-1885	8-9975	0-2120	9-9972	0-2356	39
5-9983	0-1431	6-9980	0-1670	7-9977	0-1908	8-9974	0-2147	9-9972	0-2385	38
5-9983	0-1448	6-9980	0-1690	7-9977	0-1931	8-9974	0-2173	9-9971	0-2414	37
5-9982	0-1466	6-9979	0-1710	7-9976	0-1955	8-9973	0-2199	9-9970	0-2443	36
5-9982	0-1483	6-9979	0-1731	7-9976	0-1978	8-9972	0-2225	9-9969	0-2472	35
5-9981	0-1501	6-9978	0-1751	7-9975	0-2001	8-9972	0-2251	9-9969	0-2501	34
5-9981	0-1518	6-9978	0-1771	7-9974	0-2024	8-9971	0-2277	9-9968	0-2530	33
5-9980	0-1536	6-9977	0-1792	7-9974	0-2048	8-9971	0-2304	9-9967	0-2560	32
5-9980	0-1553	6-9977	0-1812	7-9973	0-2071	8-9970	0-2330	9-9966	0-2589	31
5-9979	0-1571	6-9976	0-1832	7-9973	0-2094	8-9969	0-2356	9-9966	0-2618	30
5-9979	0-1588	6-9975	0-1853	7-9972	0-2117	8-9968	0-2382	9-9965	0-2647	29
5-9979	0-1606	6-9975	0-1873	7-9971	0-2141	8-9968	0-2408	9-9964	0-2676	28
5-9978	0-1623	6-9974	0-1893	7-9971	0-2164	8-9967	0-2434	9-9963	0-2705	27
5-9978	0-1640	6-9974	0-1914	7-9970	0-2187	8-9966	0-2461	9-9963	0-2734	26
5-9977	0-1658	6-9973	0-1934	7-9969	0-2210	8-9966	0-2487	9-9962	0-2763	25
5-9977	0-1675	6-9973	0-1955	7-9969	0-2234	8-9965	0-2513	9-9961	0-2792	24
5-9976	0-1693	6-9972	0-1975	7-9968	0-2257	8-9964	0-2539	9-9960	0-2821	23
5-9976	0-1710	6-9972	0-1995	7-9967	0-2280	8-9963	0-2565	9-9959	0-2850	22
5-9975	0-1728	6-9971	0-2016	7-9967	0-2304	8-9963	0-2591	9-9959	0-2879	21
5-9975	0-1745	6-9970	0-2036	7-9966	0-2327	8-9962	0-2618	9-9958	0-2908	20
5-9974	0-1763	6-9970	0-2056	7-9965	0-2350	8-9961	0-2644	9-9957	0-2938	19
5-9974	0-1780	6-9969	0-2077	7-9965	0-2373	8-9960	0-2670	9-9956	0-2967	18
5-9973	0-1797	6-9969	0-2097	7-9964	0-2397	8-9960	0-2696	9-9955	0-2996	17
5-9973	0-1815	6-9968	0-2117	7-9963	0-2420	8-9959	0-2722	9-9954	0-3025	16
5-9972	0-1832	6-9967	0-2138	7-9963	0-2443	8-9958	0-2748	9-9953	0-3054	15
5-9971	0-1850	6-9967	0-2158	7-9962	0-2466	8-9957	0-2775	9-9952	0-3083	14
5-9971	0-1867	6-9966	0-2178	7-9961	0-2490	8-9956	0-2801	9-9952	0-3112	13
5-9970	0-1885	6-9965	0-2199	7-9961	0-2513	8-9956	0-2827	9-9951	0-3141	12
5-9970	0-1902	6-9965	0-2219	7-9960	0-2536	8-9955	0-2853	9-9950	0-3170	11
5-9969	0-1920	6-9964	0-2239	7-9959	0-2559	8-9954	0-2879	9-9949	0-3199	10
5-9969	0-1937	6-9964	0-2260	7-9958	0-2583	8-9953	0-2905	9-9948	0-3228	9
5-9968	0-1954	6-9963	0-2280	7-9958	0-2606	8-9952	0-2932	9-9947	0-3257	8
5-9968	0-1972	6-9962	0-2301	7-9957	0-2629	8-9951	0-2958	9-9946	0-3286	7
5-9967	0-1989	6-9962	0-2321	7-9956	0-2652	8-9951	0-2984	9-9945	0-3316	6
5-9966	0-2007	6-9961	0-2341	7-9955	0-2676	8-9950	0-3010	9-9944	0-3345	5
5-9966	0-2024	6-9960	0-2362	7-9954	0-2699	8-9949	0-3036	9-9943	0-3374	4
5-9965	0-2042	6-9959	0-2382	7-9954	0-2722	8-9948	0-3062	9-9942	0-3403	3
5-9965	0-2059	6-9959	0-2402	7-9953	0-2745	8-9947	0-3089	9-9941	0-3432	2
5-9964	0-2077	6-9958	0-2423	7-9952	0-2769	8-9946	0-3115	9-9940	0-3461	1
5-9963	0-2094	6-9957	0-2443	7-9951	0-2792	8-9945	0-3141	9-9939	0-3490	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 2 Degrees.

Dist.	1		2		3		4		5	
Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°9994	0°0349	1°9988	0°0698	2°9982	0°1047	3°9976	0°1396	4°9970	0°1745
1	0°9994	0°0352	1°9988	0°0704	2°9981	0°1056	3°9975	0°1408	4°9969	0°1760
2	0°9994	0°0355	1°9987	0°0710	2°9981	0°1064	3°9975	0°1419	4°9969	0°1774
3	0°9994	0°0358	1°9987	0°0715	2°9981	0°1073	3°9974	0°1431	4°9968	0°1789
4	0°9993	0°0361	1°9987	0°0721	2°9980	0°1082	3°9974	0°1442	4°9967	0°1803
5	0°9993	0°0364	1°9987	0°0727	2°9980	0°1091	3°9974	0°1454	4°9967	0°1818
6	0°9993	0°0366	1°9987	0°0733	2°9980	0°1099	3°9973	0°1466	4°9966	0°1832
7	0°9993	0°0369	1°9986	0°0739	2°9980	0°1108	3°9973	0°1477	4°9966	0°1847
8	0°9993	0°0372	1°9986	0°0745	2°9979	0°1117	3°9972	0°1489	4°9965	0°1861
9	0°9993	0°0375	1°9986	0°0750	2°9979	0°1125	3°9972	0°1501	4°9965	0°1876
10	0°9993	0°0378	1°9986	0°0756	2°9979	0°1134	3°9971	0°1512	4°9964	0°1890
11	0°9993	0°0381	1°9985	0°0762	2°9978	0°1143	3°9971	0°1524	4°9964	0°1905
12	0°9993	0°0384	1°9985	0°0768	2°9978	0°1152	3°9971	0°1536	4°9963	0°1919
13	0°9993	0°0387	1°9985	0°0774	2°9978	0°1160	3°9970	0°1547	4°9963	0°1934
14	0°9992	0°0390	1°9985	0°0779	2°9977	0°1169	3°9970	0°1559	4°9962	0°1948
15	0°9992	0°0393	1°9985	0°0785	2°9977	0°1178	3°9969	0°1570	4°9961	0°1963
16	0°9992	0°0396	1°9984	0°0791	2°9977	0°1187	3°9969	0°1582	4°9961	0°1978
17	0°9992	0°0398	1°9984	0°0797	2°9976	0°1195	3°9968	0°1594	4°9960	0°1992
18	0°9992	0°0401	1°9984	0°0803	2°9976	0°1204	3°9968	0°1605	4°9960	0°2007
19	0°9992	0°0404	1°9984	0°0808	2°9975	0°1213	3°9967	0°1617	4°9959	0°2021
20	0°9992	0°0407	1°9983	0°0814	2°9975	0°1221	3°9967	0°1629	4°9959	0°2036
21	0°9992	0°0410	1°9983	0°0820	2°9975	0°1230	3°9966	0°1640	4°9958	0°2050
22	0°9991	0°0413	1°9983	0°0826	2°9974	0°1239	3°9966	0°1652	4°9957	0°2065
23	0°9991	0°0416	1°9983	0°0832	2°9974	0°1248	3°9965	0°1663	4°9957	0°2079
24	0°9991	0°0419	1°9982	0°0838	2°9974	0°1256	3°9965	0°1675	4°9956	0°2094
25	0°9991	0°0422	1°9982	0°0843	2°9973	0°1265	3°9964	0°1687	4°9956	0°2108
26	0°9991	0°0425	1°9982	0°0849	2°9973	0°1274	3°9964	0°1698	4°9955	0°2123
27	0°9991	0°0427	1°9982	0°0855	2°9973	0°1282	3°9963	0°1710	4°9954	0°2137
28	0°9991	0°0430	1°9981	0°0861	2°9972	0°1291	3°9963	0°1722	4°9954	0°2152
29	0°9991	0°0433	1°9981	0°0867	2°9972	0°1300	3°9962	0°1733	4°9953	0°2166
30	0°9990	0°0436	1°9981	0°0872	2°9971	0°1309	3°9962	0°1745	4°9952	0°2181
31	0°9990	0°0439	1°9981	0°0878	2°9971	0°1317	3°9961	0°1756	4°9952	0°2196
32	0°9990	0°0442	1°9980	0°0884	2°9971	0°1326	3°9961	0°1768	4°9951	0°2210
33	0°9990	0°0445	1°9980	0°0890	2°9970	0°1335	3°9960	0°1780	4°9950	0°2225
34	0°9990	0°0448	1°9980	0°0896	2°9970	0°1343	3°9960	0°1791	4°9950	0°2239
35	0°9990	0°0451	1°9980	0°0901	2°9970	0°1352	3°9959	0°1803	4°9949	0°2254
36	0°9990	0°0454	1°9979	0°0907	2°9969	0°1361	3°9959	0°1815	4°9949	0°2268
37	0°9990	0°0457	1°9979	0°0913	2°9969	0°1370	3°9958	0°1826	4°9948	0°2283
38	0°9989	0°0459	1°9979	0°0919	2°9968	0°1378	3°9958	0°1838	4°9947	0°2297
39	0°9989	0°0462	1°9979	0°0925	2°9968	0°1387	3°9957	0°1849	4°9947	0°2312
40	0°9989	0°0465	1°9978	0°0931	2°9968	0°1396	3°9957	0°1861	4°9946	0°2326
41	0°9989	0°0468	1°9978	0°0936	2°9967	0°1404	3°9956	0°1873	4°9945	0°2341
42	0°9989	0°0471	1°9978	0°0942	2°9967	0°1413	3°9956	0°1884	4°9944	0°2355
43	0°9989	0°0474	1°9978	0°0948	2°9966	0°1422	3°9955	0°1896	4°9944	0°2370
44	0°9989	0°0477	1°9977	0°0954	2°9966	0°1431	3°9954	0°1908	4°9943	0°2384
45	0°9988	0°0480	1°9977	0°0960	2°9965	0°1439	3°9954	0°1919	4°9942	0°2399
46	0°9988	0°0483	1°9977	0°0965	2°9965	0°1448	3°9953	0°1931	4°9942	0°2413
47	0°9988	0°0486	1°9976	0°0971	2°9965	0°1457	3°9953	0°1942	4°9941	0°2428
48	0°9988	0°0488	1°9976	0°0977	2°9964	0°1465	3°9952	0°1954	4°9940	0°2442
49	0°9988	0°0491	1°9976	0°0983	2°9964	0°1474	3°9952	0°1966	4°9940	0°2457
50	0°9988	0°0494	1°9976	0°0989	2°9963	0°1483	3°9951	0°1977	4°9939	0°2472
51	0°9988	0°0497	1°9975	0°0994	2°9963	0°1492	3°9951	0°1989	4°9938	0°2486
52	0°9987	0°0500	1°9975	0°1000	2°9962	0°1500	3°9950	0°2000	4°9937	0°2501
53	0°9987	0°0503	1°9975	0°1006	2°9962	0°1509	3°9949	0°2012	4°9937	0°2515
54	0°9987	0°0506	1°9974	0°1012	2°9962	0°1518	3°9949	0°2024	4°9936	0°2530
55	0°9987	0°0509	1°9974	0°1018	2°9961	0°1527	3°9948	0°2035	4°9935	0°2544
56	0°9987	0°0512	1°9974	0°1023	2°9961	0°1535	3°9948	0°2047	4°9935	0°2559
57	0°9987	0°0515	1°9973	0°1029	2°9960	0°1544	3°9947	0°2059	4°9934	0°2573
58	0°9987	0°0518	1°9973	0°1035	2°9960	0°1553	3°9946	0°2070	4°9933	0°2588
59	0°9986	0°0520	1°9973	0°1041	2°9959	0°1561	3°9946	0°2082	4°9932	0°2602
60	0°9986	0°0523	1°9973	0°1047	2°9959	0°1570	3°9945	0°2093	4°9931	0°2617
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9963	0-2094	6-9957	0-2443	7-9951	0-2792	8-9945	0-3141	9-9939	0-3490	60
5-9963	0-2111	6-9957	0-2463	7-9950	0-2815	8-9944	0-3167	9-9938	0-3519	59
5-9962	0-2129	6-9956	0-2484	7-9950	0-2838	8-9943	0-3193	9-9937	0-3548	58
5-9962	0-2146	6-9955	0-2504	7-9949	0-2862	8-9942	0-3219	9-9936	0-3577	57
5-9961	0-2164	6-9954	0-2524	7-9948	0-2885	8-9941	0-3246	9-9935	0-3606	56
5-9960	0-2181	6-9954	0-2545	7-9947	0-2908	8-9941	0-3272	9-9934	0-3635	55
5-9960	0-2199	6-9953	0-2565	7-9946	0-2931	8-9940	0-3298	9-9933	0-3664	54
5-9959	0-2216	6-9952	0-2585	7-9945	0-2955	8-9939	0-3324	9-9932	0-3693	53
5-9958	0-2234	6-9951	0-2606	7-9945	0-2978	8-9938	0-3350	9-9931	0-3723	52
5-9958	0-2251	6-9951	0-2626	7-9944	0-3001	8-9937	0-3376	9-9930	0-3752	51
5-9957	0-2268	6-9950	0-2646	7-9943	0-3025	8-9936	0-3403	9-9929	0-3781	50
5-9956	0-2286	6-9949	0-2667	7-9942	0-3048	8-9935	0-3429	9-9927	0-3810	49
5-9956	0-2303	6-9948	0-2687	7-9941	0-3071	8-9934	0-3455	9-9926	0-3839	48
5-9955	0-2321	6-9948	0-2707	7-9940	0-3094	8-9933	0-3481	9-9925	0-3868	47
5-9954	0-2338	6-9947	0-2728	7-9939	0-3118	8-9932	0-3507	9-9924	0-3897	46
5-9954	0-2356	6-9946	0-2748	7-9938	0-3141	8-9931	0-3533	9-9923	0-3926	45
5-9953	0-2373	6-9945	0-2769	7-9937	0-3164	8-9930	0-3560	9-9922	0-3955	44
5-9952	0-2390	6-9944	0-2789	7-9936	0-3187	8-9929	0-3586	9-9921	0-3984	43
5-9952	0-2408	6-9944	0-2809	7-9936	0-3211	8-9927	0-3612	9-9919	0-4013	42
5-9951	0-2425	6-9943	0-2830	7-9935	0-3234	8-9926	0-3638	9-9918	0-4042	41
5-9950	0-2443	6-9942	0-2850	7-9934	0-3257	8-9925	0-3664	9-9917	0-4071	40
5-9950	0-2460	6-9941	0-2870	7-9933	0-3280	8-9924	0-3690	9-9916	0-4100	39
5-9949	0-2478	6-9940	0-2891	7-9932	0-3304	8-9923	0-3716	9-9915	0-4129	38
5-9948	0-2495	6-9939	0-2911	7-9931	0-3327	8-9922	0-3743	9-9914	0-4159	37
5-9947	0-2513	6-9939	0-2931	7-9930	0-3350	8-9921	0-3769	9-9912	0-4188	36
5-9947	0-2530	6-9938	0-2952	7-9929	0-3373	8-9920	0-3795	9-9911	0-4217	35
5-9946	0-2547	6-9937	0-2972	7-9928	0-3397	8-9919	0-3821	9-9910	0-4246	34
5-9945	0-2565	6-9936	0-2992	7-9927	0-3420	8-9918	0-3847	9-9909	0-4275	33
5-9944	0-2582	6-9935	0-3013	7-9926	0-3443	8-9917	0-3873	9-9907	0-4304	32
5-9944	0-2600	6-9934	0-3033	7-9925	0-3466	8-9915	0-3900	9-9906	0-4333	31
5-9943	0-2617	6-9933	0-3053	7-9924	0-3490	8-9914	0-3926	9-9905	0-4362	30
5-9942	0-2635	6-9932	0-3074	7-9923	0-3513	8-9913	0-3952	9-9904	0-4391	29
5-9941	0-2652	6-9932	0-3094	7-9922	0-3536	8-9912	0-3978	9-9902	0-4420	28
5-9941	0-2669	6-9931	0-3114	7-9921	0-3559	8-9911	0-4004	9-9901	0-4449	27
5-9940	0-2687	6-9930	0-3135	7-9920	0-3583	8-9910	0-4030	9-9900	0-4478	26
5-9939	0-2704	6-9929	0-3155	7-9919	0-3606	8-9909	0-4057	9-9898	0-4507	25
5-9938	0-2722	6-9928	0-3175	7-9918	0-3629	8-9907	0-4083	9-9897	0-4536	24
5-9937	0-2739	6-9927	0-3196	7-9917	0-3652	8-9906	0-4109	9-9896	0-4565	23
5-9937	0-2757	6-9926	0-3216	7-9916	0-3676	8-9905	0-4135	9-9894	0-4594	22
5-9936	0-2774	6-9925	0-3236	7-9914	0-3699	8-9904	0-4161	9-9893	0-4623	21
5-9935	0-2792	6-9924	0-3257	7-9913	0-3722	8-9903	0-4187	9-9892	0-4653	20
5-9934	0-2809	6-9923	0-3277	7-9912	0-3745	8-9901	0-4213	9-9890	0-4682	19
5-9933	0-2826	6-9922	0-3297	7-9911	0-3769	8-9900	0-4240	9-9889	0-4711	18
5-9933	0-2844	6-9921	0-3318	7-9910	0-3792	8-9899	0-4266	9-9888	0-4740	17
5-9932	0-2861	6-9920	0-3338	7-9909	0-3815	8-9898	0-4292	9-9886	0-4769	16
5-9931	0-2879	6-9919	0-3358	7-9908	0-3838	8-9896	0-4318	9-9885	0-4798	15
5-9930	0-2896	6-9918	0-3379	7-9907	0-3861	8-9895	0-4344	9-9883	0-4827	14
5-9929	0-2914	6-9917	0-3399	7-9906	0-3885	8-9894	0-4370	9-9882	0-4856	13
5-9928	0-2931	6-9916	0-3419	7-9904	0-3908	8-9893	0-4396	9-9881	0-4885	12
5-9928	0-2948	6-9915	0-3440	7-9903	0-3931	8-9891	0-4423	9-9879	0-4914	11
5-9927	0-2966	6-9914	0-3460	7-9902	0-3954	8-9890	0-4449	9-9878	0-4943	10
5-9926	0-2983	6-9913	0-3480	7-9901	0-3978	8-9889	0-4475	9-9876	0-4972	9
5-9925	0-3001	6-9912	0-3501	7-9900	0-4001	8-9887	0-4501	9-9875	0-5001	8
5-9924	0-3018	6-9911	0-3521	7-9899	0-4024	8-9886	0-4527	9-9873	0-5030	7
5-9923	0-3036	6-9910	0-3542	7-9898	0-4047	8-9885	0-4553	9-9872	0-5059	6
5-9922	0-3053	6-9909	0-3562	7-9896	0-4071	8-9883	0-4580	9-9870	0-5088	5
5-9921	0-3070	6-9908	0-3582	7-9895	0-4094	8-9882	0-4606	9-9869	0-5117	4
5-9920	0-3088	6-9907	0-3603	7-9894	0-4117	8-9881	0-4632	9-9867	0-5146	3
5-9920	0-3105	6-9906	0-3623	7-9893	0-4140	8-9879	0-4658	9-9866	0-5176	2
5-9919	0-3123	6-9905	0-3643	7-9892	0-4164	8-9878	0-4684	9-9864	0-5205	1
5-9918	0-3140	6-9904	0-3664	7-9890	0-4187	8-9877	0-4710	9-9863	0-5234	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 3 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0.9986	0.0523	1.9973	0.1047	2.9959	0.1570	3.9945	0.2093	4.9931	0.2617
1	0.9986	0.0526	1.9972	0.1053	2.9958	0.1579	3.9945	0.2105	4.9931	0.2631
2	0.9986	0.0529	1.9972	0.1058	2.9958	0.1588	3.9944	0.2117	4.9930	0.2646
3	0.9986	0.0532	1.9972	0.1064	2.9958	0.1596	3.9943	0.2128	4.9929	0.2660
4	0.9986	0.0535	1.9971	0.1070	2.9957	0.1605	3.9943	0.2140	4.9928	0.2675
5	0.9986	0.0538	1.9971	0.1076	2.9957	0.1614	3.9942	0.2152	4.9928	0.2689
6	0.9985	0.0541	1.9971	0.1082	2.9956	0.1622	3.9941	0.2163	4.9927	0.2704
7	0.9985	0.0544	1.9970	0.1087	2.9956	0.1631	3.9941	0.2175	4.9926	0.2718
8	0.9985	0.0547	1.9970	0.1093	2.9955	0.1640	3.9940	0.2186	4.9925	0.2733
9	0.9985	0.0550	1.9970	0.1099	2.9955	0.1649	3.9940	0.2198	4.9924	0.2748
10	0.9985	0.0552	1.9969	0.1105	2.9954	0.1657	3.9939	0.2210	4.9924	0.2762
11	0.9985	0.0555	1.9969	0.1111	2.9954	0.1666	3.9938	0.2221	4.9923	0.2777
12	0.9984	0.0558	1.9969	0.1116	2.9953	0.1675	3.9938	0.2233	4.9922	0.2791
13	0.9984	0.0561	1.9968	0.1122	2.9953	0.1683	3.9937	0.2244	4.9921	0.2806
14	0.9984	0.0564	1.9968	0.1128	2.9952	0.1692	3.9936	0.2256	4.9920	0.2820
15	0.9984	0.0567	1.9968	0.1134	2.9952	0.1701	3.9936	0.2268	4.9920	0.2835
16	0.9984	0.0570	1.9968	0.1140	2.9951	0.1709	3.9935	0.2279	4.9919	0.2849
17	0.9984	0.0573	1.9967	0.1145	2.9951	0.1718	3.9934	0.2291	4.9918	0.2864
18	0.9983	0.0576	1.9967	0.1151	2.9950	0.1727	3.9934	0.2303	4.9917	0.2878
19	0.9983	0.0579	1.9967	0.1157	2.9950	0.1736	3.9933	0.2314	4.9916	0.2893
20	0.9983	0.0581	1.9966	0.1163	2.9949	0.1744	3.9932	0.2326	4.9915	0.2907
21	0.9983	0.0584	1.9966	0.1169	2.9949	0.1753	3.9932	0.2337	4.9915	0.2922
22	0.9983	0.0587	1.9965	0.1175	2.9948	0.1762	3.9931	0.2349	4.9914	0.2936
23	0.9983	0.0590	1.9965	0.1180	2.9948	0.1770	3.9930	0.2361	4.9913	0.2951
24	0.9982	0.0593	1.9965	0.1186	2.9947	0.1779	3.9930	0.2372	4.9912	0.2965
25	0.9982	0.0596	1.9964	0.1192	2.9947	0.1788	3.9929	0.2384	4.9911	0.2980
26	0.9982	0.0599	1.9964	0.1198	2.9946	0.1797	3.9928	0.2395	4.9910	0.2994
27	0.9982	0.0602	1.9964	0.1204	2.9946	0.1805	3.9928	0.2407	4.9909	0.3009
28	0.9982	0.0605	1.9963	0.1209	2.9945	0.1814	3.9927	0.2419	4.9909	0.3023
29	0.9982	0.0608	1.9963	0.1215	2.9945	0.1823	3.9926	0.2430	4.9908	0.3038
30	0.9981	0.0610	1.9963	0.1221	2.9944	0.1831	3.9925	0.2442	4.9907	0.3052
31	0.9981	0.0613	1.9962	0.1227	2.9944	0.1840	3.9925	0.2454	4.9906	0.3067
32	0.9981	0.0616	1.9962	0.1233	2.9943	0.1849	3.9924	0.2465	4.9905	0.3081
33	0.9981	0.0619	1.9962	0.1238	2.9942	0.1858	3.9923	0.2477	4.9904	0.3096
34	0.9981	0.0622	1.9961	0.1244	2.9942	0.1866	3.9923	0.2488	4.9903	0.3110
35	0.9980	0.0625	1.9961	0.1250	2.9941	0.1875	3.9922	0.2500	4.9902	0.3125
36	0.9980	0.0628	1.9961	0.1256	2.9941	0.1884	3.9921	0.2512	4.9901	0.3140
37	0.9980	0.0631	1.9960	0.1262	2.9940	0.1892	3.9920	0.2523	4.9900	0.3154
38	0.9980	0.0634	1.9960	0.1267	2.9940	0.1901	3.9920	0.2535	4.9900	0.3169
39	0.9980	0.0637	1.9959	0.1273	2.9939	0.1910	3.9919	0.2546	4.9899	0.3183
40	0.9980	0.0640	1.9959	0.1279	2.9939	0.1919	3.9918	0.2558	4.9898	0.3198
41	0.9979	0.0642	1.9959	0.1285	2.9938	0.1927	3.9917	0.2570	4.9897	0.3212
42	0.9979	0.0645	1.9958	0.1291	2.9937	0.1936	3.9917	0.2581	4.9896	0.3227
43	0.9979	0.0648	1.9958	0.1296	2.9937	0.1945	3.9916	0.2593	4.9895	0.3241
44	0.9979	0.0651	1.9958	0.1302	2.9936	0.1953	3.9915	0.2605	4.9894	0.3256
45	0.9979	0.0654	1.9957	0.1308	2.9936	0.1962	3.9914	0.2616	4.9893	0.3270
46	0.9978	0.0657	1.9957	0.1314	2.9935	0.1971	3.9914	0.2628	4.9892	0.3285
47	0.9978	0.0660	1.9956	0.1320	2.9935	0.1980	3.9913	0.2639	4.9891	0.3299
48	0.9978	0.0663	1.9956	0.1325	2.9934	0.1988	3.9912	0.2651	4.9890	0.3314
49	0.9978	0.0666	1.9956	0.1331	2.9933	0.1997	3.9911	0.2663	4.9889	0.3328
50	0.9978	0.0669	1.9955	0.1337	2.9933	0.2006	3.9911	0.2674	4.9888	0.3343
51	0.9977	0.0671	1.9955	0.1343	2.9932	0.2014	3.9910	0.2686	4.9887	0.3357
52	0.9977	0.0674	1.9954	0.1349	2.9932	0.2023	3.9909	0.2697	4.9886	0.3372
53	0.9977	0.0677	1.9954	0.1355	2.9931	0.2032	3.9908	0.2709	4.9885	0.3386
54	0.9977	0.0680	1.9954	0.1360	2.9931	0.2040	3.9907	0.2721	4.9884	0.3401
55	0.9977	0.0683	1.9953	0.1366	2.9930	0.2049	3.9907	0.2732	4.9883	0.3415
56	0.9976	0.0686	1.9953	0.1372	2.9929	0.2058	3.9906	0.2744	4.9882	0.3430
57	0.9976	0.0689	1.9952	0.1378	2.9929	0.2067	3.9905	0.2755	4.9881	0.3444
58	0.9976	0.0692	1.9952	0.1384	2.9928	0.2075	3.9904	0.2767	4.9880	0.3459
59	0.9976	0.0695	1.9952	0.1389	2.9928	0.2084	3.9903	0.2779	4.9879	0.3473
60	0.9976	0.0698	1.9951	0.1395	2.9927	0.2093	3.9903	0.2790	4.9878	0.3488
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9918	0-3140	6-9904	0-3664	7-9890	0-4187	8-9877	0-4710	9-9863	0-5234	60
5-9917	0-3158	6-9903	0-3684	7-9889	0-4210	8-9875	0-4736	9-9861	0-5263	59
5-9916	0-3175	6-9902	0-3704	7-9888	0-4233	8-9874	0-4763	9-9860	0-5292	58
5-9915	0-3192	6-9901	0-3725	7-9887	0-4257	8-9873	0-4789	9-9858	0-5321	57
5-9914	0-3210	6-9900	0-3745	7-9885	0-4280	8-9871	0-4815	9-9857	0-5350	56
5-9913	0-3227	6-9899	0-3765	7-9884	0-4303	8-9870	0-4841	9-9855	0-5379	55
5-9912	0-3245	6-9898	0-3786	7-9883	0-4326	8-9868	0-4867	9-9854	0-5408	54
5-9911	0-3262	6-9896	0-3806	7-9882	0-4350	8-9867	0-4893	9-9852	0-5437	53
5-9910	0-3280	6-9895	0-3826	7-9880	0-4373	8-9865	0-4919	9-9851	0-5466	52
5-9909	0-3297	6-9894	0-3847	7-9879	0-4396	8-9864	0-4946	9-9849	0-5495	51
5-9908	0-3314	6-9893	0-3867	7-9878	0-4419	8-9863	0-4972	9-9847	0-5524	50
5-9907	0-3332	6-9892	0-3887	7-9877	0-4442	8-9861	0-4998	9-9846	0-5553	49
5-9906	0-3349	6-9891	0-3908	7-9875	0-4466	8-9860	0-5024	9-9844	0-5582	48
5-9905	0-3367	6-9890	0-3928	7-9874	0-4489	8-9858	0-5050	9-9842	0-5611	47
5-9904	0-3384	6-9889	0-3948	7-9873	0-4512	8-9857	0-5076	9-9841	0-5640	46
5-9904	0-3402	6-9887	0-3968	7-9871	0-4535	8-9855	0-5102	9-9839	0-5669	45
5-9903	0-3419	6-9886	0-3989	7-9870	0-4559	8-9854	0-5128	9-9838	0-5698	44
5-9902	0-3436	6-9885	0-4009	7-9869	0-4582	8-9852	0-5155	9-9836	0-5727	43
5-9901	0-3454	6-9884	0-4029	7-9867	0-4605	8-9851	0-5181	9-9834	0-5756	42
5-9900	0-3471	6-9883	0-4050	7-9866	0-4628	8-9849	0-5207	9-9833	0-5785	41
5-9898	0-3489	6-9882	0-4070	7-9865	0-4652	8-9848	0-5233	9-9831	0-5814	40
5-9897	0-3506	6-9880	0-4090	7-9863	0-4675	8-9846	0-5259	9-9829	0-5844	39
5-9896	0-3524	6-9879	0-4111	7-9862	0-4698	8-9845	0-5285	9-9827	0-5873	38
5-9895	0-3541	6-9878	0-4131	7-9861	0-4721	8-9843	0-5311	9-9826	0-5902	37
5-9894	0-3558	6-9877	0-4151	7-9859	0-4745	8-9842	0-5338	9-9824	0-5931	36
5-9893	0-3576	6-9876	0-4172	7-9858	0-4768	8-9840	0-5364	9-9822	0-5960	35
5-9892	0-3593	6-9874	0-4192	7-9856	0-4791	8-9838	0-5390	9-9821	0-5989	34
5-9891	0-3611	6-9873	0-4212	7-9855	0-4814	8-9837	0-5416	9-9819	0-6018	33
5-9890	0-3628	6-9872	0-4233	7-9854	0-4837	8-9835	0-5442	9-9817	0-6047	32
5-9889	0-3645	6-9871	0-4253	7-9852	0-4861	8-9834	0-5468	9-9815	0-6076	31
5-9888	0-3663	6-9869	0-4273	7-9851	0-4884	8-9832	0-5494	9-9813	0-6105	30
5-9887	0-3680	6-9868	0-4294	7-9849	0-4907	8-9831	0-5521	9-9812	0-6134	29
5-9886	0-3698	6-9867	0-4314	7-9848	0-4930	8-9829	0-5547	9-9810	0-6163	28
5-9885	0-3715	6-9866	0-4334	7-9846	0-4954	8-9827	0-5573	9-9808	0-6192	27
5-9884	0-3733	6-9864	0-4355	7-9845	0-4977	8-9826	0-5599	9-9806	0-6221	26
5-9883	0-3750	6-9863	0-4375	7-9844	0-5000	8-9824	0-5625	9-9805	0-6250	25
5-9882	0-3767	6-9862	0-4395	7-9842	0-5023	8-9822	0-5651	9-9803	0-6279	24
5-9881	0-3785	6-9861	0-4416	7-9841	0-5046	8-9821	0-5677	9-9801	0-6308	23
5-9879	0-3802	6-9859	0-4436	7-9839	0-5070	8-9819	0-5703	9-9799	0-6337	22
5-9878	0-3820	6-9858	0-4456	7-9838	0-5093	8-9817	0-5730	9-9797	0-6366	21
5-9877	0-3837	6-9857	0-4477	7-9836	0-5116	8-9816	0-5756	9-9795	0-6395	20
5-9876	0-3855	6-9855	0-4497	7-9835	0-5139	8-9814	0-5782	9-9793	0-6424	19
5-9875	0-3872	6-9854	0-4517	7-9833	0-5163	8-9812	0-5808	9-9792	0-6453	18
5-9874	0-3889	6-9853	0-4538	7-9832	0-5186	8-9811	0-5834	9-9790	0-6482	17
5-9873	0-3907	6-9851	0-4558	7-9830	0-5209	8-9809	0-5860	9-9788	0-6511	16
5-9872	0-3924	6-9850	0-4578	7-9829	0-5232	8-9807	0-5886	9-9786	0-6540	15
5-9870	0-3942	6-9849	0-4599	7-9827	0-5255	8-9806	0-5912	9-9784	0-6569	14
5-9869	0-3959	6-9847	0-4619	7-9826	0-5279	8-9804	0-5939	9-9782	0-6598	13
5-9868	0-3976	6-9846	0-4639	7-9824	0-5302	8-9802	0-5965	9-9780	0-6627	12
5-9867	0-3994	6-9845	0-4659	7-9823	0-5325	8-9800	0-5991	9-9778	0-6656	11
5-9866	0-4011	6-9843	0-4680	7-9821	0-5348	8-9799	0-6017	9-9776	0-6685	10
5-9865	0-4029	6-9842	0-4700	7-9819	0-5372	8-9797	0-6043	9-9774	0-6714	9
5-9863	0-4046	6-9841	0-4720	7-9818	0-5395	8-9795	0-6069	9-9772	0-6743	8
5-9862	0-4064	6-9839	0-4741	7-9816	0-5418	8-9793	0-6095	9-9770	0-6773	7
5-9861	0-4081	6-9838	0-4761	7-9815	0-5441	8-9792	0-6121	9-9768	0-6802	6
5-9860	0-4098	6-9837	0-4781	7-9813	0-5464	8-9790	0-6147	9-9766	0-6831	5
5-9859	0-4116	6-9835	0-4802	7-9812	0-5488	8-9788	0-6174	9-9764	0-6860	4
5-9857	0-4133	6-9834	0-4822	7-9810	0-5511	8-9786	0-6200	9-9762	0-6889	3
5-9856	0-4151	6-9832	0-4842	7-9808	0-5534	8-9784	0-6226	9-9760	0-6918	2
5-9855	0-4168	6-9831	0-4863	7-9807	0-5557	8-9783	0-6252	9-9758	0-6947	1
5-9854	0-4185	6-9829	0-4883	7-9805	0-5581	8-9781	0-6278	9-9756	0-6976	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 4 Degrees.

Dist.	1		2		3		4		5	
Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°976	0°0698	1°9951	0°1395	2°9927	0°2093	3°9903	0°2790	4°9878	0°3488
1	0°9975	0°0700	1°9951	0°1401	2°9926	0°2101	3°9902	0°2802	4°9877	0°3502
2	0°9975	0°0703	1°9950	0°1407	2°9926	0°2110	3°9901	0°2813	4°9876	0°3517
3	0°9975	0°0706	1°9950	0°1413	2°9925	0°2119	3°9900	0°2825	4°9875	0°3531
4	0°9975	0°0709	1°9950	0°1418	2°9924	0°2128	3°9899	0°2837	4°9874	0°3546
5	0°9975	0°0712	1°9949	0°1424	2°9924	0°2136	3°9898	0°2848	4°9873	0°3560
6	0°9974	0°0715	1°9949	0°1430	2°9923	0°2145	3°9898	0°2860	4°9872	0°3575
7	0°9974	0°0718	1°9948	0°1436	2°9923	0°2154	3°9897	0°2872	4°9871	0°3589
8	0°9974	0°0721	1°9948	0°1442	2°9922	0°2162	3°9896	0°2883	4°9870	0°3604
9	0°9974	0°0724	1°9948	0°1447	2°9921	0°2171	3°9895	0°2895	4°9869	0°3618
10	0°9974	0°0727	1°9947	0°1453	2°9921	0°2180	3°9894	0°2906	4°9868	0°3633
11	0°9973	0°0729	1°9947	0°1459	2°9920	0°2188	3°9893	0°2918	4°9867	0°3647
12	0°9973	0°0732	1°9946	0°1465	2°9919	0°2197	3°9893	0°2930	4°9866	0°3662
13	0°9973	0°0735	1°9946	0°1471	2°9919	0°2206	3°9892	0°2941	4°9865	0°3676
14	0°9973	0°0738	1°9945	0°1477	2°9918	0°2215	3°9891	0°2953	4°9864	0°3691
15	0°9973	0°0741	1°9945	0°1482	2°9918	0°2223	3°9890	0°2964	4°9863	0°3705
16	0°9972	0°0744	1°9945	0°1488	2°9917	0°2232	3°9889	0°2976	4°9861	0°3720
17	0°9972	0°0747	1°9944	0°1494	2°9916	0°2241	3°9888	0°2988	4°9860	0°3734
18	0°9972	0°0750	1°9944	0°1500	2°9916	0°2249	3°9887	0°2999	4°9859	0°3749
19	0°9972	0°0753	1°9943	0°1505	2°9915	0°2258	3°9887	0°3011	4°9858	0°3763
20	0°9971	0°0756	1°9943	0°1511	2°9914	0°2267	3°9886	0°3022	4°9857	0°3778
21	0°9971	0°0758	1°9942	0°1517	2°9914	0°2275	3°9885	0°3034	4°9856	0°3792
22	0°9971	0°0761	1°9942	0°1523	2°9913	0°2284	3°9884	0°3046	4°9855	0°3807
23	0°9971	0°0764	1°9942	0°1529	2°9912	0°2293	3°9883	0°3057	4°9854	0°3821
24	0°9971	0°0767	1°9941	0°1534	2°9912	0°2302	3°9882	0°3069	4°9853	0°3836
25	0°9970	0°0770	1°9941	0°1540	2°9911	0°2310	3°9881	0°3080	4°9852	0°3850
26	0°9970	0°0773	1°9940	0°1546	2°9910	0°2319	3°9880	0°3092	4°9850	0°3865
27	0°9970	0°0776	1°9940	0°1552	2°9910	0°2328	3°9879	0°3104	4°9849	0°3879
28	0°9970	0°0779	1°9939	0°1558	2°9909	0°2336	3°9879	0°3115	4°9848	0°3894
29	0°9969	0°0782	1°9939	0°1563	2°9908	0°2345	3°9878	0°3127	4°9847	0°3908
30	0°9969	0°0785	1°9938	0°1569	2°9908	0°2354	3°9877	0°3138	4°9846	0°3923
31	0°9969	0°0787	1°9938	0°1575	2°9907	0°2362	3°9876	0°3150	4°9845	0°3937
32	0°9969	0°0790	1°9937	0°1581	2°9906	0°2371	3°9875	0°3162	4°9844	0°3952
33	0°9968	0°0793	1°9937	0°1587	2°9905	0°2380	3°9874	0°3173	4°9842	0°3966
34	0°9968	0°0796	1°9937	0°1592	2°9905	0°2389	3°9873	0°3185	4°9841	0°3981
35	0°9968	0°0799	1°9936	0°1598	2°9904	0°2397	3°9872	0°3196	4°9840	0°3995
36	0°9968	0°0802	1°9936	0°1604	2°9903	0°2406	3°9871	0°3208	4°9839	0°4010
37	0°9968	0°0805	1°9935	0°1610	2°9903	0°2415	3°9870	0°3220	4°9838	0°4024
38	0°9967	0°0808	1°9935	0°1616	2°9902	0°2423	3°9869	0°3231	4°9837	0°4039
39	0°9967	0°0811	1°9934	0°1621	2°9901	0°2432	3°9868	0°3243	4°9835	0°4053
40	0°9967	0°0814	1°9934	0°1627	2°9901	0°2441	3°9867	0°3254	4°9834	0°4068
41	0°9967	0°0816	1°9933	0°1633	2°9900	0°2449	3°9866	0°3266	4°9833	0°4082
42	0°9966	0°0819	1°9933	0°1639	2°9899	0°2458	3°9865	0°3278	4°9832	0°4097
43	0°9966	0°0822	1°9932	0°1645	2°9898	0°2467	3°9865	0°3289	4°9831	0°4111
44	0°9966	0°0825	1°9932	0°1650	2°9898	0°2476	3°9864	0°3301	4°9829	0°4126
45	0°9966	0°0828	1°9931	0°1656	2°9897	0°2484	3°9863	0°3312	4°9828	0°4140
46	0°9965	0°0831	1°9931	0°1662	2°9896	0°2493	3°9862	0°3324	4°9827	0°4155
47	0°9965	0°0834	1°9930	0°1668	2°9896	0°2502	3°9861	0°3336	4°9826	0°4169
48	0°9965	0°0837	1°9930	0°1674	2°9895	0°2510	3°9860	0°3347	4°9825	0°4184
49	0°9965	0°0840	1°9929	0°1679	2°9894	0°2519	3°9859	0°3359	4°9823	0°4198
50	0°9964	0°0843	1°9929	0°1685	2°9893	0°2528	3°9858	0°3370	4°9822	0°4213
51	0°9964	0°0845	1°9928	0°1691	2°9893	0°2536	3°9857	0°3382	4°9821	0°4227
52	0°9964	0°0848	1°9928	0°1697	2°9892	0°2545	3°9856	0°3393	4°9820	0°4242
53	0°9964	0°0851	1°9927	0°1703	2°9891	0°2554	3°9855	0°3405	4°9819	0°4256
54	0°9963	0°0854	1°9927	0°1708	2°9890	0°2563	3°9854	0°3417	4°9817	0°4271
55	0°9963	0°0857	1°9926	0°1714	2°9890	0°2571	3°9853	0°3428	4°9816	0°4285
56	0°9963	0°0860	1°9926	0°1720	2°9889	0°2580	3°9852	0°3440	4°9815	0°4300
57	0°9963	0°0863	1°9925	0°1726	2°9888	0°2589	3°9851	0°3451	4°9814	0°4314
58	0°9962	0°0866	1°9925	0°1732	2°9887	0°2597	3°9850	0°3463	4°9812	0°4329
59	0°9962	0°0869	1°9924	0°1737	2°9887	0°2606	3°9849	0°3475	4°9811	0°4343
60	0°9962	0°0872	1°9924	0°1743	2°9886	0°2615	3°9848	0°3486	4°9810	0°4358
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



3		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9854	0-4185	6-9829	0-4883	7-9805	0-5581	8-9731	0-6278	9-9756	0-6976	60
5-9853	0-4203	6-9828	0-4903	7-9803	0-5604	8-9779	0-6304	9-9754	0-7005	59
5-9851	0-4220	6-9827	0-4924	7-9802	0-5627	8-9777	0-6330	9-9752	0-7034	58
5-9850	0-4238	6-9825	0-4944	7-9800	0-5650	8-9775	0-6356	9-9750	0-7063	57
5-9849	0-4255	6-9824	0-4964	7-9799	0-5673	8-9773	0-6383	9-9748	0-7092	56
5-9848	0-4272	6-9822	0-4985	7-9797	0-5697	8-9772	0-6409	9-9746	0-7121	55
5-9846	0-4290	6-9821	0-5005	7-9795	0-5720	8-9770	0-6435	9-9744	0-7150	54
5-9845	0-4307	6-9819	0-5025	7-9794	0-5743	8-9768	0-6461	9-9742	0-7179	53
5-9844	0-4325	6-9818	0-5045	7-9792	0-5766	8-9766	0-6487	9-9740	0-7208	52
5-9843	0-4342	6-9816	0-5066	7-9790	0-5789	8-9764	0-6513	9-9738	0-7237	51
5-9841	0-4359	6-9815	0-5086	7-9789	0-5813	8-9762	0-6539	9-9736	0-7266	50
5-9840	0-4377	6-9813	0-5106	7-9787	0-5836	8-9760	0-6565	9-9734	0-7295	49
5-9839	0-4394	6-9812	0-5127	7-9785	0-5859	8-9758	0-6591	9-9731	0-7324	48
5-9838	0-4412	6-9811	0-5147	7-9783	0-5882	8-9756	0-6618	9-9729	0-7353	47
5-9836	0-4429	6-9809	0-5167	7-9782	0-5905	8-9754	0-6644	9-9727	0-7382	46
5-9835	0-4447	6-9808	0-5188	7-9780	0-5929	8-9753	0-6670	9-9725	0-7411	45
5-9834	0-4464	6-9806	0-5208	7-9778	0-5952	8-9751	0-6696	9-9723	0-7440	44
5-9832	0-4481	6-9804	0-5228	7-9777	0-5975	8-9749	0-6722	9-9721	0-7469	43
5-9831	0-4499	6-9803	0-5249	7-9775	0-5998	8-9747	0-6748	9-9719	0-7498	42
5-9830	0-4516	6-9801	0-5269	7-9773	0-6022	8-9745	0-6774	9-9716	0-7527	41
5-9828	0-4534	6-9800	0-5289	7-9771	0-6045	8-9743	0-6800	9-9714	0-7556	40
5-9827	0-4551	6-9798	0-5309	7-9770	0-6068	8-9741	0-6826	9-9712	0-7585	39
5-9826	0-4568	6-9797	0-5330	7-9768	0-6091	8-9739	0-6853	9-9710	0-7614	38
5-9825	0-4586	6-9795	0-5350	7-9766	0-6114	8-9737	0-6879	9-9708	0-7643	37
5-9823	0-4603	6-9794	0-5370	7-9764	0-6138	8-9735	0-6905	9-9705	0-7672	36
5-9822	0-4621	6-9792	0-5391	7-9762	0-6161	8-9733	0-6931	9-9703	0-7701	35
5-9820	0-4638	6-9791	0-5411	7-9761	0-6184	8-9731	0-6957	9-9701	0-7730	34
5-9819	0-4655	6-9789	0-5431	7-9759	0-6207	8-9729	0-6983	9-9699	0-7759	33
5-9818	0-4673	6-9787	0-5452	7-9757	0-6230	8-9727	0-7009	9-9696	0-7788	32
5-9816	0-4690	6-9786	0-5472	7-9755	0-6254	8-9725	0-7035	9-9694	0-7817	31
5-9815	0-4708	6-9784	0-5492	7-9753	0-6277	8-9723	0-7061	9-9692	0-7846	30
5-9814	0-4725	6-9783	0-5512	7-9752	0-6300	8-9721	0-7087	9-9689	0-7875	29
5-9812	0-4742	6-9781	0-5533	7-9750	0-6323	8-9718	0-7114	9-9687	0-7904	28
5-9811	0-4760	6-9779	0-5553	7-9748	0-6346	8-9716	0-7140	9-9685	0-7933	27
5-9810	0-4777	6-9778	0-5573	7-9746	0-6370	8-9714	0-7166	9-9683	0-7962	26
5-9808	0-4795	6-9776	0-5594	7-9744	0-6393	8-9712	0-7192	9-9680	0-7991	25
5-9807	0-4812	6-9775	0-5614	7-9742	0-6416	8-9710	0-7218	9-9678	0-8020	24
5-9805	0-4829	6-9773	0-5634	7-9740	0-6439	8-9708	0-7244	9-9676	0-8049	23
5-9804	0-4847	6-9771	0-5655	7-9739	0-6462	8-9706	0-7270	9-9673	0-8078	22
5-9803	0-4864	6-9770	0-5675	7-9737	0-6485	8-9704	0-7296	9-9671	0-8107	21
5-9801	0-4882	6-9768	0-5695	7-9735	0-6509	8-9702	0-7322	9-9668	0-8136	20
5-9800	0-4899	6-9766	0-5715	7-9733	0-6532	8-9700	0-7348	9-9666	0-8165	19
5-9798	0-4916	6-9765	0-5736	7-9731	0-6555	8-9697	0-7374	9-9664	0-8194	18
5-9797	0-4934	6-9763	0-5756	7-9729	0-6578	8-9695	0-7401	9-9661	0-8223	17
5-9795	0-4951	6-9761	0-5776	7-9727	0-6601	8-9693	0-7427	9-9659	0-8252	16
5-9794	0-4968	6-9760	0-5797	7-9725	0-6625	8-9691	0-7453	9-9657	0-8281	15
5-9792	0-4986	6-9758	0-5817	7-9723	0-6648	8-9689	0-7479	9-9654	0-8310	14
5-9791	0-5003	6-9756	0-5837	7-9721	0-6671	8-9687	0-7505	9-9652	0-8339	13
5-9790	0-5021	6-9755	0-5857	7-9719	0-6694	8-9684	0-7531	9-9649	0-8368	12
5-9788	0-5038	6-9753	0-5878	7-9717	0-6717	8-9682	0-7557	9-9647	0-8397	11
5-9787	0-5055	6-9751	0-5898	7-9716	0-6741	8-9680	0-7583	9-9644	0-8426	10
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5-9782	0-5108	6-9746	0-5959	7-9710	0-6810	8-9673	0-7661	9-9637	0-8513	7
5-9781	0-5125	6-9744	0-5979	7-9708	0-6833	8-9671	0-7688	9-9635	0-8542	6
5-9779	0-5142	6-9742	0-5999	7-9706	0-6857	8-9669	0-7714	9-9632	0-8571	5
5-9778	0-5160	6-9741	0-6020	7-9704	0-6880	8-9667	0-7740	9-9630	0-8600	4
5-9776	0-5177	6-9739	0-6040	7-9702	0-6903	8-9664	0-7766	9-9627	0-8629	3
5-9775	0-5195	6-9737	0-6060	7-9700	0-6926	8-9662	0-7792	9-9625	0-8658	2
5-9773	0-5212	6-9735	0-6081	7-9698	0-6949	8-9660	0-7818	9-9622	0-8687	1
5-9772	0-5229	6-9734	0-6101	7-9696	0-6972	8-9658	0-7844	9-9619	0-8716	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 5 Degrees.

Dist.	1		2		3		4		5	
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·9962	0·0872	1·9924	0·1743	2·9886	0·2615	3·9848	0·3486	4·9810	0·4358
1	0·9962	0·0874	1·9923	0·1749	2·9885	0·2623	3·9847	0·3498	4·9808	0·4372
2	0·9961	0·0877	1·9923	0·1755	2·9884	0·2632	3·9846	0·3509	4·9807	0·4387
3	0·9961	0·0880	1·9922	0·1761	2·9884	0·2641	3·9845	0·3521	4·9806	0·4401
4	0·9961	0·0883	1·9922	0·1766	2·9883	0·2649	3·9844	0·3533	4·9805	0·4416
5	0·9961	0·0886	1·9921	0·1772	2·9882	0·2658	3·9843	0·3544	4·9803	0·4430
6	0·9960	0·0889	1·9921	0·1778	2·9881	0·2667	3·9842	0·3556	4·9802	0·4445
7	0·9960	0·0892	1·9920	0·1784	2·9880	0·2676	3·9841	0·3567	4·9801	0·4459
8	0·9960	0·0895	1·9920	0·1789	2·9880	0·2684	3·9840	0·3579	4·9799	0·4474
9	0·9960	0·0898	1·9919	0·1795	2·9879	0·2693	3·9839	0·3591	4·9798	0·4488
10	0·9959	0·0901	1·9919	0·1801	2·9878	0·2702	3·9837	0·3602	4·9797	0·4503
11	0·9959	0·0903	1·9918	0·1807	2·9877	0·2710	3·9836	0·3614	4·9796	0·4517
12	0·9959	0·0906	1·9918	0·1813	2·9877	0·2719	3·9835	0·3625	4·9794	0·4532
13	0·9959	0·0909	1·9917	0·1818	2·9876	0·2728	3·9834	0·3637	4·9793	0·4546
14	0·9958	0·0912	1·9917	0·1824	2·9875	0·2736	3·9833	0·3648	4·9792	0·4561
15	0·9958	0·0915	1·9916	0·1830	2·9874	0·2745	3·9832	0·3660	4·9790	0·4575
16	0·9958	0·0918	1·9916	0·1836	2·9873	0·2754	3·9831	0·3672	4·9789	0·4590
17	0·9958	0·0921	1·9915	0·1842	2·9873	0·2762	3·9830	0·3683	4·9788	0·4604
18	0·9957	0·0924	1·9914	0·1847	2·9872	0·2771	3·9829	0·3695	4·9786	0·4619
19	0·9957	0·0927	1·9914	0·1853	2·9871	0·2780	3·9828	0·3706	4·9785	0·4633
20	0·9957	0·0929	1·9913	0·1859	2·9870	0·2788	3·9827	0·3718	4·9784	0·4647
21	0·9956	0·0932	1·9913	0·1865	2·9869	0·2797	3·9826	0·3730	4·9782	0·4662
22	0·9956	0·0935	1·9912	0·1871	2·9868	0·2806	3·9825	0·3741	4·9781	0·4676
23	0·9956	0·0938	1·9912	0·1876	2·9868	0·2815	3·9824	0·3753	4·9779	0·4691
24	0·9956	0·0941	1·9911	0·1882	2·9867	0·2823	3·9822	0·3764	4·9778	0·4705
25	0·9955	0·0944	1·9911	0·1888	2·9866	0·2832	3·9821	0·3776	4·9777	0·4720
26	0·9955	0·0947	1·9910	0·1894	2·9865	0·2841	3·9820	0·3788	4·9775	0·4734
27	0·9955	0·0950	1·9910	0·1900	2·9864	0·2849	3·9819	0·3799	4·9774	0·4749
28	0·9955	0·0953	1·9909	0·1905	2·9864	0·2858	3·9818	0·3811	4·9773	0·4763
29	0·9954	0·0956	1·9908	0·1911	2·9863	0·2867	3·9817	0·3822	4·9771	0·4778
30	0·9954	0·0958	1·9908	0·1917	2·9862	0·2875	3·9816	0·3834	4·9770	0·4792
31	0·9954	0·0961	1·9907	0·1923	2·9861	0·2884	3·9815	0·3845	4·9768	0·4807
32	0·9953	0·0964	1·9907	0·1928	2·9860	0·2893	3·9814	0·3857	4·9767	0·4821
33	0·9953	0·0967	1·9906	0·1934	2·9859	0·2901	3·9812	0·3869	4·9766	0·4836
34	0·9953	0·0970	1·9906	0·1940	2·9859	0·2910	3·9811	0·3880	4·9764	0·4850
35	0·9953	0·0973	1·9905	0·1946	2·9858	0·2919	3·9810	0·3892	4·9763	0·4865
36	0·9952	0·0976	1·9905	0·1952	2·9857	0·2927	3·9809	0·3903	4·9761	0·4879
37	0·9952	0·0979	1·9904	0·1957	2·9856	0·2936	3·9808	0·3915	4·9760	0·4894
38	0·9952	0·0982	1·9903	0·1963	2·9855	0·2945	3·9807	0·3926	4·9759	0·4908
39	0·9951	0·0985	1·9903	0·1969	2·9854	0·2954	3·9806	0·3938	4·9757	0·4923
40	0·9951	0·0987	1·9902	0·1975	2·9853	0·2962	3·9805	0·3950	4·9756	0·4937
41	0·9951	0·0990	1·9902	0·1981	2·9853	0·2971	3·9803	0·3961	4·9754	0·4952
42	0·9951	0·0993	1·9901	0·1986	2·9852	0·2980	3·9802	0·3973	4·9753	0·4966
43	0·9950	0·0996	1·9901	0·1992	2·9851	0·2988	3·9801	0·3984	4·9751	0·4980
44	0·9950	0·0999	1·9900	0·1998	2·9850	0·2997	3·9800	0·3996	4·9750	0·4995
45	0·9950	0·1002	1·9899	0·2004	2·9849	0·3006	3·9799	0·4008	4·9748	0·5009
46	0·9949	0·1005	1·9899	0·2010	2·9848	0·3014	3·9798	0·4019	4·9747	0·5024
47	0·9949	0·1008	1·9898	0·2015	2·9847	0·3023	3·9796	0·4031	4·9746	0·5038
48	0·9949	0·1011	1·9898	0·2021	2·9846	0·3032	3·9795	0·4042	4·9744	0·5053
49	0·9949	0·1013	1·9897	0·2027	2·9846	0·3040	3·9794	0·4054	4·9743	0·5067
50	0·9948	0·1016	1·9896	0·2033	2·9845	0·3049	3·9793	0·4065	4·9741	0·5082
51	0·9948	0·1019	1·9896	0·2038	2·9844	0·3058	3·9792	0·4077	4·9740	0·5096
52	0·9948	0·1022	1·9895	0·2044	2·9843	0·3066	3·9791	0·4089	4·9738	0·5111
53	0·9947	0·1025	1·9895	0·2050	2·9842	0·3075	3·9789	0·4100	4·9737	0·5125
54	0·9947	0·1028	1·9894	0·2056	2·9841	0·3084	3·9788	0·4112	4·9735	0·5140
55	0·9947	0·1031	1·9893	0·2062	2·9840	0·3092	3·9787	0·4123	4·9734	0·5154
56	0·9946	0·1034	1·9893	0·2067	2·9839	0·3101	3·9786	0·4135	4·9732	0·5169
57	0·9946	0·1037	1·9892	0·2073	2·9838	0·3110	3·9785	0·4146	4·9731	0·5183
58	0·9946	0·1039	1·9892	0·2079	2·9837	0·3118	3·9783	0·4158	4·9729	0·5197
59	0·9946	0·1042	1·9891	0·2085	2·9837	0·3127	3·9782	0·4170	4·9728	0·5212
60	0·9945	0·1045	1·9890	0·2091	2·9836	0·3136	3·9781	0·4181	4·9726	0·5226
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9772	0-5229	6-9734	0-6101	7-9696	0-6972	8-9658	0-7844	9-9619	0-8716	60
5-9770	0-5247	6-9732	0-6121	7-9694	0-6996	8-9655	0-7870	9-9617	0-8745	59
5-9769	0-5264	6-9730	0-6141	7-9692	0-7019	8-9653	0-7896	9-9614	0-8774	58
5-9767	0-5282	6-9728	0-6162	7-9689	0-7042	8-9651	0-7922	9-9612	0-8803	57
5-9766	0-5299	6-9726	0-6182	7-9687	0-7065	8-9648	0-7948	9-9609	0-8831	56
5-9764	0-5316	6-9725	0-6202	7-9685	0-7088	8-9646	0-7974	9-9607	0-8860	55
5-9762	0-5334	6-9723	0-6223	7-9683	0-7112	8-9644	0-8000	9-9604	0-8889	54
5-9761	0-5351	6-9721	0-6243	7-9681	0-7135	8-9641	0-8027	9-9602	0-8918	53
5-9759	0-5368	6-9719	0-6263	7-9679	0-7158	8-9639	0-8053	9-9599	0-8947	52
5-9758	0-5386	6-9717	0-6283	7-9677	0-7181	8-9637	0-8079	9-9596	0-8976	51
5-9756	0-5403	6-9716	0-6304	7-9675	0-7204	8-9634	0-8105	9-9594	0-9005	50
5-9755	0-5421	6-9714	0-6324	7-9673	0-7227	8-9632	0-8131	9-9591	0-9034	49
5-9753	0-5438	6-9712	0-6344	7-9671	0-7251	8-9630	0-8157	9-9588	0-9063	48
5-9751	0-5455	6-9710	0-6365	7-9669	0-7274	8-9627	0-8183	9-9586	0-9092	47
5-9750	0-5473	6-9708	0-6385	7-9667	0-7297	8-9625	0-8209	9-9583	0-9121	46
5-9748	0-5490	6-9706	0-6405	7-9664	0-7320	8-9622	0-8235	9-9580	0-9150	45
5-9747	0-5507	6-9704	0-6425	7-9662	0-7343	8-9620	0-8261	9-9578	0-9179	44
5-9745	0-5525	6-9703	0-6446	7-9660	0-7366	8-9618	0-8287	9-9575	0-9208	43
5-9743	0-5542	6-9701	0-6466	7-9658	0-7390	8-9615	0-8313	9-9572	0-9237	42
5-9742	0-5560	6-9699	0-6486	7-9656	0-7413	8-9613	0-8339	9-9570	0-9266	41
5-9740	0-5577	6-9697	0-6506	7-9654	0-7436	8-9610	0-8365	9-9567	0-9295	40
5-9739	0-5594	6-9695	0-6527	7-9651	0-7459	8-9608	0-8392	9-9564	0-9324	39
5-9737	0-5612	6-9693	0-6547	7-9649	0-7482	8-9605	0-8418	9-9562	0-9353	38
5-9735	0-5629	6-9691	0-6567	7-9647	0-7505	8-9603	0-8444	9-9559	0-9382	37
5-9734	0-5646	6-9689	0-6588	7-9645	0-7529	8-9601	0-8470	9-9556	0-9411	36
5-9732	0-5664	6-9687	0-6608	7-9643	0-7552	8-9598	0-8496	9-9553	0-9440	35
5-9730	0-5681	6-9685	0-6628	7-9641	0-7575	8-9596	0-8522	9-9551	0-9469	34
5-9729	0-5699	6-9684	0-6648	7-9638	0-7598	8-9593	0-8548	9-9548	0-9498	33
5-9727	0-5716	6-9682	0-6669	7-9636	0-7621	8-9591	0-8574	9-9545	0-9527	32
5-9725	0-5733	6-9680	0-6689	7-9634	0-7644	8-9588	0-8600	9-9542	0-9556	31
5-9724	0-5751	6-9678	0-6709	7-9632	0-7668	8-9586	0-8626	9-9540	0-9585	30
5-9722	0-5768	6-9676	0-6729	7-9629	0-7691	8-9583	0-8652	9-9537	0-9614	29
5-9720	0-5785	6-9674	0-6750	7-9627	0-7714	8-9581	0-8678	9-9534	0-9642	28
5-9719	0-5803	6-9672	0-6770	7-9625	0-7737	8-9578	0-8704	9-9531	0-9671	27
5-9717	0-5820	6-9670	0-6790	7-9623	0-7760	8-9576	0-8730	9-9528	0-9700	26
5-9715	0-5838	6-9668	0-6811	7-9620	0-7783	8-9573	0-8756	9-9526	0-9729	25
5-9714	0-5855	6-9666	0-6831	7-9618	0-7807	8-9570	0-8782	9-9523	0-9758	24
5-9712	0-5872	6-9664	0-6851	7-9616	0-7830	8-9568	0-8809	9-9520	0-9787	23
5-9710	0-5890	6-9662	0-6871	7-9614	0-7853	8-9565	0-8835	9-9517	0-9816	22
5-9709	0-5907	6-9660	0-6892	7-9611	0-7876	8-9563	0-8861	9-9514	0-9845	21
5-9707	0-5924	6-9658	0-6912	7-9609	0-7899	8-9560	0-8887	9-9511	0-9874	20
5-9705	0-5942	6-9656	0-6932	7-9607	0-7922	8-9558	0-8913	9-9508	0-9903	19
5-9703	0-5959	6-9654	0-6952	7-9604	0-7946	8-9555	0-8939	9-9506	0-9932	18
5-9702	0-5977	6-9652	0-6973	7-9602	0-7969	8-9552	0-8965	9-9503	0-9961	17
5-9700	0-5994	6-9650	0-6993	7-9600	0-7992	8-9550	0-8991	9-9500	0-9990	16
5-9698	0-6011	6-9648	0-7013	7-9597	0-8015	8-9547	0-9017	9-9497	1-0019	15
5-9696	0-6029	6-9646	0-7033	7-9595	0-8038	8-9545	0-9043	9-9494	1-0048	14
5-9695	0-6046	6-9644	0-7054	7-9593	0-8061	8-9542	0-9069	9-9491	1-0077	13
5-9693	0-6063	6-9642	0-7074	7-9590	0-8085	8-9539	0-9095	9-9488	1-0106	12
5-9691	0-6081	6-9640	0-7094	7-9588	0-8108	8-9537	0-9121	9-9485	1-0135	11
5-9689	0-6098	6-9638	0-7114	7-9586	0-8131	8-9534	0-9147	9-9482	1-0164	10
5-9688	0-6115	6-9635	0-7135	7-9583	0-8154	8-9531	0-9173	9-9479	1-0192	9
5-9686	0-6133	6-9633	0-7155	7-9581	0-8177	8-9529	0-9199	9-9476	1-0221	8
5-9684	0-6150	6-9631	0-7175	7-9579	0-8200	8-9526	0-9225	9-9473	1-0250	7
5-9682	0-6168	6-9629	0-7195	7-9576	0-8223	8-9523	0-9251	9-9470	1-0279	6
5-9680	0-6185	6-9627	0-7216	7-9574	0-8247	8-9521	0-9277	9-9467	1-0308	5
5-9679	0-6202	6-9625	0-7236	7-9571	0-8270	8-9518	0-9303	9-9464	1-0337	4
5-9677	0-6220	6-9623	0-7256	7-9569	0-8293	8-9515	0-9329	9-9461	1-0366	3
5-9675	0-6237	6-9621	0-7276	7-9567	0-8316	8-9512	0-9355	9-9458	1-0395	2
5-9673	0-6254	6-9619	0-7297	7-9564	0-8339	8-9510	0-9382	9-9455	1-0424	1
5-9671	0-6272	6-9617	0-7317	7-9562	0-8362	8-9507	0-9408	9-9452	1-0453	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 6 Degrees.

Dist.	1		2		3		4		5	
Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·9945	0·1045	1·9890	0·2091	2·9836	0·3136	3·9781	0·4181	4·9726	0·5226
1	0·9945	0·1048	1·9890	0·2096	2·9835	0·3145	3·9780	0·4193	4·9725	0·5241
2	0·9945	0·1051	1·9889	0·2102	2·9834	0·3153	3·9778	0·4204	4·9723	0·5255
3	0·9944	0·1054	1·9889	0·2108	2·9833	0·3162	3·9777	0·4216	4·9722	0·5270
4	0·9944	0·1057	1·9888	0·2114	2·9832	0·3171	3·9776	0·4227	4·9720	0·5284
5	0·9944	0·1060	1·9887	0·2119	2·9831	0·3179	3·9775	0·4239	4·9718	0·5299
6	0·9943	0·1063	1·9887	0·2125	2·9830	0·3188	3·9774	0·4251	4·9717	0·5313
7	0·9943	0·1066	1·9886	0·2131	2·9829	0·3197	3·9772	0·4262	4·9715	0·5328
8	0·9943	0·1068	1·9886	0·2137	2·9828	0·3205	3·9771	0·4274	4·9714	0·5342
9	0·9942	0·1071	1·9885	0·2143	2·9827	0·3214	3·9770	0·4285	4·9712	0·5357
10	0·9942	0·1074	1·9884	0·2148	2·9826	0·3223	3·9769	0·4297	4·9711	0·5371
11	0·9942	0·1077	1·9884	0·2154	2·9825	0·3231	3·9767	0·4308	4·9709	0·5386
12	0·9942	0·1080	1·9883	0·2160	2·9825	0·3240	3·9766	0·4320	4·9708	0·5400
13	0·9941	0·1083	1·9882	0·2166	2·9824	0·3249	3·9765	0·4332	4·9706	0·5414
14	0·9941	0·1086	1·9882	0·2172	2·9823	0·3257	3·9764	0·4343	4·9704	0·5429
15	0·9941	0·1089	1·9881	0·2177	2·9822	0·3266	3·9762	0·4355	4·9703	0·5443
16	0·9940	0·1092	1·9880	0·2183	2·9821	0·3275	3·9761	0·4366	4·9701	0·5458
17	0·9940	0·1094	1·9880	0·2189	2·9820	0·3283	3·9760	0·4378	4·9700	0·5472
18	0·9940	0·1097	1·9879	0·2195	2·9819	0·3292	3·9758	0·4389	4·9698	0·5487
19	0·9939	0·1100	1·9879	0·2200	2·9818	0·3301	3·9757	0·4401	4·9696	0·5501
20	0·9939	0·1103	1·9878	0·2206	2·9817	0·3309	3·9756	0·4413	4·9695	0·5516
21	0·9939	0·1106	1·9877	0·2212	2·9816	0·3318	3·9755	0·4424	4·9693	0·5530
22	0·9938	0·1109	1·9877	0·2218	2·9815	0·3327	3·9753	0·4436	4·9692	0·5545
23	0·9938	0·1112	1·9876	0·2224	2·9814	0·3335	3·9752	0·4447	4·9690	0·5559
24	0·9938	0·1115	1·9875	0·2229	2·9813	0·3344	3·9751	0·4459	4·9688	0·5573
25	0·9937	0·1118	1·9875	0·2235	2·9812	0·3353	3·9749	0·4470	4·9687	0·5588
26	0·9937	0·1120	1·9874	0·2241	2·9811	0·3361	3·9748	0·4482	4·9685	0·5602
27	0·9937	0·1123	1·9873	0·2247	2·9810	0·3370	3·9747	0·4493	4·9684	0·5617
28	0·9936	0·1126	1·9873	0·2253	2·9809	0·3379	3·9746	0·4505	4·9682	0·5631
29	0·9936	0·1129	1·9872	0·2258	2·9808	0·3387	3·9744	0·4517	4·9680	0·5646
30	0·9936	0·1132	1·9871	0·2264	2·9807	0·3396	3·9743	0·4528	4·9679	0·5660
31	0·9935	0·1135	1·9871	0·2270	2·9806	0·3405	3·9742	0·4540	4·9677	0·5675
32	0·9935	0·1138	1·9870	0·2276	2·9805	0·3413	3·9740	0·4551	4·9675	0·5689
33	0·9935	0·1141	1·9869	0·2281	2·9804	0·3422	3·9739	0·4563	4·9674	0·5704
34	0·9934	0·1144	1·9869	0·2287	2·9803	0·3431	3·9738	0·4574	4·9672	0·5718
35	0·9934	0·1146	1·9868	0·2293	2·9802	0·3439	3·9736	0·4586	4·9670	0·5732
36	0·9934	0·1149	1·9867	0·2299	2·9801	0·3448	3·9735	0·4597	4·9669	0·5747
37	0·9933	0·1152	1·9867	0·2305	2·9800	0·3457	3·9734	0·4609	4·9667	0·5761
38	0·9933	0·1155	1·9866	0·2310	2·9799	0·3465	3·9732	0·4621	4·9665	0·5776
39	0·9933	0·1158	1·9865	0·2316	2·9798	0·3474	3·9731	0·4632	4·9664	0·5790
40	0·9932	0·1161	1·9865	0·2322	2·9797	0·3483	3·9730	0·4644	4·9662	0·5805
41	0·9932	0·1164	1·9864	0·2328	2·9796	0·3491	3·9728	0·4655	4·9660	0·5819
42	0·9932	0·1167	1·9863	0·2333	2·9795	0·3500	3·9727	0·4667	4·9659	0·5834
43	0·9931	0·1170	1·9863	0·2339	2·9794	0·3509	3·9725	0·4678	4·9657	0·5848
44	0·9931	0·1172	1·9862	0·2345	2·9793	0·3517	3·9724	0·4690	4·9655	0·5862
45	0·9931	0·1175	1·9861	0·2351	2·9792	0·3526	3·9723	0·4701	4·9653	0·5877
46	0·9930	0·1178	1·9861	0·2357	2·9791	0·3535	3·9721	0·4713	4·9652	0·5891
47	0·9930	0·1181	1·9860	0·2362	2·9790	0·3543	3·9720	0·4725	4·9650	0·5906
48	0·9930	0·1184	1·9859	0·2368	2·9789	0·3552	3·9719	0·4736	4·9648	0·5920
49	0·9929	0·1187	1·9859	0·2374	2·9788	0·3561	3·9717	0·4748	4·9647	0·5935
50	0·9929	0·1190	1·9858	0·2380	2·9787	0·3569	3·9716	0·4759	4·9645	0·5949
51	0·9929	0·1193	1·9857	0·2385	2·9786	0·3578	3·9714	0·4771	4·9643	0·5964
52	0·9928	0·1196	1·9857	0·2391	2·9785	0·3587	3·9713	0·4782	4·9641	0·5978
53	0·9928	0·1198	1·9856	0·2397	2·9784	0·3595	3·9712	0·4794	4·9640	0·5992
54	0·9928	0·1201	1·9855	0·2403	2·9783	0·3604	3·9710	0·4805	4·9638	0·6007
55	0·9927	0·1204	1·9854	0·2409	2·9782	0·3613	3·9709	0·4817	4·9636	0·6021
56	0·9927	0·1207	1·9854	0·2414	2·9781	0·3621	3·9707	0·4829	4·9634	0·6036
57	0·9927	0·1210	1·9853	0·2420	2·9780	0·3630	3·9706	0·4840	4·9633	0·6050
58	0·9926	0·1213	1·9852	0·2426	2·9779	0·3639	3·9705	0·4852	4·9631	0·6065
59	0·9926	0·1216	1·9852	0·2432	2·9777	0·3647	3·9703	0·4863	4·9629	0·6079
60	0·9925	0·1219	1·9851	0·2437	2·9776	0·3656	3·9702	0·4875	4·9627	0·6093
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9671	0-6272	6-9617	0-7317	7-9562	0-8362	8-9507	0-9408	9-9452	1-0453	60
5-9669	0-6289	6-9614	0-7337	7-9559	0-8385	8-9504	0-9434	9-9449	1-0482	59
5-9668	0-6306	6-9612	0-7357	7-9557	0-8409	8-9501	0-9460	9-9446	1-0511	58
5-9666	0-6324	6-9610	0-7378	7-9554	0-8432	8-9499	0-9486	9-9443	1-0540	57
5-9664	0-6341	6-9608	0-7398	7-9552	0-8455	8-9496	0-9512	9-9440	1-0569	56
5-9662	0-6358	6-9606	0-7418	7-9550	0-8478	8-9493	0-9538	9-9437	1-0597	55
5-9660	0-6376	6-9604	0-7438	7-9547	0-8501	8-9490	0-9564	9-9434	1-0626	54
5-9658	0-6393	6-9601	0-7459	7-9545	0-8524	8-9488	0-9590	9-9431	1-0655	53
5-9657	0-6411	6-9599	0-7479	7-9542	0-8547	8-9485	0-9616	9-9428	1-0684	52
5-9655	0-6428	6-9597	0-7499	7-9540	0-8571	8-9482	0-9642	9-9424	1-0713	51
5-9653	0-6445	6-9595	0-7519	7-9537	0-8594	8-9479	0-9668	9-9421	1-0742	50
5-9651	0-6463	6-9593	0-7540	7-9535	0-8617	8-9476	0-9694	9-9418	1-0771	49
5-9649	0-6480	6-9591	0-7560	7-9532	0-8640	8-9474	0-9720	9-9415	1-0800	48
5-9647	0-6497	6-9588	0-7580	7-9530	0-8663	8-9471	0-9746	9-9412	1-0829	47
5-9645	0-6515	6-9586	0-7600	7-9527	0-8686	8-9468	0-9772	9-9409	1-0858	46
5-9643	0-6532	6-9584	0-7621	7-9525	0-8709	8-9465	0-9798	9-9406	1-0887	45
5-9641	0-6549	6-9582	0-7641	7-9522	0-8732	8-9462	0-9824	9-9402	1-0916	44
5-9640	0-6567	6-9579	0-7661	7-9519	0-8756	8-9459	0-9850	9-9399	1-0945	43
5-9638	0-6584	6-9577	0-7681	7-9517	0-8779	8-9456	0-9876	9-9396	1-0973	42
5-9636	0-6601	6-9575	0-7702	7-9514	0-8802	8-9454	0-9902	9-9393	1-1002	41
5-9634	0-6619	6-9573	0-7722	7-9512	0-8825	8-9451	0-9928	9-9390	1-1031	40
5-9632	0-6636	6-9571	0-7742	7-9509	0-8848	8-9448	0-9954	9-9386	1-1060	39
5-9630	0-6653	6-9568	0-7762	7-9507	0-8871	8-9445	0-9980	9-9383	1-1089	38
5-9628	0-6671	6-9566	0-7783	7-9504	0-8894	8-9442	1-0006	9-9380	1-1118	37
5-9626	0-6688	6-9564	0-7803	7-9501	0-8918	8-9439	1-0032	9-9377	1-1147	36
5-9624	0-6705	6-9561	0-7823	7-9499	0-8941	8-9436	1-0058	9-9374	1-1176	35
5-9622	0-6723	6-9559	0-7843	7-9496	0-8964	8-9433	1-0084	9-9370	1-1205	34
5-9620	0-6740	6-9557	0-7864	7-9494	0-8987	8-9430	1-0110	9-9367	1-1234	33
5-9618	0-6758	6-9555	0-7884	7-9491	0-9010	8-9427	1-0136	9-9364	1-1263	32
5-9616	0-6775	6-9552	0-7904	7-9488	0-9033	8-9424	1-0162	9-9360	1-1291	31
5-9614	0-6792	6-9550	0-7924	7-9486	0-9056	8-9421	1-0188	9-9357	1-1320	30
5-9612	0-6810	6-9548	0-7944	7-9483	0-9079	8-9419	1-0214	9-9354	1-1349	29
5-9610	0-6827	6-9545	0-7965	7-9480	0-9102	8-9416	1-0240	9-9351	1-1378	28
5-9608	0-6844	6-9543	0-7985	7-9478	0-9126	8-9413	1-0266	9-9347	1-1407	27
5-9606	0-6862	6-9541	0-8005	7-9475	0-9149	8-9410	1-0292	9-9344	1-1436	26
5-9604	0-6879	6-9538	0-8025	7-9472	0-9172	8-9407	1-0318	9-9341	1-1465	25
5-9602	0-6896	6-9536	0-8046	7-9470	0-9195	8-9404	1-0344	9-9337	1-1494	24
5-9600	0-6914	6-9534	0-8066	7-9467	0-9218	8-9401	1-0370	9-9334	1-1523	23
5-9598	0-6931	6-9531	0-8086	7-9464	0-9241	8-9398	1-0396	9-9331	1-1552	22
5-9596	0-6948	6-9529	0-8106	7-9462	0-9264	8-9394	1-0422	9-9327	1-1580	21
5-9594	0-6966	6-9527	0-8127	7-9459	0-9287	8-9391	1-0448	9-9324	1-1609	20
5-9592	0-6983	6-9524	0-8147	7-9456	0-9311	8-9388	1-0474	9-9320	1-1638	19
5-9590	0-7000	6-9522	0-8167	7-9454	0-9334	8-9385	1-0500	9-9317	1-1667	18
5-9588	0-7018	6-9520	0-8187	7-9451	0-9357	8-9382	1-0526	9-9314	1-1696	17
5-9586	0-7035	6-9517	0-8207	7-9448	0-9380	8-9379	1-0552	9-9310	1-1725	16
5-9584	0-7052	6-9515	0-8228	7-9445	0-9403	8-9376	1-0578	9-9307	1-1754	15
5-9582	0-7070	6-9512	0-8248	7-9443	0-9426	8-9373	1-0604	9-9303	1-1783	14
5-9580	0-7087	6-9510	0-8268	7-9440	0-9449	8-9370	1-0630	9-9300	1-1812	13
5-9578	0-7104	6-9508	0-8288	7-9437	0-9472	8-9367	1-0656	9-9297	1-1840	12
5-9576	0-7122	6-9505	0-8308	7-9434	0-9495	8-9364	1-0682	9-9293	1-1869	11
5-9574	0-7139	6-9503	0-8329	7-9432	0-9519	8-9361	1-0708	9-9290	1-1898	10
5-9572	0-7156	6-9500	0-8349	7-9429	0-9542	8-9358	1-0734	9-9286	1-1927	9
5-9570	0-7174	6-9498	0-8369	7-9426	0-9565	8-9354	1-0760	9-9283	1-1956	8
5-9568	0-7191	6-9495	0-8389	7-9423	0-9588	8-9351	1-0786	9-9279	1-1985	7
5-9565	0-7208	6-9493	0-8410	7-9421	0-9611	8-9348	1-0812	9-9276	1-2014	6
5-9563	0-7226	6-9491	0-8430	7-9418	0-9634	8-9345	1-0838	9-9272	1-2043	5
5-9561	0-7243	6-9488	0-8450	7-9415	0-9657	8-9342	1-0864	9-9269	1-2071	4
5-9559	0-7260	6-9486	0-8470	7-9412	0-9680	8-9339	1-0890	9-9265	1-2100	3
5-9557	0-7278	6-9483	0-8490	7-9409	0-9703	8-9336	1-0916	9-9262	1-2129	2
5-9555	0-7295	6-9481	0-8511	7-9407	0-9726	8-9332	1-0942	9-9258	1-2158	1
5-9553	0-7312	6-9478	0-8531	7-9404	0-9750	8-9329	1-0968	9-9255	1-2187	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 7 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9925	0.1219	1.9851	0.2437	2.9776	0.3656	3.9702	0.4875	4.9627	0.6093	
1	0.9925	0.1222	1.9850	0.2443	2.9775	0.3665	3.9700	0.4886	4.9626	0.6108	
2	0.9925	0.1224	1.9850	0.2449	2.9774	0.3673	3.9699	0.4898	4.9624	0.6122	
3	0.9924	0.1227	1.9849	0.2455	2.9773	0.3682	3.9698	0.4909	4.9622	0.6137	
4	0.9924	0.1230	1.9848	0.2460	2.9772	0.3691	3.9696	0.4921	4.9620	0.6151	
5	0.9924	0.1233	1.9847	0.2466	2.9771	0.3699	3.9695	0.4933	4.9618	0.6166	
6	0.9923	0.1236	1.9847	0.2472	2.9770	0.3708	3.9693	0.4944	4.9617	0.6180	
7	0.9923	0.1239	1.9846	0.2478	2.9769	0.3717	3.9692	0.4956	4.9615	0.6195	
8	0.9923	0.1242	1.9845	0.2484	2.9768	0.3725	3.9690	0.4967	4.9613	0.6209	
9	0.9922	0.1245	1.9844	0.2489	2.9767	0.3734	3.9689	0.4979	4.9611	0.6223	
10	0.9922	0.1248	1.9844	0.2495	2.9766	0.3743	3.9687	0.4990	4.9609	0.6238	
11	0.9922	0.1250	1.9843	0.2501	2.9765	0.3751	3.9686	0.5002	4.9608	0.6252	
12	0.9921	0.1253	1.9842	0.2507	2.9763	0.3760	3.9685	0.5013	4.9606	0.6267	
13	0.9921	0.1256	1.9842	0.2512	2.9762	0.3769	3.9683	0.5025	4.9604	0.6281	
14	0.9920	0.1259	1.9841	0.2518	2.9761	0.3777	3.9682	0.5036	4.9602	0.6296	
15	0.9920	0.1262	1.9840	0.2524	2.9760	0.3786	3.9680	0.5048	4.9600	0.6310	
16	0.9920	0.1265	1.9839	0.2530	2.9759	0.3795	3.9679	0.5060	4.9598	0.6324	
17	0.9919	0.1268	1.9839	0.2536	2.9758	0.3803	3.9677	0.5071	4.9597	0.6339	
18	0.9919	0.1271	1.9838	0.2541	2.9757	0.3812	3.9676	0.5083	4.9595	0.6353	
19	0.9919	0.1274	1.9837	0.2547	2.9756	0.3821	3.9674	0.5094	4.9593	0.6368	
20	0.9918	0.1276	1.9836	0.2553	2.9755	0.3829	3.9673	0.5106	4.9591	0.6382	
21	0.9918	0.1279	1.9836	0.2559	2.9753	0.3838	3.9671	0.5117	4.9589	0.6397	
22	0.9917	0.1282	1.9835	0.2564	2.9752	0.3847	3.9670	0.5129	4.9587	0.6411	
23	0.9917	0.1285	1.9834	0.2570	2.9751	0.3855	3.9668	0.5140	4.9585	0.6425	
24	0.9917	0.1288	1.9833	0.2576	2.9750	0.3864	3.9667	0.5152	4.9584	0.6440	
25	0.9916	0.1291	1.9833	0.2582	2.9749	0.3873	3.9665	0.5163	4.9582	0.6454	
26	0.9916	0.1294	1.9832	0.2587	2.9748	0.3881	3.9664	0.5175	4.9580	0.6469	
27	0.9916	0.1297	1.9831	0.2593	2.9747	0.3890	3.9662	0.5186	4.9578	0.6483	
28	0.9915	0.1299	1.9830	0.2599	2.9746	0.3898	3.9661	0.5198	4.9576	0.6497	
29	0.9915	0.1302	1.9830	0.2605	2.9744	0.3907	3.9659	0.5210	4.9574	0.6512	
30	0.9914	0.1305	1.9829	0.2611	2.9743	0.3916	3.9658	0.5221	4.9572	0.6526	
31	0.9914	0.1308	1.9828	0.2616	2.9742	0.3924	3.9656	0.5233	4.9570	0.6541	
32	0.9914	0.1311	1.9827	0.2622	2.9741	0.3933	3.9655	0.5244	4.9568	0.6555	
33	0.9913	0.1314	1.9827	0.2628	2.9740	0.3942	3.9653	0.5256	4.9567	0.6570	
34	0.9913	0.1317	1.9826	0.2634	2.9739	0.3950	3.9652	0.5267	4.9565	0.6584	
35	0.9913	0.1320	1.9825	0.2639	2.9738	0.3959	3.9650	0.5279	4.9563	0.6598	
36	0.9912	0.1323	1.9824	0.2645	2.9736	0.3968	3.9649	0.5290	4.9561	0.6613	
37	0.9912	0.1325	1.9824	0.2651	2.9735	0.3976	3.9647	0.5302	4.9559	0.6627	
38	0.9911	0.1328	1.9823	0.2657	2.9734	0.3985	3.9646	0.5313	4.9557	0.6642	
39	0.9911	0.1331	1.9822	0.2662	2.9733	0.3994	3.9644	0.5325	4.9555	0.6656	
40	0.9911	0.1334	1.9821	0.2668	2.9732	0.4002	3.9642	0.5336	4.9553	0.6670	
41	0.9910	0.1337	1.9820	0.2674	2.9731	0.4011	3.9641	0.5348	4.9551	0.6685	
42	0.9910	0.1340	1.9820	0.2680	2.9729	0.4020	3.9639	0.5359	4.9549	0.6699	
43	0.9909	0.1343	1.9819	0.2685	2.9728	0.4028	3.9638	0.5371	4.9547	0.6714	
44	0.9909	0.1346	1.9818	0.2691	2.9727	0.4037	3.9636	0.5383	4.9545	0.6728	
45	0.9909	0.1349	1.9817	0.2697	2.9726	0.4046	3.9635	0.5394	4.9543	0.6743	
46	0.9908	0.1351	1.9817	0.2703	2.9725	0.4054	3.9633	0.5406	4.9541	0.6757	
47	0.9908	0.1354	1.9816	0.2709	2.9724	0.4063	3.9631	0.5417	4.9539	0.6771	
48	0.9907	0.1357	1.9815	0.2714	2.9722	0.4071	3.9630	0.5429	4.9537	0.6786	
49	0.9907	0.1360	1.9814	0.2720	2.9721	0.4080	3.9628	0.5440	4.9535	0.6800	
50	0.9907	0.1363	1.9813	0.2726	2.9720	0.4089	3.9627	0.5452	4.9533	0.6815	
51	0.9906	0.1366	1.9813	0.2732	2.9719	0.4097	3.9625	0.5463	4.9531	0.6829	
52	0.9906	0.1369	1.9812	0.2737	2.9718	0.4106	3.9624	0.5475	4.9529	0.6843	
53	0.9905	0.1372	1.9811	0.2743	2.9716	0.4115	3.9622	0.5486	4.9527	0.6858	
54	0.9905	0.1374	1.9810	0.2749	2.9715	0.4123	3.9620	0.5498	4.9525	0.6872	
55	0.9905	0.1377	1.9809	0.2755	2.9714	0.4132	3.9619	0.5509	4.9523	0.6887	
56	0.9904	0.1380	1.9809	0.2760	2.9713	0.4141	3.9617	0.5521	4.9521	0.6901	
57	0.9904	0.1383	1.9808	0.2766	2.9712	0.4149	3.9616	0.5532	4.9519	0.6915	
58	0.9903	0.1386	1.9807	0.2772	2.9710	0.4158	3.9614	0.5544	4.9517	0.6930	
59	0.9903	0.1389	1.9806	0.2778	2.9709	0.4167	3.9612	0.5555	4.9515	0.6944	
60	0.9903	0.1392	1.9805	0.2783	2.9708	0.4175	3.9611	0.5567	4.9513	0.6959	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9553	0-7312	6-9478	0-8531	7-9404	0-9750	8-9329	1-0968	9-9255	1-2187	60
5-9551	0-7329	6-9476	0-8551	7-9401	0-9773	8-9326	1-0994	9-9251	1-2216	59
5-9549	0-7347	6-9473	0-8571	7-9398	0-9796	8-9323	1-1020	9-9248	1-2245	58
5-9546	0-7364	6-9471	0-8591	7-9395	0-9819	8-9320	1-1046	9-9244	1-2274	57
5-9544	0-7381	6-9468	0-8612	7-9392	0-9842	8-9316	1-1072	9-9240	1-2302	56
5-9542	0-7399	6-9466	0-8632	7-9389	0-9865	8-9313	1-1098	9-9237	1-2331	55
5-9540	0-7416	6-9463	0-8652	7-9387	0-9888	8-9310	1-1124	9-9233	1-2360	54
5-9538	0-7433	6-9461	0-8672	7-9384	0-9911	8-9307	1-1150	9-9230	1-2389	53
5-9536	0-7451	6-9458	0-8693	7-9381	0-9934	8-9303	1-1176	9-9226	1-2418	52
5-9533	0-7468	6-9456	0-8713	7-9378	0-9957	8-9300	1-1202	9-9222	1-2447	51
5-9531	0-7485	6-9453	0-8733	7-9375	0-9980	8-9297	1-1228	9-9219	1-2476	50
5-9529	0-7503	6-9451	0-8753	7-9372	1-0004	8-9294	1-1254	9-9215	1-2504	49
5-9527	0-7520	6-9448	0-8773	7-9369	1-0027	8-9290	1-1280	9-9211	1-2533	48
5-9525	0-7537	6-9445	0-8794	7-9366	1-0050	8-9287	1-1306	9-9208	1-2562	47
5-9522	0-7555	6-9443	0-8814	7-9363	1-0073	8-9284	1-1332	9-9204	1-2591	46
5-9520	0-7572	6-9440	0-8834	7-9360	1-0096	8-9280	1-1358	9-9200	1-2620	45
5-9518	0-7589	6-9438	0-8854	7-9357	1-0119	8-9277	1-1384	9-9197	1-2649	44
5-9516	0-7607	6-9435	0-8874	7-9355	1-0142	8-9274	1-1410	9-9193	1-2678	43
5-9514	0-7624	6-9433	0-8895	7-9352	1-0165	8-9270	1-1436	9-9189	1-2706	42
5-9511	0-7641	6-9430	0-8915	7-9349	1-0188	8-9267	1-1462	9-9186	1-2735	41
5-9509	0-7658	6-9427	0-8935	7-9346	1-0211	8-9264	1-1488	9-9182	1-2764	40
5-9507	0-7676	6-9425	0-8955	7-9343	1-0234	8-9260	1-1514	9-9178	1-2793	39
5-9505	0-7693	6-9422	0-8975	7-9340	1-0257	8-9257	1-1540	9-9175	1-2822	38
5-9503	0-7710	6-9420	0-8995	7-9337	1-0281	8-9254	1-1566	9-9171	1-2851	37
5-9500	0-7728	6-9417	0-9016	7-9334	1-0304	8-9250	1-1592	9-9167	1-2880	36
5-9498	0-7745	6-9414	0-9036	7-9331	1-0327	8-9247	1-1618	9-9163	1-2908	35
5-9496	0-7762	6-9412	0-9056	7-9328	1-0350	8-9244	1-1644	9-9160	1-2937	34
5-9494	0-7780	6-9409	0-9076	7-9325	1-0373	8-9240	1-1669	9-9156	1-2966	33
5-9491	0-7797	6-9406	0-9096	7-9322	1-0396	8-9237	1-1695	9-9152	1-2995	32
5-9489	0-7814	6-9404	0-9117	7-9319	1-0419	8-9233	1-1721	9-9148	1-3024	31
5-9487	0-7832	6-9401	0-9137	7-9316	1-0442	8-9230	1-1747	9-9144	1-3053	30
5-9484	0-7849	6-9398	0-9157	7-9313	1-0465	8-9227	1-1773	9-9141	1-3081	29
5-9482	0-7866	6-9396	0-9177	7-9310	1-0488	8-9223	1-1799	9-9137	1-3110	28
5-9480	0-7883	6-9393	0-9197	7-9306	1-0511	8-9220	1-1825	9-9133	1-3139	27
5-9478	0-7901	6-9390	0-9218	7-9303	1-0534	8-9216	1-1851	9-9129	1-3168	26
5-9475	0-7918	6-9388	0-9238	7-9300	1-0557	8-9213	1-1877	9-9125	1-3197	25
5-9473	0-7935	6-9385	0-9258	7-9297	1-0581	8-9209	1-1903	9-9122	1-3226	24
5-9471	0-7953	6-9382	0-9278	7-9294	1-0604	8-9206	1-1929	9-9118	1-3254	23
5-9468	0-7970	6-9380	0-9298	7-9291	1-0627	8-9202	1-1955	9-9114	1-3283	22
5-9466	0-7987	6-9377	0-9318	7-9288	1-0650	8-9199	1-1981	9-9110	1-3312	21
5-9464	0-8005	6-9374	0-9339	7-9285	1-0673	8-9195	1-2007	9-9106	1-3341	20
5-9461	0-8022	6-9372	0-9359	7-9282	1-0696	8-9192	1-2033	9-9102	1-3370	19
5-9459	0-8039	6-9369	0-9379	7-9279	1-0719	8-9188	1-2059	9-9098	1-3399	18
5-9457	0-8056	6-9366	0-9399	7-9276	1-0742	8-9185	1-2085	9-9094	1-3427	17
5-9454	0-8074	6-9363	0-9419	7-9272	1-0765	8-9181	1-2111	9-9091	1-3456	16
5-9452	0-8091	6-9361	0-9440	7-9269	1-0788	8-9178	1-2137	9-9087	1-3485	15
5-9450	0-8108	6-9358	0-9460	7-9266	1-0811	8-9174	1-2163	9-9083	1-3514	14
5-9447	0-8126	6-9355	0-9480	7-9263	1-0834	8-9171	1-2188	9-9079	1-3543	13
5-9445	0-8143	6-9352	0-9500	7-9260	1-0857	8-9167	1-2214	9-9075	1-3572	12
5-9442	0-8160	6-9350	0-9520	7-9257	1-0880	8-9164	1-2240	9-9071	1-3600	11
5-9440	0-8178	6-9347	0-9540	7-9253	1-0903	8-9160	1-2266	9-9067	1-3629	10
5-9438	0-8195	6-9344	0-9561	7-9250	1-0926	8-9157	1-2292	9-9063	1-3658	9
5-9435	0-8212	6-9341	0-9581	7-9247	1-0949	8-9153	1-2318	9-9059	1-3687	8
5-9433	0-8229	6-9338	0-9601	7-9244	1-0973	8-9149	1-2344	9-9055	1-3716	7
5-9431	0-8247	6-9336	0-9621	7-9241	1-0996	8-9146	1-2370	9-9051	1-3744	6
5-9428	0-8264	6-9333	0-9641	7-9238	1-1019	8-9142	1-2396	9-9047	1-3773	5
5-9426	0-8281	6-9330	0-9661	7-9234	1-1042	8-9139	1-2422	9-9043	1-3802	4
5-9423	0-8299	6-9327	0-9682	7-9231	1-1065	8-9135	1-2448	9-9039	1-3831	3
5-9421	0-8316	6-9324	0-9702	7-9228	1-1088	8-9131	1-2474	9-9035	1-3860	2
5-9419	0-8333	6-9322	0-9722	7-9225	1-1111	8-9128	1-2500	9-9031	1-3889	1
5-9416	0-8350	6-9319	0-9742	7-9221	1-1134	8-9124	1-2526	9-9027	1-3917	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

82 Degrees.

# 8 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·9903	0·1392	1·9805	0·2783	2·9708	0·4175	3·9611	0·5567	4·9513	0·6959	
1	0·9902	0·1395	1·9805	0·2789	2·9707	0·4184	3·9609	0·5578	4·9511	0·6973	
2	0·9902	0·1397	1·9804	0·2795	2·9706	0·4192	3·9607	0·5590	4·9509	0·6987	
3	0·9901	0·1400	1·9803	0·2801	2·9704	0·4201	3·9606	0·5601	4·9507	0·7002	
4	0·9901	0·1403	1·9802	0·2807	2·9703	0·4210	3·9604	0·5613	4·9505	0·7016	
5	0·9901	0·1406	1·9801	0·2812	2·9702	0·4218	3·9603	0·5625	4·9503	0·7031	
6	0·9900	0·1409	1·9800	0·2818	2·9701	0·4227	3·9601	0·5636	4·9501	0·7045	
7	0·9900	0·1412	1·9800	0·2824	2·9699	0·4236	3·9599	0·5648	4·9499	0·7059	
8	0·9899	0·1415	1·9799	0·2830	2·9698	0·4244	3·9598	0·5659	4·9497	0·7074	
9	0·9899	0·1418	1·9798	0·2835	2·9697	0·4253	3·9596	0·5671	4·9495	0·7088	
10	0·9899	0·1421	1·9797	0·2841	2·9696	0·4262	3·9594	0·5682	4·9493	0·7103	
11	0·9898	0·1423	1·9796	0·2847	2·9695	0·4270	3·9593	0·5694	4·9491	0·7117	
12	0·9898	0·1426	1·9796	0·2853	2·9693	0·4279	3·9591	0·5705	4·9489	0·7131	
13	0·9897	0·1429	1·9795	0·2858	2·9692	0·4288	3·9589	0·5717	4·9487	0·7146	
14	0·9897	0·1432	1·9794	0·2864	2·9691	0·4296	3·9588	0·5728	4·9485	0·7160	
15	0·9897	0·1435	1·9793	0·2870	2·9690	0·4305	3·9586	0·5740	4·9483	0·7175	
16	0·9896	0·1438	1·9792	0·2876	2·9688	0·4313	3·9584	0·5751	4·9480	0·7189	
17	0·9896	0·1441	1·9791	0·2881	2·9687	0·4322	3·9583	0·5763	4·9478	0·7203	
18	0·9895	0·1444	1·9791	0·2887	2·9686	0·4331	3·9581	0·5774	4·9476	0·7218	
19	0·9895	0·1446	1·9790	0·2893	2·9685	0·4339	3·9579	0·5786	4·9474	0·7232	
20	0·9894	0·1449	1·9789	0·2899	2·9683	0·4348	3·9578	0·5797	4·9472	0·7247	
21	0·9894	0·1452	1·9788	0·2904	2·9682	0·4357	3·9576	0·5809	4·9470	0·7261	
22	0·9894	0·1455	1·9787	0·2910	2·9681	0·4365	3·9574	0·5820	4·9468	0·7275	
23	0·9893	0·1458	1·9786	0·2916	2·9679	0·4374	3·9573	0·5832	4·9466	0·7290	
24	0·9893	0·1461	1·9785	0·2922	2·9678	0·4382	3·9571	0·5843	4·9464	0·7304	
25	0·9892	0·1464	1·9785	0·2927	2·9677	0·4391	3·9569	0·5855	4·9461	0·7319	
26	0·9892	0·1467	1·9784	0·2933	2·9676	0·4400	3·9567	0·5866	4·9459	0·7333	
27	0·9891	0·1469	1·9783	0·2939	2·9674	0·4408	3·9566	0·5878	4·9457	0·7347	
28	0·9891	0·1472	1·9782	0·2945	2·9673	0·4417	3·9564	0·5889	4·9455	0·7362	
29	0·9891	0·1475	1·9781	0·2950	2·9672	0·4426	3·9562	0·5901	4·9453	0·7376	
30	0·9890	0·1478	1·9780	0·2956	2·9670	0·4434	3·9561	0·5912	4·9451	0·7390	
31	0·9890	0·1481	1·9779	0·2962	2·9669	0·4443	3·9559	0·5924	4·9449	0·7405	
32	0·9889	0·1484	1·9779	0·2968	2·9668	0·4452	3·9557	0·5935	4·9446	0·7419	
33	0·9889	0·1487	1·9778	0·2973	2·9667	0·4460	3·9555	0·5947	4·9444	0·7434	
34	0·9888	0·1490	1·9777	0·2979	2·9665	0·4469	3·9554	0·5958	4·9442	0·7448	
35	0·9888	0·1492	1·9776	0·2985	2·9664	0·4477	3·9552	0·5970	4·9440	0·7462	
36	0·9888	0·1495	1·9775	0·2991	2·9663	0·4486	3·9550	0·5981	4·9438	0·7477	
37	0·9887	0·1498	1·9774	0·2996	2·9661	0·4495	3·9549	0·5993	4·9436	0·7491	
38	0·9887	0·1501	1·9773	0·3002	2·9660	0·4503	3·9547	0·6004	4·9433	0·7506	
39	0·9886	0·1504	1·9773	0·3008	2·9659	0·4512	3·9545	0·6016	4·9431	0·7520	
40	0·9886	0·1507	1·9772	0·3014	2·9657	0·4521	3·9543	0·6027	4·9429	0·7534	
41	0·9885	0·1510	1·9771	0·3019	2·9656	0·4529	3·9542	0·6039	4·9427	0·7549	
42	0·9885	0·1513	1·9770	0·3025	2·9655	0·4538	3·9540	0·6050	4·9425	0·7563	
43	0·9884	0·1515	1·9769	0·3031	2·9653	0·4546	3·9538	0·6062	4·9422	0·7577	
44	0·9884	0·1518	1·9768	0·3037	2·9652	0·4555	3·9536	0·6073	4·9420	0·7592	
45	0·9884	0·1521	1·9767	0·3042	2·9651	0·4564	3·9534	0·6085	4·9418	0·7606	
46	0·9883	0·1524	1·9766	0·3048	2·9650	0·4572	3·9533	0·6096	4·9416	0·7621	
47	0·9883	0·1527	1·9765	0·3054	2·9648	0·4581	3·9531	0·6108	4·9414	0·7635	
48	0·9882	0·1530	1·9765	0·3060	2·9647	0·4590	3·9529	0·6119	4·9411	0·7649	
49	0·9882	0·1533	1·9764	0·3065	2·9646	0·4598	3·9527	0·6131	4·9409	0·7664	
50	0·9881	0·1536	1·9763	0·3071	2·9644	0·4607	3·9526	0·6142	4·9407	0·7678	
51	0·9881	0·1538	1·9762	0·3077	2·9643	0·4615	3·9524	0·6154	4·9405	0·7692	
52	0·9880	0·1541	1·9761	0·3083	2·9641	0·4624	3·9522	0·6165	4·9402	0·7707	
53	0·9880	0·1544	1·9760	0·3088	2·9640	0·4633	3·9520	0·6177	4·9400	0·7721	
54	0·9880	0·1547	1·9759	0·3094	2·9639	0·4641	3·9518	0·6188	4·9398	0·7736	
55	0·9879	0·1550	1·9758	0·3100	2·9637	0·4650	3·9517	0·6200	4·9396	0·7750	
56	0·9879	0·1553	1·9757	0·3106	2·9636	0·4659	3·9515	0·6211	4·9393	0·7764	
57	0·9878	0·1556	1·9756	0·3111	2·9635	0·4667	3·9513	0·6223	4·9391	0·7779	
58	0·9878	0·1559	1·9756	0·3117	2·9633	0·4676	3·9511	0·6234	4·9389	0·7793	
59	0·9877	0·1561	1·9755	0·3123	2·9632	0·4684	3·9509	0·6246	4·9387	0·7807	
60	0·9877	0·1564	1·9754	0·3129	2·9631	0·4693	3·9508	0·6257	4·9384	0·7822	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9416	0-8350	6-9319	0-9742	7-9221	1-1134	8-9124	1-2526	9-9027	1-8917	60
5-9414	0-8368	6-9316	0-9762	7-9218	1-1157	8-9120	1-2552	9-9023	1-8946	59
5-9411	0-8385	6-9313	0-9782	7-9215	1-1180	8-9117	1-2577	9-9019	1-8975	58
5-9409	0-8402	6-9310	0-9803	7-9212	1-1203	8-9113	1-2603	9-9015	1-4004	57
5-9406	0-8420	6-9307	0-9823	7-9208	1-1226	8-9109	1-2629	9-9011	1-4033	56
5-9404	0-8437	6-9305	0-9843	7-9205	1-1249	8-9106	1-2655	9-9006	1-4061	55
5-9401	0-8454	6-9302	0-9863	7-9202	1-1272	8-9102	1-2681	9-9002	1-4090	54
5-9399	0-8471	6-9299	0-9883	7-9199	1-1295	8-9098	1-2707	9-8998	1-4119	53
5-9396	0-8489	6-9296	0-9903	7-9195	1-1318	8-9095	1-2733	9-8994	1-4148	52
5-9394	0-8506	6-9293	0-9924	7-9192	1-1341	8-9091	1-2759	9-8990	1-4177	51
5-9392	0-8523	6-9290	0-9944	7-9189	1-1364	8-9087	1-2785	9-8986	1-4205	50
5-9389	0-8540	6-9287	0-9964	7-9185	1-1387	8-9084	1-2811	9-8982	1-4234	49
5-9387	0-8558	6-9284	0-9984	7-9182	1-1410	8-9080	1-2837	9-8978	1-4263	48
5-9384	0-8575	6-9281	1-0004	7-9179	1-1433	8-9076	1-2863	9-8973	1-4292	47
5-9382	0-8592	6-9279	1-0024	7-9175	1-1456	8-9072	1-2888	9-8969	1-4320	46
5-9379	0-8610	6-9276	1-0044	7-9172	1-1479	8-9069	1-2914	9-8965	1-4349	45
5-9377	0-8627	6-9273	1-0065	7-9169	1-1502	8-9065	1-2940	9-8961	1-4378	44
5-9374	0-8644	6-9270	1-0085	7-9165	1-1525	8-9061	1-2966	9-8957	1-4407	43
5-9372	0-8661	6-9267	1-0105	7-9162	1-1548	8-9057	1-2992	9-8953	1-4436	42
5-9369	0-8679	6-9264	1-0125	7-9159	1-1572	8-9054	1-3018	9-8948	1-4464	41
5-9366	0-8696	6-9261	1-0145	7-9155	1-1595	8-9050	1-3044	9-8944	1-4493	40
5-9364	0-8713	6-9258	1-0165	7-9152	1-1618	8-9046	1-3070	9-8940	1-4522	39
5-9361	0-8730	6-9255	1-0186	7-9149	1-1641	8-9042	1-3096	9-8936	1-4551	38
5-9359	0-8748	6-9252	1-0206	7-9145	1-1664	8-9038	1-3122	9-8931	1-4580	37
5-9356	0-8765	6-9249	1-0226	7-9142	1-1687	8-9035	1-3147	9-8927	1-4608	36
5-9354	0-8782	6-9246	1-0246	7-9138	1-1710	8-9031	1-3173	9-8923	1-4637	35
5-9351	0-8800	6-9243	1-0266	7-9135	1-1733	8-9027	1-3199	9-8919	1-4666	34
5-9349	0-8817	6-9240	1-0286	7-9132	1-1756	8-9023	1-3225	9-8914	1-4695	33
5-9346	0-8834	6-9237	1-0306	7-9128	1-1779	8-9019	1-3251	9-8910	1-4723	32
5-9344	0-8851	6-9234	1-0327	7-9125	1-1802	8-9015	1-3277	9-8906	1-4752	31
5-9341	0-8869	6-9231	1-0347	7-9121	1-1825	8-9011	1-3303	9-8902	1-4781	30
5-9338	0-8886	6-9228	1-0367	7-9118	1-1848	8-9008	1-3329	9-8897	1-4810	29
5-9336	0-8903	6-9225	1-0387	7-9114	1-1871	8-9004	1-3355	9-8893	1-4838	28
5-9333	0-8920	6-9222	1-0407	7-9111	1-1894	8-9000	1-3381	9-8889	1-4867	27
5-9331	0-8938	6-9219	1-0427	7-9107	1-1917	8-8996	1-3406	9-8884	1-4896	26
5-9328	0-8955	6-9216	1-0447	7-9104	1-1940	8-8992	1-3432	9-8880	1-4925	25
5-9325	0-8972	6-9213	1-0467	7-9101	1-1963	8-8988	1-3458	9-8876	1-4954	24
5-9323	0-8989	6-9210	1-0488	7-9097	1-1986	8-8984	1-3484	9-8871	1-4982	23
5-9320	0-9007	6-9207	1-0508	7-9094	1-2009	8-8980	1-3510	9-8867	1-5011	22
5-9318	0-9024	6-9204	1-0528	7-9090	1-2032	8-8976	1-3536	9-8863	1-5040	21
5-9315	0-9041	6-9201	1-0548	7-9087	1-2055	8-8972	1-3562	9-8858	1-5069	20
5-9312	0-9058	6-9198	1-0568	7-9083	1-2078	8-8968	1-3588	9-8854	1-5097	19
5-9310	0-9076	6-9195	1-0588	7-9080	1-2101	8-8964	1-3613	9-8849	1-5126	18
5-9307	0-9093	6-9191	1-0608	7-9076	1-2124	8-8960	1-3639	9-8845	1-5155	17
5-9304	0-9110	6-9188	1-0629	7-9072	1-2147	8-8957	1-3665	9-8841	1-5184	16
5-9302	0-9127	6-9185	1-0649	7-9069	1-2170	8-8953	1-3691	9-8836	1-5212	15
5-9299	0-9145	6-9182	1-0669	7-9065	1-2193	8-8949	1-3717	9-8832	1-5241	14
5-9296	0-9162	6-9179	1-0689	7-9062	1-2216	8-8945	1-3743	9-8827	1-5270	13
5-9294	0-9179	6-9176	1-0709	7-9058	1-2239	8-8941	1-3769	9-8823	1-5299	12
5-9291	0-9196	6-9173	1-0729	7-9055	1-2262	8-8937	1-3795	9-8818	1-5327	11
5-9288	0-9214	6-9170	1-0749	7-9051	1-2285	8-8933	1-3820	9-8814	1-5356	10
5-9286	0-9231	6-9167	1-0769	7-9048	1-2308	8-8929	1-3846	9-8809	1-5385	9
5-9283	0-9248	6-9163	1-0789	7-9044	1-2331	8-8924	1-3872	9-8805	1-5414	8
5-9280	0-9265	6-9160	1-0810	7-9040	1-2354	8-8920	1-3898	9-8800	1-5442	7
5-9278	0-9283	6-9157	1-0830	7-9037	1-2377	8-8916	1-3924	9-8796	1-5471	6
5-9275	0-9300	6-9154	1-0850	7-9033	1-2400	8-8912	1-3950	9-8791	1-5500	5
5-9272	0-9317	6-9151	1-0870	7-9030	1-2423	8-8908	1-3976	9-8787	1-5529	4
5-9269	0-9334	6-9148	1-0890	7-9026	1-2446	8-8904	1-4002	9-8782	1-5557	3
5-9267	0-9352	6-9145	1-0910	7-9022	1-2469	8-8900	1-4027	9-8778	1-5586	2
5-9264	0-9369	6-9141	1-0930	7-9019	1-2492	8-8896	1-4053	9-8773	1-5615	1
5-9261	0-9386	6-9138	1-0950	7-9015	1-2515	8-8892	1-4079	9-8769	1-5643	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 9 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0·9877	0·1564	1·9754	0·3129	2·9631	0·4693	3·9508	0·6257	4·9384	0·7822
1	0·9876	0·1567	1·9753	0·3134	2·9629	0·4702	3·9506	0·6269	4·9382	0·7836
2	0·9876	0·1570	1·9752	0·3140	2·9628	0·4710	3·9504	0·6280	4·9380	0·7850
3	0·9876	0·1573	1·9751	0·3146	2·9627	0·4719	3·9502	0·6292	4·9378	0·7865
4	0·9875	0·1576	1·9750	0·3152	2·9625	0·4728	3·9500	0·6303	4·9375	0·7879
5	0·9875	0·1579	1·9749	0·3157	2·9624	0·4736	3·9498	0·6315	4·9373	0·7894
6	0·9874	0·1582	1·9748	0·3163	2·9622	0·4745	3·9497	0·6326	4·9371	0·7908
7	0·9874	0·1584	1·9747	0·3169	2·9621	0·4753	3·9495	0·6338	4·9368	0·7922
8	0·9873	0·1587	1·9746	0·3175	2·9620	0·4762	3·9493	0·6349	4·9366	0·7937
9	0·9873	0·1590	1·9746	0·3180	2·9618	0·4771	3·9491	0·6361	4·9364	0·7951
10	0·9872	0·1593	1·9745	0·3186	2·9617	0·4779	3·9489	0·6372	4·9361	0·7965
11	0·9872	0·1596	1·9744	0·3192	2·9615	0·4788	3·9487	0·6384	4·9359	0·7980
12	0·9871	0·1599	1·9743	0·3198	2·9614	0·4796	3·9485	0·6395	4·9357	0·7994
13	0·9871	0·1602	1·9742	0·3203	2·9613	0·4805	3·9484	0·6407	4·9354	0·8008
14	0·9870	0·1605	1·9741	0·3209	2·9611	0·4814	3·9482	0·6418	4·9352	0·8023
15	0·9870	0·1607	1·9740	0·3215	2·9610	0·4822	3·9480	0·6430	4·9350	0·8037
16	0·9869	0·1610	1·9739	0·3221	2·9608	0·4831	3·9478	0·6441	4·9347	0·8051
17	0·9869	0·1613	1·9738	0·3226	2·9607	0·4840	3·9476	0·6453	4·9345	0·8066
18	0·9869	0·1616	1·9737	0·3232	2·9606	0·4848	3·9474	0·6464	4·9343	0·8080
19	0·9868	0·1619	1·9736	0·3238	2·9604	0·4857	3·9472	0·6476	4·9340	0·8095
20	0·9868	0·1622	1·9735	0·3244	2·9603	0·4865	3·9470	0·6487	4·9338	0·8109
21	0·9867	0·1625	1·9734	0·3249	2·9601	0·4874	3·9469	0·6499	4·9336	0·8123
22	0·9867	0·1628	1·9733	0·3255	2·9600	0·4883	3·9467	0·6510	4·9333	0·8138
23	0·9866	0·1630	1·9732	0·3261	2·9599	0·4891	3·9465	0·6522	4·9331	0·8152
24	0·9866	0·1633	1·9731	0·3267	2·9597	0·4900	3·9463	0·6533	4·9329	0·8166
25	0·9865	0·1636	1·9730	0·3272	2·9596	0·4908	3·9461	0·6545	4·9326	0·8181
26	0·9865	0·1639	1·9730	0·3278	2·9594	0·4917	3·9459	0·6556	4·9324	0·8195
27	0·9864	0·1642	1·9729	0·3284	2·9593	0·4926	3·9457	0·6567	4·9321	0·8209
28	0·9864	0·1645	1·9728	0·3289	2·9591	0·4934	3·9455	0·6579	4·9319	0·8224
29	0·9863	0·1648	1·9727	0·3295	2·9590	0·4943	3·9453	0·6590	4·9317	0·8238
30	0·9863	0·1650	1·9726	0·3301	2·9589	0·4951	3·9451	0·6602	4·9314	0·8252
31	0·9862	0·1653	1·9725	0·3307	2·9587	0·4960	3·9450	0·6613	4·9312	0·8267
32	0·9862	0·1656	1·9724	0·3312	2·9586	0·4969	3·9448	0·6625	4·9309	0·8281
33	0·9861	0·1659	1·9723	0·3318	2·9584	0·4977	3·9446	0·6636	4·9307	0·8295
34	0·9861	0·1662	1·9722	0·3324	2·9583	0·4986	3·9444	0·6648	4·9305	0·8310
35	0·9860	0·1665	1·9721	0·3330	2·9581	0·4994	3·9442	0·6659	4·9302	0·8324
36	0·9860	0·1668	1·9720	0·3335	2·9580	0·5003	3·9440	0·6671	4·9300	0·8338
37	0·9859	0·1671	1·9719	0·3341	2·9578	0·5012	3·9438	0·6682	4·9297	0·8353
38	0·9859	0·1673	1·9718	0·3347	2·9577	0·5020	3·9436	0·6694	4·9295	0·8367
39	0·9859	0·1676	1·9717	0·3353	2·9576	0·5029	3·9434	0·6705	4·9293	0·8381
40	0·9858	0·1679	1·9716	0·3358	2·9574	0·5037	3·9432	0·6717	4·9290	0·8396
41	0·9858	0·1682	1·9715	0·3364	2·9573	0·5046	3·9430	0·6728	4·9288	0·8410
42	0·9857	0·1685	1·9714	0·3370	2·9571	0·5055	3·9428	0·6740	4·9285	0·8424
43	0·9857	0·1688	1·9713	0·3376	2·9570	0·5063	3·9426	0·6751	4·9283	0·8439
44	0·9856	0·1691	1·9712	0·3381	2·9568	0·5072	3·9424	0·6763	4·9280	0·8453
45	0·9856	0·1693	1·9711	0·3387	2·9567	0·5080	3·9422	0·6774	4·9278	0·8467
46	0·9855	0·1696	1·9710	0·3393	2·9565	0·5089	3·9420	0·6785	4·9275	0·8482
47	0·9855	0·1699	1·9709	0·3398	2·9564	0·5098	3·9418	0·6797	4·9273	0·8496
48	0·9854	0·1702	1·9708	0·3404	2·9562	0·5106	3·9416	0·6808	4·9270	0·8510
49	0·9854	0·1705	1·9707	0·3410	2·9561	0·5115	3·9414	0·6820	4·9268	0·8525
50	0·9853	0·1708	1·9706	0·3416	2·9559	0·5123	3·9412	0·6831	4·9265	0·8539
51	0·9853	0·1711	1·9705	0·3421	2·9558	0·5132	3·9410	0·6843	4·9263	0·8553
52	0·9852	0·1714	1·9704	0·3427	2·9556	0·5141	3·9408	0·6854	4·9260	0·8568
53	0·9852	0·1716	1·9703	0·3433	2·9555	0·5149	3·9406	0·6866	4·9258	0·8582
54	0·9851	0·1719	1·9702	0·3439	2·9553	0·5158	3·9404	0·6877	4·9255	0·8596
55	0·9851	0·1722	1·9701	0·3444	2·9552	0·5166	3·9402	0·6889	4·9253	0·8611
56	0·9850	0·1725	1·9700	0·3450	2·9550	0·5175	3·9400	0·6900	4·9250	0·8625
57	0·9850	0·1728	1·9699	0·3456	2·9549	0·5184	3·9398	0·6912	4·9248	0·8639
58	0·9849	0·1731	1·9698	0·3462	2·9547	0·5192	3·9396	0·6923	4·9245	0·8654
59	0·9849	0·1734	1·9697	0·3467	2·9546	0·5201	3·9394	0·6934	4·9243	0·8668
60	0·9848	0·1736	1·9696	0·3473	2·9544	0·5209	3·9392	0·6946	4·9240	0·8682
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-9261	0-9386	6-9138	1-0950	7-9015	1-2515	8-8892	1-4079	9-8769	1-5643	60
5-9259	0-9403	6-9135	1-0971	7-9011	1-2538	8-8888	1-4105	9-8764	1-5672	59
5-9256	0-9421	6-9132	1-0991	7-9008	1-2561	8-8884	1-4131	9-8760	1-5701	58
5-9253	0-9438	6-9129	1-1011	7-9004	1-2584	8-8880	1-4157	9-8755	1-5730	57
5-9250	0-9455	6-9125	1-1031	7-9000	1-2607	8-8876	1-4183	9-8751	1-5758	56
5-9248	0-9472	6-9122	1-1051	7-8997	1-2630	8-8871	1-4208	9-8746	1-5787	55
5-9245	0-9489	6-9119	1-1071	7-8993	1-2653	8-8867	1-4234	9-8741	1-5816	54
5-9242	0-9507	6-9116	1-1091	7-8989	1-2676	8-8863	1-4260	9-8737	1-5845	53
5-9239	0-9524	6-9113	1-1111	7-8986	1-2699	8-8859	1-4286	9-8732	1-5873	52
5-9237	0-9541	6-9109	1-1131	7-8982	1-2722	8-8855	1-4312	9-8728	1-5902	51
5-9234	0-9558	6-9106	1-1151	7-8978	1-2745	8-8851	1-4338	9-8723	1-5931	50
5-9231	0-9576	6-9103	1-1172	7-8975	1-2768	8-8846	1-4363	9-8718	1-5959	49
5-9228	0-9593	6-9100	1-1192	7-8971	1-2790	8-8842	1-4389	9-8714	1-5988	48
5-9225	0-9610	6-9096	1-1212	7-8967	1-2813	8-8838	1-4415	9-8709	1-6017	47
5-9223	0-9627	6-9093	1-1232	7-8963	1-2836	8-8834	1-4441	9-8704	1-6046	46
5-9220	0-9645	6-9090	1-1252	7-8960	1-2859	8-8830	1-4467	9-8700	1-6074	45
5-9217	0-9662	6-9086	1-1272	7-8956	1-2882	8-8825	1-4493	9-8695	1-6103	44
5-9214	0-9679	6-9083	1-1292	7-8952	1-2905	8-8821	1-4519	9-8690	1-6132	43
5-9211	0-9696	6-9080	1-1312	7-8948	1-2928	8-8817	1-4544	9-8686	1-6160	42
5-9209	0-9713	6-9077	1-1332	7-8945	1-2951	8-8813	1-4570	9-8681	1-6189	41
5-9206	0-9731	6-9073	1-1352	7-8941	1-2974	8-8809	1-4596	9-8676	1-6218	40
5-9203	0-9748	6-9070	1-1373	7-8937	1-2997	8-8804	1-4622	9-8671	1-6247	39
5-9200	0-9765	6-9067	1-1393	7-8933	1-3020	8-8800	1-4648	9-8667	1-6275	38
5-9197	0-9782	6-9063	1-1413	7-8930	1-3043	8-8796	1-4674	9-8662	1-6304	37
5-9194	0-9800	6-9060	1-1433	7-8926	1-3066	8-8791	1-4699	9-8657	1-6333	36
5-9191	0-9817	6-9057	1-1453	7-8922	1-3089	8-8787	1-4725	9-8652	1-6361	35
5-9189	0-9834	6-9053	1-1473	7-8918	1-3112	8-8783	1-4751	9-8648	1-6390	34
5-9186	0-9851	6-9050	1-1493	7-8914	1-3135	8-8779	1-4777	9-8643	1-6419	33
5-9183	0-9868	6-9047	1-1513	7-8911	1-3158	8-8774	1-4803	9-8638	1-6447	32
5-9180	0-9886	6-9043	1-1533	7-8907	1-3181	8-8770	1-4828	9-8633	1-6476	31
5-9177	0-9903	6-9040	1-1553	7-8903	1-3204	8-8766	1-4854	9-8629	1-6505	30
5-9174	0-9920	6-9037	1-1573	7-8899	1-3227	8-8761	1-4880	9-8624	1-6533	29
5-9171	0-9937	6-9033	1-1593	7-8895	1-3250	8-8757	1-4906	9-8619	1-6562	28
5-9168	0-9954	6-9030	1-1614	7-8891	1-3273	8-8753	1-4932	9-8614	1-6591	27
5-9166	0-9972	6-9027	1-1634	7-8887	1-3296	8-8748	1-4958	9-8609	1-6620	26
5-9163	0-9989	6-9023	1-1654	7-8884	1-3319	8-8744	1-4983	9-8604	1-6648	25
5-9160	1-0006	6-9020	1-1674	7-8880	1-3341	8-8740	1-5009	9-8600	1-6677	24
5-9157	1-0023	6-9016	1-1694	7-8876	1-3364	8-8735	1-5035	9-8595	1-6706	23
5-9154	1-0041	6-9013	1-1714	7-8872	1-3387	8-8731	1-5061	9-8590	1-6734	22
5-9151	1-0058	6-9010	1-1734	7-8868	1-3410	8-8727	1-5087	9-8585	1-6763	21
5-9148	1-0075	6-9006	1-1754	7-8864	1-3433	8-8722	1-5112	9-8580	1-6792	20
5-9145	1-0092	6-9003	1-1774	7-8860	1-3456	8-8718	1-5138	9-8575	1-6820	19
5-9142	1-0109	6-8999	1-1794	7-8856	1-3479	8-8713	1-5164	9-8570	1-6849	18
5-9139	1-0127	6-8996	1-1814	7-8852	1-3502	8-8709	1-5190	9-8565	1-6878	17
5-9136	1-0144	6-8992	1-1834	7-8848	1-3525	8-8704	1-5216	9-8561	1-6906	16
5-9133	1-0161	6-8989	1-1854	7-8844	1-3548	8-8700	1-5241	9-8556	1-6935	15
5-9130	1-0178	6-8985	1-1875	7-8841	1-3571	8-8696	1-5267	9-8551	1-6964	14
5-9127	1-0195	6-8982	1-1895	7-8837	1-3594	8-8691	1-5293	9-8546	1-6992	13
5-9124	1-0213	6-8979	1-1915	7-8833	1-3617	8-8687	1-5319	9-8541	1-7021	12
5-9121	1-0230	6-8975	1-1935	7-8829	1-3640	8-8682	1-5345	9-8536	1-7050	11
5-9119	1-0247	6-8972	1-1955	7-8825	1-3663	8-8678	1-5370	9-8531	1-7078	10
5-9116	1-0264	6-8968	1-1975	7-8821	1-3686	8-8673	1-5396	9-8526	1-7107	9
5-9113	1-0281	6-8965	1-1995	7-8817	1-3708	8-8669	1-5422	9-8521	1-7136	8
5-9110	1-0299	6-8961	1-2015	7-8813	1-3731	8-8664	1-5448	9-8516	1-7164	7
5-9107	1-0316	6-8958	1-2035	7-8809	1-3754	8-8660	1-5474	9-8511	1-7193	6
5-9104	1-0333	6-8954	1-2055	7-8805	1-3777	8-8655	1-5499	9-8506	1-7222	5
5-9101	1-0350	6-8951	1-2075	7-8801	1-3800	8-8651	1-5525	9-8501	1-7250	4
5-9098	1-0367	6-8947	1-2095	7-8797	1-3823	8-8646	1-5551	9-8496	1-7279	3
5-9095	1-0385	6-8944	1-2115	7-8793	1-3846	8-8642	1-5577	9-8491	1-7308	2
5-9091	1-0402	6-8940	1-2135	7-8789	1-3869	8-8637	1-5603	9-8486	1-7336	1
5-9088	1-0419	6-8937	1-2155	7-8785	1-3892	8-8633	1-5628	9-8481	1-7365	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

80 Degrees.

# 10 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
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1	0°9848	0°1739	1°9695	0°3479	2°9543	0°5218	3°9390	0°6957	4°9238	0°8697	
2	0°9847	0°1742	1°9694	0°3484	2°9541	0°5227	3°9388	0°6969	4°9235	0°8711	
3	0°9847	0°1745	1°9693	0°3490	2°9540	0°5235	3°9386	0°6980	4°9233	0°8725	
4	0°9846	0°1748	1°9692	0°3496	2°9538	0°5244	3°9384	0°6992	4°9230	0°8740	
5	0°9846	0°1751	1°9691	0°3502	2°9537	0°5252	3°9382	0°7003	4°9228	0°8754	
6	0°9845	0°1754	1°9690	0°3507	2°9535	0°5261	3°9380	0°7015	4°9225	0°8768	
7	0°9845	0°1757	1°9689	0°3513	2°9534	0°5270	3°9378	0°7026	4°9223	0°8782	
8	0°9844	0°1759	1°9688	0°3519	2°9532	0°5278	3°9376	0°7038	4°9220	0°8797	
9	0°9843	0°1762	1°9687	0°3525	2°9530	0°5287	3°9374	0°7049	4°9217	0°8811	
10	0°9843	0°1765	1°9686	0°3530	2°9529	0°5295	3°9372	0°7060	4°9215	0°8826	
11	0°9842	0°1768	1°9685	0°3536	2°9527	0°5304	3°9370	0°7072	4°9212	0°8840	
12	0°9842	0°1771	1°9684	0°3542	2°9526	0°5313	3°9368	0°7083	4°9210	0°8854	
13	0°9841	0°1774	1°9683	0°3547	2°9524	0°5321	3°9366	0°7095	4°9207	0°8869	
14	0°9841	0°1777	1°9682	0°3553	2°9523	0°5330	3°9364	0°7106	4°9205	0°8883	
15	0°9840	0°1779	1°9681	0°3559	2°9521	0°5338	3°9362	0°7118	4°9202	0°8897	
16	0°9840	0°1782	1°9680	0°3565	2°9520	0°5347	3°9360	0°7129	4°9199	0°8911	
17	0°9839	0°1785	1°9679	0°3570	2°9518	0°5355	3°9357	0°7141	4°9197	0°8926	
18	0°9839	0°1788	1°9678	0°3576	2°9517	0°5364	3°9355	0°7152	4°9194	0°8940	
19	0°9838	0°1791	1°9677	0°3582	2°9515	0°5373	3°9353	0°7164	4°9192	0°8954	
20	0°9838	0°1794	1°9676	0°3587	2°9513	0°5381	3°9351	0°7175	4°9189	0°8969	
21	0°9837	0°1797	1°9675	0°3593	2°9512	0°5390	3°9349	0°7186	4°9186	0°8983	
22	0°9837	0°1799	1°9674	0°3599	2°9510	0°5398	3°9347	0°7198	4°9184	0°8997	
23	0°9836	0°1802	1°9672	0°3605	2°9509	0°5407	3°9345	0°7209	4°9181	0°9012	
24	0°9836	0°1805	1°9671	0°3610	2°9507	0°5416	3°9343	0°7221	4°9179	0°9026	
25	0°9835	0°1808	1°9670	0°3616	2°9506	0°5424	3°9341	0°7232	4°9176	0°9040	
26	0°9835	0°1811	1°9669	0°3622	2°9504	0°5433	3°9339	0°7244	4°9173	0°9055	
27	0°9834	0°1814	1°9668	0°3628	2°9502	0°5441	3°9337	0°7255	4°9171	0°9069	
28	0°9834	0°1817	1°9667	0°3633	2°9501	0°5450	3°9334	0°7267	4°9168	0°9083	
29	0°9833	0°1819	1°9666	0°3639	2°9499	0°5458	3°9332	0°7278	4°9165	0°9097	
30	0°9833	0°1822	1°9665	0°3645	2°9498	0°5467	3°9330	0°7289	4°9163	0°9112	
31	0°9832	0°1825	1°9664	0°3650	2°9496	0°5476	3°9328	0°7301	4°9160	0°9126	
32	0°9831	0°1828	1°9663	0°3656	2°9494	0°5484	3°9326	0°7312	4°9157	0°9140	
33	0°9831	0°1831	1°9662	0°3662	2°9493	0°5493	3°9324	0°7324	4°9155	0°9155	
34	0°9830	0°1834	1°9661	0°3668	2°9491	0°5501	3°9322	0°7335	4°9152	0°9169	
35	0°9830	0°1837	1°9660	0°3673	2°9490	0°5510	3°9320	0°7347	4°9149	0°9183	
36	0°9829	0°1840	1°9659	0°3679	2°9488	0°5519	3°9317	0°7358	4°9147	0°9198	
37	0°9829	0°1842	1°9658	0°3685	2°9486	0°5527	3°9315	0°7369	4°9144	0°9212	
38	0°9828	0°1845	1°9657	0°3690	2°9485	0°5536	3°9313	0°7381	4°9141	0°9226	
39	0°9828	0°1848	1°9655	0°3696	2°9483	0°5544	3°9311	0°7392	4°9139	0°9240	
40	0°9827	0°1851	1°9654	0°3702	2°9482	0°5553	3°9309	0°7404	4°9136	0°9255	
41	0°9827	0°1854	1°9653	0°3708	2°9480	0°5561	3°9307	0°7415	4°9133	0°9269	
42	0°9826	0°1857	1°9652	0°3713	2°9478	0°5570	3°9305	0°7427	4°9131	0°9283	
43	0°9826	0°1860	1°9651	0°3719	2°9477	0°5579	3°9302	0°7438	4°9128	0°9298	
44	0°9825	0°1862	1°9650	0°3725	2°9475	0°5587	3°9300	0°7450	4°9125	0°9312	
45	0°9825	0°1865	1°9649	0°3730	2°9474	0°5596	3°9298	0°7461	4°9123	0°9326	
46	0°9824	0°1868	1°9648	0°3736	2°9472	0°5604	3°9296	0°7472	4°9120	0°9340	
47	0°9823	0°1871	1°9647	0°3742	2°9470	0°5613	3°9294	0°7484	4°9117	0°9355	
48	0°9823	0°1874	1°9646	0°3748	2°9469	0°5621	3°9291	0°7495	4°9114	0°9369	
49	0°9822	0°1877	1°9645	0°3753	2°9467	0°5630	3°9289	0°7507	4°9112	0°9383	
50	0°9822	0°1880	1°9644	0°3759	2°9465	0°5639	3°9287	0°7518	4°9109	0°9398	
51	0°9821	0°1882	1°9642	0°3765	2°9464	0°5647	3°9285	0°7530	4°9106	0°9412	
52	0°9821	0°1885	1°9641	0°3770	2°9462	0°5656	3°9283	0°7541	4°9103	0°9426	
53	0°9820	0°1888	1°9640	0°3776	2°9460	0°5664	3°9281	0°7552	4°9101	0°9440	
54	0°9820	0°1891	1°9639	0°3782	2°9459	0°5673	3°9278	0°7564	4°9098	0°9455	
55	0°9819	0°1894	1°9638	0°3788	2°9457	0°5681	3°9276	0°7575	4°9095	0°9469	
56	0°9818	0°1897	1°9637	0°3793	2°9455	0°5690	3°9274	0°7587	4°9092	0°9483	
57	0°9818	0°1900	1°9636	0°3799	2°9454	0°5699	3°9272	0°7598	4°9090	0°9498	
58	0°9817	0°1902	1°9635	0°3805	2°9452	0°5707	3°9270	0°7610	4°9087	0°9512	
59	0°9817	0°1905	1°9634	0°3810	2°9450	0°5716	3°9267	0°7621	4°9084	0°9526	
60	0°9816	0°1908	1°9633	0°3816	2°9449	0°5724	3°9265	0°7632	4°9081	0°9540	

Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·9088	1·0419	6·8937	1·2155	7·8785	1·3892	8·8633	1·5628	9·8481	1·7365	60
5·9085	1·0436	6·8933	1·2175	7·8781	1·3915	8·8628	1·5654	9·8476	1·7393	59
5·9082	1·0453	6·8929	1·2195	7·8777	1·3938	8·8624	1·5680	9·8471	1·7422	58
5·9079	1·0470	6·8926	1·2216	7·8772	1·3961	8·8619	1·5706	9·8466	1·7451	57
5·9076	1·0488	6·8922	1·2236	7·8768	1·3984	8·8614	1·5731	9·8461	1·7479	56
5·9073	1·0505	6·8919	1·2256	7·8764	1·4006	8·8610	1·5757	9·8455	1·7508	55
5·9070	1·0522	6·8915	1·2276	7·8760	1·4029	8·8605	1·5783	9·8450	1·7537	54
5·9067	1·0539	6·8912	1·2296	7·8756	1·4052	8·8601	1·5809	9·8445	1·7565	53
5·9064	1·0556	6·8908	1·2316	7·8752	1·4075	8·8596	1·5835	9·8440	1·7594	52
5·9061	1·0574	6·8904	1·2336	7·8748	1·4098	8·8591	1·5860	9·8435	1·7623	51
5·9058	1·0591	6·8901	1·2356	7·8744	1·4121	8·8587	1·5886	9·8430	1·7651	50
5·9055	1·0608	6·8897	1·2376	7·8740	1·4144	8·8582	1·5912	9·8425	1·7680	49
5·9052	1·0625	6·8894	1·2396	7·8736	1·4167	8·8578	1·5938	9·8420	1·7708	48
5·9049	1·0642	6·8890	1·2416	7·8732	1·4190	8·8573	1·5963	9·8414	1·7737	47
5·9046	1·0659	6·8886	1·2436	7·8727	1·4213	8·8568	1·5989	9·8409	1·7766	46
5·9042	1·0677	6·8883	1·2456	7·8723	1·4235	8·8564	1·6015	9·8404	1·7794	45
5·9039	1·0694	6·8879	1·2476	7·8719	1·4258	8·8559	1·6041	9·8399	1·7823	44
5·9036	1·0711	6·8876	1·2496	7·8715	1·4281	8·8554	1·6066	9·8394	1·7852	43
5·9033	1·0728	6·8872	1·2516	7·8711	1·4304	8·8550	1·6092	9·8389	1·7880	42
5·9030	1·0745	6·8868	1·2536	7·8707	1·4327	8·8545	1·6118	9·8383	1·7909	41
5·9027	1·0762	6·8865	1·2556	7·8702	1·4350	8·8540	1·6144	9·8378	1·7937	40
5·9024	1·0780	6·8861	1·2576	7·8698	1·4373	8·8536	1·6169	9·8373	1·7966	39
5·9021	1·0797	6·8857	1·2596	7·8694	1·4396	8·8531	1·6195	9·8368	1·7995	38
5·9017	1·0814	6·8854	1·2616	7·8690	1·4419	8·8526	1·6221	9·8362	1·8023	37
5·9014	1·0831	6·8850	1·2636	7·8686	1·4442	8·8521	1·6247	9·8357	1·8052	36
5·9011	1·0848	6·8846	1·2656	7·8682	1·4464	8·8517	1·6272	9·8352	1·8081	35
5·9008	1·0865	6·8843	1·2676	7·8677	1·4487	8·8512	1·6298	9·8347	1·8109	34
5·9005	1·0883	6·8839	1·2696	7·8673	1·4510	8·8507	1·6324	9·8341	1·8138	33
5·9002	1·0900	6·8835	1·2716	7·8669	1·4533	8·8502	1·6350	9·8336	1·8166	32
5·8998	1·0917	6·8832	1·2736	7·8665	1·4556	8·8498	1·6375	9·8331	1·8195	31
5·8995	1·0934	6·8828	1·2756	7·8660	1·4579	8·8493	1·6401	9·8325	1·8224	30
5·8992	1·0951	6·8824	1·2777	7·8656	1·4602	8·8488	1·6427	9·8320	1·8252	29
5·8989	1·0968	6·8820	1·2797	7·8652	1·4625	8·8483	1·6453	9·8315	1·8281	28
5·8986	1·0986	6·8817	1·2817	7·8648	1·4647	8·8479	1·6478	9·8310	1·8309	27
5·8983	1·1003	6·8813	1·2837	7·8643	1·4670	8·8474	1·6504	9·8304	1·8338	26
5·8979	1·1020	6·8809	1·2857	7·8639	1·4693	8·8469	1·6530	9·8299	1·8367	25
5·8976	1·1037	6·8805	1·2877	7·8635	1·4716	8·8464	1·6556	9·8294	1·8395	24
5·8973	1·1054	6·8802	1·2897	7·8631	1·4739	8·8459	1·6581	9·8288	1·8424	23
5·8970	1·1071	6·8798	1·2917	7·8626	1·4762	8·8455	1·6607	9·8283	1·8452	22
5·8966	1·1089	6·8794	1·2937	7·8622	1·4785	8·8450	1·6633	9·8277	1·8481	21
5·8963	1·1106	6·8790	1·2957	7·8618	1·4808	8·8445	1·6659	9·8272	1·8509	20
5·8960	1·1123	6·8787	1·2977	7·8613	1·4830	8·8440	1·6684	9·8267	1·8538	19
5·8957	1·1140	6·8783	1·2997	7·8609	1·4853	8·8435	1·6710	9·8261	1·8567	18
5·8954	1·1157	6·8779	1·3017	7·8605	1·4876	8·8430	1·6736	9·8256	1·8595	17
5·8950	1·1174	6·8775	1·3037	7·8600	1·4899	8·8425	1·6761	9·8250	1·8624	16
5·8947	1·1191	6·8772	1·3057	7·8596	1·4922	8·8421	1·6787	9·8245	1·8652	15
5·8944	1·1209	6·8768	1·3077	7·8592	1·4945	8·8416	1·6813	9·8240	1·8681	14
5·8941	1·1226	6·8764	1·3097	7·8587	1·4968	8·8411	1·6839	9·8234	1·8710	13
5·8937	1·1243	6·8760	1·3117	7·8583	1·4991	8·8406	1·6864	9·8229	1·8738	12
5·8934	1·1260	6·8756	1·3137	7·8579	1·5013	8·8401	1·6890	9·8223	1·8767	11
5·8931	1·1277	6·8752	1·3157	7·8574	1·5036	8·8396	1·6916	9·8218	1·8795	10
5·8927	1·1294	6·8749	1·3177	7·8570	1·5059	8·8391	1·6941	9·8212	1·8824	9
5·8924	1·1311	6·8745	1·3197	7·8565	1·5082	8·8386	1·6967	9·8207	1·8852	8
5·8921	1·1329	6·8741	1·3217	7·8561	1·5105	8·8381	1·6993	9·8201	1·8881	7
5·8918	1·1346	6·8737	1·3237	7·8557	1·5128	8·8376	1·7019	9·8196	1·8910	6
5·8914	1·1363	6·8733	1·3257	7·8552	1·5150	8·8371	1·7044	9·8190	1·8938	5
5·8911	1·1380	6·8729	1·3277	7·8548	1·5173	8·8366	1·7070	9·8185	1·8967	4
5·8908	1·1397	6·8726	1·3297	7·8543	1·5196	8·8361	1·7096	9·8179	1·8995	3
5·8904	1·1414	6·8722	1·3317	7·8539	1·5219	8·8356	1·7121	9·8174	1·9024	2
5·8901	1·1431	6·8718	1·3337	7·8535	1·5242	8·8351	1·7147	9·8168	1·9052	1
5·8898	1·1449	6·8714	1·3357	7·8530	1·5265	8·8346	1·7173	9·8163	1·9081	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

79 Degrees.

# 11 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°816	0°1908	1°9633	0°3816	2°9449	0°5724	3°9265	0°7632	4°9081	0°9540
1	0°816	0°1911	1°9631	0°3822	2°9447	0°5733	3°9263	0°7644	4°9079	0°9555
2	0°815	0°1914	1°9630	0°3828	2°9445	0°5741	3°9261	0°7655	4°9076	0°9569
3	0°815	0°1917	1°9629	0°3833	2°9444	0°5750	3°9258	0°7667	4°9073	0°9583
4	0°814	0°1920	1°9628	0°3839	2°9442	0°5759	3°9256	0°7678	4°9070	0°9598
5	0°813	0°1922	1°9627	0°3845	2°9440	0°5767	3°9254	0°7689	4°9067	0°9612
6	0°813	0°1925	1°9626	0°3850	2°9439	0°5776	3°9252	0°7701	4°9065	0°9626
7	0°812	0°1928	1°9625	0°3856	2°9437	0°5784	3°9249	0°7712	4°9062	0°9640
8	0°812	0°1931	1°9624	0°3862	2°9435	0°5793	3°9247	0°7724	4°9059	0°9655
9	0°811	0°1934	1°9622	0°3868	2°9434	0°5801	3°9245	0°7735	4°9056	0°9669
10	0°811	0°1937	1°9621	0°3873	2°9432	0°5810	3°9243	0°7747	4°9053	0°9683
11	0°810	0°1939	1°9620	0°3879	2°9430	0°5818	3°9240	0°7758	4°9051	0°9697
12	0°810	0°1942	1°9619	0°3885	2°9429	0°5827	3°9238	0°7769	4°9048	0°9712
13	0°809	0°1945	1°9618	0°3890	2°9427	0°5836	3°9236	0°7781	4°9045	0°9726
14	0°808	0°1948	1°9617	0°3896	2°9425	0°5844	3°9234	0°7792	4°9042	0°9740
15	0°808	0°1951	1°9616	0°3902	2°9424	0°5853	3°9231	0°7804	4°9039	0°9755
16	0°807	0°1954	1°9615	0°3908	2°9422	0°5861	3°9229	0°7815	4°9036	0°9769
17	0°807	0°1957	1°9613	0°3913	2°9420	0°5870	3°9227	0°7826	4°9034	0°9783
18	0°806	0°1959	1°9612	0°3919	2°9418	0°5878	3°9225	0°7838	4°9031	0°9797
19	0°806	0°1962	1°9611	0°3925	2°9417	0°5887	3°9222	0°7849	4°9028	0°9812
20	0°805	0°1965	1°9610	0°3930	2°9415	0°5895	3°9220	0°7861	4°9025	0°9826
21	0°804	0°1968	1°9609	0°3936	2°9413	0°5904	3°9218	0°7872	4°9022	0°9840
22	0°804	0°1971	1°9608	0°3942	2°9412	0°5913	3°9215	0°7883	4°9019	0°9854
23	0°803	0°1974	1°9607	0°3947	2°9410	0°5921	3°9213	0°7895	4°9016	0°9869
24	0°803	0°1977	1°9605	0°3953	2°9408	0°5930	3°9211	0°7906	4°9014	0°9883
25	0°802	0°1979	1°9604	0°3959	2°9406	0°5938	3°9209	0°7918	4°9011	0°9897
26	0°802	0°1982	1°9603	0°3965	2°9405	0°5947	3°9206	0°7929	4°9008	0°9911
27	0°801	0°1985	1°9602	0°3970	2°9403	0°5955	3°9204	0°7941	4°9005	0°9926
28	0°800	0°1988	1°9601	0°3976	2°9401	0°5964	3°9202	0°7952	4°9002	0°9940
29	0°800	0°1991	1°9600	0°3982	2°9399	0°5972	3°9199	0°7963	4°8999	0°9954
30	0°799	0°1994	1°9598	0°3987	2°9398	0°5981	3°9197	0°7975	4°8996	0°9968
31	0°799	0°1997	1°9597	0°3993	2°9396	0°5990	3°9195	0°7986	4°8993	0°9983
32	0°798	0°1999	1°9596	0°3999	2°9394	0°5998	3°9192	0°7998	4°8990	0°9997
33	0°798	0°2002	1°9595	0°4004	2°9393	0°6007	3°9190	0°8009	4°8988	1°0011
34	0°797	0°2005	1°9594	0°4010	2°9391	0°6015	3°9188	0°8020	4°8985	1°0025
35	0°796	0°2008	1°9593	0°4016	2°9389	0°6024	3°9185	0°8032	4°8982	1°0040
36	0°796	0°2011	1°9592	0°4022	2°9387	0°6032	3°9183	0°8043	4°8979	1°0054
37	0°795	0°2014	1°9590	0°4027	2°9386	0°6041	3°9181	0°8055	4°8976	1°0068
38	0°795	0°2016	1°9589	0°4033	2°9384	0°6049	3°9178	0°8066	4°8973	1°0082
39	0°794	0°2019	1°9588	0°4039	2°9382	0°6058	3°9176	0°8077	4°8970	1°0097
40	0°793	0°2022	1°9587	0°4044	2°9380	0°6067	3°9174	0°8089	4°8967	1°0111
41	0°793	0°2025	1°9586	0°4050	2°9378	0°6075	3°9171	0°8100	4°8964	1°0125
42	0°792	0°2028	1°9584	0°4056	2°9377	0°6084	3°9169	0°8111	4°8961	1°0139
43	0°792	0°2031	1°9583	0°4061	2°9375	0°6092	3°9167	0°8123	4°8958	1°0154
44	0°791	0°2034	1°9582	0°4067	2°9373	0°6101	3°9164	0°8134	4°8955	1°0168
45	0°790	0°2036	1°9581	0°4073	2°9371	0°6109	3°9162	0°8146	4°8952	1°0182
46	0°790	0°2039	1°9580	0°4079	2°9370	0°6118	3°9159	0°8157	4°8949	1°0196
47	0°789	0°2042	1°9579	0°4084	2°9368	0°6126	3°9157	0°8168	4°8946	1°0211
48	0°789	0°2045	1°9577	0°4090	2°9366	0°6135	3°9155	0°8180	4°8943	1°0225
49	0°788	0°2048	1°9576	0°4096	2°9364	0°6143	3°9152	0°8191	4°8940	1°0239
50	0°787	0°2051	1°9575	0°4101	2°9362	0°6152	3°9150	0°8203	4°8937	1°0253
51	0°787	0°2054	1°9574	0°4107	2°9361	0°6161	3°9148	0°8214	4°8934	1°0268
52	0°786	0°2056	1°9573	0°4113	2°9359	0°6169	3°9145	0°8225	4°8931	1°0282
53	0°786	0°2059	1°9571	0°4118	2°9357	0°6178	3°9143	0°8237	4°8928	1°0296
54	0°785	0°2062	1°9570	0°4124	2°9355	0°6186	3°9140	0°8248	4°8925	1°0310
55	0°784	0°2065	1°9569	0°4130	2°9353	0°6195	3°9138	0°8260	4°8922	1°0324
56	0°784	0°2068	1°9568	0°4135	2°9352	0°6203	3°9136	0°8271	4°8919	1°0339
57	0°783	0°2071	1°9567	0°4141	2°9350	0°6212	3°9133	0°8282	4°8916	1°0353
58	0°783	0°2073	1°9565	0°4147	2°9348	0°6220	3°9131	0°8294	4°8913	1°0367
59	0°782	0°2076	1°9564	0°4153	2°9346	0°6229	3°9128	0°8305	4°8910	1°0381
60	0°781	0°2079	1°9563	0°4158	2°9344	0°6237	3°9126	0°8316	4°8907	1°0396
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-8898	1-1449	6-8714	1-3357	7-8530	1-5265	8-8346	1-7173	9-8163	1-9081	60
5-8894	1-1466	6-8710	1-3377	7-8526	1-5288	8-8341	1-7199	9-8157	1-9109	59
5-8891	1-1483	6-8706	1-3397	7-8521	1-5310	8-8336	1-7224	9-8152	1-9138	58
5-8888	1-1500	6-8702	1-3417	7-8517	1-5333	8-8331	1-7250	9-8146	1-9167	57
5-8884	1-1517	6-8698	1-3437	7-8512	1-5356	8-8326	1-7276	9-8140	1-9195	56
5-8881	1-1534	6-8694	1-3457	7-8508	1-5379	8-8321	1-7301	9-8135	1-9224	55
5-8878	1-1551	6-8690	1-3477	7-8503	1-5402	8-8316	1-7327	9-8129	1-9252	54
5-8874	1-1568	6-8687	1-3497	7-8499	1-5425	8-8311	1-7353	9-8124	1-9281	53
5-8871	1-1586	6-8683	1-3516	7-8494	1-5447	8-8306	1-7378	9-8118	1-9309	52
5-8867	1-1603	6-8679	1-3536	7-8490	1-5470	8-8301	1-7404	9-8112	1-9338	51
5-8864	1-1620	6-8675	1-3556	7-8485	1-5493	8-8296	1-7430	9-8107	1-9366	50
5-8861	1-1637	6-8671	1-3576	7-8481	1-5516	8-8291	1-7455	9-8101	1-9395	49
5-8857	1-1654	6-8667	1-3596	7-8476	1-5539	8-8286	1-7481	9-8096	1-9423	48
5-8854	1-1671	6-8663	1-3616	7-8472	1-5562	8-8281	1-7507	9-8090	1-9452	47
5-8851	1-1688	6-8659	1-3636	7-8467	1-5584	8-8276	1-7532	9-8084	1-9481	46
5-8847	1-1705	6-8655	1-3656	7-8463	1-5607	8-8271	1-7558	9-8079	1-9509	45
5-8844	1-1723	6-8651	1-3676	7-8458	1-5630	8-8266	1-7584	9-8073	1-9538	44
5-8840	1-1740	6-8647	1-3696	7-8454	1-5653	8-8260	1-7609	9-8067	1-9566	43
5-8837	1-1757	6-8643	1-3716	7-8449	1-5676	8-8255	1-7635	9-8061	1-9595	42
5-8833	1-1774	6-8639	1-3736	7-8445	1-5699	8-8250	1-7661	9-8056	1-9623	41
5-8830	1-1791	6-8635	1-3756	7-8440	1-5721	8-8245	1-7686	9-8050	1-9652	40
5-8827	1-1808	6-8631	1-3776	7-8435	1-5744	8-8240	1-7712	9-8044	1-9680	39
5-8823	1-1825	6-8627	1-3796	7-8431	1-5767	8-8235	1-7738	9-8039	1-9709	38
5-8820	1-1842	6-8623	1-3816	7-8426	1-5790	8-8230	1-7763	9-8033	1-9737	37
5-8816	1-1859	6-8619	1-3836	7-8422	1-5813	8-8224	1-7789	9-8027	1-9766	36
5-8813	1-1877	6-8615	1-3856	7-8417	1-5835	8-8219	1-7815	9-8021	1-9794	35
5-8809	1-1894	6-8611	1-3876	7-8412	1-5858	8-8214	1-7840	9-8016	1-9823	34
5-8806	1-1911	6-8607	1-3896	7-8408	1-5881	8-8209	1-7866	9-8010	1-9851	33
5-8802	1-1928	6-8603	1-3916	7-8403	1-5904	8-8204	1-7892	9-8004	1-9880	32
5-8799	1-1945	6-8599	1-3936	7-8399	1-5927	8-8198	1-7917	9-7998	1-9908	31
5-8795	1-1962	6-8595	1-3956	7-8394	1-5949	8-8193	1-7943	9-7992	1-9937	30
5-8792	1-1979	6-8591	1-3976	7-8389	1-5972	8-8188	1-7969	9-7987	1-9965	29
5-8789	1-1996	6-8587	1-3996	7-8385	1-5995	8-8183	1-7994	9-7981	1-9994	28
5-8785	1-2013	6-8583	1-4016	7-8380	1-6018	8-8178	1-8020	9-7975	2-0022	27
5-8782	1-2030	6-8578	1-4036	7-8375	1-6041	8-8172	1-8046	9-7969	2-0051	26
5-8778	1-2048	6-8574	1-4056	7-8371	1-6063	8-8167	1-8071	9-7963	2-0079	25
5-8775	1-2065	6-8570	1-4075	7-8366	1-6086	8-8162	1-8097	9-7958	2-0108	24
5-8771	1-2082	6-8566	1-4095	7-8361	1-6109	8-8157	1-8123	9-7952	2-0136	23
5-8767	1-2099	6-8562	1-4115	7-8357	1-6132	8-8151	1-8148	9-7946	2-0165	22
5-8764	1-2116	6-8558	1-4135	7-8352	1-6155	8-8146	1-8174	9-7940	2-0193	21
5-8760	1-2133	6-8554	1-4155	7-8347	1-6177	8-8141	1-8200	9-7934	2-0222	20
5-8757	1-2150	6-8550	1-4175	7-8343	1-6200	8-8135	1-8225	9-7928	2-0250	19
5-8753	1-2167	6-8546	1-4195	7-8338	1-6223	8-8130	1-8251	9-7922	2-0279	18
5-8750	1-2184	6-8541	1-4215	7-8333	1-6246	8-8125	1-8276	9-7916	2-0307	17
5-8746	1-2201	6-8537	1-4235	7-8328	1-6269	8-8119	1-8302	9-7910	2-0336	16
5-8743	1-2219	6-8533	1-4255	7-8324	1-6291	8-8114	1-8328	9-7905	2-0364	15
5-8739	1-2236	6-8529	1-4275	7-8319	1-6314	8-8109	1-8353	9-7899	2-0393	14
5-8736	1-2253	6-8525	1-4295	7-8314	1-6337	8-8103	1-8379	9-7893	2-0421	13
5-8732	1-2270	6-8521	1-4315	7-8309	1-6360	8-8098	1-8405	9-7887	2-0450	12
5-8728	1-2287	6-8517	1-4335	7-8305	1-6382	8-8093	1-8430	9-7881	2-0478	11
5-8725	1-2304	6-8512	1-4355	7-8300	1-6405	8-8087	1-8456	9-7875	2-0507	10
5-8721	1-2321	6-8508	1-4375	7-8295	1-6428	8-8082	1-8482	9-7869	2-0535	9
5-8718	1-2338	6-8504	1-4394	7-8290	1-6451	8-8077	1-8507	9-7863	2-0563	8
5-8714	1-2355	6-8500	1-4414	7-8286	1-6474	8-8071	1-8533	9-7857	2-0592	7
5-8711	1-2372	6-8496	1-4434	7-8281	1-6496	8-8066	1-8558	9-7851	2-0620	6
5-8707	1-2389	6-8491	1-4454	7-8276	1-6519	8-8060	1-8584	9-7845	2-0649	5
5-8703	1-2406	6-8487	1-4474	7-8271	1-6542	8-8055	1-8610	9-7839	2-0677	4
5-8700	1-2423	6-8483	1-4494	7-8266	1-6565	8-8050	1-8635	9-7833	2-0706	3
5-8696	1-2441	6-8479	1-4514	7-8261	1-6587	8-8044	1-8661	9-7827	2-0734	2
5-8692	1-2458	6-8475	1-4534	7-8257	1-6610	8-8039	1-8686	9-7821	2-0763	1
5-8689	1-2475	6-8470	1-4554	7-8252	1-6633	8-8033	1-8712	9-7815	2-0791	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

78 Degrees.

# 12 Degrees.

Dist.	1		2		3		4		5	
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0	0°9781	0°2079	1°9563	0°4158	2°9344	0°6237	3°9126	0°8316	4°8907	1°0396
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2	0°9780	0°2085	1°9561	0°4170	2°9341	0°6254	3°9121	0°8339	4°8901	1°0424
3	0°9780	0°2088	1°9559	0°4175	2°9339	0°6263	3°9119	0°8351	4°8898	1°0438
4	0°9779	0°2090	1°9558	0°4181	2°9337	0°6271	3°9116	0°8362	4°8895	1°0452
5	0°9778	0°2093	1°9557	0°4187	2°9335	0°6280	3°9114	0°8373	4°8892	1°0467
6	0°9778	0°2096	1°9556	0°4192	2°9333	0°6289	3°9111	0°8385	4°8889	1°0481
7	0°9777	0°2099	1°9554	0°4198	2°9332	0°6297	3°9109	0°8396	4°8886	1°0495
8	0°9777	0°2102	1°9553	0°4204	2°9330	0°6306	3°9106	0°8407	4°8883	1°0509
9	0°9776	0°2105	1°9552	0°4209	2°9328	0°6314	3°9104	0°8419	4°8880	1°0524
10	0°9775	0°2108	1°9551	0°4215	2°9326	0°6323	3°9102	0°8430	4°8877	1°0538
11	0°9775	0°2110	1°9550	0°4221	2°9324	0°6331	3°9099	0°8442	4°8874	1°0552
12	0°9774	0°2113	1°9548	0°4226	2°9322	0°6340	3°9097	0°8453	4°8871	1°0566
13	0°9774	0°2116	1°9547	0°4232	2°9321	0°6348	3°9094	0°8464	4°8868	1°0580
14	0°9773	0°2119	1°9546	0°4238	2°9319	0°6357	3°9092	0°8476	4°8865	1°0595
15	0°9772	0°2122	1°9545	0°4244	2°9317	0°6365	3°9089	0°8487	4°8862	1°0609
16	0°9772	0°2125	1°9543	0°4249	2°9315	0°6374	3°9087	0°8498	4°8858	1°0623
17	0°9771	0°2127	1°9542	0°4255	2°9313	0°6382	3°9084	0°8510	4°8855	1°0637
18	0°9770	0°2130	1°9541	0°4261	2°9311	0°6391	3°9082	0°8521	4°8852	1°0652
19	0°9770	0°2133	1°9540	0°4266	2°9310	0°6399	3°9079	0°8533	4°8849	1°0666
20	0°9769	0°2136	1°9538	0°4272	2°9308	0°6408	3°9077	0°8544	4°8846	1°0680
21	0°9769	0°2139	1°9537	0°4278	2°9306	0°6416	3°9074	0°8555	4°8843	1°0694
22	0°9768	0°2142	1°9536	0°4283	2°9304	0°6425	3°9072	0°8567	4°8840	1°0708
23	0°9767	0°2145	1°9535	0°4289	2°9302	0°6434	3°9069	0°8578	4°8837	1°0723
24	0°9767	0°2147	1°9533	0°4295	2°9300	0°6442	3°9067	0°8589	4°8834	1°0737
25	0°9766	0°2150	1°9532	0°4300	2°9298	0°6451	3°9064	0°8601	4°8830	1°0751
26	0°9765	0°2153	1°9531	0°4306	2°9296	0°6459	3°9062	0°8612	4°8827	1°0765
27	0°9765	0°2156	1°9530	0°4312	2°9295	0°6468	3°9059	0°8624	4°8824	1°0779
28	0°9764	0°2159	1°9528	0°4317	2°9293	0°6476	3°9057	0°8635	4°8821	1°0794
29	0°9764	0°2162	1°9527	0°4323	2°9291	0°6485	3°9054	0°8646	4°8818	1°0808
30	0°9763	0°2164	1°9526	0°4329	2°9289	0°6493	3°9052	0°8658	4°8815	1°0822
31	0°9762	0°2167	1°9525	0°4334	2°9287	0°6502	3°9049	0°8669	4°8812	1°0836
32	0°9762	0°2170	1°9523	0°4340	2°9285	0°6510	3°9047	0°8680	4°8808	1°0850
33	0°9761	0°2173	1°9522	0°4346	2°9283	0°6519	3°9044	0°8692	4°8805	1°0865
34	0°9760	0°2176	1°9521	0°4352	2°9281	0°6527	3°9042	0°8703	4°8802	1°0879
35	0°9760	0°2179	1°9520	0°4357	2°9279	0°6536	3°9039	0°8714	4°8799	1°0893
36	0°9759	0°2181	1°9518	0°4363	2°9278	0°6544	3°9037	0°8726	4°8796	1°0907
37	0°9759	0°2184	1°9517	0°4369	2°9276	0°6553	3°9034	0°8737	4°8793	1°0921
38	0°9758	0°2187	1°9516	0°4374	2°9274	0°6561	3°9032	0°8748	4°8789	1°0936
39	0°9757	0°2190	1°9515	0°4380	2°9272	0°6570	3°9029	0°8760	4°8786	1°0950
40	0°9757	0°2193	1°9513	0°4386	2°9270	0°6578	3°9026	0°8771	4°8783	1°0964
41	0°9756	0°2196	1°9512	0°4391	2°9268	0°6587	3°9024	0°8782	4°8780	1°0978
42	0°9755	0°2198	1°9511	0°4397	2°9266	0°6595	3°9021	0°8794	4°8777	1°0992
43	0°9755	0°2201	1°9509	0°4403	2°9264	0°6604	3°9019	0°8805	4°8774	1°1007
44	0°9754	0°2204	1°9508	0°4408	2°9262	0°6612	3°9016	0°8817	4°8770	1°1021
45	0°9753	0°2207	1°9507	0°4414	2°9260	0°6621	3°9014	0°8828	4°8767	1°1035
46	0°9753	0°2210	1°9506	0°4420	2°9258	0°6629	3°9011	0°8839	4°8764	1°1049
47	0°9752	0°2213	1°9504	0°4425	2°9256	0°6638	3°9009	0°8851	4°8761	1°1063
48	0°9751	0°2215	1°9503	0°4431	2°9254	0°6646	3°9006	0°8862	4°8757	1°1077
49	0°9751	0°2218	1°9502	0°4437	2°9253	0°6655	3°9003	0°8873	4°8754	1°1092
50	0°9750	0°2221	1°9500	0°4442	2°9251	0°6663	3°9001	0°8885	4°8751	1°1106
51	0°9750	0°2224	1°9499	0°4448	2°9249	0°6672	3°8998	0°8896	4°8748	1°1120
52	0°9749	0°2227	1°9498	0°4454	2°9247	0°6680	3°8996	0°8907	4°8745	1°1134
53	0°9748	0°2230	1°9497	0°4459	2°9245	0°6689	3°8993	0°8919	4°8741	1°1148
54	0°9748	0°2233	1°9495	0°4465	2°9243	0°6698	3°8990	0°8930	4°8738	1°1163
55	0°9747	0°2235	1°9494	0°4471	2°9241	0°6706	3°8988	0°8941	4°8735	1°1177
56	0°9746	0°2238	1°9493	0°4476	2°9239	0°6715	3°8985	0°8953	4°8732	1°1191
57	0°9746	0°2241	1°9491	0°4482	2°9237	0°6723	3°8983	0°8964	4°8728	1°1205
58	0°9745	0°2244	1°9490	0°4488	2°9235	0°6732	3°8980	0°8975	4°8725	1°1219
59	0°9744	0°2247	1°9489	0°4493	2°9233	0°6740	3°8977	0°8987	4°8722	1°1233
60	0°9744	0°2250	1°9487	0°4499	2°9231	0°6749	3°8975	0°8998	4°8719	1°1248
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-8689	1-2475	6-8470	1-4554	7-8252	1-6633	8-8033	1-8712	9-7815	2-0791	60
5-8685	1-2492	6-8466	1-4574	7-8247	1-6656	8-8028	1-8738	9-7809	2-0820	59
5-8682	1-2509	6-8462	1-4594	7-8242	1-6678	8-8022	1-8763	9-7803	2-0848	58
5-8678	1-2526	6-8458	1-4614	7-8237	1-6701	8-8017	1-8789	9-7797	2-0877	57
5-8674	1-2543	6-8453	1-4633	7-8232	1-6724	8-8011	1-8814	9-7791	2-0905	56
5-8671	1-2560	6-8449	1-4653	7-8228	1-6747	8-8006	1-8840	9-7784	2-0933	55
5-8667	1-2577	6-8445	1-4673	7-8223	1-6769	8-8000	1-8866	9-7778	2-0962	54
5-8663	1-2594	6-8441	1-4693	7-8218	1-6792	8-7995	1-8891	9-7772	2-0990	53
5-8660	1-2611	6-8436	1-4713	7-8213	1-6815	8-7989	1-8917	9-7766	2-1019	52
5-8656	1-2628	6-8432	1-4733	7-8208	1-6838	8-7984	1-8942	9-7760	2-1047	51
5-8652	1-2645	6-8428	1-4753	7-8203	1-6860	8-7978	1-8968	9-7754	2-1076	50
5-8649	1-2662	6-8423	1-4773	7-8198	1-6883	8-7973	1-8994	9-7748	2-1104	49
5-8645	1-2679	6-8419	1-4793	7-8193	1-6906	8-7967	1-9019	9-7742	2-1132	48
5-8641	1-2697	6-8415	1-4813	7-8188	1-6929	8-7962	1-9045	9-7735	2-1161	47
5-8638	1-2714	6-8410	1-4833	7-8183	1-6951	8-7956	1-9070	9-7729	2-1189	46
5-8634	1-2731	6-8406	1-4852	7-8178	1-6974	8-7951	1-9096	9-7723	2-1218	45
5-8630	1-2748	6-8402	1-4872	7-8174	1-6997	8-7945	1-9122	9-7717	2-1246	44
5-8626	1-2765	6-8398	1-4892	7-8169	1-7020	8-7940	1-9147	9-7711	2-1275	43
5-8623	1-2782	6-8393	1-4912	7-8164	1-7042	8-7934	1-9173	9-7705	2-1303	42
5-8619	1-2799	6-8389	1-4932	7-8159	1-7065	8-7929	1-9198	9-7698	2-1331	41
5-8615	1-2816	6-8385	1-4952	7-8154	1-7088	8-7923	1-9224	9-7692	2-1360	40
5-8612	1-2833	6-8380	1-4972	7-8149	1-7111	8-7917	1-9249	9-7686	2-1388	39
5-8608	1-2850	6-8376	1-4992	7-8144	1-7133	8-7912	1-9275	9-7680	2-1417	38
5-8604	1-2867	6-8371	1-5012	7-8139	1-7156	8-7906	1-9301	9-7673	2-1445	37
5-8600	1-2884	6-8367	1-5031	7-8134	1-7179	8-7901	1-9326	9-7667	2-1474	36
5-8597	1-2901	6-8363	1-5051	7-8129	1-7202	8-7895	1-9352	9-7661	2-1502	35
5-8593	1-2918	6-8358	1-5071	7-8124	1-7224	8-7889	1-9377	9-7655	2-1530	34
5-8589	1-2935	6-8354	1-5091	7-8119	1-7247	8-7884	1-9403	9-7648	2-1559	33
5-8585	1-2952	6-8350	1-5111	7-8114	1-7270	8-7878	1-9428	9-7642	2-1587	32
5-8582	1-2969	6-8345	1-5131	7-8109	1-7292	8-7872	1-9454	9-7636	2-1616	31
5-8578	1-2986	6-8341	1-5151	7-8104	1-7315	8-7867	1-9480	9-7630	2-1644	30
5-8574	1-3003	6-8336	1-5171	7-8099	1-7338	8-7861	1-9505	9-7623	2-1672	29
5-8570	1-3020	6-8332	1-5191	7-8094	1-7361	8-7855	1-9531	9-7617	2-1701	28
5-8566	1-3037	6-8327	1-5210	7-8089	1-7383	8-7850	1-9556	9-7611	2-1729	27
5-8563	1-3055	6-8323	1-5230	7-8083	1-7406	8-7844	1-9582	9-7604	2-1758	26
5-8559	1-3072	6-8319	1-5250	7-8078	1-7429	8-7838	1-9607	9-7598	2-1786	25
5-8555	1-3089	6-8314	1-5270	7-8073	1-7451	8-7833	1-9633	9-7592	2-1814	24
5-8551	1-3106	6-8310	1-5290	7-8068	1-7474	8-7827	1-9658	9-7585	2-1843	23
5-8547	1-3123	6-8305	1-5310	7-8063	1-7497	8-7821	1-9684	9-7579	2-1871	22
5-8544	1-3140	6-8301	1-5330	7-8058	1-7520	8-7815	1-9710	9-7573	2-1899	21
5-8540	1-3157	6-8296	1-5350	7-8053	1-7542	8-7810	1-9735	9-7566	2-1928	20
5-8536	1-3174	6-8292	1-5369	7-8048	1-7565	8-7804	1-9761	9-7560	2-1956	19
5-8532	1-3191	6-8287	1-5389	7-8043	1-7588	8-7798	1-9786	9-7553	2-1985	18
5-8528	1-3208	6-8283	1-5409	7-8038	1-7610	8-7792	1-9812	9-7547	2-2013	17
5-8524	1-3225	6-8278	1-5429	7-8033	1-7633	8-7787	1-9837	9-7541	2-2041	16
5-8521	1-3242	6-8274	1-5449	7-8027	1-7656	8-7781	1-9863	9-7534	2-2070	15
5-8517	1-3259	6-8269	1-5469	7-8022	1-7678	8-7775	1-9888	9-7528	2-2098	14
5-8513	1-3276	6-8265	1-5489	7-8017	1-7701	8-7769	1-9914	9-7521	2-2126	13
5-8509	1-3293	6-8260	1-5508	7-8012	1-7724	8-7763	1-9939	9-7515	2-2155	12
5-8505	1-3310	6-8256	1-5528	7-8007	1-7747	8-7758	1-9965	9-7508	2-2183	11
5-8501	1-3327	6-8251	1-5548	7-8002	1-7769	8-7752	1-9990	9-7502	2-2212	10
5-8497	1-3344	6-8247	1-5568	7-7996	1-7792	8-7746	2-0016	9-7496	2-2240	9
5-8493	1-3361	6-8242	1-5588	7-7991	1-7815	8-7740	2-0041	9-7489	2-2268	8
5-8490	1-3378	6-8238	1-5608	7-7986	1-7837	8-7734	2-0067	9-7483	2-2297	7
5-8486	1-3395	6-8233	1-5628	7-7981	1-7860	8-7729	2-0093	9-7476	2-2325	6
5-8482	1-3412	6-8229	1-5647	7-7976	1-7883	8-7723	2-0118	9-7470	2-2353	5
5-8478	1-3429	6-8224	1-5667	7-7970	1-7905	8-7717	2-0144	9-7463	2-2382	4
5-8474	1-3446	6-8220	1-5687	7-7965	1-7928	8-7711	2-0169	9-7457	2-2410	3
5-8470	1-3463	6-8215	1-5707	7-7960	1-7951	8-7705	2-0195	9-7450	2-2438	2
5-8466	1-3480	6-8210	1-5727	7-7955	1-7973	8-7699	2-0220	9-7444	2-2467	1
5-8462	1-3497	6-8206	1-5747	7-7950	1-7996	8-7693	2-0246	9-7437	2-2495	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

77 Degrees.

# 13 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9744	0.2250	1.9487	0.4499	2.9231	0.6749	3.8975	0.8998	4.8719	1.1248	
1	0.9743	0.2252	1.9486	0.4505	2.9229	0.6757	3.8972	0.9009	4.8715	1.1262	
2	0.9742	0.2255	1.9485	0.4510	2.9227	0.6766	3.8970	0.9021	4.8712	1.1276	
3	0.9742	0.2258	1.9483	0.4516	2.9225	0.6774	3.8967	0.9032	4.8709	1.1290	
4	0.9741	0.2261	1.9482	0.4522	2.9223	0.6783	3.8964	0.9043	4.8705	1.1304	
5	0.9740	0.2264	1.9481	0.4527	2.9221	0.6791	3.8962	0.9055	4.8702	1.1318	
6	0.9740	0.2267	1.9480	0.4533	2.9219	0.6800	3.8959	0.9066	4.8699	1.1333	
7	0.9739	0.2269	1.9478	0.4539	2.9217	0.6808	3.8956	0.9077	4.8696	1.1347	
8	0.9738	0.2272	1.9477	0.4544	2.9215	0.6817	3.8954	0.9089	4.8692	1.1361	
9	0.9738	0.2275	1.9476	0.4550	2.9213	0.6825	3.8951	0.9100	4.8689	1.1375	
10	0.9737	0.2278	1.9474	0.4556	2.9211	0.6834	3.8948	0.9111	4.8686	1.1389	
11	0.9736	0.2281	1.9473	0.4561	2.9209	0.6842	3.8946	0.9123	4.8682	1.1403	
12	0.9736	0.2284	1.9472	0.4567	2.9207	0.6851	3.8943	0.9134	4.8679	1.1418	
13	0.9735	0.2286	1.9470	0.4573	2.9205	0.6859	3.8940	0.9145	4.8676	1.1432	
14	0.9734	0.2289	1.9469	0.4578	2.9203	0.6868	3.8938	0.9157	4.8672	1.1446	
15	0.9734	0.2292	1.9468	0.4584	2.9201	0.6876	3.8935	0.9168	4.8669	1.1460	
16	0.9733	0.2295	1.9466	0.4590	2.9199	0.6885	3.8933	0.9179	4.8666	1.1474	
17	0.9732	0.2298	1.9465	0.4595	2.9197	0.6893	3.8930	0.9191	4.8662	1.1488	
18	0.9732	0.2300	1.9464	0.4601	2.9195	0.6901	3.8927	0.9202	4.8659	1.1502	
19	0.9731	0.2303	1.9462	0.4607	2.9193	0.6910	3.8924	0.9213	4.8656	1.1517	
20	0.9730	0.2306	1.9461	0.4612	2.9191	0.6918	3.8922	0.9225	4.8652	1.1531	
21	0.9730	0.2309	1.9460	0.4618	2.9189	0.6927	3.8919	0.9236	4.8649	1.1545	
22	0.9729	0.2312	1.9458	0.4624	2.9187	0.6935	3.8916	0.9247	4.8646	1.1559	
23	0.9728	0.2315	1.9457	0.4629	2.9185	0.6944	3.8914	0.9259	4.8642	1.1573	
24	0.9728	0.2317	1.9456	0.4635	2.9183	0.6952	3.8911	0.9270	4.8639	1.1587	
25	0.9727	0.2320	1.9454	0.4641	2.9181	0.6961	3.8908	0.9281	4.8635	1.1602	
26	0.9726	0.2323	1.9453	0.4646	2.9179	0.6969	3.8906	0.9293	4.8632	1.1616	
27	0.9726	0.2326	1.9451	0.4652	2.9177	0.6978	3.8903	0.9304	4.8629	1.1630	
28	0.9725	0.2329	1.9450	0.4658	2.9175	0.6986	3.8900	0.9315	4.8625	1.1644	
29	0.9724	0.2332	1.9449	0.4663	2.9173	0.6995	3.8898	0.9327	4.8622	1.1658	
30	0.9724	0.2334	1.9447	0.4669	2.9171	0.7003	3.8895	0.9338	4.8618	1.1672	
31	0.9723	0.2337	1.9446	0.4675	2.9169	0.7012	3.8892	0.9349	4.8615	1.1686	
32	0.9722	0.2340	1.9445	0.4680	2.9167	0.7020	3.8889	0.9360	4.8612	1.1701	
33	0.9722	0.2343	1.9443	0.4686	2.9165	0.7029	3.8887	0.9372	4.8608	1.1715	
34	0.9721	0.2346	1.9442	0.4692	2.9163	0.7037	3.8884	0.9383	4.8605	1.1729	
35	0.9720	0.2349	1.9441	0.4697	2.9161	0.7046	3.8881	0.9394	4.8601	1.1743	
36	0.9720	0.2351	1.9439	0.4703	2.9159	0.7054	3.8878	0.9406	4.8598	1.1757	
37	0.9719	0.2354	1.9438	0.4708	2.9157	0.7063	3.8876	0.9417	4.8595	1.1771	
38	0.9718	0.2357	1.9436	0.4714	2.9155	0.7071	3.8873	0.9428	4.8591	1.1785	
39	0.9718	0.2360	1.9435	0.4720	2.9153	0.7080	3.8870	0.9440	4.8588	1.1800	
40	0.9717	0.2363	1.9434	0.4725	2.9151	0.7088	3.8867	0.9451	4.8584	1.1814	
41	0.9716	0.2366	1.9432	0.4731	2.9149	0.7097	3.8865	0.9462	4.8581	1.1828	
42	0.9715	0.2368	1.9431	0.4737	2.9146	0.7105	3.8862	0.9474	4.8577	1.1842	
43	0.9715	0.2371	1.9430	0.4742	2.9144	0.7114	3.8859	0.9485	4.8574	1.1856	
44	0.9714	0.2374	1.9428	0.4748	2.9142	0.7122	3.8856	0.9496	4.8571	1.1870	
45	0.9713	0.2377	1.9427	0.4754	2.9140	0.7131	3.8854	0.9507	4.8567	1.1884	
46	0.9713	0.2380	1.9425	0.4759	2.9138	0.7139	3.8851	0.9519	4.8564	1.1898	
47	0.9712	0.2383	1.9424	0.4765	2.9136	0.7148	3.8848	0.9530	4.8560	1.1913	
48	0.9711	0.2385	1.9423	0.4771	2.9134	0.7156	3.8845	0.9541	4.8557	1.1927	
49	0.9711	0.2388	1.9421	0.4776	2.9132	0.7164	3.8843	0.9553	4.8553	1.1941	
50	0.9710	0.2391	1.9420	0.4782	2.9130	0.7173	3.8840	0.9564	4.8550	1.1955	
51	0.9709	0.2394	1.9419	0.4788	2.9128	0.7181	3.8837	0.9575	4.8546	1.1969	
52	0.9709	0.2397	1.9417	0.4793	2.9126	0.7190	3.8834	0.9587	4.8543	1.1983	
53	0.9708	0.2399	1.9416	0.4799	2.9124	0.7198	3.8831	0.9598	4.8539	1.1997	
54	0.9707	0.2402	1.9414	0.4805	2.9121	0.7207	3.8829	0.9609	4.8536	1.2011	
55	0.9706	0.2405	1.9413	0.4810	2.9119	0.7215	3.8826	0.9620	4.8532	1.2026	
56	0.9706	0.2408	1.9412	0.4816	2.9117	0.7224	3.8823	0.9632	4.8529	1.2040	
57	0.9705	0.2411	1.9410	0.4822	2.9115	0.7232	3.8820	0.9643	4.8525	1.2054	
58	0.9704	0.2414	1.9409	0.4827	2.9113	0.7241	3.8817	0.9654	4.8522	1.2068	
59	0.9704	0.2416	1.9407	0.4833	2.9111	0.7249	3.8815	0.9666	4.8518	1.2082	
60	0.9703	0.2419	1.9406	0.4838	2.9109	0.7258	3.8812	0.9677	4.8515	1.2096	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
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5°8458	1°3514	6°8201	1°5766	7°7944	1°8019	8°7687	2°0271	9°7430	2°2523	59
5°8454	1°3531	6°8197	1°5786	7°7939	1°8041	8°7682	2°0297	9°7424	2°2552	58
5°8450	1°3548	6°8192	1°5806	7°7934	1°8064	8°7676	2°0322	9°7417	2°2580	57
5°8446	1°3565	6°8188	1°5826	7°7929	1°8087	8°7670	2°0348	9°7411	2°2608	56
5°8443	1°3582	6°8183	1°5846	7°7923	1°8109	8°7664	2°0373	9°7404	2°2637	55
5°8439	1°3599	6°8178	1°5866	7°7918	1°8132	8°7658	2°0399	9°7398	2°2665	54
5°8435	1°3616	6°8174	1°5885	7°7913	1°8155	8°7652	2°0424	9°7391	2°2693	53
5°8431	1°3633	6°8169	1°5905	7°7908	1°8177	8°7646	2°0450	9°7384	2°2722	52
5°8427	1°3650	6°8164	1°5925	7°7902	1°8200	8°7640	2°0475	9°7378	2°2750	51
5°8423	1°3667	6°8160	1°5945	7°7897	1°8223	8°7634	2°0501	9°7371	2°2778	50
5°8419	1°3684	6°8155	1°5965	7°7892	1°8245	8°7628	2°0526	9°7365	2°2807	49
5°8415	1°3701	6°8151	1°5985	7°7886	1°8268	8°7622	2°0552	9°7358	2°2835	48
5°8411	1°3718	6°8146	1°6004	7°7881	1°8291	8°7616	2°0577	9°7351	2°2863	47
5°8407	1°3735	6°8141	1°6024	7°7876	1°8313	8°7610	2°0603	9°7345	2°2892	46
5°8403	1°3752	6°8137	1°6044	7°7870	1°8336	8°7604	2°0628	9°7338	2°2920	45
5°8399	1°3769	6°8132	1°6064	7°7865	1°8359	8°7598	2°0654	9°7331	2°2948	44
5°8395	1°3786	6°8127	1°6084	7°7860	1°8381	8°7592	2°0679	9°7325	2°2977	43
5°8391	1°3803	6°8123	1°6103	7°7854	1°8404	8°7586	2°0704	9°7318	2°3005	42
5°8387	1°3820	6°8118	1°6123	7°7849	1°8427	8°7580	2°0730	9°7311	2°3033	41
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5°8379	1°3854	6°8108	1°6163	7°7838	1°8472	8°7568	2°0781	9°7298	2°3090	39
5°8375	1°3871	6°8104	1°6183	7°7833	1°8495	8°7562	2°0806	9°7291	2°3118	38
5°8371	1°3888	6°8099	1°6203	7°7827	1°8517	8°7556	2°0832	9°7284	2°3146	37
5°8367	1°3905	6°8094	1°6222	7°7822	1°8540	8°7550	2°0857	9°7278	2°3175	36
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5°8358	1°3939	6°8085	1°6262	7°7811	1°8585	8°7538	2°0908	9°7264	2°3231	34
5°8354	1°3956	6°8080	1°6282	7°7806	1°8608	8°7532	2°0934	9°7257	2°3260	33
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5°8338	1°4024	6°8061	1°6361	7°7784	1°8698	8°7507	2°1036	9°7230	2°3373	29
5°8334	1°4041	6°8056	1°6381	7°7779	1°8721	8°7501	2°1061	9°7223	2°3401	28
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5°8322	1°4092	6°8042	1°6440	7°7762	1°8789	8°7483	2°1137	9°7203	2°3486	25
5°8318	1°4109	6°8037	1°6460	7°7757	1°8811	8°7476	2°1163	9°7196	2°3514	24
5°8314	1°4125	6°8032	1°6480	7°7751	1°8834	8°7470	2°1188	9°7189	2°3542	23
5°8309	1°4142	6°8028	1°6500	7°7746	1°8857	8°7464	2°1214	9°7182	2°3571	22
5°8305	1°4159	6°8023	1°6519	7°7740	1°8879	8°7458	2°1239	9°7176	2°3599	21
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5°8297	1°4193	6°8013	1°6559	7°7729	1°8924	8°7446	2°1290	9°7162	2°3656	19
5°8293	1°4210	6°8008	1°6579	7°7724	1°8947	8°7439	2°1315	9°7155	2°3684	18
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5°8281	1°4261	6°7994	1°6638	7°7707	1°9015	8°7421	2°1392	9°7134	2°3769	15
5°8276	1°4278	6°7989	1°6658	7°7702	1°9037	8°7415	2°1417	9°7127	2°3797	14
5°8272	1°4295	6°7984	1°6678	7°7696	1°9060	8°7408	2°1443	9°7120	2°3825	13
5°8268	1°4312	6°7979	1°6697	7°7691	1°9083	8°7402	2°1468	9°7113	2°3853	12
5°8264	1°4329	6°7975	1°6717	7°7685	1°9105	8°7396	2°1493	9°7106	2°3882	11
5°8260	1°4346	6°7970	1°6737	7°7680	1°9128	8°7390	2°1519	9°7100	2°3910	10
5°8256	1°4363	6°7965	1°6757	7°7674	1°9150	8°7383	2°1544	9°7093	2°3938	9
5°8251	1°4380	6°7960	1°6776	7°7668	1°9173	8°7377	2°1570	9°7086	2°3966	8
5°8247	1°4397	6°7955	1°6796	7°7663	1°9196	8°7371	2°1595	9°7079	2°3995	7
5°8243	1°4414	6°7950	1°6816	7°7657	1°9218	8°7364	2°1621	9°7072	2°4023	6
5°8239	1°4431	6°7945	1°6836	7°7652	1°9241	8°7358	2°1646	9°7065	2°4051	5
5°8235	1°4448	6°7940	1°6855	7°7646	1°9263	8°7352	2°1671	9°7058	2°4079	4
5°8230	1°4465	6°7935	1°6875	7°7641	1°9286	8°7346	2°1697	9°7051	2°4108	3
5°8226	1°4481	6°7931	1°6895	7°7635	1°9309	8°7339	2°1722	9°7044	2°4136	2
5°8222	1°4498	6°7926	1°6915	7°7629	1°9331	8°7333	2°1748	9°7037	2°4164	1
5°8218	1°4515	6°7921	1°6935	7°7624	1°9354	8°7327	2°1773	9°7030	2°4192	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

76 Degrees.

# 14 Degrees.

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2	0°9702	0°2425	1°9403	0°4850	2°9105	0°7275	3°8806	0°9699	4°8508	1°2124	
3	0°9701	0°2428	1°9402	0°4855	2°9103	0°7283	3°8803	0°9711	4°8504	1°2138	
4	0°9700	0°2431	1°9400	0°4861	2°9100	0°7292	3°8801	0°9722	4°8501	1°2153	
5	0°9699	0°2433	1°9399	0°4867	2°9098	0°7300	3°8798	0°9733	4°8497	1°2167	
6	0°9699	0°2436	1°9397	0°4872	2°9096	0°7308	3°8795	0°9745	4°8494	1°2181	
7	0°9698	0°2439	1°9396	0°4878	2°9094	0°7317	3°8792	0°9756	4°8490	1°2195	
8	0°9697	0°2442	1°9395	0°4884	2°9092	0°7325	3°8789	0°9767	4°8487	1°2209	
9	0°9697	0°2445	1°9393	0°4889	2°9090	0°7334	3°8786	0°9778	4°8483	1°2223	
10	0°9696	0°2447	1°9392	0°4895	2°9088	0°7342	3°8784	0°9790	4°8479	1°2237	
11	0°9695	0°2450	1°9390	0°4901	2°9086	0°7351	3°8781	0°9801	4°8476	1°2251	
12	0°9694	0°2453	1°9389	0°4906	2°9083	0°7359	3°8778	0°9812	4°8472	1°2265	
13	0°9694	0°2456	1°9387	0°4912	2°9081	0°7368	3°8775	0°9824	4°8469	1°2279	
14	0°9693	0°2459	1°9386	0°4917	2°9079	0°7376	3°8772	0°9835	4°8465	1°2294	
15	0°9692	0°2462	1°9385	0°4923	2°9077	0°7385	3°8769	0°9846	4°8462	1°2308	
16	0°9692	0°2464	1°9383	0°4929	2°9075	0°7393	3°8766	0°9857	4°8458	1°2322	
17	0°9691	0°2467	1°9382	0°4934	2°9073	0°7402	3°8764	0°9869	4°8454	1°2336	
18	0°9690	0°2470	1°9380	0°4940	2°9070	0°7410	3°8761	0°9880	4°8451	1°2350	
19	0°9689	0°2473	1°9379	0°4946	2°9068	0°7418	3°8758	0°9891	4°8447	1°2364	
20	0°9689	0°2476	1°9377	0°4951	2°9066	0°7427	3°8755	0°9903	4°8444	1°2378	
21	0°9688	0°2478	1°9376	0°4957	2°9064	0°7435	3°8752	0°9914	4°8440	1°2392	
22	0°9687	0°2481	1°9375	0°4963	2°9062	0°7444	3°8749	0°9925	4°8436	1°2406	
23	0°9687	0°2484	1°9373	0°4968	2°9060	0°7452	3°8746	0°9936	4°8433	1°2420	
24	0°9686	0°2487	1°9372	0°4974	2°9057	0°7461	3°8743	0°9948	4°8429	1°2434	
25	0°9685	0°2490	1°9370	0°4979	2°9055	0°7469	3°8740	0°9959	4°8426	1°2449	
26	0°9684	0°2493	1°9369	0°4985	2°9053	0°7478	3°8738	0°9970	4°8422	1°2463	
27	0°9684	0°2495	1°9367	0°4991	2°9051	0°7486	3°8735	0°9981	4°8418	1°2477	
28	0°9683	0°2498	1°9366	0°4996	2°9049	0°7495	3°8732	0°9993	4°8415	1°2491	
29	0°9682	0°2501	1°9364	0°5002	2°9047	0°7503	3°8729	1°0004	4°8411	1°2505	
30	0°9681	0°2504	1°9363	0°5008	2°9044	0°7511	3°8726	1°0015	4°8407	1°2519	
31	0°9681	0°2507	1°9361	0°5013	2°9042	0°7520	3°8723	1°0026	4°8404	1°2533	
32	0°9680	0°2509	1°9360	0°5019	2°9040	0°7528	3°8720	1°0038	4°8400	1°2547	
33	0°9679	0°2512	1°9359	0°5024	2°9038	0°7537	3°8717	1°0049	4°8396	1°2561	
34	0°9679	0°2515	1°9357	0°5030	2°9036	0°7545	3°8714	1°0060	4°8393	1°2575	
35	0°9678	0°2518	1°9356	0°5036	2°9033	0°7554	3°8711	1°0072	4°8389	1°2589	
36	0°9677	0°2521	1°9354	0°5041	2°9031	0°7562	3°8708	1°0083	4°8385	1°2603	
37	0°9676	0°2524	1°9353	0°5047	2°9029	0°7571	3°8705	1°0094	4°8382	1°2618	
38	0°9676	0°2526	1°9351	0°5053	2°9027	0°7579	3°8702	1°0105	4°8378	1°2632	
39	0°9675	0°2529	1°9350	0°5058	2°9025	0°7587	3°8700	1°0117	4°8374	1°2646	
40	0°9674	0°2532	1°9348	0°5064	2°9022	0°7596	3°8697	1°0128	4°8371	1°2660	
41	0°9673	0°2535	1°9347	0°5070	2°9020	0°7604	3°8694	1°0139	4°8367	1°2674	
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46	0°9670	0°2549	1°9339	0°5098	2°9009	0°7646	3°8679	1°0195	4°8349	1°2744	
47	0°9669	0°2552	1°9338	0°5103	2°9007	0°7655	3°8676	1°0207	4°8345	1°2758	
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	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
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5-8209	1-4549	6-7911	1-6974	7-7612	1-9399	8-7314	2-1824	9-7015	2-4249	58
5-8205	1-4566	6-7906	1-6994	7-7607	1-9421	8-7308	2-1849	9-7008	2-4277	57
5-8201	1-4583	6-7901	1-7014	7-7601	1-9444	8-7301	2-1875	9-7001	2-4305	56
5-8197	1-4600	6-7896	1-7033	7-7595	1-9467	8-7295	2-1900	9-6994	2-4333	55
5-8192	1-4617	6-7891	1-7053	7-7590	1-9489	8-7288	2-1925	9-6987	2-4362	54
5-8188	1-4634	6-7886	1-7073	7-7584	1-9512	8-7282	2-1951	9-6980	2-4390	53
5-8184	1-4651	6-7881	1-7093	7-7578	1-9534	8-7276	2-1976	9-6973	2-4418	52
5-8180	1-4668	6-7876	1-7112	7-7573	1-9557	8-7269	2-2002	9-6966	2-4446	51
5-8175	1-4685	6-7871	1-7132	7-7567	1-9579	8-7263	2-2027	9-6959	2-4474	50
5-8171	1-4702	6-7866	1-7152	7-7561	1-9602	8-7257	2-2052	9-6952	2-4503	49
5-8167	1-4718	6-7861	1-7172	7-7556	1-9625	8-7250	2-2078	9-6945	2-4531	48
5-8162	1-4735	6-7856	1-7191	7-7550	1-9647	8-7244	2-2103	9-6937	2-4559	47
5-8158	1-4752	6-7851	1-7211	7-7544	1-9670	8-7237	2-2128	9-6930	2-4587	46
5-8154	1-4769	6-7846	1-7231	7-7538	1-9692	8-7231	2-2154	9-6923	2-4615	45
5-8150	1-4786	6-7841	1-7250	7-7533	1-9715	8-7224	2-2179	9-6916	2-4644	44
5-8145	1-4803	6-7836	1-7270	7-7527	1-9737	8-7218	2-2205	9-6909	2-4672	43
5-8141	1-4820	6-7831	1-7290	7-7521	1-9760	8-7211	2-2230	9-6902	2-4700	42
5-8137	1-4837	6-7826	1-7310	7-7516	1-9782	8-7205	2-2255	9-6894	2-4728	41
5-8132	1-4854	6-7821	1-7329	7-7510	1-9805	8-7198	2-2281	9-6887	2-4756	40
5-8128	1-4871	6-7816	1-7349	7-7504	1-9828	8-7192	2-2306	9-6880	2-4784	39
5-8124	1-4888	6-7811	1-7369	7-7498	1-9850	8-7185	2-2331	9-6873	2-4813	38
5-8119	1-4904	6-7806	1-7389	7-7492	1-9873	8-7179	2-2357	9-6866	2-4841	37
5-8115	1-4921	6-7801	1-7408	7-7487	1-9895	8-7172	2-2382	9-6858	2-4869	36
5-8111	1-4938	6-7796	1-7428	7-7481	1-9918	8-7166	2-2407	9-6851	2-4897	35
5-8106	1-4955	6-7791	1-7448	7-7475	1-9940	8-7159	2-2433	9-6844	2-4925	34
5-8102	1-4972	6-7786	1-7467	7-7469	1-9963	8-7153	2-2458	9-6837	2-4953	33
5-8098	1-4989	6-7781	1-7487	7-7463	1-9985	8-7146	2-2484	9-6829	2-4982	32
5-8093	1-5006	6-7775	1-7507	7-7458	2-0008	8-7140	2-2509	9-6822	2-5010	31
5-8089	1-5023	6-7770	1-7527	7-7452	2-0030	8-7133	2-2534	9-6815	2-5038	30
5-8084	1-5040	6-7765	1-7546	7-7446	2-0053	8-7127	2-2560	9-6807	2-5066	29
5-8080	1-5057	6-7760	1-7566	7-7440	2-0075	8-7120	2-2585	9-6800	2-5094	28
5-8076	1-5073	6-7755	1-7586	7-7434	2-0098	8-7114	2-2610	9-6793	2-5122	27
5-8071	1-5090	6-7750	1-7605	7-7428	2-0121	8-7107	2-2636	9-6786	2-5151	26
5-8067	1-5107	6-7745	1-7625	7-7423	2-0143	8-7100	2-2661	9-6778	2-5179	25
5-8063	1-5124	6-7740	1-7645	7-7417	2-0166	8-7094	2-2686	9-6771	2-5207	24
5-8058	1-5141	6-7735	1-7665	7-7411	2-0188	8-7087	2-2712	9-6764	2-5235	23
5-8054	1-5158	6-7729	1-7684	7-7405	2-0211	8-7081	2-2737	9-6756	2-5263	22
5-8049	1-5175	6-7724	1-7704	7-7399	2-0233	8-7074	2-2762	9-6749	2-5291	21
5-8045	1-5192	6-7719	1-7724	7-7393	2-0256	8-7067	2-2788	9-6742	2-5320	20
5-8040	1-5209	6-7714	1-7743	7-7387	2-0278	8-7061	2-2813	9-6734	2-5348	19
5-8036	1-5225	6-7709	1-7763	7-7381	2-0301	8-7054	2-2838	9-6727	2-5376	18
5-8032	1-5242	6-7704	1-7783	7-7376	2-0323	8-7047	2-2864	9-6719	2-5404	17
5-8027	1-5259	6-7698	1-7802	7-7370	2-0346	8-7041	2-2889	9-6712	2-5432	16
5-8023	1-5276	6-7693	1-7822	7-7364	2-0368	8-7034	2-2914	9-6705	2-5460	15
5-8018	1-5293	6-7688	1-7842	7-7358	2-0391	8-7027	2-2939	9-6697	2-5488	14
5-8014	1-5310	6-7683	1-7862	7-7352	2-0413	8-7021	2-2965	9-6690	2-5516	13
5-8009	1-5327	6-7678	1-7881	7-7346	2-0436	8-7014	2-2990	9-6682	2-5545	12
5-8005	1-5344	6-7672	1-7901	7-7340	2-0458	8-7007	2-3015	9-6675	2-5573	11
5-8000	1-5360	6-7667	1-7921	7-7334	2-0481	8-7001	2-3041	9-6667	2-5601	10
5-7996	1-5377	6-7662	1-7940	7-7328	2-0503	8-6994	2-3066	9-6660	2-5629	9
5-7992	1-5394	6-7657	1-7960	7-7322	2-0526	8-6987	2-3091	9-6653	2-5657	8
5-7987	1-5411	6-7652	1-7980	7-7316	2-0548	8-6981	2-3117	9-6645	2-5685	7
5-7983	1-5428	6-7646	1-7999	7-7310	2-0571	8-6974	2-3142	9-6638	2-5713	6
5-7978	1-5445	6-7641	1-8019	7-7304	2-0593	8-6967	2-3167	9-6630	2-5741	5
5-7974	1-5462	6-7636	1-8039	7-7298	2-0616	8-6960	2-3193	9-6623	2-5770	4
5-7969	1-5479	6-7631	1-8058	7-7292	2-0638	8-6954	2-3218	9-6615	2-5798	3
5-7965	1-5495	6-7625	1-8078	7-7286	2-0661	8-6947	2-3243	9-6608	2-5826	2
5-7960	1-5512	6-7620	1-8098	7-7280	2-0683	8-6940	2-3268	9-6600	2-5854	1
5-7956	1-5529	6-7615	1-8117	7-7274	2-0706	8-6933	2-3294	9-6593	2-5882	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

75 Degrees.

# 15 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9659	0.2588	1.9319	0.5176	2.8978	0.7765	3.8637	1.0353	4.8296	1.2941	
1	0.9659	0.2591	1.9317	0.5182	2.8976	0.7773	3.8634	1.0364	4.8293	1.2955	
2	0.9658	0.2594	1.9316	0.5188	2.8973	0.7781	3.8631	1.0375	4.8289	1.2969	
3	0.9657	0.2597	1.9314	0.5193	2.8971	0.7790	3.8628	1.0386	4.8285	1.2983	
4	0.9656	0.2599	1.9312	0.5199	2.8969	0.7798	3.8625	1.0398	4.8281	1.2997	
5	0.9655	0.2602	1.9311	0.5204	2.8966	0.7807	3.8622	1.0409	4.8277	1.3011	
6	0.9655	0.2605	1.9309	0.5210	2.8964	0.7815	3.8619	1.0420	4.8274	1.3025	
7	0.9654	0.2608	1.9308	0.5216	2.8962	0.7824	3.8616	1.0431	4.8270	1.3039	
8	0.9653	0.2611	1.9306	0.5221	2.8960	0.7832	3.8613	1.0443	4.8266	1.3053	
9	0.9652	0.2613	1.9305	0.5227	2.8957	0.7840	3.8610	1.0454	4.8262	1.3067	
10	0.9652	0.2616	1.9303	0.5233	2.8955	0.7849	3.8607	1.0465	4.8258	1.3081	
11	0.9651	0.2619	1.9302	0.5238	2.8953	0.7857	3.8604	1.0476	4.8255	1.3095	
12	0.9650	0.2622	1.9300	0.5244	2.8950	0.7866	3.8601	1.0488	4.8251	1.3109	
13	0.9649	0.2625	1.9299	0.5249	2.8948	0.7874	3.8598	1.0499	4.8247	1.3123	
14	0.9649	0.2628	1.9297	0.5255	2.8946	0.7883	3.8595	1.0510	4.8243	1.3138	
15	0.9648	0.2630	1.9296	0.5261	2.8944	0.7891	3.8591	1.0521	4.8239	1.3152	
16	0.9647	0.2633	1.9294	0.5266	2.8941	0.7899	3.8588	1.0532	4.8236	1.3166	
17	0.9646	0.2636	1.9293	0.5272	2.8939	0.7908	3.8585	1.0544	4.8232	1.3180	
18	0.9646	0.2639	1.9291	0.5277	2.8937	0.7916	3.8582	1.0555	4.8228	1.3194	
19	0.9645	0.2642	1.9290	0.5283	2.8934	0.7925	3.8579	1.0566	4.8224	1.3208	
20	0.9644	0.2644	1.9288	0.5289	2.8932	0.7933	3.8576	1.0577	4.8220	1.3222	
21	0.9643	0.2647	1.9287	0.5294	2.8930	0.7941	3.8573	1.0589	4.8216	1.3236	
22	0.9642	0.2650	1.9285	0.5300	2.8927	0.7950	3.8570	1.0600	4.8212	1.3250	
23	0.9642	0.2653	1.9283	0.5306	2.8925	0.7958	3.8567	1.0611	4.8209	1.3264	
24	0.9641	0.2656	1.9282	0.5311	2.8923	0.7967	3.8564	1.0622	4.8205	1.3278	
25	0.9640	0.2658	1.9280	0.5317	2.8921	0.7975	3.8561	1.0633	4.8201	1.3292	
26	0.9639	0.2661	1.9279	0.5322	2.8918	0.7984	3.8558	1.0645	4.8197	1.3306	
27	0.9639	0.2664	1.9277	0.5328	2.8916	0.7992	3.8555	1.0656	4.8193	1.3320	
28	0.9638	0.2667	1.9276	0.5334	2.8914	0.8000	3.8551	1.0667	4.8189	1.3334	
29	0.9637	0.2670	1.9274	0.5339	2.8911	0.8009	3.8548	1.0678	4.8185	1.3348	
30	0.9636	0.2672	1.9273	0.5345	2.8909	0.8017	3.8545	1.0690	4.8182	1.3362	
31	0.9636	0.2675	1.9271	0.5350	2.8907	0.8026	3.8542	1.0701	4.8178	1.3376	
32	0.9635	0.2678	1.9269	0.5356	2.8904	0.8034	3.8539	1.0712	4.8174	1.3390	
33	0.9634	0.2681	1.9268	0.5362	2.8902	0.8042	3.8536	1.0723	4.8170	1.3404	
34	0.9633	0.2684	1.9266	0.5367	2.8900	0.8051	3.8533	1.0734	4.8166	1.3418	
35	0.9632	0.2686	1.9265	0.5373	2.8897	0.8059	3.8530	1.0746	4.8162	1.3432	
36	0.9632	0.2689	1.9263	0.5378	2.8895	0.8068	3.8527	1.0757	4.8158	1.3446	
37	0.9631	0.2692	1.9262	0.5384	2.8893	0.8076	3.8523	1.0768	4.8154	1.3460	
38	0.9630	0.2695	1.9260	0.5390	2.8890	0.8084	3.8520	1.0779	4.8150	1.3474	
39	0.9629	0.2698	1.9259	0.5395	2.8888	0.8093	3.8517	1.0790	4.8146	1.3488	
40	0.9628	0.2700	1.9257	0.5401	2.8885	0.8101	3.8514	1.0802	4.8142	1.3502	
41	0.9628	0.2703	1.9255	0.5406	2.8883	0.8110	3.8511	1.0813	4.8139	1.3516	
42	0.9627	0.2706	1.9254	0.5412	2.8881	0.8118	3.8508	1.0824	4.8135	1.3530	
43	0.9626	0.2709	1.9252	0.5418	2.8878	0.8126	3.8505	1.0835	4.8131	1.3544	
44	0.9625	0.2712	1.9251	0.5423	2.8876	0.8135	3.8501	1.0846	4.8127	1.3558	
45	0.9625	0.2714	1.9249	0.5429	2.8874	0.8143	3.8498	1.0858	4.8123	1.3572	
46	0.9624	0.2717	1.9248	0.5434	2.8871	0.8152	3.8495	1.0869	4.8119	1.3586	
47	0.9623	0.2720	1.9246	0.5440	2.8869	0.8160	3.8492	1.0880	4.8115	1.3600	
48	0.9622	0.2723	1.9244	0.5446	2.8867	0.8168	3.8489	1.0891	4.8111	1.3614	
49	0.9621	0.2726	1.9243	0.5451	2.8864	0.8177	3.8486	1.0902	4.8107	1.3628	
50	0.9621	0.2728	1.9241	0.5457	2.8862	0.8185	3.8482	1.0914	4.8103	1.3642	
51	0.9620	0.2731	1.9240	0.5462	2.8859	0.8194	3.8479	1.0925	4.8099	1.3656	
52	0.9619	0.2734	1.9238	0.5468	2.8857	0.8202	3.8476	1.0936	4.8095	1.3670	
53	0.9618	0.2737	1.9236	0.5474	2.8855	0.8210	3.8473	1.0947	4.8091	1.3684	
54	0.9617	0.2740	1.9235	0.5479	2.8852	0.8219	3.8470	1.0958	4.8087	1.3698	
55	0.9617	0.2742	1.9233	0.5485	2.8850	0.8227	3.8466	1.0970	4.8083	1.3712	
56	0.9616	0.2745	1.9232	0.5490	2.8847	0.8236	3.8463	1.0981	4.8079	1.3726	
57	0.9615	0.2748	1.9230	0.5496	2.8845	0.8244	3.8460	1.0992	4.8075	1.3740	
58	0.9614	0.2751	1.9228	0.5502	2.8843	0.8252	3.8457	1.1003	4.8071	1.3754	
59	0.9613	0.2754	1.9227	0.5507	2.8840	0.8261	3.8454	1.1014	4.8067	1.3768	
60	0.9613	0.2756	1.9225	0.5513	2.8838	0.8269	3.8450	1.1025	4.8063	1.3782	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-7956	1-5529	6-7615	1-8117	7-7274	2-0706	8-6933	2-3294	9-6593	2-5882	60
5-7951	1-5546	6-7610	1-8137	7-7268	2-0728	8-6927	2-3319	9-6585	2-5910	59
5-7947	1-5563	6-7604	1-8157	7-7262	2-0750	8-6920	2-3344	9-6578	2-5938	58
5-7942	1-5580	6-7599	1-8176	7-7256	2-0773	8-6913	2-3370	9-6570	2-5966	57
5-7937	1-5597	6-7594	1-8196	7-7250	2-0795	8-6906	2-3395	9-6562	2-5994	56
5-7933	1-5613	6-7588	1-8216	7-7244	2-0818	8-6899	2-3420	9-6555	2-6022	55
5-7928	1-5630	6-7583	1-8235	7-7238	2-0840	8-6893	2-3445	9-6547	2-6050	54
5-7924	1-5647	6-7578	1-8255	7-7232	2-0863	8-6886	2-3471	9-6540	2-6079	53
5-7919	1-5664	6-7572	1-8275	7-7226	2-0885	8-6879	2-3496	9-6532	2-6107	52
5-7915	1-5681	6-7567	1-8294	7-7220	2-0908	8-6872	2-3521	9-6524	2-6135	51
5-7910	1-5698	6-7562	1-8314	7-7214	2-0930	8-6865	2-3546	9-6517	2-6163	50
5-7906	1-5715	6-7556	1-8334	7-7207	2-0953	8-6858	2-3572	9-6509	2-6191	49
5-7901	1-5731	6-7551	1-8353	7-7201	2-0975	8-6851	2-3597	9-6502	2-6219	48
5-7896	1-5748	6-7546	1-8373	7-7195	2-0998	8-6845	2-3622	9-6494	2-6247	47
5-7892	1-5765	6-7540	1-8393	7-7189	2-1020	8-6838	2-3648	9-6486	2-6275	46
5-7887	1-5782	6-7535	1-8412	7-7183	2-1042	8-6831	2-3673	9-6479	2-6303	45
5-7883	1-5799	6-7530	1-8432	7-7177	2-1065	8-6824	2-3698	9-6471	2-6331	44
5-7878	1-5816	6-7524	1-8451	7-7171	2-1087	8-6817	2-3723	9-6463	2-6359	43
5-7873	1-5832	6-7519	1-8471	7-7165	2-1110	8-6810	2-3749	9-6456	2-6387	42
5-7869	1-5849	6-7514	1-8491	7-7158	2-1132	8-6803	2-3774	9-6448	2-6415	41
5-7864	1-5866	6-7508	1-8510	7-7152	2-1155	8-6796	2-3799	9-6440	2-6443	40
5-7860	1-5883	6-7503	1-8530	7-7146	2-1177	8-6789	2-3824	9-6433	2-6471	39
5-7855	1-5900	6-7497	1-8550	7-7140	2-1200	8-6782	2-3850	9-6425	2-6500	38
5-7850	1-5917	6-7492	1-8569	7-7134	2-1222	8-6776	2-3875	9-6417	2-6528	37
5-7846	1-5933	6-7487	1-8589	7-7128	2-1244	8-6769	2-3900	9-6410	2-6556	36
5-7841	1-5950	6-7481	1-8609	7-7121	2-1267	8-6762	2-3925	9-6402	2-6584	35
5-7836	1-5967	6-7476	1-8628	7-7115	2-1289	8-6755	2-3951	9-6394	2-6612	34
5-7832	1-5984	6-7470	1-8648	7-7109	2-1312	8-6748	2-3976	9-6386	2-6640	33
5-7827	1-6001	6-7465	1-8667	7-7103	2-1334	8-6741	2-4001	9-6379	2-6668	32
5-7822	1-6017	6-7460	1-8687	7-7097	2-1357	8-6734	2-4026	9-6371	2-6696	31
5-7818	1-6034	6-7454	1-8707	7-7090	2-1379	8-6727	2-4051	9-6363	2-6724	30
5-7813	1-6051	6-7449	1-8726	7-7084	2-1401	8-6720	2-4077	9-6355	2-6752	29
5-7808	1-6068	6-7443	1-8746	7-7078	2-1424	8-6713	2-4102	9-6347	2-6780	28
5-7804	1-6085	6-7438	1-8766	7-7072	2-1446	8-6706	2-4127	9-6340	2-6808	27
5-7799	1-6102	6-7432	1-8785	7-7066	2-1469	8-6699	2-4152	9-6332	2-6836	26
5-7794	1-6118	6-7427	1-8805	7-7059	2-1491	8-6692	2-4178	9-6324	2-6864	25
5-7790	1-6135	6-7421	1-8824	7-7053	2-1514	8-6685	2-4203	9-6316	2-6892	24
5-7785	1-6152	6-7416	1-8844	7-7047	2-1536	8-6678	2-4228	9-6308	2-6920	23
5-7780	1-6169	6-7410	1-8864	7-7040	2-1558	8-6671	2-4253	9-6301	2-6948	22
5-7776	1-6186	6-7405	1-8883	7-7034	2-1581	8-6663	2-4278	9-6293	2-6976	21
5-7771	1-6202	6-7399	1-8903	7-7028	2-1603	8-6656	2-4304	9-6285	2-7004	20
5-7766	1-6219	6-7394	1-8922	7-7022	2-1626	8-6649	2-4329	9-6277	2-7032	19
5-7762	1-6236	6-7388	1-8942	7-7015	2-1648	8-6642	2-4354	9-6269	2-7060	18
5-7757	1-6253	6-7383	1-8962	7-7009	2-1670	8-6635	2-4379	9-6261	2-7088	17
5-7752	1-6270	6-7377	1-8981	7-7003	2-1693	8-6628	2-4404	9-6253	2-7116	16
5-7747	1-6286	6-7372	1-9001	7-6996	2-1715	8-6621	2-4430	9-6246	2-7144	15
5-7743	1-6303	6-7366	1-9020	7-6990	2-1738	8-6614	2-4455	9-6238	2-7172	14
5-7738	1-6320	6-7361	1-9040	7-6984	2-1760	8-6607	2-4480	9-6230	2-7200	13
5-7733	1-6337	6-7355	1-9060	7-6977	2-1782	8-6600	2-4505	9-6222	2-7228	12
5-7728	1-6354	6-7350	1-9079	7-6971	2-1805	8-6592	2-4530	9-6214	2-7256	11
5-7724	1-6370	6-7344	1-9099	7-6965	2-1827	8-6585	2-4556	9-6206	2-7284	10
5-7719	1-6387	6-7339	1-9118	7-6958	2-1850	8-6578	2-4581	9-6198	2-7312	9
5-7714	1-6404	6-7333	1-9138	7-6952	2-1872	8-6571	2-4606	9-6190	2-7340	8
5-7709	1-6421	6-7327	1-9158	7-6946	2-1894	8-6564	2-4631	9-6182	2-7368	7
5-7704	1-6438	6-7322	1-9177	7-6939	2-1917	8-6557	2-4656	9-6174	2-7396	6
5-7700	1-6454	6-7316	1-9197	7-6933	2-1939	8-6550	2-4682	9-6166	2-7424	5
5-7695	1-6471	6-7311	1-9216	7-6927	2-1961	8-6542	2-4707	9-6158	2-7452	4
5-7690	1-6488	6-7305	1-9236	7-6920	2-1984	8-6535	2-4732	9-6150	2-7480	3
5-7685	1-6505	6-7300	1-9255	7-6914	2-2006	8-6528	2-4757	9-6142	2-7508	2
5-7681	1-6521	6-7294	1-9275	7-6907	2-2029	8-6521	2-4782	9-6134	2-7536	1
5-7676	1-6538	6-7288	1-9295	7-6901	2-2051	8-6514	2-4807	9-6126	2-7564	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

74 Degrees.

D



# 16 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·9613	0·2756	1·9225	0·5513	2·8838	0·8269	3·8450	1·1025	4·8063	1·3782	
1	0·9612	0·2759	1·9224	0·5518	2·8835	0·8278	3·8447	1·1037	4·8059	1·3796	
2	0·9611	0·2762	1·9222	0·5524	2·8833	0·8286	3·8444	1·1048	4·8055	1·3810	
3	0·9610	0·2765	1·9220	0·5530	2·8831	0·8294	3·8441	1·1059	4·8051	1·3824	
4	0·9609	0·2768	1·9219	0·5535	2·8828	0·8303	3·8438	1·1070	4·8047	1·3838	
5	0·9609	0·2770	1·9217	0·5541	2·8826	0·8311	3·8434	1·1081	4·8043	1·3852	
6	0·9608	0·2773	1·9216	0·5546	2·8823	0·8319	3·8431	1·1093	4·8039	1·3866	
7	0·9607	0·2776	1·9214	0·5552	2·8821	0·8328	3·8428	1·1104	4·8035	1·3880	
8	0·9606	0·2779	1·9212	0·5557	2·8819	0·8336	3·8425	1·1115	4·8031	1·3894	
9	0·9605	0·2782	1·9211	0·5563	2·8816	0·8345	3·8421	1·1126	4·8027	1·3908	
10	0·9605	0·2784	1·9209	0·5569	2·8814	0·8353	3·8418	1·1137	4·8023	1·3922	
11	0·9604	0·2787	1·9207	0·5574	2·8811	0·8361	3·8415	1·1148	4·8019	1·3936	
12	0·9603	0·2790	1·9206	0·5580	2·8809	0·8370	3·8412	1·1160	4·8015	1·3950	
13	0·9602	0·2793	1·9204	0·5585	2·8806	0·8378	3·8409	1·1171	4·8011	1·3964	
14	0·9601	0·2795	1·9203	0·5591	2·8804	0·8386	3·8405	1·1182	4·8007	1·3977	
15	0·9600	0·2798	1·9201	0·5597	2·8801	0·8395	3·8402	1·1193	4·8002	1·3991	
16	0·9600	0·2801	1·9199	0·5602	2·8799	0·8403	3·8399	1·1204	4·7998	1·4005	
17	0·9599	0·2804	1·9198	0·5608	2·8797	0·8412	3·8395	1·1216	4·7994	1·4019	
18	0·9598	0·2807	1·9196	0·5613	2·8794	0·8420	3·8392	1·1227	4·7990	1·4033	
19	0·9597	0·2809	1·9194	0·5619	2·8792	0·8428	3·8389	1·1238	4·7986	1·4047	
20	0·9596	0·2812	1·9193	0·5625	2·8789	0·8437	3·8386	1·1249	4·7982	1·4061	
21	0·9596	0·2815	1·9191	0·5630	2·8787	0·8445	3·8382	1·1260	4·7978	1·4075	
22	0·9595	0·2818	1·9190	0·5636	2·8784	0·8453	3·8379	1·1271	4·7974	1·4089	
23	0·9594	0·2821	1·9188	0·5641	2·8782	0·8462	3·8376	1·1282	4·7970	1·4103	
24	0·9593	0·2823	1·9186	0·5647	2·8779	0·8470	3·8373	1·1294	4·7966	1·4117	
25	0·9592	0·2826	1·9185	0·5652	2·8777	0·8479	3·8369	1·1305	4·7962	1·4131	
26	0·9591	0·2829	1·9183	0·5658	2·8774	0·8487	3·8366	1·1316	4·7957	1·4145	
27	0·9591	0·2832	1·9181	0·5664	2·8772	0·8495	3·8363	1·1327	4·7953	1·4159	
28	0·9590	0·2835	1·9180	0·5669	2·8770	0·8504	3·8359	1·1338	4·7949	1·4173	
29	0·9589	0·2837	1·9178	0·5675	2·8767	0·8512	3·8356	1·1349	4·7945	1·4187	
30	0·9588	0·2840	1·9176	0·5680	2·8765	0·8520	3·8353	1·1361	4·7941	1·4201	
31	0·9587	0·2843	1·9175	0·5686	2·8762	0·8529	3·8349	1·1372	4·7937	1·4215	
32	0·9587	0·2846	1·9173	0·5691	2·8760	0·8537	3·8346	1·1383	4·7933	1·4229	
33	0·9586	0·2849	1·9171	0·5697	2·8757	0·8546	3·8343	1·1394	4·7929	1·4243	
34	0·9585	0·2851	1·9170	0·5703	2·8755	0·8554	3·8340	1·1405	4·7924	1·4257	
35	0·9584	0·2854	1·9168	0·5708	2·8752	0·8562	3·8336	1·1416	4·7920	1·4270	
36	0·9583	0·2857	1·9166	0·5714	2·8750	0·8571	3·8333	1·1428	4·7916	1·4284	
37	0·9582	0·2860	1·9165	0·5719	2·8747	0·8579	3·8330	1·1439	4·7912	1·4298	
38	0·9582	0·2862	1·9163	0·5725	2·8745	0·8587	3·8326	1·1450	4·7908	1·4312	
39	0·9581	0·2865	1·9161	0·5730	2·8742	0·8596	3·8323	1·1461	4·7904	1·4326	
40	0·9580	0·2868	1·9160	0·5736	2·8740	0·8604	3·8320	1·1472	4·7899	1·4340	
41	0·9579	0·2871	1·9158	0·5742	2·8737	0·8612	3·8316	1·1483	4·7895	1·4354	
42	0·9578	0·2874	1·9156	0·5747	2·8735	0·8621	3·8313	1·1494	4·7891	1·4368	
43	0·9577	0·2876	1·9155	0·5753	2·8732	0·8629	3·8310	1·1506	4·7887	1·4382	
44	0·9577	0·2879	1·9153	0·5758	2·8730	0·8638	3·8306	1·1517	4·7883	1·4396	
45	0·9576	0·2882	1·9151	0·5764	2·8727	0·8646	3·8303	1·1528	4·7879	1·4410	
46	0·9575	0·2885	1·9150	0·5769	2·8725	0·8654	3·8300	1·1539	4·7874	1·4424	
47	0·9574	0·2888	1·9148	0·5775	2·8722	0·8663	3·8296	1·1550	4·7870	1·4438	
48	0·9573	0·2890	1·9146	0·5781	2·8720	0·8671	3·8293	1·1561	4·7866	1·4452	
49	0·9572	0·2893	1·9145	0·5786	2·8717	0·8679	3·8289	1·1572	4·7862	1·4466	
50	0·9572	0·2896	1·9143	0·5792	2·8715	0·8688	3·8286	1·1584	4·7858	1·4479	
51	0·9571	0·2899	1·9141	0·5797	2·8712	0·8696	3·8283	1·1595	4·7853	1·4493	
52	0·9570	0·2901	1·9140	0·5803	2·8709	0·8704	3·8279	1·1606	4·7849	1·4507	
53	0·9569	0·2904	1·9138	0·5808	2·8707	0·8713	3·8276	1·1617	4·7845	1·4521	
54	0·9568	0·2907	1·9136	0·5814	2·8704	0·8721	3·8273	1·1628	4·7841	1·4535	
55	0·9567	0·2910	1·9135	0·5820	2·8702	0·8729	3·8269	1·1639	4·7836	1·4549	
56	0·9566	0·2913	1·9133	0·5825	2·8699	0·8738	3·8266	1·1650	4·7832	1·4563	
57	0·9566	0·2915	1·9131	0·5831	2·8697	0·8746	3·8262	1·1661	4·7828	1·4577	
58	0·9565	0·2918	1·9129	0·5836	2·8694	0·8754	3·8259	1·1673	4·7824	1·4591	
59	0·9564	0·2921	1·9128	0·5842	2·8692	0·8763	3·8256	1·1684	4·7819	1·4605	
60	0·9563	0·2924	1·9126	0·5847	2·8689	0·8771	3·8252	1·1695	4·7815	1·4619	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-7676	1-6538	6-7288	1-9295	7-6901	2-2051	8-6514	2-4807	9-6126	2-7564	60
5-7671	1-6555	6-7283	1-9314	7-6895	2-2073	8-6506	2-4833	9-6118	2-7592	59
5-7666	1-6572	6-7277	1-9334	7-6888	2-2096	8-6499	2-4858	9-6110	2-7620	58
5-7661	1-6589	6-7271	1-9353	7-6882	2-2118	8-6492	2-4883	9-6102	2-7648	57
5-7656	1-6605	6-7266	1-9373	7-6875	2-2140	8-6485	2-4908	9-6094	2-7676	56
5-7652	1-6622	6-7260	1-9392	7-6869	2-2163	8-6477	2-4933	9-6086	2-7704	55
5-7647	1-6639	6-7255	1-9412	7-6862	2-2185	8-6470	2-4958	9-6078	2-7731	54
5-7642	1-6656	6-7249	1-9432	7-6856	2-2208	8-6463	2-4983	9-6070	2-7759	53
5-7637	1-6672	6-7243	1-9451	7-6849	2-2230	8-6456	2-5009	9-6062	2-7787	52
5-7632	1-6689	6-7238	1-9471	7-6843	2-2252	8-6448	2-5034	9-6054	2-7815	51
5-7627	1-6706	6-7232	1-9490	7-6836	2-2275	8-6441	2-5059	9-6046	2-7843	50
5-7622	1-6723	6-7226	1-9510	7-6830	2-2297	8-6434	2-5084	9-6037	2-7871	49
5-7618	1-6739	6-7221	1-9529	7-6823	2-2319	8-6426	2-5109	9-6029	2-7899	48
5-7613	1-6756	6-7215	1-9549	7-6817	2-2342	8-6419	2-5134	9-6021	2-7927	47
5-7608	1-6773	6-7209	1-9568	7-6810	2-2364	8-6412	2-5159	9-6013	2-7955	46
5-7603	1-6790	6-7204	1-9588	7-6804	2-2386	8-6404	2-5185	9-6005	2-7983	45
5-7598	1-6806	6-7198	1-9608	7-6797	2-2409	8-6397	2-5210	9-5997	2-8011	44
5-7593	1-6823	6-7192	1-9627	7-6791	2-2431	8-6390	2-5235	9-5989	2-8039	43
5-7588	1-6840	6-7186	1-9647	7-6784	2-2453	8-6382	2-5260	9-5981	2-8067	42
5-7583	1-6857	6-7181	1-9666	7-6778	2-2476	8-6375	2-5285	9-5972	2-8095	41
5-7579	1-6874	6-7175	1-9686	7-6771	2-2498	8-6368	2-5310	9-5964	2-8123	40
5-7574	1-6890	6-7169	1-9705	7-6765	2-2520	8-6360	2-5335	9-5956	2-8150	39
5-7569	1-6907	6-7163	1-9725	7-6758	2-2543	8-6353	2-5360	9-5948	2-8178	38
5-7564	1-6924	6-7158	1-9744	7-6752	2-2565	8-6346	2-5386	9-5940	2-8206	37
5-7559	1-6940	6-7152	1-9764	7-6745	2-2587	8-6338	2-5411	9-5931	2-8234	36
5-7554	1-6957	6-7146	1-9783	7-6739	2-2610	8-6331	2-5436	9-5923	2-8262	35
5-7549	1-6974	6-7140	1-9803	7-6732	2-2632	8-6323	2-5461	9-5915	2-8290	34
5-7544	1-6991	6-7135	1-9822	7-6725	2-2654	8-6316	2-5486	9-5907	2-8318	33
5-7539	1-7007	6-7129	1-9842	7-6719	2-2677	8-6309	2-5511	9-5898	2-8346	32
5-7534	1-7024	6-7123	1-9862	7-6712	2-2699	8-6301	2-5536	9-5890	2-8374	31
5-7529	1-7041	6-7117	1-9881	7-6706	2-2721	8-6294	2-5561	9-5882	2-8402	30
5-7524	1-7058	6-7112	1-9901	7-6699	2-2744	8-6286	2-5586	9-5874	2-8429	29
5-7519	1-7074	6-7106	1-9920	7-6692	2-2766	8-6279	2-5612	9-5865	2-8457	28
5-7514	1-7091	6-7100	1-9940	7-6686	2-2788	8-6271	2-5637	9-5857	2-8485	27
5-7509	1-7108	6-7094	1-9959	7-6679	2-2810	8-6264	2-5662	9-5849	2-8513	26
5-7504	1-7125	6-7088	1-9979	7-6672	2-2833	8-6257	2-5687	9-5841	2-8541	25
5-7499	1-7141	6-7083	1-9998	7-6666	2-2855	8-6249	2-5712	9-5832	2-8569	24
5-7494	1-7158	6-7077	2-0018	7-6659	2-2877	8-6242	2-5737	9-5824	2-8597	23
5-7489	1-7175	6-7071	2-0037	7-6652	2-2900	8-6234	2-5762	9-5816	2-8625	22
5-7484	1-7191	6-7065	2-0057	7-6646	2-2922	8-6227	2-5787	9-5807	2-8652	21
5-7479	1-7208	6-7059	2-0076	7-6639	2-2944	8-6219	2-5812	9-5799	2-8680	20
5-7474	1-7225	6-7053	2-0096	7-6632	2-2967	8-6212	2-5837	9-5791	2-8708	19
5-7469	1-7242	6-7048	2-0115	7-6626	2-2989	8-6204	2-5862	9-5782	2-8736	18
5-7464	1-7258	6-7042	2-0135	7-6619	2-3011	8-6197	2-5888	9-5774	2-8764	17
5-7459	1-7275	6-7036	2-0154	7-6612	2-3033	8-6189	2-5913	9-5766	2-8792	16
5-7454	1-7292	6-7030	2-0174	7-6606	2-3056	8-6181	2-5938	9-5757	2-8820	15
5-7449	1-7308	6-7024	2-0193	7-6599	2-3078	8-6174	2-5963	9-5749	2-8847	14
5-7444	1-7325	6-7018	2-0213	7-6592	2-3100	8-6166	2-5988	9-5740	2-8875	13
5-7439	1-7342	6-7012	2-0232	7-6586	2-3123	8-6159	2-6013	9-5732	2-8903	12
5-7434	1-7359	6-7006	2-0252	7-6579	2-3145	8-6151	2-6038	9-5724	2-8931	11
5-7429	1-7375	6-7001	2-0271	7-6572	2-3167	8-6144	2-6063	9-5715	2-8959	10
5-7424	1-7392	6-6995	2-0291	7-6565	2-3189	8-6136	2-6088	9-5707	2-8987	9
5-7419	1-7409	6-6989	2-0310	7-6559	2-3212	8-6128	2-6113	9-5698	2-9015	8
5-7414	1-7425	6-6983	2-0330	7-6552	2-3234	8-6121	2-6138	9-5690	2-9042	7
5-7409	1-7442	6-6977	2-0349	7-6545	2-3256	8-6113	2-6163	9-5681	2-9070	6
5-7404	1-7459	6-6971	2-0369	7-6538	2-3278	8-6106	2-6188	9-5673	2-9098	5
5-7399	1-7476	6-6965	2-0388	7-6532	2-3301	8-6098	2-6213	9-5664	2-9126	4
5-7394	1-7492	6-6959	2-0408	7-6525	2-3323	8-6090	2-6238	9-5656	2-9154	3
5-7388	1-7509	6-6953	2-0427	7-6518	2-3345	8-6083	2-6263	9-5647	2-9182	2
5-7383	1-7526	6-6947	2-0447	7-6511	2-3367	8-6075	2-6288	9-5639	2-9209	1
5-7378	1-7542	6-6941	2-0466	7-6504	2-3390	8-6067	2-6313	9-5630	2-9237	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 17 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°9563	0°2924	1°9126	0°5847	2°8689	0°8771	3°8252	1°1695	4°7815	1°4619	
1	0°9562	0°2926	1°9124	0°5853	2°8687	0°8779	3°8249	1°1706	4°7811	1°4632	
2	0°9561	0°2929	1°9123	0°5859	2°8684	0°8788	3°8245	1°1717	4°7807	1°4646	
3	0°9560	0°2932	1°9121	0°5864	2°8681	0°8796	3°8242	1°1728	4°7802	1°4660	
4	0°9560	0°2935	1°9119	0°5870	2°8679	0°8805	3°8239	1°1739	4°7798	1°4674	
5	0°9559	0°2938	1°9118	0°5875	2°8676	0°8813	3°8235	1°1750	4°7794	1°4688	
6	0°9558	0°2940	1°9116	0°5881	2°8674	0°8821	3°8232	1°1762	4°7790	1°4702	
7	0°9557	0°2943	1°9114	0°5886	2°8671	0°8830	3°8228	1°1773	4°7785	1°4716	
8	0°9556	0°2946	1°9112	0°5892	2°8669	0°8838	3°8225	1°1784	4°7781	1°4730	
9	0°9555	0°2949	1°9111	0°5897	2°8666	0°8846	3°8221	1°1795	4°7777	1°4744	
10	0°9555	0°2952	1°9109	0°5903	2°8664	0°8855	3°8218	1°1806	4°7773	1°4758	
11	0°9554	0°2954	1°9107	0°5909	2°8661	0°8863	3°8215	1°1817	4°7768	1°4772	
12	0°9553	0°2957	1°9106	0°5914	2°8658	0°8871	3°8211	1°1828	4°7764	1°4785	
13	0°9552	0°2960	1°9104	0°5920	2°8656	0°8880	3°8208	1°1839	4°7760	1°4799	
14	0°9551	0°2963	1°9102	0°5925	2°8653	0°8888	3°8204	1°1851	4°7755	1°4813	
15	0°9550	0°2965	1°9100	0°5931	2°8651	0°8896	3°8201	1°1862	4°7751	1°4827	
16	0°9549	0°2968	1°9099	0°5936	2°8648	0°8905	3°8197	1°1873	4°7747	1°4841	
17	0°9548	0°2971	1°9097	0°5942	2°8645	0°8913	3°8194	1°1884	4°7742	1°4855	
18	0°9548	0°2974	1°9095	0°5947	2°8643	0°8921	3°8190	1°1895	4°7738	1°4869	
19	0°9547	0°2977	1°9093	0°5953	2°8640	0°8930	3°8187	1°1906	4°7734	1°4883	
20	0°9546	0°2979	1°9092	0°5959	2°8638	0°8938	3°8184	1°1917	4°7729	1°4897	
21	0°9545	0°2982	1°9090	0°5964	2°8635	0°8946	3°8180	1°1928	4°7725	1°4910	
22	0°9544	0°2985	1°9088	0°5970	2°8632	0°8955	3°8177	1°1939	4°7721	1°4924	
23	0°9543	0°2988	1°9087	0°5975	2°8630	0°8963	3°8173	1°1951	4°7716	1°4938	
24	0°9542	0°2990	1°9085	0°5981	2°8627	0°8971	3°8170	1°1962	4°7712	1°4952	
25	0°9542	0°2993	1°9083	0°5986	2°8625	0°8980	3°8166	1°1973	4°7708	1°4966	
26	0°9541	0°2996	1°9081	0°5992	2°8622	0°8988	3°8163	1°1984	4°7703	1°4980	
27	0°9540	0°2999	1°9080	0°5997	2°8619	0°8996	3°8159	1°1995	4°7699	1°4994	
28	0°9539	0°3002	1°9078	0°6003	2°8617	0°9005	3°8156	1°2006	4°7695	1°5008	
29	0°9538	0°3004	1°9076	0°6009	2°8614	0°9013	3°8152	1°2017	4°7690	1°5021	
30	0°9537	0°3007	1°9074	0°6014	2°8612	0°9021	3°8149	1°2028	4°7686	1°5035	
31	0°9536	0°3010	1°9073	0°6020	2°8609	0°9029	3°8145	1°2039	4°7681	1°5049	
32	0°9535	0°3013	1°9071	0°6025	2°8606	0°9038	3°8142	1°2050	4°7677	1°5063	
33	0°9535	0°3015	1°9069	0°6031	2°8604	0°9046	3°8138	1°2062	4°7673	1°5077	
34	0°9534	0°3018	1°9067	0°6036	2°8601	0°9054	3°8135	1°2073	4°7668	1°5091	
35	0°9533	0°3021	1°9066	0°6042	2°8598	0°9063	3°8131	1°2084	4°7664	1°5105	
36	0°9532	0°3024	1°9064	0°6047	2°8596	0°9071	3°8128	1°2095	4°7660	1°5118	
37	0°9531	0°3026	1°9062	0°6053	2°8593	0°9079	3°8124	1°2106	4°7655	1°5132	
38	0°9530	0°3029	1°9060	0°6058	2°8590	0°9088	3°8121	1°2117	4°7651	1°5146	
39	0°9529	0°3032	1°9059	0°6064	2°8588	0°9096	3°8117	1°2128	4°7646	1°5160	
40	0°9528	0°3035	1°9057	0°6070	2°8585	0°9104	3°8114	1°2139	4°7642	1°5174	
41	0°9527	0°3038	1°9055	0°6075	2°8582	0°9113	3°8110	1°2150	4°7637	1°5188	
42	0°9527	0°3040	1°9053	0°6081	2°8580	0°9121	3°8106	1°2161	4°7633	1°5202	
43	0°9526	0°3043	1°9051	0°6086	2°8577	0°9129	3°8103	1°2172	4°7629	1°5216	
44	0°9525	0°3046	1°9050	0°6092	2°8575	0°9138	3°8099	1°2183	4°7624	1°5229	
45	0°9524	0°3049	1°9048	0°6097	2°8572	0°9146	3°8096	1°2195	4°7620	1°5243	
46	0°9523	0°3051	1°9046	0°6103	2°8569	0°9154	3°8092	1°2206	4°7615	1°5257	
47	0°9522	0°3054	1°9044	0°6108	2°8567	0°9163	3°8089	1°2217	4°7611	1°5271	
48	0°9521	0°3057	1°9043	0°6114	2°8564	0°9171	3°8085	1°2228	4°7606	1°5285	
49	0°9520	0°3060	1°9041	0°6119	2°8561	0°9179	3°8082	1°2239	4°7602	1°5299	
50	0°9520	0°3062	1°9039	0°6125	2°8559	0°9187	3°8078	1°2250	4°7598	1°5312	
51	0°9519	0°3065	1°9037	0°6131	2°8556	0°9196	3°8074	1°2261	4°7593	1°5326	
52	0°9518	0°3068	1°9035	0°6136	2°8553	0°9204	3°8071	1°2272	4°7589	1°5340	
53	0°9517	0°3071	1°9034	0°6142	2°8551	0°9212	3°8067	1°2283	4°7584	1°5354	
54	0°9516	0°3074	1°9032	0°6147	2°8548	0°9221	3°8064	1°2294	4°7580	1°5368	
55	0°9515	0°3076	1°9030	0°6153	2°8545	0°9229	3°8060	1°2305	4°7575	1°5382	
56	0°9514	0°3079	1°9028	0°6158	2°8542	0°9237	3°8057	1°2316	4°7571	1°5396	
57	0°9513	0°3082	1°9027	0°6164	2°8540	0°9246	3°8053	1°2327	4°7566	1°5409	
58	0°9512	0°3085	1°9025	0°6169	2°8537	0°9254	3°8049	1°2339	4°7562	1°5423	
59	0°9511	0°3087	1°9023	0°6175	2°8534	0°9262	3°8046	1°2350	4°7557	1°5437	
60	0°9511	0°3090	1°9021	0°6180	2°8532	0°9271	3°8042	1°2361	4°7553	1°5451	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-7378	1-7542	6-6941	2-0466	7-6504	2-3390	8-6067	2-6313	9-5630	2-9237	60
5-7378	1-7559	6-6935	2-0485	7-6498	2-3412	8-6060	2-6338	9-5622	2-9265	59
5-7368	1-7576	6-6929	2-0505	7-6491	2-3434	8-6052	2-6364	9-5613	2-9293	58
5-7363	1-7592	6-6923	2-0524	7-6484	2-3456	8-6044	2-6389	9-5605	2-9321	57
5-7358	1-7609	6-6917	2-0544	7-6477	2-3479	8-6037	2-6414	9-5596	2-9348	56
5-7353	1-7626	6-6911	2-0563	7-6470	2-3501	8-6029	2-6439	9-5588	2-9376	55
5-7348	1-7642	6-6906	2-0583	7-6463	2-3523	8-6021	2-6464	9-5579	2-9404	54
5-7342	1-7659	6-6900	2-0602	7-6457	2-3545	8-6014	2-6489	9-5571	2-9432	53
5-7337	1-7676	6-6894	2-0622	7-6450	2-3568	8-6006	2-6514	9-5562	2-9460	52
5-7332	1-7692	6-6888	2-0641	7-6443	2-3590	8-5998	2-6539	9-5554	2-9487	51
5-7327	1-7709	6-6882	2-0661	7-6436	2-3612	8-5991	2-6564	9-5545	2-9515	50
5-7322	1-7726	6-6876	2-0680	7-6429	2-3634	8-5983	2-6589	9-5536	2-9543	49
5-7317	1-7742	6-6869	2-0700	7-6422	2-3657	8-5975	2-6614	9-5528	2-9571	48
5-7312	1-7759	6-6863	2-0719	7-6415	2-3679	8-5967	2-6639	9-5519	2-9599	47
5-7306	1-7776	6-6857	2-0738	7-6408	2-3701	8-5960	2-6664	9-5511	2-9626	46
5-7301	1-7792	6-6851	2-0758	7-6402	2-3723	8-5952	2-6689	9-5502	2-9654	45
5-7296	1-7809	6-6845	2-0777	7-6395	2-3746	8-5944	2-6714	9-5493	2-9682	44
5-7291	1-7826	6-6839	2-0797	7-6388	2-3768	8-5936	2-6739	9-5485	2-9710	43
5-7286	1-7842	6-6833	2-0816	7-6381	2-3790	8-5928	2-6764	9-5476	2-9737	42
5-7280	1-7859	6-6827	2-0836	7-6374	2-3812	8-5921	2-6789	9-5467	2-9765	41
5-7275	1-7876	6-6821	2-0855	7-6367	2-3834	8-5913	2-6814	9-5459	2-9793	40
5-7270	1-7892	6-6815	2-0875	7-6360	2-3857	8-5905	2-6839	9-5450	2-9821	39
5-7265	1-7909	6-6809	2-0894	7-6353	2-3879	8-5897	2-6864	9-5441	2-9849	38
5-7260	1-7926	6-6803	2-0913	7-6346	2-3901	8-5889	2-6889	9-5433	2-9876	37
5-7254	1-7942	6-6797	2-0933	7-6339	2-3923	8-5882	2-6914	9-5424	2-9904	36
5-7249	1-7959	6-6791	2-0952	7-6332	2-3945	8-5874	2-6939	9-5415	2-9932	35
5-7244	1-7976	6-6785	2-0972	7-6325	2-3968	8-5866	2-6964	9-5407	2-9960	34
5-7239	1-7992	6-6779	2-0991	7-6318	2-3990	8-5858	2-6989	9-5398	2-9987	33
5-7234	1-8009	6-6772	2-1011	7-6311	2-4012	8-5850	2-7014	9-5389	3-0015	32
5-7228	1-8026	6-6766	2-1030	7-6304	2-4034	8-5842	2-7039	9-5380	3-0043	31
5-7223	1-8042	6-6760	2-1049	7-6297	2-4056	8-5835	2-7064	9-5372	3-0071	30
5-7218	1-8059	6-6754	2-1069	7-6290	2-4079	8-5827	2-7088	9-5363	3-0098	29
5-7213	1-8076	6-6748	2-1088	7-6283	2-4101	8-5819	2-7113	9-5354	3-0126	28
5-7207	1-8092	6-6742	2-1108	7-6276	2-4123	8-5811	2-7138	9-5345	3-0154	27
5-7202	1-8109	6-6736	2-1127	7-6269	2-4145	8-5803	2-7163	9-5337	3-0182	26
5-7197	1-8126	6-6730	2-1146	7-6262	2-4167	8-5795	2-7188	9-5328	3-0209	25
5-7191	1-8142	6-6723	2-1166	7-6255	2-4190	8-5787	2-7213	9-5319	3-0237	24
5-7186	1-8159	6-6717	2-1185	7-6248	2-4212	8-5779	2-7238	9-5310	3-0265	23
5-7181	1-8175	6-6711	2-1205	7-6241	2-4234	8-5771	2-7263	9-5301	3-0292	22
5-7176	1-8192	6-6705	2-1224	7-6234	2-4256	8-5763	2-7288	9-5293	3-0320	21
5-7170	1-8209	6-6699	2-1244	7-6227	2-4278	8-5755	2-7313	9-5284	3-0348	20
5-7165	1-8225	6-6692	2-1263	7-6220	2-4300	8-5747	2-7338	9-5275	3-0376	19
5-7160	1-8242	6-6686	2-1282	7-6213	2-4323	8-5740	2-7363	9-5266	3-0403	18
5-7154	1-8259	6-6680	2-1302	7-6206	2-4345	8-5732	2-7388	9-5257	3-0431	17
5-7149	1-8275	6-6674	2-1321	7-6199	2-4367	8-5724	2-7413	9-5248	3-0459	16
5-7144	1-8292	6-6668	2-1341	7-6192	2-4389	8-5716	2-7438	9-5240	3-0486	15
5-7138	1-8308	6-6661	2-1360	7-6185	2-4411	8-5708	2-7463	9-5231	3-0514	14
5-7133	1-8325	6-6655	2-1379	7-6177	2-4433	8-5700	2-7488	9-5222	3-0542	13
5-7128	1-8342	6-6649	2-1399	7-6170	2-4456	8-5692	2-7513	9-5213	3-0570	12
5-7122	1-8358	6-6643	2-1418	7-6163	2-4478	8-5684	2-7538	9-5204	3-0597	11
5-7117	1-8375	6-6637	2-1437	7-6156	2-4500	8-5676	2-7562	9-5195	3-0625	10
5-7112	1-8392	6-6630	2-1457	7-6149	2-4522	8-5668	2-7587	9-5186	3-0653	9
5-7106	1-8408	6-6624	2-1476	7-6142	2-4544	8-5660	2-7612	9-5177	3-0680	8
5-7101	1-8425	6-6618	2-1496	7-6135	2-4566	8-5652	2-7637	9-5168	3-0708	7
5-7096	1-8441	6-6612	2-1515	7-6128	2-4589	8-5643	2-7662	9-5159	3-0736	6
5-7090	1-8458	6-6605	2-1534	7-6120	2-4611	8-5635	2-7687	9-5151	3-0763	5
5-7085	1-8475	6-6599	2-1554	7-6113	2-4633	8-5627	2-7712	9-5142	3-0791	4
5-7080	1-8491	6-6593	2-1573	7-6106	2-4655	8-5619	2-7737	9-5133	3-0819	3
5-7074	1-8508	6-6587	2-1592	7-6099	2-4677	8-5611	2-7762	9-5124	3-0846	2
5-7069	1-8524	6-6580	2-1612	7-6092	2-4699	8-5603	2-7787	9-5115	3-0874	1
5-7063	1-8541	6-6574	2-1631	7-6085	2-4721	8-5595	2-7812	9-5106	3-0902	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 18 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·9511	0·3090	1·9021	0·6180	2·8532	0·9271	3·8042	1·2361	4·7553	1·5451	
1	0·9510	0·3093	1·9019	0·6186	2·8529	0·9279	3·8039	1·2372	4·7548	1·5465	
2	0·9509	0·3096	1·9018	0·6191	2·8526	0·9287	3·8035	1·2383	4·7544	1·5479	
3	0·9508	0·3098	1·9016	0·6197	2·8524	0·9295	3·8031	1·2394	4·7539	1·5492	
4	0·9507	0·3101	1·9014	0·6202	2·8521	0·9304	3·8028	1·2405	4·7535	1·5506	
5	0·9506	0·3104	1·9012	0·6208	2·8518	0·9312	3·8024	1·2416	4·7530	1·5520	
6	0·9505	0·3107	1·9010	0·6214	2·8515	0·9320	3·8021	1·2427	4·7526	1·5534	
7	0·9504	0·3110	1·9009	0·6219	2·8513	0·9329	3·8017	1·2438	4·7521	1·5548	
8	0·9503	0·3112	1·9007	0·6225	2·8510	0·9337	3·8013	1·2449	4·7517	1·5561	
9	0·9502	0·3115	1·9005	0·6230	2·8507	0·9345	3·8010	1·2460	4·7512	1·5575	
10	0·9502	0·3118	1·9003	0·6236	2·8505	0·9353	3·8006	1·2471	4·7508	1·5589	
11	0·9501	0·3121	1·9001	0·6241	2·8502	0·9362	3·8003	1·2482	4·7503	1·5603	
12	0·9500	0·3123	1·8999	0·6247	2·8499	0·9370	3·7999	1·2493	4·7499	1·5617	
13	0·9499	0·3126	1·8998	0·6252	2·8496	0·9378	3·7995	1·2504	4·7494	1·5631	
14	0·9498	0·3129	1·8996	0·6258	2·8494	0·9387	3·7992	1·2516	4·7490	1·5644	
15	0·9497	0·3132	1·8994	0·6263	2·8491	0·9395	3·7988	1·2527	4·7485	1·5658	
16	0·9496	0·3134	1·8992	0·6269	2·8488	0·9403	3·7984	1·2538	4·7480	1·5672	
17	0·9495	0·3137	1·8990	0·6274	2·8486	0·9411	3·7981	1·2549	4·7476	1·5686	
18	0·9494	0·3140	1·8989	0·6280	2·8483	0·9420	3·7977	1·2560	4·7471	1·5700	
19	0·9493	0·3143	1·8987	0·6285	2·8480	0·9428	3·7973	1·2571	4·7467	1·5713	
20	0·9492	0·3145	1·8985	0·6291	2·8477	0·9436	3·7970	1·2582	4·7462	1·5727	
21	0·9492	0·3148	1·8983	0·6296	2·8475	0·9445	3·7966	1·2593	4·7458	1·5741	
22	0·9491	0·3151	1·8981	0·6302	2·8472	0·9453	3·7962	1·2604	4·7453	1·5755	
23	0·9490	0·3154	1·8979	0·6307	2·8469	0·9461	3·7959	1·2615	4·7448	1·5769	
24	0·9489	0·3156	1·8978	0·6313	2·8466	0·9469	3·7955	1·2626	4·7444	1·5782	
25	0·9488	0·3159	1·8976	0·6319	2·8464	0·9478	3·7951	1·2637	4·7439	1·5796	
26	0·9487	0·3162	1·8974	0·6324	2·8461	0·9486	3·7948	1·2648	4·7435	1·5810	
27	0·9486	0·3165	1·8972	0·6330	2·8458	0·9494	3·7944	1·2659	4·7430	1·5824	
28	0·9485	0·3168	1·8970	0·6335	2·8455	0·9503	3·7940	1·2670	4·7425	1·5838	
29	0·9484	0·3170	1·8968	0·6341	2·8452	0·9511	3·7937	1·2681	4·7421	1·5851	
30	0·9483	0·3173	1·8966	0·6346	2·8450	0·9519	3·7933	1·2692	4·7416	1·5865	
31	0·9482	0·3176	1·8965	0·6352	2·8447	0·9527	3·7929	1·2703	4·7412	1·5879	
32	0·9481	0·3179	1·8963	0·6357	2·8444	0·9536	3·7926	1·2714	4·7407	1·5893	
33	0·9480	0·3181	1·8961	0·6363	2·8441	0·9544	3·7922	1·2725	4·7402	1·5907	
34	0·9480	0·3184	1·8959	0·6368	2·8439	0·9552	3·7918	1·2736	4·7398	1·5920	
35	0·9479	0·3187	1·8957	0·6374	2·8436	0·9561	3·7914	1·2747	4·7393	1·5934	
36	0·9478	0·3190	1·8955	0·6379	2·8433	0·9569	3·7911	1·2758	4·7388	1·5948	
37	0·9477	0·3192	1·8954	0·6385	2·8430	0·9577	3·7907	1·2769	4·7384	1·5962	
38	0·9476	0·3195	1·8952	0·6390	2·8427	0·9585	3·7903	1·2780	4·7379	1·5976	
39	0·9475	0·3198	1·8950	0·6396	2·8425	0·9594	3·7900	1·2791	4·7374	1·5989	
40	0·9474	0·3201	1·8948	0·6401	2·8422	0·9602	3·7896	1·2802	4·7370	1·6003	
41	0·9473	0·3203	1·8946	0·6407	2·8419	0·9610	3·7892	1·2813	4·7365	1·6017	
42	0·9472	0·3206	1·8944	0·6412	2·8416	0·9618	3·7888	1·2825	4·7361	1·6031	
43	0·9471	0·3209	1·8942	0·6418	2·8414	0·9627	3·7885	1·2836	4·7356	1·6044	
44	0·9470	0·3212	1·8940	0·6423	2·8411	0·9635	3·7881	1·2847	4·7351	1·6058	
45	0·9469	0·3214	1·8939	0·6429	2·8408	0·9643	3·7877	1·2858	4·7347	1·6072	
46	0·9468	0·3217	1·8937	0·6434	2·8405	0·9651	3·7873	1·2869	4·7342	1·6086	
47	0·9467	0·3220	1·8935	0·6440	2·8402	0·9660	3·7870	1·2880	4·7337	1·6100	
48	0·9466	0·3223	1·8933	0·6445	2·8399	0·9668	3·7866	1·2891	4·7332	1·6113	
49	0·9466	0·3225	1·8931	0·6451	2·8397	0·9676	3·7862	1·2902	4·7328	1·6127	
50	0·9465	0·3228	1·8929	0·6456	2·8394	0·9684	3·7858	1·2913	4·7323	1·6141	
51	0·9464	0·3231	1·8927	0·6462	2·8391	0·9693	3·7855	1·2924	4·7318	1·6155	
52	0·9463	0·3234	1·8925	0·6467	2·8388	0·9701	3·7851	1·2935	4·7314	1·6168	
53	0·9462	0·3236	1·8924	0·6473	2·8385	0·9709	3·7847	1·2946	4·7309	1·6182	
54	0·9461	0·3239	1·8922	0·6478	2·8383	0·9718	3·7843	1·2957	4·7304	1·6196	
55	0·9460	0·3242	1·8920	0·6484	2·8380	0·9726	3·7840	1·2968	4·7300	1·6210	
56	0·9459	0·3245	1·8918	0·6489	2·8377	0·9734	3·7836	1·2979	4·7295	1·6223	
57	0·9458	0·3247	1·8916	0·6495	2·8374	0·9742	3·7832	1·2990	4·7290	1·6237	
58	0·9457	0·3250	1·8914	0·6500	2·8371	0·9751	3·7828	1·3001	4·7285	1·6251	
59	0·9456	0·3253	1·8912	0·6506	2·8368	0·9759	3·7825	1·3012	4·7281	1·6265	
60	0·9455	0·3256	1·8910	0·6511	2·8366	0·9767	3·7821	1·3023	4·7276	1·6278	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·7063	1·8541	6·6574	2·1631	7·6085	2·4721	8·5595	2·7812	9·5106	3·0902	<b>60</b>
5·7058	1·8558	6·6568	2·1651	7·6077	2·4743	8·5587	2·7836	9·5097	3·0929	<b>59</b>
5·7053	1·8574	6·6561	2·1670	7·6070	2·4766	8·5579	2·7861	9·5088	3·0957	<b>58</b>
5·7047	1·8591	6·6555	2·1689	7·6063	2·4788	8·5571	2·7886	9·5079	3·0985	<b>57</b>
5·7042	1·8607	6·6549	2·1709	7·6056	2·4810	8·5563	2·7911	9·5070	3·1012	<b>56</b>
5·7036	1·8624	6·6542	2·1728	7·6048	2·4832	8·5555	2·7936	9·5061	3·1040	<b>55</b>
5·7031	1·8641	6·6536	2·1747	7·6041	2·4854	8·5546	2·7961	9·5052	3·1068	<b>54</b>
5·7026	1·8657	6·6530	2·1767	7·6034	2·4876	8·5538	2·7986	9·5043	3·1095	<b>53</b>
5·7020	1·8674	6·6523	2·1786	7·6027	2·4898	8·5530	2·8011	9·5033	3·1123	<b>52</b>
5·7015	1·8690	6·6517	2·1805	7·6020	2·4920	8·5522	2·8036	9·5024	3·1151	<b>51</b>
5·7009	1·8707	6·6511	2·1825	7·6012	2·4943	8·5514	2·8060	9·5015	3·1178	<b>50</b>
5·7004	1·8724	6·6504	2·1844	7·6005	2·4965	8·5506	2·8085	9·5006	3·1206	<b>49</b>
5·6998	1·8740	6·6498	2·1863	7·5998	2·4987	8·5497	2·8110	9·4997	3·1233	<b>48</b>
5·6993	1·8757	6·6492	2·1883	7·5990	2·5009	8·5489	2·8135	9·4988	3·1261	<b>47</b>
5·6987	1·8773	6·6485	2·1902	7·5983	2·5031	8·5481	2·8160	9·4979	3·1289	<b>46</b>
5·6982	1·8790	6·6479	2·1921	7·5976	2·5053	8·5473	2·8185	9·4970	3·1316	<b>45</b>
5·6976	1·8806	6·6473	2·1941	7·5969	2·5075	8·5465	2·8210	9·4961	3·1344	<b>44</b>
5·6971	1·8823	6·6466	2·1960	7·5961	2·5097	8·5457	2·8234	9·4952	3·1372	<b>43</b>
5·6966	1·8840	6·6460	2·1979	7·5954	2·5119	8·5448	2·8259	9·4943	3·1399	<b>42</b>
5·6960	1·8856	6·6453	2·1999	7·5947	2·5141	8·5440	2·8284	9·4933	3·1427	<b>41</b>
5·6955	1·8873	6·6447	2·2018	7·5939	2·5164	8·5432	2·8309	9·4924	3·1454	<b>40</b>
5·6949	1·8889	6·6441	2·2037	7·5932	2·5186	8·5424	2·8334	9·4915	3·1482	<b>39</b>
5·6944	1·8906	6·6434	2·2057	7·5925	2·5208	8·5415	2·8359	9·4906	3·1510	<b>38</b>
5·6938	1·8922	6·6428	2·2076	7·5917	2·5230	8·5407	2·8384	9·4897	3·1537	<b>37</b>
5·6933	1·8939	6·6421	2·2095	7·5910	2·5252	8·5399	2·8408	9·4888	3·1565	<b>36</b>
5·6927	1·8956	6·6415	2·2115	7·5903	2·5274	8·5391	2·8433	9·4878	3·1593	<b>35</b>
5·6922	1·8972	6·6408	2·2134	7·5895	2·5296	8·5382	2·8458	9·4869	3·1620	<b>34</b>
5·6916	1·8989	6·6402	2·2153	7·5888	2·5318	8·5374	2·8483	9·4860	3·1648	<b>33</b>
5·6910	1·9005	6·6396	2·2173	7·5881	2·5340	8·5366	2·8508	9·4851	3·1675	<b>32</b>
5·6905	1·9022	6·6389	2·2192	7·5873	2·5362	8·5357	2·8533	9·4842	3·1703	<b>31</b>
5·6899	1·9038	6·6383	2·2211	7·5866	2·5384	8·5349	2·8557	9·4832	3·1730	<b>30</b>
5·6894	1·9055	6·6376	2·2231	7·5859	2·5406	8·5341	2·8582	9·4823	3·1758	<b>29</b>
5·6888	1·9071	6·6370	2·2250	7·5851	2·5429	8·5333	2·8607	9·4814	3·1786	<b>28</b>
5·6883	1·9088	6·6363	2·2269	7·5844	2·5451	8·5324	2·8632	9·4805	3·1813	<b>27</b>
5·6877	1·9104	6·6357	2·2289	7·5836	2·5473	8·5316	2·8657	9·4795	3·1841	<b>26</b>
5·6872	1·9121	6·6350	2·2308	7·5829	2·5495	8·5308	2·8682	9·4786	3·1868	<b>25</b>
5·6866	1·9138	6·6344	2·2327	7·5821	2·5517	8·5299	2·8706	9·4777	3·1896	<b>24</b>
5·6861	1·9154	6·6337	2·2346	7·5814	2·5539	8·5291	2·8731	9·4768	3·1924	<b>23</b>
5·6855	1·9171	6·6331	2·2366	7·5807	2·5561	8·5282	2·8756	9·4758	3·1951	<b>22</b>
5·6849	1·9187	6·6324	2·2385	7·5799	2·5583	8·5274	2·8781	9·4749	3·1979	<b>21</b>
5·6844	1·9204	6·6318	2·2404	7·5792	2·5605	8·5266	2·8806	9·4740	3·2006	<b>20</b>
5·6838	1·9220	6·6311	2·2424	7·5784	2·5627	8·5257	2·8830	9·4730	3·2034	<b>19</b>
5·6833	1·9237	6·6305	2·2443	7·5777	2·5649	8·5249	2·8855	9·4721	3·2061	<b>18</b>
5·6827	1·9253	6·6298	2·2462	7·5769	2·5671	8·5241	2·8880	9·4712	3·2089	<b>17</b>
5·6821	1·9270	6·6292	2·2481	7·5762	2·5693	8·5232	2·8905	9·4702	3·2116	<b>16</b>
5·6816	1·9286	6·6285	2·2501	7·5754	2·5715	8·5224	2·8930	9·4693	3·2144	<b>15</b>
5·6810	1·9303	6·6279	2·2520	7·5747	2·5737	8·5215	2·8954	9·4684	3·2171	<b>14</b>
5·6805	1·9319	6·6272	2·2539	7·5739	2·5759	8·5207	2·8979	9·4674	3·2199	<b>13</b>
5·6799	1·9336	6·6265	2·2559	7·5732	2·5781	8·5198	2·9004	9·4665	3·2227	<b>12</b>
5·6793	1·9352	6·6259	2·2578	7·5724	2·5803	8·5190	2·9029	9·4656	3·2254	<b>11</b>
5·6788	1·9369	6·6252	2·2597	7·5717	2·5825	8·5182	2·9053	9·4646	3·2282	<b>10</b>
5·6782	1·9386	6·6246	2·2616	7·5709	2·5847	8·5173	2·9078	9·4637	3·2309	<b>9</b>
5·6776	1·9402	6·6239	2·2636	7·5702	2·5869	8·5165	2·9103	9·4627	3·2337	<b>8</b>
5·6771	1·9419	6·6233	2·2655	7·5694	2·5891	8·5156	2·9128	9·4618	3·2364	<b>7</b>
5·6765	1·9435	6·6226	2·2674	7·5687	2·5913	8·5148	2·9153	9·4609	3·2392	<b>6</b>
5·6759	1·9452	6·6219	2·2693	7·5679	2·5935	8·5139	2·9177	9·4599	3·2419	<b>5</b>
5·6754	1·9468	6·6213	2·2713	7·5672	2·5957	8·5131	2·9202	9·4590	3·2447	<b>4</b>
5·6748	1·9485	6·6206	2·2732	7·5664	2·5979	8·5122	2·9227	9·4580	3·2474	<b>3</b>
5·6742	1·9501	6·6200	2·2751	7·5657	2·6001	8·5114	2·9252	9·4571	3·2502	<b>2</b>
5·6737	1·9518	6·6193	2·2771	7·5649	2·6023	8·5105	2·9276	9·4561	3·2529	<b>1</b>
5·6731	1·9534	6·6186	2·2790	7·5641	2·6045	8·5097	2·9301	9·4552	3·2557	<b>0</b>
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 19 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9455	0.3256	1.8910	0.6511	2.8366	0.9767	3.7821	1.3023	4.7276	1.6278	
1	0.9454	0.3258	1.8908	0.6517	2.8363	0.9775	3.7817	1.3034	4.7271	1.6292	
2	0.9453	0.3261	1.8907	0.6522	2.8360	0.9784	3.7813	1.3045	4.7266	1.6306	
3	0.9452	0.3264	1.8905	0.6528	2.8357	0.9792	3.7809	1.3056	4.7262	1.6320	
4	0.9451	0.3267	1.8903	0.6533	2.8354	0.9800	3.7806	1.3067	4.7257	1.6333	
5	0.9450	0.3269	1.8901	0.6539	2.8351	0.9808	3.7802	1.3078	4.7252	1.6347	
6	0.9449	0.3272	1.8899	0.6544	2.8348	0.9817	3.7798	1.3089	4.7247	1.6361	
7	0.9449	0.3275	1.8897	0.6550	2.8346	0.9825	3.7794	1.3100	4.7243	1.6375	
8	0.9448	0.3278	1.8895	0.6555	2.8343	0.9833	3.7790	1.3111	4.7238	1.6388	
9	0.9447	0.3280	1.8893	0.6561	2.8340	0.9841	3.7787	1.3122	4.7233	1.6402	
10	0.9446	0.3283	1.8891	0.6566	2.8337	0.9850	3.7783	1.3133	4.7228	1.6416	
11	0.9445	0.3286	1.8889	0.6572	2.8334	0.9858	3.7779	1.3144	4.7224	1.6430	
12	0.9444	0.3289	1.8888	0.6577	2.8331	0.9866	3.7775	1.3155	4.7219	1.6443	
13	0.9443	0.3291	1.8886	0.6583	2.8328	0.9874	3.7771	1.3166	4.7214	1.6457	
14	0.9442	0.3294	1.8884	0.6588	2.8326	0.9882	3.7767	1.3177	4.7209	1.6471	
15	0.9441	0.3297	1.8882	0.6594	2.8323	0.9891	3.7764	1.3188	4.7204	1.6485	
16	0.9440	0.3300	1.8880	0.6599	2.8320	0.9899	3.7760	1.3199	4.7200	1.6498	
17	0.9439	0.3302	1.8878	0.6605	2.8317	0.9907	3.7756	1.3210	4.7195	1.6512	
18	0.9438	0.3305	1.8876	0.6610	2.8314	0.9915	3.7752	1.3221	4.7190	1.6526	
19	0.9437	0.3308	1.8874	0.6616	2.8311	0.9924	3.7748	1.3232	4.7185	1.6539	
20	0.9436	0.3311	1.8872	0.6621	2.8308	0.9932	3.7744	1.3243	4.7180	1.6553	
21	0.9435	0.3313	1.8870	0.6627	2.8305	0.9940	3.7740	1.3254	4.7176	1.6567	
22	0.9434	0.3316	1.8868	0.6632	2.8302	0.9948	3.7737	1.3264	4.7171	1.6581	
23	0.9433	0.3319	1.8866	0.6638	2.8300	0.9957	3.7733	1.3275	4.7166	1.6594	
24	0.9432	0.3322	1.8864	0.6643	2.8297	0.9965	3.7729	1.3286	4.7161	1.6608	
25	0.9431	0.3324	1.8863	0.6649	2.8294	0.9973	3.7725	1.3297	4.7156	1.6622	
26	0.9430	0.3327	1.8861	0.6654	2.8291	0.9981	3.7721	1.3308	4.7151	1.6635	
27	0.9429	0.3330	1.8859	0.6660	2.8288	0.9990	3.7717	1.3319	4.7147	1.6649	
28	0.9428	0.3333	1.8857	0.6665	2.8285	0.9998	3.7713	1.3330	4.7142	1.6663	
29	0.9427	0.3335	1.8855	0.6671	2.8282	1.0006	3.7710	1.3341	4.7137	1.6677	
30	0.9426	0.3338	1.8853	0.6676	2.8279	1.0014	3.7706	1.3352	4.7132	1.6690	
31	0.9425	0.3341	1.8851	0.6682	2.8276	1.0022	3.7702	1.3363	4.7127	1.6704	
32	0.9424	0.3344	1.8849	0.6687	2.8273	1.0031	3.7698	1.3374	4.7122	1.6718	
33	0.9423	0.3346	1.8847	0.6693	2.8270	1.0039	3.7694	1.3385	4.7117	1.6731	
34	0.9423	0.3349	1.8845	0.6698	2.8268	1.0047	3.7690	1.3396	4.7113	1.6745	
35	0.9422	0.3352	1.8843	0.6704	2.8265	1.0055	3.7686	1.3407	4.7108	1.6759	
36	0.9421	0.3355	1.8841	0.6709	2.8262	1.0064	3.7682	1.3418	4.7103	1.6773	
37	0.9420	0.3357	1.8839	0.6715	2.8259	1.0072	3.7678	1.3429	4.7098	1.6786	
38	0.9419	0.3360	1.8837	0.6720	2.8256	1.0080	3.7674	1.3440	4.7093	1.6800	
39	0.9418	0.3363	1.8835	0.6725	2.8253	1.0088	3.7671	1.3451	4.7088	1.6814	
40	0.9417	0.3365	1.8833	0.6731	2.8250	1.0096	3.7667	1.3462	4.7083	1.6827	
41	0.9416	0.3368	1.8831	0.6736	2.8247	1.0105	3.7663	1.3473	4.7078	1.6841	
42	0.9415	0.3371	1.8829	0.6742	2.8244	1.0113	3.7659	1.3484	4.7074	1.6855	
43	0.9414	0.3374	1.8827	0.6747	2.8241	1.0121	3.7655	1.3495	4.7069	1.6868	
44	0.9413	0.3376	1.8825	0.6753	2.8238	1.0129	3.7651	1.3506	4.7064	1.6882	
45	0.9412	0.3379	1.8824	0.6758	2.8235	1.0138	3.7647	1.3517	4.7059	1.6896	
46	0.9411	0.3382	1.8822	0.6764	2.8232	1.0146	3.7643	1.3528	4.7054	1.6910	
47	0.9410	0.3385	1.8820	0.6769	2.8229	1.0154	3.7639	1.3539	4.7049	1.6923	
48	0.9409	0.3387	1.8818	0.6775	2.8226	1.0162	3.7635	1.3550	4.7044	1.6937	
49	0.9408	0.3390	1.8816	0.6780	2.8223	1.0170	3.7631	1.3560	4.7039	1.6951	
50	0.9407	0.3393	1.8814	0.6786	2.8221	1.0179	3.7627	1.3571	4.7034	1.6964	
51	0.9406	0.3396	1.8812	0.6791	2.8218	1.0187	3.7623	1.3582	4.7029	1.6978	
52	0.9405	0.3398	1.8810	0.6797	2.8215	1.0195	3.7619	1.3593	4.7024	1.6992	
53	0.9404	0.3401	1.8808	0.6802	2.8212	1.0203	3.7615	1.3604	4.7019	1.7005	
54	0.9403	0.3404	1.8806	0.6808	2.8209	1.0211	3.7612	1.3615	4.7014	1.7019	
55	0.9402	0.3407	1.8804	0.6813	2.8206	1.0220	3.7608	1.3626	4.7009	1.7033	
56	0.9401	0.3409	1.8802	0.6819	2.8203	1.0228	3.7604	1.3637	4.7004	1.7046	
57	0.9400	0.3412	1.8800	0.6824	2.8200	1.0236	3.7600	1.3648	4.7000	1.7060	
58	0.9399	0.3415	1.8798	0.6829	2.8197	1.0244	3.7596	1.3659	4.6995	1.7074	
59	0.9398	0.3417	1.8796	0.6835	2.8194	1.0252	3.7592	1.3670	4.6990	1.7087	
60	0.9397	0.3420	1.8794	0.6840	2.8191	1.0261	3.7588	1.3681	4.6985	1.7101	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·6731	1·9534	6·6186	2·2790	7·5641	2·6045	8·5097	2·9301	9·4552	3·2557	60
5·6725	1·9551	6·6180	2·2809	7·5634	2·6067	8·5088	2·9326	9·4542	3·2584	59
5·6720	1·9567	6·6173	2·2828	7·5626	2·6089	8·5080	2·9351	9·4533	3·2612	58
5·6714	1·9584	6·6166	2·2848	7·5619	2·6111	8·5071	2·9375	9·4523	3·2639	57
5·6708	1·9600	6·6160	2·2867	7·5611	2·6133	8·5063	2·9400	9·4514	3·2667	56
5·6703	1·9617	6·6153	2·2886	7·5604	2·6155	8·5054	2·9425	9·4504	3·2694	55
5·6697	1·9633	6·6146	2·2905	7·5596	2·6177	8·5045	2·9450	9·4495	3·2722	54
5·6691	1·9650	6·6140	2·2924	7·5588	2·6199	8·5037	2·9474	9·4485	3·2749	53
5·6686	1·9666	6·6133	2·2944	7·5581	2·6221	8·5028	2·9499	9·4476	3·2777	52
5·6680	1·9683	6·6126	2·2963	7·5573	2·6243	8·5020	2·9524	9·4466	3·2804	51
5·6674	1·9699	6·6120	2·2982	7·5565	2·6265	8·5011	2·9549	9·4457	3·2832	50
5·6668	1·9716	6·6113	2·3001	7·5558	2·6287	8·5002	2·9573	9·4447	3·2859	49
5·6663	1·9732	6·6106	2·3021	7·5550	2·6309	8·4994	2·9598	9·4438	3·2887	48
5·6657	1·9748	6·6100	2·3040	7·5542	2·6331	8·4985	2·9623	9·4428	3·2914	47
5·6651	1·9765	6·6093	2·3059	7·5535	2·6353	8·4977	2·9647	9·4418	3·2942	46
5·6645	1·9781	6·6086	2·3078	7·5527	2·6375	8·4968	2·9672	9·4409	3·2969	45
5·6640	1·9798	6·6080	2·3098	7·5519	2·6397	8·4959	2·9697	9·4399	3·2997	44
5·6634	1·9814	6·6073	2·3117	7·5512	2·6419	8·4951	2·9722	9·4390	3·3024	43
5·6628	1·9831	6·6066	2·3136	7·5504	2·6441	8·4942	2·9746	9·4380	3·3051	42
5·6622	1·9847	6·6059	2·3155	7·5496	2·6463	8·4933	2·9771	9·4370	3·3079	41
5·6617	1·9864	6·6053	2·3174	7·5489	2·6485	8·4925	2·9796	9·4361	3·3106	40
5·6611	1·9880	6·6046	2·3194	7·5481	2·6507	8·4916	2·9820	9·4351	3·3134	39
5·6605	1·9897	6·6039	2·3213	7·5473	2·6529	8·4907	2·9845	9·4342	3·3161	38
5·6599	1·9913	6·6032	2·3232	7·5466	2·6551	8·4899	2·9870	9·4332	3·3189	37
5·6593	1·9930	6·6026	2·3251	7·5458	2·6573	8·4890	2·9894	9·4322	3·3216	36
5·6588	1·9946	6·6019	2·3270	7·5450	2·6595	8·4881	2·9919	9·4313	3·3244	35
5·6582	1·9963	6·6012	2·3290	7·5442	2·6617	8·4873	2·9944	9·4303	3·3271	34
5·6576	1·9979	6·6005	2·3309	7·5435	2·6639	8·4864	2·9969	9·4293	3·3298	33
5·6570	1·9996	6·5998	2·3328	7·5427	2·6661	8·4855	2·9993	9·4284	3·3326	32
5·6564	2·0012	6·5992	2·3347	7·5419	2·6683	8·4846	3·0018	9·4274	3·3353	31
5·6558	2·0028	6·5985	2·3366	7·5411	2·6705	8·4838	3·0043	9·4264	3·3381	30
5·6553	2·0045	6·5978	2·3386	7·5404	2·6726	8·4829	3·0067	9·4254	3·3408	29
5·6547	2·0061	6·5971	2·3405	7·5396	2·6748	8·4820	3·0092	9·4245	3·3436	28
5·6541	2·0078	6·5964	2·3424	7·5388	2·6770	8·4811	3·0117	9·4235	3·3463	27
5·6535	2·0094	6·5958	2·3443	7·5380	2·6792	8·4803	3·0141	9·4225	3·3490	26
5·6529	2·0111	6·5951	2·3462	7·5372	2·6814	8·4794	3·0166	9·4216	3·3518	25
5·6523	2·0127	6·5944	2·3482	7·5365	2·6836	8·4785	3·0191	9·4206	3·3545	24
5·6518	2·0144	6·5937	2·3501	7·5357	2·6858	8·4776	3·0215	9·4196	3·3573	23
5·6512	2·0160	6·5930	2·3520	7·5349	2·6880	8·4768	3·0240	9·4186	3·3600	22
5·6506	2·0176	6·5924	2·3539	7·5341	2·6902	8·4759	3·0265	9·4176	3·3627	21
5·6500	2·0193	6·5917	2·3558	7·5333	2·6924	8·4750	3·0289	9·4167	3·3655	20
5·6494	2·0209	6·5910	2·3577	7·5325	2·6946	8·4741	3·0314	9·4157	3·3682	19
5·6488	2·0226	6·5903	2·3597	7·5318	2·6968	8·4732	3·0339	9·4147	3·3710	18
5·6482	2·0242	6·5896	2·3616	7·5310	2·6990	8·4724	3·0363	9·4137	3·3737	17
5·6476	2·0259	6·5889	2·3635	7·5302	2·7011	8·4715	3·0388	9·4127	3·3764	16
5·6471	2·0275	6·5882	2·3654	7·5294	2·7033	8·4706	3·0413	9·4118	3·3792	15
5·6465	2·0291	6·5875	2·3673	7·5286	2·7055	8·4697	3·0437	9·4108	3·3819	14
5·6459	2·0308	6·5868	2·3692	7·5278	2·7077	8·4688	3·0462	9·4098	3·3846	13
5·6453	2·0324	6·5862	2·3712	7·5270	2·7099	8·4679	3·0486	9·4088	3·3874	12
5·6447	2·0341	6·5855	2·3731	7·5263	2·7121	8·4670	3·0511	9·4078	3·3901	11
5·6441	2·0357	6·5848	2·3750	7·5255	2·7143	8·4662	3·0536	9·4068	3·3929	10
5·6435	2·0374	6·5841	2·3769	7·5247	2·7165	8·4653	3·0560	9·4058	3·3956	9
5·6429	2·0390	6·5834	2·3788	7·5239	2·7187	8·4644	3·0585	9·4049	3·3983	8
5·6423	2·0406	6·5827	2·3807	7·5231	2·7208	8·4635	3·0610	9·4039	3·4011	7
5·6417	2·0423	6·5820	2·3827	7·5223	2·7230	8·4626	3·0634	9·4029	3·4038	6
5·6411	2·0439	6·5813	2·3846	7·5215	2·7252	8·4617	3·0659	9·4019	3·4065	5
5·6405	2·0456	6·5806	2·3865	7·5207	2·7274	8·4608	3·0683	9·4009	3·4093	4
5·6399	2·0472	6·5799	2·3884	7·5199	2·7296	8·4599	3·0708	9·3999	3·4120	3
5·6393	2·0488	6·5792	2·3903	7·5191	2·7318	8·4590	3·0733	9·3989	3·4147	2
5·6388	2·0505	6·5785	2·3922	7·5183	2·7340	8·4581	3·0757	9·3979	3·4175	1
5·6382	2·0521	6·5778	2·3941	7·5175	2·7362	8·4572	3·0782	9·3969	3·4202	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

70 Degrees.

# 20 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9397	0.3420	1.8794	0.6840	2.8191	1.0261	3.7588	1.3681	4.6985	1.7101	
1	0.9396	0.3423	1.8792	0.6846	2.8188	1.0269	3.7584	1.3692	4.6980	1.7115	
2	0.9395	0.3426	1.8790	0.6851	2.8185	1.0277	3.7580	1.3703	4.6975	1.7128	
3	0.9394	0.3428	1.8788	0.6857	2.8182	1.0285	3.7576	1.3714	4.6970	1.7142	
4	0.9393	0.3431	1.8786	0.6862	2.8179	1.0293	3.7572	1.3725	4.6965	1.7156	
5	0.9392	0.3434	1.8784	0.6868	2.8176	1.0302	3.7568	1.3735	4.6960	1.7169	
6	0.9391	0.3437	1.8782	0.6873	2.8173	1.0310	3.7564	1.3746	4.6955	1.7183	
7	0.9390	0.3439	1.8780	0.6879	2.8170	1.0318	3.7560	1.3757	4.6950	1.7197	
8	0.9389	0.3442	1.8778	0.6884	2.8167	1.0326	3.7556	1.3768	4.6945	1.7210	
9	0.9388	0.3445	1.8776	0.6890	2.8164	1.0334	3.7552	1.3779	4.6940	1.7224	
10	0.9387	0.3448	1.8774	0.6895	2.8161	1.0343	3.7548	1.3790	4.6935	1.7238	
11	0.9386	0.3450	1.8772	0.6901	2.8158	1.0351	3.7544	1.3801	4.6930	1.7251	
12	0.9385	0.3453	1.8770	0.6906	2.8155	1.0359	3.7540	1.3812	4.6925	1.7265	
13	0.9384	0.3456	1.8768	0.6911	2.8152	1.0367	3.7536	1.3823	4.6920	1.7279	
14	0.9383	0.3458	1.8766	0.6917	2.8149	1.0375	3.7532	1.3834	4.6915	1.7292	
15	0.9382	0.3461	1.8764	0.6922	2.8146	1.0384	3.7528	1.3845	4.6910	1.7306	
16	0.9381	0.3464	1.8762	0.6928	2.8143	1.0392	3.7524	1.3856	4.6905	1.7320	
17	0.9380	0.3467	1.8760	0.6933	2.8140	1.0400	3.7520	1.3867	4.6899	1.7333	
18	0.9379	0.3469	1.8758	0.6939	2.8137	1.0408	3.7516	1.3877	4.6894	1.7347	
19	0.9378	0.3472	1.8756	0.6944	2.8134	1.0416	3.7512	1.3888	4.6889	1.7360	
20	0.9377	0.3475	1.8754	0.6950	2.8131	1.0424	3.7507	1.3899	4.6884	1.7374	
21	0.9376	0.3478	1.8752	0.6955	2.8128	1.0433	3.7503	1.3910	4.6879	1.7388	
22	0.9375	0.3480	1.8750	0.6961	2.8125	1.0441	3.7499	1.3921	4.6874	1.7401	
23	0.9374	0.3483	1.8748	0.6966	2.8121	1.0449	3.7495	1.3932	4.6869	1.7415	
24	0.9373	0.3486	1.8746	0.6971	2.8118	1.0457	3.7491	1.3943	4.6864	1.7429	
25	0.9372	0.3488	1.8744	0.6977	2.8115	1.0465	3.7487	1.3954	4.6859	1.7442	
26	0.9371	0.3491	1.8742	0.6982	2.8112	1.0474	3.7483	1.3965	4.6854	1.7456	
27	0.9370	0.3494	1.8740	0.6988	2.8109	1.0482	3.7479	1.3976	4.6849	1.7469	
28	0.9369	0.3497	1.8738	0.6993	2.8106	1.0490	3.7475	1.3986	4.6844	1.7483	
29	0.9368	0.3499	1.8735	0.6999	2.8103	1.0498	3.7471	1.3997	4.6839	1.7497	
30	0.9367	0.3502	1.8733	0.7004	2.8100	1.0506	3.7467	1.4008	4.6834	1.7510	
31	0.9366	0.3505	1.8731	0.7010	2.8097	1.0514	3.7463	1.4019	4.6829	1.7524	
32	0.9365	0.3508	1.8729	0.7015	2.8094	1.0523	3.7459	1.4030	4.6823	1.7538	
33	0.9364	0.3510	1.8727	0.7020	2.8091	1.0531	3.7455	1.4041	4.6818	1.7551	
34	0.9363	0.3513	1.8725	0.7026	2.8088	1.0539	3.7451	1.4052	4.6813	1.7565	
35	0.9362	0.3516	1.8723	0.7031	2.8085	1.0547	3.7446	1.4063	4.6808	1.7578	
36	0.9361	0.3518	1.8721	0.7037	2.8082	1.0555	3.7442	1.4074	4.6803	1.7592	
37	0.9360	0.3521	1.8719	0.7042	2.8079	1.0563	3.7438	1.4085	4.6798	1.7606	
38	0.9359	0.3524	1.8717	0.7048	2.8076	1.0572	3.7434	1.4095	4.6793	1.7619	
39	0.9358	0.3527	1.8715	0.7053	2.8073	1.0580	3.7430	1.4106	4.6788	1.7633	
40	0.9356	0.3529	1.8713	0.7059	2.8069	1.0588	3.7426	1.4117	4.6782	1.7647	
41	0.9355	0.3532	1.8711	0.7064	2.8066	1.0596	3.7422	1.4128	4.6777	1.7660	
42	0.9354	0.3535	1.8709	0.7069	2.8063	1.0604	3.7418	1.4139	4.6772	1.7674	
43	0.9353	0.3537	1.8707	0.7075	2.8060	1.0612	3.7414	1.4150	4.6767	1.7687	
44	0.9352	0.3540	1.8705	0.7080	2.8057	1.0621	3.7410	1.4161	4.6762	1.7701	
45	0.9351	0.3543	1.8703	0.7086	2.8054	1.0629	3.7405	1.4172	4.6757	1.7715	
46	0.9350	0.3546	1.8701	0.7091	2.8051	1.0637	3.7401	1.4183	4.6752	1.7728	
47	0.9349	0.3548	1.8699	0.7097	2.8048	1.0645	3.7397	1.4193	4.6746	1.7742	
48	0.9348	0.3551	1.8697	0.7102	2.8045	1.0653	3.7393	1.4204	4.6741	1.7755	
49	0.9347	0.3554	1.8694	0.7108	2.8042	1.0661	3.7389	1.4215	4.6736	1.7769	
50	0.9346	0.3557	1.8692	0.7113	2.8039	1.0670	3.7385	1.4226	4.6731	1.7783	
51	0.9345	0.3559	1.8690	0.7118	2.8035	1.0678	3.7381	1.4237	4.6726	1.7796	
52	0.9344	0.3562	1.8688	0.7124	2.8032	1.0686	3.7376	1.4248	4.6721	1.7810	
53	0.9343	0.3565	1.8686	0.7129	2.8029	1.0694	3.7372	1.4259	4.6715	1.7823	
54	0.9342	0.3567	1.8684	0.7135	2.8026	1.0702	3.7368	1.4270	4.6710	1.7837	
55	0.9341	0.3570	1.8682	0.7140	2.8023	1.0710	3.7364	1.4280	4.6705	1.7850	
56	0.9340	0.3573	1.8680	0.7146	2.8020	1.0718	3.7360	1.4291	4.6700	1.7864	
57	0.9339	0.3576	1.8678	0.7151	2.8017	1.0727	3.7356	1.4302	4.6695	1.7878	
58	0.9338	0.3578	1.8676	0.7156	2.8014	1.0735	3.7352	1.4313	4.6689	1.7891	
59	0.9337	0.3581	1.8674	0.7162	2.8011	1.0743	3.7347	1.4324	4.6684	1.7905	
60	0.9336	0.3584	1.8672	0.7167	2.8007	1.0751	3.7343	1.4335	4.6679	1.7918	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·6382	2·0521	6·5778	2·3941	7·5175	2·7362	8·4572	3·0782	9·3969	3·4202	<b>60</b>
5·6376	2·0538	6·5772	2·3961	7·5167	2·7383	8·4563	3·0806	9·3959	3·4229	<b>59</b>
5·6370	2·0554	6·5765	2·3980	7·5159	2·7405	8·4554	3·0831	9·3949	3·4257	<b>58</b>
5·6364	2·0570	6·5758	2·3999	7·5152	2·7427	8·4545	3·0856	9·3939	3·4284	<b>57</b>
5·6358	2·0587	6·5751	2·4018	7·5144	2·7449	8·4536	3·0880	9·3929	3·4311	<b>56</b>
5·6352	2·0603	6·5744	2·4037	7·5136	2·7471	8·4527	3·0905	9·3919	3·4339	<b>55</b>
5·6346	2·0620	6·5737	2·4056	7·5128	2·7493	8·4518	3·0929	9·3909	3·4366	<b>54</b>
5·6340	2·0636	6·5730	2·4075	7·5120	2·7515	8·4509	3·0954	9·3899	3·4393	<b>53</b>
5·6334	2·0652	6·5723	2·4094	7·5112	2·7536	8·4500	3·0979	9·3889	3·4421	<b>52</b>
5·6328	2·0669	6·5716	2·4114	7·5104	2·7558	8·4491	3·1003	9·3879	3·4448	<b>51</b>
5·6322	2·0685	6·5709	2·4133	7·5096	2·7580	8·4482	3·1028	9·3869	3·4475	<b>50</b>
5·6316	2·0702	6·5702	2·4152	7·5087	2·7602	8·4473	3·1052	9·3859	3·4503	<b>49</b>
5·6310	2·0718	6·5695	2·4171	7·5079	2·7624	8·4464	3·1077	9·3849	3·4530	<b>48</b>
5·6304	2·0734	6·5687	2·4190	7·5071	2·7646	8·4455	3·1101	9·3839	3·4557	<b>47</b>
5·6298	2·0751	6·5680	2·4209	7·5063	2·7668	8·4446	3·1126	9·3829	3·4584	<b>46</b>
5·6291	2·0767	6·5673	2·4228	7·5055	2·7689	8·4437	3·1151	9·3819	3·4612	<b>45</b>
5·6285	2·0783	6·5666	2·4247	7·5047	2·7711	8·4428	3·1175	9·3809	3·4639	<b>44</b>
5·6279	2·0800	6·5659	2·4266	7·5039	2·7733	8·4419	3·1200	9·3799	3·4666	<b>43</b>
5·6273	2·0816	6·5652	2·4285	7·5031	2·7755	8·4410	3·1224	9·3789	3·4694	<b>42</b>
5·6267	2·0833	6·5645	2·4305	7·5023	2·7777	8·4401	3·1249	9·3779	3·4721	<b>41</b>
5·6261	2·0849	6·5638	2·4324	7·5015	2·7798	8·4392	3·1273	9·3769	3·4748	<b>40</b>
5·6255	2·0865	6·5631	2·4343	7·5007	2·7820	8·4383	3·1298	9·3759	3·4775	<b>39</b>
5·6249	2·0882	6·5624	2·4362	7·4999	2·7842	8·4374	3·1322	9·3748	3·4803	<b>38</b>
5·6243	2·0898	6·5617	2·4381	7·4991	2·7864	8·4364	3·1347	9·3738	3·4830	<b>37</b>
5·6237	2·0914	6·5610	2·4400	7·4983	2·7886	8·4355	3·1371	9·3728	3·4857	<b>36</b>
5·6231	2·0931	6·5603	2·4419	7·4974	2·7908	8·4346	3·1396	9·3718	3·4884	<b>35</b>
5·6225	2·0947	6·5596	2·4438	7·4966	2·7929	8·4337	3·1421	9·3708	3·4912	<b>34</b>
5·6219	2·0963	6·5588	2·4457	7·4958	2·7951	8·4328	3·1445	9·3698	3·4939	<b>33</b>
5·6213	2·0980	6·5581	2·4476	7·4950	2·7973	8·4319	3·1470	9·3688	3·4966	<b>32</b>
5·6206	2·0996	6·5574	2·4495	7·4942	2·7995	8·4310	3·1494	9·3677	3·4993	<b>31</b>
5·6200	2·1012	6·5567	2·4515	7·4934	2·8017	8·4300	3·1519	9·3667	3·5021	<b>30</b>
5·6194	2·1029	6·5560	2·4534	7·4926	2·8038	8·4291	3·1543	9·3657	3·5048	<b>29</b>
5·6188	2·1045	6·5553	2·4553	7·4917	2·8060	8·4282	3·1568	9·3647	3·5075	<b>28</b>
5·6182	2·1061	6·5546	2·4572	7·4909	2·8082	8·4273	3·1592	9·3637	3·5102	<b>27</b>
5·6176	2·1078	6·5538	2·4591	7·4901	2·8104	8·4264	3·1617	9·3626	3·5130	<b>26</b>
5·6170	2·1094	6·5531	2·4610	7·4893	2·8126	8·4255	3·1641	9·3616	3·5157	<b>25</b>
5·6164	2·1110	6·5524	2·4629	7·4885	2·8147	8·4245	3·1666	9·3606	3·5184	<b>24</b>
5·6157	2·1127	6·5517	2·4648	7·4877	2·8169	8·4236	3·1690	9·3596	3·5211	<b>23</b>
5·6151	2·1143	6·5510	2·4667	7·4868	2·8191	8·4227	3·1715	9·3585	3·5239	<b>22</b>
5·6145	2·1160	6·5503	2·4686	7·4860	2·8213	8·4218	3·1739	9·3575	3·5266	<b>21</b>
5·6139	2·1176	6·5495	2·4705	7·4852	2·8234	8·4208	3·1764	9·3565	3·5293	<b>20</b>
5·6133	2·1192	6·5488	2·4724	7·4844	2·8256	8·4199	3·1788	9·3555	3·5320	<b>19</b>
5·6127	2·1208	6·5481	2·4743	7·4836	2·8278	8·4190	3·1813	9·3544	3·5347	<b>18</b>
5·6120	2·1225	6·5474	2·4762	7·4827	2·8300	8·4181	3·1837	9·3534	3·5375	<b>17</b>
5·6114	2·1241	6·5467	2·4781	7·4819	2·8322	8·4171	3·1862	9·3524	3·5402	<b>16</b>
5·6108	2·1257	6·5459	2·4800	7·4811	2·8343	8·4162	3·1886	9·3514	3·5429	<b>15</b>
5·6102	2·1274	6·5452	2·4819	7·4803	2·8365	8·4153	3·1911	9·3503	3·5456	<b>14</b>
5·6096	2·1290	6·5445	2·4838	7·4794	2·8387	8·4144	3·1935	9·3493	3·5484	<b>13</b>
5·6090	2·1306	6·5438	2·4857	7·4786	2·8409	8·4134	3·1960	9·3483	3·5511	<b>12</b>
5·6083	2·1323	6·5431	2·4877	7·4778	2·8430	8·4125	3·1984	9·3472	3·5538	<b>11</b>
5·6077	2·1339	6·5423	2·4896	7·4770	2·8452	8·4116	3·2009	9·3462	3·5565	<b>10</b>
5·6071	2·1355	6·5416	2·4915	7·4761	2·8474	8·4106	3·2033	9·3452	3·5592	<b>9</b>
5·6065	2·1372	6·5409	2·4934	7·4753	2·8496	8·4097	3·2057	9·3441	3·5619	<b>8</b>
5·6058	2·1388	6·5402	2·4953	7·4745	2·8517	8·4088	3·2082	9·3431	3·5647	<b>7</b>
5·6052	2·1404	6·5394	2·4972	7·4736	2·8539	8·4078	3·2106	9·3420	3·5674	<b>6</b>
5·6046	2·1421	6·5387	2·4991	7·4728	2·8561	8·4069	3·2131	9·3410	3·5701	<b>5</b>
5·6040	2·1437	6·5380	2·5010	7·4720	2·8583	8·4060	3·2155	9·3400	3·5728	<b>4</b>
5·6034	2·1453	6·5372	2·5029	7·4711	2·8604	8·4050	3·2180	9·3389	3·5755	<b>3</b>
5·6027	2·1469	6·5365	2·5048	7·4703	2·8626	8·4041	3·2204	9·3379	3·5782	<b>2</b>
5·6021	2·1486	6·5358	2·5067	7·4695	2·8648	8·4032	3·2229	9·3368	3·5810	<b>1</b>
5·6015	2·1502	6·5351	2·5086	7·4686	2·8669	8·4022	3·2253	9·3358	3·5837	<b>0</b>
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 21 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9336	0.3584	1.8672	0.7167	2.8007	1.0751	3.7343	1.4335	4.6679	1.7918	
1	0.9335	0.3586	1.8670	0.7173	2.8004	1.0759	3.7339	1.4346	4.6674	1.7932	
2	0.9334	0.3589	1.8667	0.7178	2.8001	1.0767	3.7335	1.4356	4.6669	1.7946	
3	0.9333	0.3592	1.8665	0.7184	2.7998	1.0775	3.7331	1.4367	4.6663	1.7959	
4	0.9332	0.3595	1.8663	0.7189	2.7995	1.0784	3.7327	1.4378	4.6658	1.7973	
5	0.9331	0.3597	1.8661	0.7195	2.7992	1.0792	3.7322	1.4389	4.6653	1.7986	
6	0.9330	0.3600	1.8659	0.7200	2.7989	1.0800	3.7318	1.4400	4.6648	1.8000	
7	0.9328	0.3603	1.8657	0.7205	2.7985	1.0808	3.7314	1.4411	4.6642	1.8013	
8	0.9327	0.3605	1.8655	0.7211	2.7982	1.0816	3.7310	1.4422	4.6637	1.8027	
9	0.9326	0.3608	1.8653	0.7216	2.7979	1.0824	3.7306	1.4432	4.6632	1.8041	
10	0.9325	0.3611	1.8651	0.7222	2.7976	1.0832	3.7301	1.4443	4.6627	1.8054	
11	0.9324	0.3614	1.8649	0.7227	2.7973	1.0841	3.7297	1.4454	4.6621	1.8068	
12	0.9323	0.3616	1.8646	0.7232	2.7970	1.0849	3.7293	1.4465	4.6616	1.8081	
13	0.9322	0.3619	1.8644	0.7238	2.7967	1.0857	3.7289	1.4476	4.6611	1.8095	
14	0.9321	0.3622	1.8642	0.7243	2.7963	1.0865	3.7285	1.4487	4.6606	1.8108	
15	0.9320	0.3624	1.8640	0.7249	2.7960	1.0873	3.7280	1.4498	4.6600	1.8122	
16	0.9319	0.3627	1.8638	0.7254	2.7957	1.0881	3.7276	1.4508	4.6595	1.8135	
17	0.9318	0.3630	1.8636	0.7260	2.7954	1.0889	3.7272	1.4519	4.6590	1.8149	
18	0.9317	0.3633	1.8634	0.7265	2.7951	1.0898	3.7268	1.4530	4.6585	1.8163	
19	0.9316	0.3635	1.8632	0.7270	2.7948	1.0906	3.7263	1.4541	4.6579	1.8176	
20	0.9315	0.3638	1.8630	0.7276	2.7944	1.0914	3.7259	1.4552	4.6574	1.8190	
21	0.9314	0.3641	1.8627	0.7281	2.7941	1.0922	3.7255	1.4563	4.6569	1.8203	
22	0.9313	0.3643	1.8625	0.7287	2.7938	1.0930	3.7251	1.4573	4.6563	1.8217	
23	0.9312	0.3646	1.8623	0.7292	2.7935	1.0938	3.7246	1.4584	4.6558	1.8230	
24	0.9311	0.3649	1.8621	0.7298	2.7932	1.0946	3.7242	1.4595	4.6553	1.8244	
25	0.9309	0.3651	1.8619	0.7303	2.7928	1.0954	3.7238	1.4606	4.6547	1.8257	
26	0.9308	0.3654	1.8617	0.7308	2.7925	1.0963	3.7234	1.4617	4.6542	1.8271	
27	0.9307	0.3657	1.8615	0.7314	2.7922	1.0971	3.7229	1.4628	4.6537	1.8284	
28	0.9306	0.3660	1.8613	0.7319	2.7919	1.0979	3.7225	1.4638	4.6532	1.8298	
29	0.9305	0.3662	1.8610	0.7325	2.7916	1.0987	3.7221	1.4649	4.6526	1.8312	
30	0.9304	0.3665	1.8608	0.7330	2.7913	1.0995	3.7217	1.4660	4.6521	1.8325	
31	0.9303	0.3668	1.8606	0.7335	2.7909	1.1003	3.7212	1.4671	4.6516	1.8339	
32	0.9302	0.3670	1.8604	0.7341	2.7906	1.1011	3.7208	1.4682	4.6510	1.8352	
33	0.9301	0.3673	1.8602	0.7346	2.7903	1.1019	3.7204	1.4693	4.6505	1.8366	
34	0.9300	0.3676	1.8600	0.7352	2.7900	1.1028	3.7200	1.4703	4.6500	1.8379	
35	0.9299	0.3679	1.8598	0.7357	2.7897	1.1036	3.7195	1.4714	4.6494	1.8393	
36	0.9298	0.3681	1.8596	0.7362	2.7893	1.1044	3.7191	1.4725	4.6489	1.8406	
37	0.9297	0.3684	1.8593	0.7368	2.7890	1.1052	3.7187	1.4736	4.6483	1.8420	
38	0.9296	0.3687	1.8591	0.7373	2.7887	1.1060	3.7182	1.4747	4.6478	1.8433	
39	0.9295	0.3689	1.8589	0.7379	2.7884	1.1068	3.7178	1.4757	4.6473	1.8447	
40	0.9293	0.3692	1.8587	0.7384	2.7880	1.1076	3.7174	1.4768	4.6467	1.8460	
41	0.9292	0.3695	1.8585	0.7390	2.7877	1.1084	3.7170	1.4779	4.6462	1.8474	
42	0.9291	0.3697	1.8583	0.7395	2.7874	1.1092	3.7165	1.4790	4.6457	1.8487	
43	0.9290	0.3700	1.8581	0.7400	2.7871	1.1101	3.7161	1.4801	4.6451	1.8501	
44	0.9289	0.3703	1.8578	0.7406	2.7868	1.1109	3.7157	1.4811	4.6446	1.8514	
45	0.9288	0.3706	1.8576	0.7411	2.7864	1.1117	3.7152	1.4822	4.6440	1.8528	
46	0.9287	0.3708	1.8574	0.7417	2.7861	1.1125	3.7148	1.4833	4.6435	1.8541	
47	0.9286	0.3711	1.8572	0.7422	2.7858	1.1133	3.7144	1.4844	4.6430	1.8555	
48	0.9285	0.3714	1.8570	0.7427	2.7855	1.1141	3.7139	1.4855	4.6424	1.8568	
49	0.9284	0.3716	1.8568	0.7433	2.7851	1.1149	3.7135	1.4866	4.6419	1.8582	
50	0.9283	0.3719	1.8565	0.7438	2.7848	1.1157	3.7131	1.4876	4.6413	1.8595	
51	0.9282	0.3722	1.8563	0.7444	2.7845	1.1165	3.7126	1.4887	4.6408	1.8609	
52	0.9281	0.3724	1.8561	0.7449	2.7842	1.1173	3.7122	1.4898	4.6403	1.8622	
53	0.9279	0.3727	1.8559	0.7454	2.7838	1.1182	3.7118	1.4909	4.6397	1.8636	
54	0.9278	0.3730	1.8557	0.7460	2.7835	1.1190	3.7113	1.4920	4.6392	1.8649	
55	0.9277	0.3733	1.8555	0.7465	2.7832	1.1198	3.7109	1.4930	4.6386	1.8663	
56	0.9276	0.3735	1.8552	0.7471	2.7829	1.1206	3.7105	1.4941	4.6381	1.8676	
57	0.9275	0.3738	1.8550	0.7476	2.7825	1.1214	3.7100	1.4952	4.6376	1.8690	
58	0.9274	0.3741	1.8548	0.7481	2.7822	1.1222	3.7096	1.4963	4.6370	1.8703	
59	0.9273	0.3743	1.8546	0.7487	2.7819	1.1230	3.7092	1.4973	4.6365	1.8717	
60	0.9272	0.3746	1.8544	0.7492	2.7816	1.1238	3.7087	1.4984	4.6359	1.8730	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-6015	2-1502	6-5351	2-5086	7-4686	2-8669	8-4022	3-2253	9-3358	3-5837	60
5-6009	2-1518	6-5343	2-5105	7-4678	2-8691	8-4013	3-2278	9-3348	3-5864	59
5-6002	2-1535	6-5336	2-5124	7-4670	2-8713	8-4003	3-2302	9-3337	3-5891	58
5-5996	2-1551	6-5329	2-5143	7-4661	2-8735	8-3994	3-2326	9-3327	3-5918	57
5-5990	2-1567	6-5321	2-5162	7-4653	2-8756	8-3985	3-2351	9-3316	3-5945	56
5-5983	2-1584	6-5314	2-5181	7-4645	2-8778	8-3975	3-2375	9-3306	3-5973	55
5-5977	2-1600	6-5307	2-5200	7-4636	2-8800	8-3966	3-2400	9-3295	3-6000	54
5-5971	2-1616	6-5299	2-5219	7-4628	2-8821	8-3956	3-2424	9-3285	3-6027	53
5-5965	2-1632	6-5292	2-5238	7-4620	2-8843	8-3947	3-2449	9-3274	3-6054	52
5-5958	2-1649	6-5285	2-5257	7-4611	2-8865	8-3938	3-2473	9-3264	3-6081	51
5-5952	2-1665	6-5277	2-5276	7-4603	2-8887	8-3928	3-2497	9-3253	3-6108	50
5-5946	2-1681	6-5270	2-5295	7-4594	2-8908	8-3919	3-2522	9-3243	3-6135	49
5-5939	2-1697	6-5263	2-5314	7-4586	2-8930	8-3909	3-2546	9-3232	3-6162	48
5-5933	2-1714	6-5255	2-5333	7-4577	2-8952	8-3900	3-2571	9-3222	3-6190	47
5-5927	2-1730	6-5248	2-5352	7-4569	2-8973	8-3890	3-2595	9-3211	3-6217	46
5-5920	2-1746	6-5241	2-5371	7-4561	2-8995	8-3881	3-2619	9-3201	3-6244	45
5-5914	2-1763	6-5233	2-5390	7-4552	2-9017	8-3871	3-2644	9-3190	3-6271	44
5-5908	2-1779	6-5226	2-5409	7-4544	2-9038	8-3862	3-2668	9-3180	3-6298	43
5-5901	2-1795	6-5218	2-5428	7-4535	2-9060	8-3852	3-2693	9-3169	3-6325	42
5-5895	2-1811	6-5211	2-5447	7-4527	2-9082	8-3843	3-2717	9-3159	3-6352	41
5-5889	2-1828	6-5204	2-5466	7-4518	2-9103	8-3833	3-2741	9-3148	3-6379	40
5-5882	2-1844	6-5196	2-5484	7-4510	2-9125	8-3824	3-2766	9-3137	3-6406	39
5-5876	2-1860	6-5189	2-5503	7-4501	2-9147	8-3814	3-2790	9-3127	3-6434	38
5-5870	2-1876	6-5181	2-5522	7-4493	2-9168	8-3805	3-2815	9-3116	3-6461	37
5-5863	2-1893	6-5174	2-5541	7-4484	2-9190	8-3795	3-2839	9-3106	3-6488	36
5-5857	2-1909	6-5166	2-5560	7-4476	2-9212	8-3785	3-2863	9-3095	3-6515	35
5-5851	2-1925	6-5159	2-5579	7-4467	2-9233	8-3776	3-2888	9-3084	3-6542	34
5-5844	2-1941	6-5152	2-5598	7-4459	2-9255	8-3766	3-2912	9-3074	3-6569	33
5-5838	2-1958	6-5144	2-5617	7-4450	2-9277	8-3757	3-2936	9-3063	3-6596	32
5-5831	2-1974	6-5137	2-5636	7-4442	2-9298	8-3747	3-2961	9-3052	3-6623	31
5-5825	2-1990	6-5129	2-5655	7-4433	2-9320	8-3738	3-2985	9-3042	3-6650	30
5-5819	2-2006	6-5122	2-5674	7-4425	2-9342	8-3728	3-3009	9-3031	3-6677	29
5-5812	2-2023	6-5114	2-5693	7-4416	2-9363	8-3718	3-3034	9-3020	3-6704	28
5-5806	2-2039	6-5107	2-5712	7-4408	2-9385	8-3709	3-3058	9-3010	3-6731	27
5-5799	2-2055	6-5099	2-5731	7-4399	2-9407	8-3699	3-3083	9-2999	3-6758	26
5-5793	2-2071	6-5092	2-5750	7-4391	2-9428	8-3690	3-3107	9-2988	3-6785	25
5-5787	2-2087	6-5084	2-5769	7-4382	2-9450	8-3680	3-3131	9-2978	3-6812	24
5-5780	2-2104	6-5077	2-5788	7-4374	2-9472	8-3670	3-3156	9-2967	3-6840	23
5-5774	2-2120	6-5069	2-5807	7-4365	2-9493	8-3661	3-3180	9-2956	3-6867	22
5-5767	2-2136	6-5062	2-5826	7-4356	2-9515	8-3651	3-3204	9-2945	3-6894	21
5-5761	2-2152	6-5054	2-5844	7-4348	2-9536	8-3641	3-3229	9-2935	3-6921	20
5-5754	2-2169	6-5047	2-5863	7-4339	2-9558	8-3632	3-3253	9-2924	3-6948	19
5-5748	2-2185	6-5039	2-5882	7-4331	2-9580	8-3622	3-3277	9-2913	3-6975	18
5-5742	2-2201	6-5032	2-5901	7-4322	2-9601	8-3612	3-3302	9-2903	3-7002	17
5-5735	2-2217	6-5024	2-5920	7-4313	2-9623	8-3603	3-3326	9-2892	3-7029	16
5-5729	2-2233	6-5017	2-5939	7-4305	2-9645	8-3593	3-3350	9-2881	3-7056	15
5-5722	2-2250	6-5009	2-5958	7-4296	2-9666	8-3583	3-3374	9-2870	3-7083	14
5-5716	2-2266	6-5002	2-5977	7-4288	2-9688	8-3573	3-3399	9-2859	3-7110	13
5-5709	2-2282	6-4994	2-5996	7-4279	2-9709	8-3564	3-3423	9-2849	3-7137	12
5-5703	2-2298	6-4986	2-6015	7-4270	2-9731	8-3554	3-3447	9-2838	3-7164	11
5-5696	2-2314	6-4979	2-6034	7-4262	2-9753	8-3544	3-3472	9-2827	3-7191	10
5-5690	2-2331	6-4971	2-6052	7-4253	2-9774	8-3535	3-3496	9-2816	3-7218	9
5-5683	2-2347	6-4964	2-6071	7-4244	2-9796	8-3525	3-3520	9-2805	3-7245	8
5-5677	2-2363	6-4956	2-6090	7-4236	2-9817	8-3515	3-3545	9-2794	3-7272	7
5-5670	2-2379	6-4949	2-6109	7-4227	2-9839	8-3505	3-3569	9-2784	3-7299	6
5-5664	2-2395	6-4941	2-6128	7-4218	2-9861	8-3495	3-3593	9-2773	3-7326	5
5-5657	2-2412	6-4933	2-6147	7-4210	2-9882	8-3486	3-3617	9-2762	3-7353	4
5-5651	2-2428	6-4926	2-6166	7-4201	2-9904	8-3476	3-3642	9-2751	3-7380	3
5-5644	2-2444	6-4918	2-6185	7-4192	2-9925	8-3466	3-3666	9-2740	3-7407	2
5-5638	2-2460	6-4910	2-6204	7-4183	2-9947	8-3456	3-3690	9-2729	3-7434	1
5-5631	2-2476	6-4903	2-6222	7-4175	2-9969	8-3447	3-3715	9-2718	3-7461	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 22 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0.9272	0.3746	1.8544	0.7492	2.7816	1.1238	3.7087	1.4984	4.6359	1.8730	
1	0.9271	0.3749	1.8541	0.7498	2.7812	1.1246	3.7083	1.4995	4.6354	1.8744	
2	0.9270	0.3751	1.8539	0.7503	2.7809	1.1254	3.7079	1.5006	4.6348	1.8757	
3	0.9269	0.3754	1.8537	0.7508	2.7806	1.1262	3.7074	1.5017	4.6343	1.8771	
4	0.9267	0.3757	1.8535	0.7514	2.7802	1.1271	3.7070	1.5027	4.6337	1.8784	
5	0.9266	0.3760	1.8533	0.7519	2.7799	1.1279	3.7066	1.5038	4.6332	1.8798	
6	0.9265	0.3762	1.8531	0.7524	2.7796	1.1287	3.7061	1.5049	4.6326	1.8811	
7	0.9264	0.3765	1.8528	0.7530	2.7793	1.1295	3.7057	1.5060	4.6321	1.8825	
8	0.9263	0.3768	1.8526	0.7535	2.7789	1.1303	3.7052	1.5071	4.6315	1.8838	
9	0.9262	0.3770	1.8524	0.7541	2.7786	1.1311	3.7048	1.5081	4.6310	1.8852	
10	0.9261	0.3773	1.8522	0.7546	2.7783	1.1319	3.7044	1.5092	4.6305	1.8865	
11	0.9260	0.3776	1.8520	0.7551	2.7779	1.1327	3.7039	1.5103	4.6299	1.8879	
12	0.9259	0.3778	1.8517	0.7557	2.7776	1.1335	3.7035	1.5114	4.6294	1.8892	
13	0.9258	0.3781	1.8515	0.7562	2.7773	1.1343	3.7030	1.5124	4.6288	1.8906	
14	0.9257	0.3784	1.8513	0.7568	2.7770	1.1351	3.7026	1.5135	4.6283	1.8919	
15	0.9255	0.3786	1.8511	0.7573	2.7766	1.1359	3.7022	1.5146	4.6277	1.8932	
16	0.9254	0.3789	1.8509	0.7578	2.7763	1.1368	3.7017	1.5157	4.6272	1.8946	
17	0.9253	0.3792	1.8506	0.7584	2.7760	1.1376	3.7013	1.5167	4.6266	1.8959	
18	0.9252	0.3795	1.8504	0.7589	2.7756	1.1384	3.7008	1.5178	4.6260	1.8973	
19	0.9251	0.3797	1.8502	0.7595	2.7753	1.1392	3.7004	1.5189	4.6255	1.8986	
20	0.9250	0.3800	1.8500	0.7600	2.7750	1.1400	3.7000	1.5200	4.6249	1.9000	
21	0.9249	0.3803	1.8498	0.7605	2.7746	1.1408	3.6995	1.5211	4.6244	1.9013	
22	0.9248	0.3805	1.8495	0.7611	2.7743	1.1416	3.6991	1.5221	4.6238	1.9027	
23	0.9247	0.3808	1.8493	0.7616	2.7740	1.1424	3.6986	1.5232	4.6233	1.9040	
24	0.9245	0.3811	1.8491	0.7621	2.7736	1.1432	3.6982	1.5243	4.6227	1.9054	
25	0.9244	0.3813	1.8489	0.7627	2.7733	1.1440	3.6977	1.5254	4.6222	1.9067	
26	0.9243	0.3816	1.8486	0.7632	2.7730	1.1448	3.6973	1.5264	4.6216	1.9080	
27	0.9242	0.3819	1.8484	0.7638	2.7726	1.1456	3.6969	1.5275	4.6211	1.9094	
28	0.9241	0.3821	1.8482	0.7643	2.7723	1.1464	3.6964	1.5286	4.6205	1.9107	
29	0.9240	0.3824	1.8480	0.7648	2.7720	1.1472	3.6960	1.5297	4.6200	1.9121	
30	0.9239	0.3827	1.8478	0.7654	2.7716	1.1481	3.6955	1.5307	4.6194	1.9134	
31	0.9238	0.3830	1.8475	0.7659	2.7713	1.1489	3.6951	1.5318	4.6188	1.9148	
32	0.9237	0.3832	1.8473	0.7664	2.7710	1.1497	3.6946	1.5329	4.6183	1.9161	
33	0.9235	0.3835	1.8471	0.7670	2.7706	1.1505	3.6942	1.5340	4.6177	1.9174	
34	0.9234	0.3838	1.8469	0.7675	2.7703	1.1513	3.6937	1.5350	4.6172	1.9188	
35	0.9233	0.3840	1.8466	0.7681	2.7700	1.1521	3.6933	1.5361	4.6166	1.9201	
36	0.9232	0.3843	1.8464	0.7686	2.7696	1.1529	3.6928	1.5372	4.6161	1.9215	
37	0.9231	0.3846	1.8462	0.7691	2.7693	1.1537	3.6924	1.5383	4.6155	1.9228	
38	0.9230	0.3848	1.8460	0.7697	2.7690	1.1545	3.6919	1.5393	4.6149	1.9242	
39	0.9229	0.3851	1.8457	0.7702	2.7686	1.1553	3.6915	1.5404	4.6144	1.9255	
40	0.9228	0.3854	1.8455	0.7707	2.7683	1.1561	3.6910	1.5415	4.6138	1.9268	
41	0.9227	0.3856	1.8453	0.7713	2.7680	1.1569	3.6906	1.5426	4.6133	1.9282	
42	0.9225	0.3859	1.8451	0.7718	2.7676	1.1577	3.6902	1.5436	4.6127	1.9295	
43	0.9224	0.3862	1.8449	0.7723	2.7673	1.1585	3.6897	1.5447	4.6121	1.9309	
44	0.9223	0.3864	1.8446	0.7729	2.7669	1.1593	3.6893	1.5458	4.6116	1.9322	
45	0.9222	0.3867	1.8444	0.7734	2.7666	1.1601	3.6888	1.5468	4.6110	1.9336	
46	0.9221	0.3870	1.8442	0.7740	2.7663	1.1609	3.6884	1.5479	4.6104	1.9349	
47	0.9220	0.3872	1.8440	0.7745	2.7659	1.1617	3.6879	1.5490	4.6099	1.9362	
48	0.9219	0.3875	1.8437	0.7750	2.7656	1.1625	3.6875	1.5501	4.6093	1.9376	
49	0.9218	0.3878	1.8435	0.7756	2.7653	1.1634	3.6870	1.5511	4.6088	1.9389	
50	0.9216	0.3881	1.8433	0.7761	2.7649	1.1642	3.6866	1.5522	4.6082	1.9403	
51	0.9215	0.3883	1.8430	0.7766	2.7646	1.1650	3.6861	1.5533	4.6076	1.9416	
52	0.9214	0.3886	1.8428	0.7772	2.7642	1.1658	3.6856	1.5544	4.6071	1.9429	
53	0.9213	0.3889	1.8426	0.7777	2.7639	1.1666	3.6852	1.5554	4.6065	1.9443	
54	0.9212	0.3891	1.8424	0.7782	2.7636	1.1674	3.6847	1.5565	4.6059	1.9456	
55	0.9211	0.3894	1.8421	0.7788	2.7632	1.1682	3.6843	1.5576	4.6054	1.9470	
56	0.9210	0.3897	1.8419	0.7793	2.7629	1.1690	3.6838	1.5586	4.6048	1.9483	
57	0.9208	0.3899	1.8417	0.7799	2.7625	1.1698	3.6834	1.5597	4.6042	1.9496	
58	0.9207	0.3902	1.8415	0.7804	2.7622	1.1706	3.6829	1.5608	4.6037	1.9510	
59	0.9206	0.3905	1.8412	0.7809	2.7619	1.1714	3.6825	1.5619	4.6031	1.9523	
60	0.9205	0.3907	1.8410	0.7815	2.7615	1.1722	3.6820	1.5629	4.6025	1.9537	

Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·5631	2·2476	6·4903	2·6222	7·4175	2·9969	8·3447	3·3715	9·2718	3·7461	60
5·5624	2·2493	6·4895	2·6241	7·4166	2·9990	8·3437	3·3739	9·2707	3·7488	59
5·5618	2·2509	6·4888	2·6260	7·4157	3·0012	8·3427	3·3763	9·2697	3·7515	58
5·5611	2·2525	6·4880	2·6279	7·4149	3·0033	8·3417	3·3787	9·2686	3·7542	57
5·5605	2·2541	6·4872	2·6298	7·4140	3·0055	8·3407	3·3812	9·2675	3·7569	56
5·5598	2·2557	6·4865	2·6317	7·4131	3·0076	8·3397	3·3836	9·2664	3·7595	55
5·5592	2·2573	6·4857	2·6336	7·4122	3·0098	8·3388	3·3860	9·2653	3·7622	54
5·5585	2·2590	6·4849	2·6355	7·4114	3·0120	8·3378	3·3884	9·2642	3·7649	53
5·5579	2·2606	6·4842	2·6373	7·4105	3·0141	8·3368	3·3909	9·2631	3·7676	52
5·5572	2·2622	6·4834	2·6392	7·4096	3·0163	8·3358	3·3933	9·2620	3·7703	51
5·5565	2·2638	6·4826	2·6411	7·4087	3·0184	8·3348	3·3957	9·2609	3·7730	50
5·5559	2·2654	6·4819	2·6430	7·4078	3·0206	8·3338	3·3981	9·2598	3·7757	49
5·5552	2·2670	6·4811	2·6449	7·4070	3·0227	8·3328	3·4006	9·2587	3·7784	48
5·5546	2·2687	6·4803	2·6468	7·4061	3·0249	8·3318	3·4030	9·2576	3·7811	47
5·5539	2·2703	6·4796	2·6487	7·4052	3·0270	8·3309	3·4054	9·2565	3·7838	46
5·5532	2·2719	6·4788	2·6505	7·4043	3·0292	8·3299	3·4078	9·2554	3·7865	45
5·5526	2·2735	6·4780	2·6524	7·4034	3·0313	8·3289	3·4103	9·2543	3·7892	44
5·5519	2·2751	6·4772	2·6543	7·4026	3·0335	8·3279	3·4127	9·2532	3·7919	43
5·5513	2·2767	6·4765	2·6562	7·4017	3·0356	8·3269	3·4151	9·2521	3·7946	42
5·5506	2·2784	6·4757	2·6581	7·4008	3·0378	8·3259	3·4175	9·2510	3·7973	41
5·5499	2·2800	6·4749	2·6600	7·3999	3·0400	8·3249	3·4199	9·2499	3·7999	40
5·5493	2·2816	6·4741	2·6618	7·3990	3·0421	8·3239	3·4224	9·2488	3·8026	39
5·5486	2·2832	6·4734	2·6637	7·3981	3·0443	8·3229	3·4248	9·2477	3·8053	38
5·5479	2·2848	6·4726	2·6656	7·3973	3·0464	8·3219	3·4272	9·2466	3·8080	37
5·5473	2·2864	6·4718	2·6675	7·3964	3·0486	8·3209	3·4296	9·2455	3·8107	36
5·5466	2·2880	6·4710	2·6694	7·3955	3·0507	8·3199	3·4321	9·2444	3·8134	35
5·5459	2·2896	6·4703	2·6713	7·3946	3·0529	8·3189	3·4345	9·2432	3·8161	34
5·5453	2·2913	6·4695	2·6731	7·3937	3·0550	8·3179	3·4369	9·2421	3·8188	33
5·5446	2·2929	6·4687	2·6750	7·3928	3·0572	8·3169	3·4393	9·2410	3·8215	32
5·5439	2·2945	6·4679	2·6769	7·3919	3·0593	8·3159	3·4417	9·2399	3·8241	31
5·5433	2·2961	6·4672	2·6788	7·3910	3·0615	8·3149	3·4442	9·2388	3·8268	30
5·5426	2·2977	6·4664	2·6807	7·3901	3·0636	8·3139	3·4466	9·2377	3·8295	29
5·5419	2·2993	6·4656	2·6825	7·3893	3·0658	8·3129	3·4490	9·2366	3·8322	28
5·5413	2·3009	6·4648	2·6844	7·3884	3·0679	8·3119	3·4514	9·2355	3·8349	27
5·5406	2·3025	6·4640	2·6863	7·3875	3·0701	8·3109	3·4538	9·2344	3·8376	26
5·5399	2·3042	6·4633	2·6882	7·3866	3·0722	8·3099	3·4562	9·2332	3·8403	25
5·5393	2·3058	6·4625	2·6901	7·3857	3·0744	8·3089	3·4587	9·2321	3·8430	24
5·5386	2·3074	6·4617	2·6919	7·3848	3·0765	8·3079	3·4611	9·2310	3·8456	23
5·5379	2·3090	6·4609	2·6938	7·3839	3·0787	8·3069	3·4635	9·2299	3·8483	22
5·5372	2·3106	6·4601	2·6957	7·3830	3·0808	8·3059	3·4659	9·2287	3·8510	21
5·5366	2·3122	6·4593	2·6976	7·3821	3·0830	8·3049	3·4683	9·2276	3·8537	20
5·5359	2·3138	6·4586	2·6995	7·3812	3·0851	8·3039	3·4707	9·2265	3·8564	19
5·5352	2·3154	6·4578	2·7013	7·3803	3·0872	8·3028	3·4732	9·2254	3·8591	18
5·5346	2·3170	6·4570	2·7032	7·3794	3·0894	8·3018	3·4756	9·2243	3·8617	17
5·5339	2·3187	6·4562	2·7051	7·3785	3·0915	8·3008	3·4780	9·2231	3·8644	16
5·5332	2·3203	6·4554	2·7070	7·3776	3·0937	8·2998	3·4804	9·2220	3·8671	15
5·5325	2·3219	6·4546	2·7089	7·3767	3·0958	8·2988	3·4828	9·2209	3·8698	14
5·5319	2·3235	6·4538	2·7107	7·3758	3·0980	8·2978	3·4852	9·2198	3·8725	13
5·5312	2·3251	6·4530	2·7126	7·3749	3·1001	8·2968	3·4876	9·2186	3·8752	12
5·5305	2·3267	6·4523	2·7145	7·3740	3·1023	8·2958	3·4901	9·2175	3·8778	11
5·5298	2·3283	6·4515	2·7164	7·3731	3·1044	8·2947	3·4925	9·2164	3·8805	10
5·5291	2·3299	6·4507	2·7182	7·3722	3·1066	8·2937	3·4949	9·2152	3·8832	9
5·5285	2·3315	6·4499	2·7201	7·3713	3·1087	8·2927	3·4973	9·2141	3·8859	8
5·5278	2·3331	6·4491	2·7220	7·3704	3·1108	8·2917	3·4997	9·2130	3·8886	7
5·5271	2·3347	6·4483	2·7239	7·3695	3·1130	8·2907	3·5021	9·2119	3·8912	6
5·5264	2·3364	6·4475	2·7257	7·3686	3·1151	8·2896	3·5045	9·2107	3·8939	5
5·5258	2·3380	6·4467	2·7276	7·3677	3·1173	8·2886	3·5069	9·2096	3·8966	4
5·5251	2·3396	6·4459	2·7295	7·3668	3·1194	8·2876	3·5093	9·2085	3·8993	3
5·5244	2·3412	6·4451	2·7314	7·3659	3·1216	8·2866	3·5118	9·2073	3·9020	2
5·5237	2·3428	6·4443	2·7332	7·3649	3·1237	8·2856	3·5142	9·2062	3·9046	1
5·5230	2·3444	6·4435	2·7351	7·3640	3·1258	8·2845	3·5166	9·2050	3·9073	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

67 Degrees.



# 23 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°9'205	0°3907	1°8410	0°7815	2°7615	1°1722	3°6820	1°5629	4°6025	1°9537	
1	0°9'204	0°3910	1°8408	0°7820	2°7612	1°1730	3°6816	1°5640	4°6020	1°9550	
2	0°9'203	0°3913	1°8406	0°7825	2°7608	1°1738	3°6811	1°5651	4°6014	1°9563	
3	0°9'202	0°3915	1°8403	0°7831	2°7605	1°1746	3°6807	1°5661	4°6008	1°9577	
4	0°9'200	0°3918	1°8401	0°7836	2°7601	1°1754	3°6802	1°5672	4°6002	1°9590	
5	0°9'199	0°3921	1°8399	0°7841	2°7598	1°1762	3°6797	1°5683	4°5997	1°9603	
6	0°9'198	0°3923	1°8396	0°7847	2°7595	1°1770	3°6793	1°5693	4°5991	1°9617	
7	0°9'197	0°3926	1°8394	0°7852	2°7591	1°1778	3°6788	1°5704	4°5985	1°9630	
8	0°9'196	0°3929	1°8392	0°7857	2°7588	1°1786	3°6784	1°5715	4°5980	1°9644	
9	0°9'195	0°3931	1°8390	0°7863	2°7584	1°1794	3°6779	1°5726	4°5974	1°9657	
10	0°9'194	0°3934	1°8387	0°7868	2°7581	1°1802	3°6775	1°5736	4°5968	1°9670	
11	0°9'192	0°3937	1°8385	0°7873	2°7577	1°1810	3°6770	1°5747	4°5962	1°9684	
12	0°9'191	0°3939	1°8383	0°7879	2°7574	1°1818	3°6765	1°5758	4°5957	1°9697	
13	0°9'190	0°3942	1°8380	0°7884	2°7571	1°1826	3°6761	1°5768	4°5951	1°9710	
14	0°9'189	0°3945	1°8378	0°7890	2°7567	1°1834	3°6756	1°5779	4°5945	1°9724	
15	0°9'188	0°3947	1°8376	0°7895	2°7564	1°1842	3°6752	1°5790	4°5940	1°9737	
16	0°9'187	0°3950	1°8374	0°7900	2°7560	1°1850	3°6747	1°5800	4°5934	1°9751	
17	0°9'186	0°3953	1°8371	0°7906	2°7557	1°1858	3°6742	1°5811	4°5928	1°9764	
18	0°9'184	0°3955	1°8369	0°7911	2°7553	1°1866	3°6738	1°5822	4°5922	1°9777	
19	0°9'183	0°3958	1°8367	0°7916	2°7550	1°1874	3°6733	1°5833	4°5917	1°9791	
20	0°9'182	0°3961	1°8364	0°7922	2°7546	1°1882	3°6729	1°5843	4°5911	1°9804	
21	0°9'181	0°3963	1°8362	0°7927	2°7543	1°1890	3°6724	1°5854	4°5905	1°9817	
22	0°9'180	0°3966	1°8360	0°7932	2°7540	1°1898	3°6719	1°5865	4°5899	1°9831	
23	0°9'179	0°3969	1°8357	0°7938	2°7536	1°1906	3°6715	1°5875	4°5894	1°9844	
24	0°9'178	0°3971	1°8355	0°7943	2°7533	1°1914	3°6710	1°5886	4°5888	1°9857	
25	0°9'176	0°3974	1°8353	0°7948	2°7529	1°1922	3°6706	1°5897	4°5882	1°9871	
26	0°9'175	0°3977	1°8350	0°7954	2°7526	1°1930	3°6701	1°5907	4°5876	1°9884	
27	0°9'174	0°3979	1°8348	0°7959	2°7522	1°1938	3°6696	1°5918	4°5870	1°9897	
28	0°9'173	0°3982	1°8346	0°7964	2°7519	1°1946	3°6692	1°5929	4°5865	1°9911	
29	0°9'172	0°3985	1°8344	0°7970	2°7515	1°1954	3°6687	1°5939	4°5859	1°9924	
30	0°9'171	0°3987	1°8341	0°7975	2°7512	1°1962	3°6682	1°5950	4°5853	1°9937	
31	0°9'169	0°3990	1°8339	0°7980	2°7508	1°1970	3°6678	1°5961	4°5847	1°9951	
32	0°9'168	0°3993	1°8337	0°7986	2°7505	1°1978	3°6673	1°5971	4°5841	1°9964	
33	0°9'167	0°3995	1°8334	0°7991	2°7501	1°1986	3°6668	1°5982	4°5836	1°9977	
34	0°9'166	0°3998	1°8332	0°7996	2°7498	1°1994	3°6664	1°5993	4°5830	1°9991	
35	0°9'165	0°4001	1°8330	0°8002	2°7494	1°2002	3°6659	1°6003	4°5824	2°0004	
36	0°9'164	0°4003	1°8327	0°8007	2°7491	1°2010	3°6655	1°6014	4°5818	2°0017	
37	0°9'162	0°4006	1°8325	0°8012	2°7487	1°2018	3°6650	1°6025	4°5812	2°0031	
38	0°9'161	0°4009	1°8323	0°8018	2°7484	1°2026	3°6645	1°6035	4°5806	2°0044	
39	0°9'160	0°4011	1°8320	0°8023	2°7480	1°2034	3°6641	1°6046	4°5801	2°0057	
40	0°9'159	0°4014	1°8318	0°8028	2°7477	1°2042	3°6636	1°6057	4°5795	2°0071	
41	0°9'158	0°4017	1°8316	0°8034	2°7473	1°2050	3°6631	1°6067	4°5789	2°0084	
42	0°9'157	0°4019	1°8313	0°8039	2°7470	1°2058	3°6627	1°6078	4°5783	2°0097	
43	0°9'155	0°4022	1°8311	0°8044	2°7466	1°2066	3°6622	1°6089	4°5777	2°0111	
44	0°9'154	0°4025	1°8309	0°8050	2°7463	1°2074	3°6617	1°6099	4°5771	2°0124	
45	0°9'153	0°4027	1°8306	0°8055	2°7459	1°2082	3°6612	1°6110	4°5766	2°0137	
46	0°9'152	0°4030	1°8304	0°8060	2°7456	1°2090	3°6608	1°6121	4°5760	2°0151	
47	0°9'151	0°4033	1°8302	0°8066	2°7452	1°2098	3°6603	1°6131	4°5754	2°0164	
48	0°9'150	0°4035	1°8299	0°8071	2°7449	1°2106	3°6598	1°6142	4°5748	2°0177	
49	0°9'148	0°4038	1°8297	0°8076	2°7445	1°2114	3°6594	1°6152	4°5742	2°0191	
50	0°9'147	0°4041	1°8294	0°8082	2°7442	1°2122	3°6589	1°6163	4°5736	2°0204	
51	0°9'146	0°4043	1°8292	0°8087	2°7438	1°2130	3°6584	1°6174	4°5730	2°0217	
52	0°9'145	0°4046	1°8290	0°8092	2°7435	1°2138	3°6580	1°6184	4°5724	2°0230	
53	0°9'144	0°4049	1°8287	0°8098	2°7431	1°2146	3°6575	1°6195	4°5719	2°0244	
54	0°9'143	0°4051	1°8285	0°8103	2°7428	1°2154	3°6570	1°6206	4°5713	2°0257	
55	0°9'141	0°4054	1°8283	0°8108	2°7424	1°2162	3°6565	1°6216	4°5707	2°0270	
56	0°9'140	0°4057	1°8280	0°8113	2°7421	1°2170	3°6561	1°6227	4°5701	2°0284	
57	0°9'139	0°4059	1°8278	0°8119	2°7417	1°2178	3°6556	1°6238	4°5695	2°0297	
58	0°9'138	0°4062	1°8276	0°8124	2°7413	1°2186	3°6551	1°6248	4°5689	2°0310	
59	0°9'137	0°4065	1°8273	0°8129	2°7410	1°2194	3°6547	1°6259	4°5683	2°0324	
60	0°9'135	0°4067	1°8271	0°8135	2°7406	1°2202	3°6542	1°6269	4°5677	2°0337	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-5230	2-3444	6-4435	2-7351	7-3640	3-1258	8-2845	3-5166	9-2050	3-9073	60
5-5223	2-3460	6-4427	2-7370	7-3631	3-1280	8-2835	3-5190	9-2039	3-9100	59
5-5217	2-3476	6-4419	2-7389	7-3622	3-1301	8-2825	3-5214	9-2028	3-9127	58
5-5210	2-3492	6-4411	2-7407	7-3613	3-1323	8-2815	3-5238	9-2016	3-9153	57
5-5203	2-3508	6-4403	2-7426	7-3604	3-1344	8-2804	3-5262	9-2005	3-9180	56
5-5196	2-3524	6-4395	2-7445	7-3595	3-1366	8-2794	3-5286	9-1994	3-9207	55
5-5189	2-3540	6-4388	2-7464	7-3586	3-1387	8-2784	3-5310	9-1982	3-9234	54
5-5182	2-3556	6-4380	2-7482	7-3577	3-1408	8-2774	3-5334	9-1971	3-9260	53
5-5176	2-3572	6-4372	2-7501	7-3567	3-1430	8-2763	3-5358	9-1959	3-9287	52
5-5169	2-3588	6-4364	2-7520	7-3558	3-1451	8-2753	3-5383	9-1948	3-9314	51
5-5162	2-3604	6-4356	2-7538	7-3549	3-1473	8-2743	3-5407	9-1936	3-9341	50
5-5155	2-3620	6-4347	2-7557	7-3540	3-1494	8-2732	3-5431	9-1925	3-9367	49
5-5148	2-3637	6-4339	2-7576	7-3531	3-1515	8-2722	3-5455	9-1914	3-9394	48
5-5141	2-3653	6-4331	2-7595	7-3522	3-1537	8-2712	3-5479	9-1902	3-9421	47
5-5134	2-3669	6-4323	2-7613	7-3512	3-1558	8-2702	3-5503	9-1891	3-9448	46
5-5127	2-3685	6-4315	2-7632	7-3503	3-1580	8-2691	3-5527	9-1879	3-9474	45
5-5121	2-3701	6-4307	2-7651	7-3494	3-1601	8-2681	3-5551	9-1868	3-9501	44
5-5114	2-3717	6-4299	2-7669	7-3485	3-1622	8-2671	3-5575	9-1856	3-9528	43
5-5107	2-3733	6-4291	2-7688	7-3476	3-1644	8-2660	3-5599	9-1845	3-9555	42
5-5100	2-3749	6-4283	2-7707	7-3467	3-1665	8-2650	3-5623	9-1833	3-9581	41
5-5093	2-3765	6-4275	2-7726	7-3457	3-1686	8-2639	3-5647	9-1822	3-9608	40
5-5086	2-3781	6-4267	2-7744	7-3448	3-1708	8-2629	3-5671	9-1810	3-9635	39
5-5079	2-3797	6-4259	2-7763	7-3439	3-1729	8-2619	3-5695	9-1799	3-9661	38
5-5072	2-3813	6-4251	2-7782	7-3430	3-1750	8-2608	3-5719	9-1787	3-9688	37
5-5065	2-3829	6-4243	2-7800	7-3420	3-1772	8-2598	3-5743	9-1775	3-9715	36
5-5058	2-3845	6-4235	2-7819	7-3411	3-1793	8-2588	3-5767	9-1764	3-9741	35
5-5051	2-3861	6-4227	2-7838	7-3402	3-1815	8-2577	3-5791	9-1752	3-9768	34
5-5044	2-3877	6-4219	2-7856	7-3393	3-1836	8-2567	3-5815	9-1741	3-9795	33
5-5038	2-3893	6-4210	2-7875	7-3383	3-1857	8-2556	3-5839	9-1729	3-9822	32
5-5031	2-3909	6-4202	2-7894	7-3374	3-1879	8-2546	3-5863	9-1718	3-9848	31
5-5024	2-3925	6-4194	2-7912	7-3365	3-1900	8-2535	3-5887	9-1706	3-9875	30
5-5017	2-3941	6-4186	2-7931	7-3356	3-1921	8-2525	3-5911	9-1694	3-9902	29
5-5010	2-3957	6-4178	2-7950	7-3346	3-1943	8-2515	3-5935	9-1683	3-9928	28
5-5003	2-3973	6-4170	2-7968	7-3337	3-1964	8-2504	3-5959	9-1671	3-9955	27
5-4996	2-3989	6-4162	2-7987	7-3328	3-1985	8-2494	3-5983	9-1660	3-9982	26
5-4989	2-4005	6-4154	2-8006	7-3318	3-2007	8-2483	3-6007	9-1648	4-0008	25
5-4982	2-4021	6-4145	2-8024	7-3309	3-2028	8-2473	3-6031	9-1636	4-0035	24
5-4975	2-4037	6-4137	2-8043	7-3300	3-2049	8-2462	3-6055	9-1625	4-0062	23
5-4968	2-4053	6-4129	2-8062	7-3290	3-2071	8-2452	3-6079	9-1613	4-0088	22
5-4961	2-4069	6-4121	2-8080	7-3281	3-2092	8-2441	3-6103	9-1601	4-0115	21
5-4954	2-4085	6-4113	2-8099	7-3272	3-2113	8-2431	3-6127	9-1590	4-0142	20
5-4947	2-4101	6-4105	2-8118	7-3262	3-2135	8-2420	3-6151	9-1578	4-0168	19
5-4940	2-4117	6-4096	2-8136	7-3253	3-2156	8-2410	3-6175	9-1566	4-0195	18
5-4933	2-4133	6-4088	2-8155	7-3244	3-2177	8-2399	3-6199	9-1555	4-0221	17
5-4926	2-4149	6-4080	2-8174	7-3234	3-2198	8-2389	3-6223	9-1543	4-0248	16
5-4919	2-4165	6-4072	2-8192	7-3225	3-2220	8-2378	3-6247	9-1531	4-0275	15
5-4912	2-4181	6-4064	2-8211	7-3216	3-2241	8-2367	3-6271	9-1519	4-0301	14
5-4905	2-4197	6-4055	2-8230	7-3206	3-2262	8-2357	3-6295	9-1508	4-0328	13
5-4898	2-4213	6-4047	2-8248	7-3197	3-2284	8-2346	3-6319	9-1496	4-0355	12
5-4891	2-4229	6-4039	2-8267	7-3187	3-2305	8-2336	3-6343	9-1484	4-0381	11
5-4883	2-4245	6-4031	2-8285	7-3178	3-2326	8-2325	3-6367	9-1472	4-0408	10
5-4876	2-4261	6-4023	2-8304	7-3169	3-2347	8-2315	3-6391	9-1461	4-0434	9
5-4869	2-4277	6-4014	2-8323	7-3159	3-2369	8-2304	3-6415	9-1449	4-0461	8
5-4862	2-4293	6-4006	2-8341	7-3150	3-2390	8-2293	3-6439	9-1437	4-0488	7
5-4855	2-4308	6-3998	2-8360	7-3140	3-2411	8-2283	3-6463	9-1425	4-0514	6
5-4848	2-4324	6-3990	2-8379	7-3131	3-2433	8-2272	3-6487	9-1414	4-0541	5
5-4841	2-4340	6-3981	2-8397	7-3121	3-2454	8-2262	3-6511	9-1402	4-0567	4
5-4834	2-4356	6-3973	2-8416	7-3112	3-2475	8-2251	3-6535	9-1390	4-0594	3
5-4827	2-4372	6-3965	2-8434	7-3103	3-2496	8-2240	3-6558	9-1378	4-0621	2
5-4820	2-4388	6-3956	2-8453	7-3093	3-2518	8-2230	3-6582	9-1366	4-0647	1
5-4813	2-4404	6-3948	2-8472	7-3084	3-2539	8-2219	3-6606	9-1355	4-0674	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

66 Degrees.

# 24 Degrees.

Dist.	1		2		3		4		5	
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°9135	0°4067	1°8271	0°8135	2°7406	1°2202	3°6542	1°6269	4°5677	2°0337
1	0°9134	0°4070	1°8269	0°8140	2°7403	1°2210	3°6537	1°6280	4°5671	2°0350
2	0°9133	0°4073	1°8266	0°8145	2°7399	1°2218	3°6532	1°6291	4°5665	2°0363
3	0°9132	0°4075	1°8264	0°8151	2°7396	1°2226	3°6528	1°6301	4°5660	2°0377
4	0°9131	0°4078	1°8261	0°8156	2°7392	1°2234	3°6523	1°6312	4°5654	2°0390
5	0°9130	0°4081	1°8259	0°8161	2°7389	1°2242	3°6518	1°6323	4°5648	2°0403
6	0°9128	0°4083	1°8257	0°8167	2°7385	1°2250	3°6513	1°6333	4°5642	2°0417
7	0°9127	0°4086	1°8254	0°8172	2°7381	1°2258	3°6509	1°6344	4°5636	2°0430
8	0°9126	0°4089	1°8252	0°8177	2°7378	1°2266	3°6504	1°6354	4°5630	2°0443
9	0°9125	0°4091	1°8250	0°8183	2°7374	1°2274	3°6499	1°6365	4°5624	2°0456
10	0°9124	0°4094	1°8247	0°8188	2°7371	1°2282	3°6494	1°6376	4°5618	2°0470
11	0°9122	0°4097	1°8245	0°8193	2°7367	1°2290	3°6490	1°6386	4°5612	2°0483
12	0°9121	0°4099	1°8242	0°8198	2°7364	1°2298	3°6485	1°6397	4°5606	2°0496
13	0°9120	0°4102	1°8240	0°8204	2°7360	1°2306	3°6480	1°6408	4°5600	2°0509
14	0°9119	0°4105	1°8238	0°8209	2°7356	1°2314	3°6475	1°6418	4°5594	2°0523
15	0°9118	0°4107	1°8235	0°8214	2°7353	1°2322	3°6470	1°6429	4°5588	2°0536
16	0°9116	0°4110	1°8233	0°8220	2°7349	1°2330	3°6466	1°6439	4°5582	2°0549
17	0°9115	0°4112	1°8230	0°8225	2°7346	1°2337	3°6461	1°6450	4°5576	2°0562
18	0°9114	0°4115	1°8228	0°8230	2°7342	1°2345	3°6456	1°6461	4°5570	2°0576
19	0°9113	0°4118	1°8226	0°8236	2°7339	1°2353	3°6451	1°6471	4°5564	2°0589
20	0°9112	0°4120	1°8223	0°8241	2°7335	1°2361	3°6447	1°6482	4°5558	2°0602
21	0°9110	0°4123	1°8221	0°8246	2°7331	1°2369	3°6442	1°6492	4°5552	2°0615
22	0°9109	0°4126	1°8218	0°8251	2°7328	1°2377	3°6437	1°6503	4°5546	2°0629
23	0°9108	0°4128	1°8216	0°8257	2°7324	1°2385	3°6432	1°6514	4°5540	2°0642
24	0°9107	0°4131	1°8214	0°8262	2°7321	1°2393	3°6427	1°6524	4°5534	2°0655
25	0°9106	0°4134	1°8211	0°8267	2°7317	1°2401	3°6423	1°6535	4°5528	2°0668
26	0°9104	0°4136	1°8209	0°8273	2°7313	1°2409	3°6418	1°6545	4°5522	2°0682
27	0°9103	0°4139	1°8206	0°8278	2°7310	1°2417	3°6413	1°6556	4°5516	2°0695
28	0°9102	0°4142	1°8204	0°8283	2°7306	1°2425	3°6408	1°6567	4°5510	2°0708
29	0°9101	0°4144	1°8202	0°8289	2°7302	1°2433	3°6403	1°6577	4°5504	2°0721
30	0°9100	0°4147	1°8199	0°8294	2°7299	1°2441	3°6398	1°6588	4°5498	2°0735
31	0°9098	0°4150	1°8197	0°8299	2°7295	1°2449	3°6394	1°6598	4°5492	2°0748
32	0°9097	0°4152	1°8194	0°8304	2°7292	1°2457	3°6389	1°6609	4°5486	2°0761
33	0°9096	0°4155	1°8192	0°8310	2°7288	1°2465	3°6384	1°6619	4°5480	2°0774
34	0°9095	0°4158	1°8190	0°8315	2°7284	1°2473	3°6379	1°6630	4°5474	2°0788
35	0°9094	0°4160	1°8187	0°8320	2°7281	1°2480	3°6374	1°6641	4°5468	2°0801
36	0°9092	0°4163	1°8185	0°8326	2°7277	1°2488	3°6369	1°6651	4°5462	2°0814
37	0°9091	0°4165	1°8182	0°8331	2°7273	1°2496	3°6365	1°6662	4°5456	2°0827
38	0°9090	0°4168	1°8180	0°8336	2°7270	1°2504	3°6360	1°6672	4°5450	2°0840
39	0°9089	0°4171	1°8177	0°8341	2°7266	1°2512	3°6355	1°6683	4°5444	2°0854
40	0°9088	0°4173	1°8175	0°8347	2°7263	1°2520	3°6350	1°6694	4°5438	2°0867
41	0°9086	0°4176	1°8173	0°8352	2°7259	1°2528	3°6345	1°6704	4°5431	2°0880
42	0°9085	0°4179	1°8170	0°8357	2°7255	1°2536	3°6340	1°6715	4°5425	2°0893
43	0°9084	0°4181	1°8168	0°8363	2°7252	1°2544	3°6335	1°6725	4°5419	2°0907
44	0°9083	0°4184	1°8165	0°8368	2°7248	1°2552	3°6331	1°6736	4°5413	2°0920
45	0°9081	0°4187	1°8163	0°8373	2°7244	1°2560	3°6326	1°6746	4°5407	2°0933
46	0°9080	0°4189	1°8160	0°8378	2°7241	1°2568	3°6321	1°6757	4°5401	2°0946
47	0°9079	0°4192	1°8158	0°8384	2°7237	1°2576	3°6316	1°6768	4°5395	2°0959
48	0°9078	0°4195	1°8156	0°8389	2°7233	1°2584	3°6311	1°6778	4°5389	2°0973
49	0°9077	0°4197	1°8153	0°8394	2°7230	1°2591	3°6306	1°6789	4°5383	2°0986
50	0°9075	0°4200	1°8151	0°8400	2°7226	1°2599	3°6301	1°6799	4°5377	2°0999
51	0°9074	0°4202	1°8148	0°8405	2°7222	1°2607	3°6296	1°6810	4°5371	2°1012
52	0°9073	0°4205	1°8146	0°8410	2°7219	1°2615	3°6292	1°6820	4°5364	2°1025
53	0°9072	0°4208	1°8143	0°8415	2°7215	1°2623	3°6287	1°6831	4°5358	2°1039
54	0°9070	0°4210	1°8141	0°8421	2°7211	1°2631	3°6282	1°6841	4°5352	2°1052
55	0°9069	0°4213	1°8138	0°8426	2°7208	1°2639	3°6277	1°6852	4°5346	2°1065
56	0°9068	0°4216	1°8136	0°8431	2°7204	1°2647	3°6272	1°6863	4°5340	2°1078
57	0°9067	0°4218	1°8134	0°8437	2°7200	1°2655	3°6267	1°6873	4°5334	2°1091
58	0°9066	0°4221	1°8131	0°8442	2°7197	1°2663	3°6262	1°6884	4°5328	2°1105
59	0°9064	0°4224	1°8129	0°8447	2°7193	1°2671	3°6257	1°6894	4°5322	2°1118
60	0°9063	0°4226	1°8126	0°8452	2°7189	1°2679	3°6252	1°6905	4°5315	2°1131

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6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5°4813	2°4404	6°3948	2°8472	7°3084	3°2539	8°2219	3°6606	9°1355	4°0674	60
5°4806	2°4420	6°3940	2°8490	7°3074	3°2560	8°2208	3°6630	9°1343	4°0700	59
5°4799	2°4436	6°3932	2°8509	7°3065	3°2581	8°2198	3°6654	9°1331	4°0727	58
5°4791	2°4452	6°3923	2°8527	7°3055	3°2603	8°2187	3°6678	9°1319	4°0753	57
5°4784	2°4468	6°3915	2°8546	7°3046	3°2624	8°2176	3°6702	9°1307	4°0780	56
5°4777	2°4484	6°3907	2°8565	7°3036	3°2645	8°2166	3°6726	9°1295	4°0806	55
5°4770	2°4500	6°3898	2°8583	7°3027	3°2666	8°2155	3°6750	9°1283	4°0833	54
5°4763	2°4516	6°3890	2°8602	7°3017	3°2688	8°2144	3°6774	9°1272	4°0860	53
5°4756	2°4532	6°3882	2°8620	7°3008	3°2709	8°2134	3°6798	9°1260	4°0886	52
5°4749	2°4548	6°3873	2°8639	7°2998	3°2730	8°2123	3°6821	9°1248	4°0913	51
5°4742	2°4564	6°3865	2°8657	7°2989	3°2751	8°2112	3°6845	9°1236	4°0939	50
5°4734	2°4579	6°3857	2°8676	7°2979	3°2773	8°2102	3°6869	9°1224	4°0966	49
5°4727	2°4595	6°3848	2°8695	7°2970	3°2794	8°2091	3°6893	9°1212	4°0992	48
5°4720	2°4611	6°3840	2°8713	7°2960	3°2815	8°2080	3°6917	9°1200	4°1019	47
5°4713	2°4627	6°3832	2°8732	7°2951	3°2836	8°2069	3°6941	9°1188	4°1045	46
5°4706	2°4643	6°3823	2°8750	7°2941	3°2858	8°2059	3°6965	9°1176	4°1072	45
5°4699	2°4659	6°3815	2°8769	7°2931	3°2879	8°2048	3°6989	9°1164	4°1098	44
5°4691	2°4675	6°3807	2°8787	7°2922	3°2900	8°2037	3°7012	9°1152	4°1125	43
5°4684	2°4691	6°3798	2°8806	7°2912	3°2921	8°2026	3°7036	9°1140	4°1151	42
5°4677	2°4707	6°3790	2°8825	7°2903	3°2942	8°2016	3°7060	9°1128	4°1178	41
5°4670	2°4723	6°3781	2°8843	7°2893	3°2964	8°2005	3°7084	9°1116	4°1204	40
5°4663	2°4739	6°3773	2°8862	7°2884	3°2985	8°1994	3°7108	9°1104	4°1231	39
5°4655	2°4754	6°3765	2°8880	7°2874	3°3006	8°1983	3°7132	9°1092	4°1257	38
5°4648	2°4770	6°3756	2°8899	7°2864	3°3027	8°1972	3°7156	9°1080	4°1284	37
5°4641	2°4786	6°3748	2°8917	7°2855	3°3048	8°1962	3°7179	9°1068	4°1310	36
5°4634	2°4802	6°3739	2°8936	7°2845	3°3070	8°1951	3°7203	9°1056	4°1337	35
5°4627	2°4818	6°3731	2°8954	7°2835	3°3091	8°1940	3°7227	9°1044	4°1363	34
5°4619	2°4834	6°3723	2°8973	7°2826	3°3112	8°1929	3°7251	9°1032	4°1390	33
5°4612	2°4850	6°3714	2°8991	7°2816	3°3133	8°1918	3°7275	9°1020	4°1416	32
5°4605	2°4866	6°3706	2°9010	7°2807	3°3154	8°1907	3°7299	9°1008	4°1443	31
5°4598	2°4882	6°3697	2°9029	7°2797	3°3175	8°1897	3°7322	9°0996	4°1469	30
5°4590	2°4897	6°3689	2°9047	7°2787	3°3197	8°1886	3°7346	9°0984	4°1496	29
5°4583	2°4913	6°3680	2°9066	7°2778	3°3218	8°1875	3°7370	9°0972	4°1522	28
5°4576	2°4929	6°3672	2°9084	7°2768	3°3239	8°1864	3°7394	9°0960	4°1549	27
5°4569	2°4945	6°3663	2°9103	7°2758	3°3260	8°1853	3°7418	9°0948	4°1575	26
5°4561	2°4961	6°3655	2°9121	7°2749	3°3281	8°1842	3°7441	9°0936	4°1602	25
5°4554	2°4977	6°3647	2°9140	7°2739	3°3302	8°1831	3°7465	9°0924	4°1628	24
5°4547	2°4993	6°3638	2°9158	7°2729	3°3324	8°1820	3°7489	9°0912	4°1655	23
5°4540	2°5009	6°3630	2°9177	7°2720	3°3345	8°1809	3°7513	9°0899	4°1681	22
5°4532	2°5024	6°3621	2°9195	7°2710	3°3366	8°1799	3°7537	9°0887	4°1707	21
5°4525	2°5040	6°3613	2°9214	7°2700	3°3387	8°1788	3°7560	9°0875	4°1734	20
5°4518	2°5056	6°3604	2°9232	7°2690	3°3408	8°1777	3°7584	9°0863	4°1760	19
5°4510	2°5072	6°3596	2°9251	7°2681	3°3429	8°1766	3°7608	9°0851	4°1787	18
5°4503	2°5088	6°3587	2°9269	7°2671	3°3451	8°1755	3°7632	9°0839	4°1813	17
5°4496	2°5104	6°3579	2°9288	7°2661	3°3472	8°1744	3°7656	9°0826	4°1840	16
5°4489	2°5120	6°3570	2°9306	7°2651	3°3493	8°1733	3°7679	9°0814	4°1866	15
5°4481	2°5135	6°3561	2°9325	7°2642	3°3514	8°1722	3°7703	9°0802	4°1892	14
5°4474	2°5151	6°3553	2°9343	7°2632	3°3535	8°1711	3°7727	9°0790	4°1919	13
5°4467	2°5167	6°3544	2°9362	7°2622	3°3556	8°1700	3°7751	9°0778	4°1945	12
5°4459	2°5183	6°3536	2°9380	7°2612	3°3577	8°1689	3°7774	9°0766	4°1972	11
5°4452	2°5199	6°3527	2°9399	7°2603	3°3598	8°1678	3°7798	9°0753	4°1998	10
5°4445	2°5215	6°3519	2°9417	7°2593	3°3620	8°1667	3°7822	9°0741	4°2024	9
5°4437	2°5230	6°3510	2°9436	7°2583	3°3641	8°1656	3°7846	9°0729	4°2051	8
5°4430	2°5246	6°3502	2°9454	7°2573	3°3662	8°1645	3°7869	9°0717	4°2077	7
5°4423	2°5262	6°3493	2°9473	7°2564	3°3683	8°1634	3°7893	9°0704	4°2104	6
5°4415	2°5278	6°3485	2°9491	7°2554	3°3704	8°1623	3°7917	9°0692	4°2130	5
5°4408	2°5294	6°3476	2°9509	7°2544	3°3725	8°1612	3°7941	9°0680	4°2156	4
5°4401	2°5310	6°3467	2°9528	7°2534	3°3746	8°1601	3°7964	9°0668	4°2183	3
5°4393	2°5325	6°3459	2°9546	7°2524	3°3767	8°1590	3°7988	9°0655	4°2209	2
5°4386	2°5341	6°3450	2°9565	7°2514	3°3788	8°1579	3°8012	9°0643	4°2235	1
5°4378	2°5357	6°3442	2°9583	7°2505	3°3809	8°1568	3°8036	9°0631	4°2262	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

65 Degrees.

# 25 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°063	0°4226	1°8126	0°8452	2°7189	1°2679	3°6252	1°6905	4°5315	2°1131	
1	0°062	0°4229	1°8124	0°8458	2°7186	1°2686	3°6247	1°6915	4°5309	2°1144	
2	0°061	0°4231	1°8121	0°8463	2°7182	1°2694	3°6242	1°6926	4°5303	2°1157	
3	0°059	0°4234	1°8119	0°8468	2°7178	1°2702	3°6238	1°6936	4°5297	2°1170	
4	0°058	0°4237	1°8116	0°8473	2°7174	1°2710	3°6233	1°6947	4°5291	2°1184	
5	0°057	0°4239	1°8114	0°8479	2°7171	1°2718	3°6228	1°6957	4°5285	2°1197	
6	0°056	0°4242	1°8111	0°8484	2°7167	1°2726	3°6223	1°6968	4°5278	2°1210	
7	0°054	0°4245	1°8109	0°8489	2°7163	1°2734	3°6218	1°6979	4°5272	2°1223	
8	0°053	0°4247	1°8106	0°8495	2°7160	1°2742	3°6213	1°6989	4°5266	2°1236	
9	0°052	0°4250	1°8104	0°8500	2°7156	1°2750	3°6208	1°7000	4°5260	2°1249	
10	0°051	0°4253	1°8101	0°8505	2°7152	1°2758	3°6203	1°7010	4°5254	2°1263	
11	0°050	0°4255	1°8099	0°8510	2°7149	1°2765	3°6198	1°7021	4°5248	2°1276	
12	0°048	0°4258	1°8097	0°8516	2°7145	1°2773	3°6193	1°7031	4°5241	2°1289	
13	0°047	0°4260	1°8094	0°8521	2°7141	1°2781	3°6188	1°7042	4°5235	2°1302	
14	0°046	0°4263	1°8092	0°8526	2°7137	1°2789	3°6183	1°7052	4°5229	2°1315	
15	0°045	0°4266	1°8089	0°8531	2°7134	1°2797	3°6178	1°7063	4°5223	2°1328	
16	0°043	0°4268	1°8087	0°8537	2°7130	1°2805	3°6173	1°7073	4°5217	2°1342	
17	0°042	0°4271	1°8084	0°8542	2°7126	1°2813	3°6168	1°7084	4°5210	2°1355	
18	0°041	0°4274	1°8082	0°8547	2°7122	1°2821	3°6163	1°7094	4°5204	2°1368	
19	0°040	0°4276	1°8079	0°8552	2°7119	1°2829	3°6158	1°7105	4°5198	2°1381	
20	0°038	0°4279	1°8077	0°8558	2°7115	1°2837	3°6153	1°7115	4°5192	2°1394	
21	0°037	0°4281	1°8074	0°8563	2°7111	1°2844	3°6148	1°7126	4°5185	2°1407	
22	0°036	0°4284	1°8072	0°8568	2°7108	1°2852	3°6143	1°7136	4°5179	2°1420	
23	0°035	0°4287	1°8069	0°8573	2°7104	1°2860	3°6138	1°7147	4°5173	2°1434	
24	0°033	0°4289	1°8067	0°8579	2°7100	1°2868	3°6133	1°7157	4°5167	2°1447	
25	0°032	0°4292	1°8064	0°8584	2°7096	1°2876	3°6128	1°7168	4°5161	2°1460	
26	0°031	0°4295	1°8062	0°8589	2°7093	1°2884	3°6123	1°7178	4°5154	2°1473	
27	0°030	0°4297	1°8059	0°8594	2°7089	1°2892	3°6118	1°7189	4°5148	2°1486	
28	0°028	0°4300	1°8057	0°8600	2°7085	1°2900	3°6113	1°7199	4°5142	2°1499	
29	0°027	0°4302	1°8054	0°8605	2°7081	1°2907	3°6108	1°7210	4°5136	2°1512	
30	0°026	0°4305	1°8052	0°8610	2°7078	1°2915	3°6103	1°7220	4°5129	2°1526	
31	0°025	0°4308	1°8049	0°8615	2°7074	1°2923	3°6098	1°7231	4°5123	2°1539	
32	0°023	0°4310	1°8047	0°8621	2°7070	1°2931	3°6093	1°7241	4°5117	2°1552	
33	0°022	0°4313	1°8044	0°8626	2°7066	1°2939	3°6088	1°7252	4°5110	2°1565	
34	0°021	0°4316	1°8042	0°8631	2°7063	1°2947	3°6083	1°7262	4°5104	2°1578	
35	0°020	0°4318	1°8039	0°8636	2°7059	1°2955	3°6078	1°7273	4°5098	2°1591	
36	0°018	0°4321	1°8037	0°8642	2°7055	1°2963	3°6073	1°7283	4°5092	2°1604	
37	0°017	0°4323	1°8034	0°8647	2°7051	1°2970	3°6068	1°7294	4°5085	2°1617	
38	0°016	0°4326	1°8032	0°8652	2°7047	1°2978	3°6063	1°7304	4°5079	2°1631	
39	0°015	0°4329	1°8029	0°8657	2°7044	1°2986	3°6058	1°7315	4°5073	2°1644	
40	0°013	0°4331	1°8027	0°8663	2°7040	1°2994	3°6053	1°7325	4°5066	2°1657	
41	0°012	0°4334	1°8024	0°8668	2°7036	1°3002	3°6048	1°7336	4°5060	2°1670	
42	0°011	0°4337	1°8022	0°8673	2°7032	1°3010	3°6043	1°7346	4°5054	2°1683	
43	0°010	0°4339	1°8019	0°8678	2°7029	1°3018	3°6038	1°7357	4°5048	2°1696	
44	0°008	0°4342	1°8016	0°8684	2°7025	1°3025	3°6033	1°7367	4°5041	2°1709	
45	0°007	0°4344	1°8014	0°8689	2°7021	1°3033	3°6028	1°7378	4°5035	2°1722	
46	0°006	0°4347	1°8011	0°8694	2°7017	1°3041	3°6023	1°7388	4°5029	2°1735	
47	0°004	0°4350	1°8009	0°8699	2°7013	1°3049	3°6018	1°7399	4°5022	2°1748	
48	0°003	0°4352	1°8006	0°8705	2°7010	1°3057	3°6013	1°7409	4°5016	2°1762	
49	0°002	0°4355	1°8004	0°8710	2°7006	1°3065	3°6008	1°7420	4°5010	2°1775	
50	0°001	0°4358	1°8001	0°8715	2°7002	1°3073	3°6003	1°7430	4°5003	2°1788	
51	0°899	0°4360	1°7999	0°8720	2°6998	1°3080	3°5998	1°7441	4°4997	2°1801	
52	0°898	0°4363	1°7996	0°8726	2°6994	1°3088	3°5992	1°7451	4°4991	2°1814	
53	0°897	0°4365	1°7994	0°8731	2°6991	1°3096	3°5987	1°7462	4°4984	2°1827	
54	0°896	0°4368	1°7991	0°8736	2°6987	1°3104	3°5982	1°7472	4°4978	2°1840	
55	0°894	0°4371	1°7989	0°8741	2°6983	1°3112	3°5977	1°7483	4°4972	2°1853	
56	0°893	0°4373	1°7986	0°8747	2°6979	1°3120	3°5972	1°7493	4°4965	2°1866	
57	0°892	0°4376	1°7984	0°8752	2°6975	1°3128	3°5967	1°7503	4°4959	2°1879	
58	0°890	0°4378	1°7981	0°8757	2°6971	1°3135	3°5962	1°7514	4°4952	2°1892	
59	0°889	0°4381	1°7978	0°8762	2°6968	1°3143	3°5957	1°7524	4°4946	2°1905	
60	0°888	0°4384	1°7976	0°8767	2°6964	1°3151	3°5952	1°7535	4°4940	2°1919	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·4378	2·5357	6·3442	2·9583	7·2505	3·3809	8·1568	3·8036	9·0631	4·2262	60
5·4371	2·5373	6·3433	2·9602	7·2495	3·3831	8·1557	3·8059	9·0618	4·2288	59
5·4364	2·5389	6·3424	2·9620	7·2485	3·3852	8·1546	3·8083	9·0606	4·2315	58
5·4356	2·5405	6·3416	2·9639	7·2475	3·3873	8·1534	3·8107	9·0594	4·2341	57
5·4349	2·5420	6·3407	2·9657	7·2465	3·3894	8·1523	3·8131	9·0582	4·2367	56
5·4342	2·5436	6·3398	2·9676	7·2455	3·3915	8·1512	3·8154	9·0569	4·2394	55
5·4334	2·5452	6·3390	2·9694	7·2446	3·3936	8·1501	3·8178	9·0557	4·2420	54
5·4327	2·5468	6·3381	2·9712	7·2436	3·3957	8·1490	3·8202	9·0545	4·2446	53
5·4319	2·5484	6·3373	2·9731	7·2426	3·3978	8·1479	3·8225	9·0532	4·2473	52
5·4312	2·5499	6·3364	2·9749	7·2416	3·3999	8·1468	3·8249	9·0520	4·2499	51
5·4304	2·5515	6·3355	2·9768	7·2406	3·4020	8·1457	3·8273	9·0507	4·2525	50
5·4297	2·5531	6·3347	2·9786	7·2396	3·4041	8·1446	3·8296	9·0495	4·2552	49
5·4290	2·5547	6·3338	2·9805	7·2386	3·4062	8·1434	3·8320	9·0483	4·2578	48
5·4282	2·5563	6·3329	2·9823	7·2376	3·4083	8·1423	3·8344	9·0470	4·2604	47
5·4275	2·5578	6·3321	2·9841	7·2366	3·4104	8·1412	3·8368	9·0458	4·2631	46
5·4267	2·5594	6·3312	2·9860	7·2356	3·4125	8·1401	3·8391	9·0446	4·2657	45
5·4260	2·5610	6·3303	2·9878	7·2346	3·4147	8·1390	3·8415	9·0433	4·2683	44
5·4252	2·5626	6·3294	2·9897	7·2337	3·4168	8·1379	3·8439	9·0421	4·2709	43
5·4245	2·5641	6·3286	2·9915	7·2327	3·4189	8·1367	3·8462	9·0408	4·2736	42
5·4237	2·5657	6·3277	2·9933	7·2317	3·4210	8·1356	3·8486	9·0396	4·2762	41
5·4230	2·5673	6·3268	2·9952	7·2307	3·4231	8·1345	3·8510	9·0383	4·2788	40
5·4223	2·5689	6·3260	2·9970	7·2297	3·4252	8·1334	3·8533	9·0371	4·2815	39
5·4215	2·5705	6·3251	2·9989	7·2287	3·4273	8·1323	3·8557	9·0358	4·2841	38
5·4208	2·5720	6·3242	3·0007	7·2277	3·4294	8·1311	3·8581	9·0346	4·2867	37
5·4200	2·5736	6·3233	3·0025	7·2267	3·4315	8·1300	3·8604	9·0334	4·2894	36
5·4193	2·5752	6·3225	3·0044	7·2257	3·4336	8·1289	3·8628	9·0321	4·2920	35
5·4185	2·5768	6·3216	3·0062	7·2247	3·4357	8·1278	3·8651	9·0309	4·2946	34
5·4178	2·5783	6·3207	3·0081	7·2237	3·4378	8·1266	3·8675	9·0296	4·2972	33
5·4170	2·5799	6·3198	3·0099	7·2227	3·4399	8·1255	3·8699	9·0284	4·2999	32
5·4163	2·5815	6·3190	3·0117	7·2217	3·4420	8·1244	3·8722	9·0271	4·3025	31
5·4155	2·5831	6·3181	3·0136	7·2207	3·4441	8·1233	3·8746	9·0259	4·3051	30
5·4148	2·5846	6·3172	3·0154	7·2197	3·4462	8·1221	3·8770	9·0246	4·3077	29
5·4140	2·5862	6·3163	3·0173	7·2187	3·4483	8·1210	3·8793	9·0233	4·3104	28
5·4133	2·5878	6·3155	3·0191	7·2177	3·4504	8·1199	3·8817	9·0221	4·3130	27
5·4125	2·5894	6·3146	3·0209	7·2167	3·4525	8·1188	3·8840	9·0208	4·3156	26
5·4117	2·5909	6·3137	3·0228	7·2157	3·4546	8·1176	3·8864	9·0196	4·3182	25
5·4110	2·5925	6·3128	3·0246	7·2147	3·4567	8·1165	3·8888	9·0183	4·3209	24
5·4102	2·5941	6·3119	3·0264	7·2137	3·4588	8·1154	3·8911	9·0171	4·3235	23
5·4095	2·5957	6·3111	3·0283	7·2126	3·4609	8·1142	3·8935	9·0158	4·3261	22
5·4087	2·5972	6·3102	3·0301	7·2116	3·4630	8·1131	3·8959	9·0146	4·3287	21
5·4080	2·5988	6·3093	3·0319	7·2106	3·4651	8·1120	3·8982	9·0133	4·3313	20
5·4072	2·6004	6·3084	3·0338	7·2096	3·4672	8·1108	3·9006	9·0120	4·3340	19
5·4065	2·6020	6·3075	3·0356	7·2086	3·4693	8·1097	3·9029	9·0108	4·3366	18
5·4057	2·6035	6·3067	3·0374	7·2076	3·4714	8·1086	3·9053	9·0095	4·3392	17
5·4049	2·6051	6·3058	3·0393	7·2066	3·4735	8·1074	3·9076	9·0082	4·3418	16
5·4042	2·6067	6·3049	3·0411	7·2056	3·4756	8·1063	3·9100	9·0070	4·3445	15
5·4034	2·6082	6·3040	3·0430	7·2046	3·4777	8·1051	3·9124	9·0057	4·3471	14
5·4027	2·6098	6·3031	3·0448	7·2036	3·4798	8·1040	3·9147	9·0045	4·3497	13
5·4019	2·6114	6·3022	3·0466	7·2026	3·4818	8·1029	3·9171	9·0032	4·3523	12
5·4012	2·6130	6·3013	3·0485	7·2015	3·4839	8·1017	3·9194	9·0019	4·3549	11
5·4004	2·6145	6·3005	3·0503	7·2005	3·4860	8·1006	3·9218	9·0007	4·3575	10
5·3996	2·6161	6·2996	3·0521	7·1995	3·4881	8·0994	3·9241	8·9994	4·3602	9
5·3989	2·6177	6·2987	3·0539	7·1985	3·4902	8·0983	3·9265	8·9981	4·3628	8
5·3981	2·6192	6·2978	3·0558	7·1975	3·4923	8·0972	3·9289	8·9968	4·3654	7
5·3973	2·6208	6·2969	3·0576	7·1965	3·4944	8·0960	3·9312	8·9956	4·3680	6
5·3966	2·6224	6·2960	3·0594	7·1954	3·4965	8·0949	3·9336	8·9943	4·3706	5
5·3958	2·6240	6·2951	3·0613	7·1944	3·4986	8·0937	3·9359	8·9930	4·3733	4
5·3951	2·6255	6·2942	3·0631	7·1934	3·5007	8·0926	3·9383	8·9918	4·3759	3
5·3943	2·6271	6·2933	3·0649	7·1924	3·5028	8·0914	3·9406	8·9905	4·3785	2
5·3935	2·6287	6·2925	3·0668	7·1914	3·5049	8·0903	3·9430	8·9892	4·3811	1
5·3928	2·6302	6·2916	3·0686	7·1904	3·5070	8·0891	3·9453	8·9879	4·3837	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.



# 26 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·8988	0·4384	1·7976	0·8767	2·6964	1·3151	3·5952	1·7535	4·4940	2·1919	
1	0·8987	0·4386	1·7973	0·8773	2·6960	1·3159	3·5947	1·7545	4·4933	2·1932	
2	0·8985	0·4389	1·7971	0·8778	2·6956	1·3167	3·5942	1·7556	4·4927	2·1945	
3	0·8984	0·4392	1·7968	0·8783	2·6952	1·3175	3·5936	1·7566	4·4921	2·1958	
4	0·8983	0·4394	1·7966	0·8788	2·6949	1·3182	3·5931	1·7577	4·4914	2·1971	
5	0·8982	0·4397	1·7963	0·8794	2·6945	1·3190	3·5926	1·7587	4·4908	2·1984	
6	0·8980	0·4399	1·7961	0·8799	2·6941	1·3198	3·5921	1·7598	4·4901	2·1997	
7	0·8979	0·4402	1·7958	0·8804	2·6937	1·3206	3·5916	1·7608	4·4895	2·2010	
8	0·8978	0·4405	1·7955	0·8809	2·6933	1·3214	3·5911	1·7618	4·4889	2·2023	
9	0·8976	0·4407	1·7953	0·8814	2·6929	1·3222	3·5906	1·7629	4·4882	2·2036	
10	0·8975	0·4410	1·7950	0·8820	2·6925	1·3230	3·5901	1·7639	4·4876	2·2049	
11	0·8974	0·4412	1·7948	0·8825	2·6922	1·3237	3·5895	1·7650	4·4869	2·2062	
12	0·8973	0·4415	1·7945	0·8830	2·6918	1·3245	3·5890	1·7660	4·4863	2·2075	
13	0·8971	0·4418	1·7943	0·8835	2·6914	1·3253	3·5885	1·7671	4·4856	2·2088	
14	0·8970	0·4420	1·7940	0·8841	2·6910	1·3261	3·5880	1·7681	4·4850	2·2101	
15	0·8969	0·4423	1·7937	0·8846	2·6906	1·3269	3·5875	1·7692	4·4844	2·2114	
16	0·8967	0·4425	1·7935	0·8851	2·6902	1·3276	3·5870	1·7702	4·4837	2·2127	
17	0·8966	0·4428	1·7932	0·8856	2·6898	1·3284	3·5865	1·7712	4·4831	2·2141	
18	0·8965	0·4431	1·7930	0·8861	2·6895	1·3292	3·5860	1·7723	4·4824	2·2154	
19	0·8964	0·4433	1·7927	0·8867	2·6891	1·3300	3·5854	1·7733	4·4818	2·2167	
20	0·8962	0·4436	1·7925	0·8872	2·6887	1·3308	3·5849	1·7744	4·4811	2·2180	
21	0·8961	0·4439	1·7922	0·8877	2·6883	1·3316	3·5844	1·7754	4·4805	2·2193	
22	0·8960	0·4441	1·7919	0·8882	2·6879	1·3323	3·5839	1·7765	4·4799	2·2206	
23	0·8958	0·4444	1·7917	0·8887	2·6875	1·3331	3·5834	1·7775	4·4792	2·2219	
24	0·8957	0·4446	1·7914	0·8893	2·6871	1·3339	3·5828	1·7785	4·4786	2·2232	
25	0·8956	0·4449	1·7912	0·8898	2·6867	1·3347	3·5823	1·7796	4·4779	2·2245	
26	0·8955	0·4452	1·7909	0·8903	2·6864	1·3355	3·5818	1·7806	4·4773	2·2258	
27	0·8953	0·4454	1·7906	0·8908	2·6860	1·3363	3·5813	1·7817	4·4766	2·2271	
28	0·8952	0·4457	1·7904	0·8914	2·6856	1·3370	3·5808	1·7827	4·4760	2·2284	
29	0·8951	0·4459	1·7901	0·8919	2·6852	1·3378	3·5803	1·7838	4·4753	2·2297	
30	0·8949	0·4462	1·7899	0·8924	2·6848	1·3386	3·5797	1·7848	4·4747	2·2310	
31	0·8948	0·4465	1·7896	0·8929	2·6844	1·3394	3·5792	1·7858	4·4740	2·2323	
32	0·8947	0·4467	1·7893	0·8934	2·6840	1·3402	3·5787	1·7869	4·4734	2·2336	
33	0·8945	0·4470	1·7891	0·8940	2·6836	1·3409	3·5782	1·7879	4·4727	2·2349	
34	0·8944	0·4472	1·7888	0·8945	2·6832	1·3417	3·5777	1·7890	4·4721	2·2362	
35	0·8943	0·4475	1·7886	0·8950	2·6829	1·3425	3·5771	1·7900	4·4714	2·2375	
36	0·8942	0·4478	1·7883	0·8955	2·6825	1·3433	3·5766	1·7910	4·4708	2·2388	
37	0·8940	0·4480	1·7880	0·8960	2·6821	1·3441	3·5761	1·7921	4·4701	2·2401	
38	0·8939	0·4483	1·7878	0·8966	2·6817	1·3448	3·5756	1·7931	4·4695	2·2414	
39	0·8938	0·4485	1·7875	0·8971	2·6813	1·3456	3·5751	1·7942	4·4688	2·2427	
40	0·8936	0·4488	1·7873	0·8976	2·6809	1·3464	3·5745	1·7952	4·4682	2·2440	
41	0·8935	0·4491	1·7870	0·8981	2·6805	1·3472	3·5740	1·7962	4·4675	2·2453	
42	0·8934	0·4493	1·7867	0·8986	2·6801	1·3480	3·5735	1·7973	4·4669	2·2466	
43	0·8932	0·4496	1·7865	0·8992	2·6797	1·3487	3·5730	1·7983	4·4662	2·2479	
44	0·8931	0·4498	1·7862	0·8997	2·6793	1·3495	3·5724	1·7994	4·4655	2·2492	
45	0·8930	0·4501	1·7860	0·9002	2·6789	1·3503	3·5719	1·8004	4·4649	2·2505	
46	0·8928	0·4504	1·7857	0·9007	2·6785	1·3511	3·5714	1·8014	4·4642	2·2518	
47	0·8927	0·4506	1·7854	0·9012	2·6782	1·3519	3·5709	1·8025	4·4636	2·2531	
48	0·8926	0·4509	1·7852	0·9018	2·6778	1·3526	3·5703	1·8035	4·4629	2·2544	
49	0·8925	0·4511	1·7849	0·9023	2·6774	1·3534	3·5698	1·8045	4·4623	2·2557	
50	0·8923	0·4514	1·7846	0·9028	2·6770	1·3542	3·5693	1·8056	4·4616	2·2570	
51	0·8922	0·4517	1·7844	0·9033	2·6766	1·3550	3·5688	1·8066	4·4610	2·2583	
52	0·8921	0·4519	1·7841	0·9038	2·6762	1·3557	3·5682	1·8077	4·4603	2·2596	
53	0·8919	0·4522	1·7839	0·9044	2·6758	1·3565	3·5677	1·8087	4·4596	2·2609	
54	0·8918	0·4524	1·7836	0·9049	2·6754	1·3573	3·5672	1·8097	4·4590	2·2622	
55	0·8917	0·4527	1·7833	0·9054	2·6750	1·3581	3·5667	1·8108	4·4583	2·2635	
56	0·8915	0·4530	1·7831	0·9059	2·6746	1·3589	3·5661	1·8118	4·4577	2·2648	
57	0·8914	0·4532	1·7828	0·9064	2·6742	1·3596	3·5656	1·8129	4·4570	2·2661	
58	0·8913	0·4535	1·7825	0·9069	2·6738	1·3604	3·5651	1·8139	4·4564	2·2674	
59	0·8911	0·4537	1·7823	0·9075	2·6734	1·3612	3·5646	1·8149	4·4557	2·2687	
60	0·8910	0·4540	1·7820	0·9080	2·6730	1·3620	3·5640	1·8160	4·4550	2·2700	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-3928	2-6302	6-2916	3-0686	7-1904	3-5070	8-0891	3-9453	8-9879	4-3837	60
5-3920	2-6318	6-2907	3-0704	7-1893	3-5091	8-0880	3-9477	8-9867	4-3863	59
5-3912	2-6334	6-2898	3-0723	7-1883	3-5112	8-0869	3-9500	8-9854	4-3889	58
5-3905	2-6349	6-2889	3-0741	7-1873	3-5132	8-0857	3-9524	8-9841	4-3916	57
5-3897	2-6365	6-2880	3-0759	7-1863	3-5153	8-0846	3-9547	8-9828	4-3942	56
5-3889	2-6381	6-2871	3-0777	7-1852	3-5174	8-0834	3-9571	8-9816	4-3968	55
5-3882	2-6396	6-2862	3-0796	7-1842	3-5195	8-0822	3-9595	8-9803	4-3994	54
5-3874	2-6412	6-2853	3-0814	7-1832	3-5216	8-0811	3-9618	8-9790	4-4020	53
5-3866	2-6428	6-2844	3-0832	7-1822	3-5237	8-0799	3-9642	8-9777	4-4046	52
5-3859	2-6443	6-2835	3-0851	7-1811	3-5258	8-0788	3-9665	8-9764	4-4072	51
5-3851	2-6459	6-2826	3-0869	7-1801	3-5279	8-0776	3-9689	8-9752	4-4098	50
5-3843	2-6475	6-2817	3-0887	7-1791	3-5300	8-0765	3-9712	8-9739	4-4124	49
5-3836	2-6490	6-2808	3-0905	7-1781	3-5320	8-0753	3-9736	8-9726	4-4151	48
5-3828	2-6506	6-2799	3-0924	7-1770	3-5341	8-0742	3-9759	8-9713	4-4177	47
5-3820	2-6522	6-2790	3-0942	7-1760	3-5362	8-0730	3-9783	8-9700	4-4203	46
5-3812	2-6537	6-2781	3-0960	7-1750	3-5383	8-0719	3-9806	8-9687	4-4229	45
5-3805	2-6553	6-2772	3-0978	7-1740	3-5404	8-0707	3-9829	8-9674	4-4255	44
5-3797	2-6569	6-2763	3-0997	7-1729	3-5425	8-0695	3-9853	8-9662	4-4281	43
5-3789	2-6584	6-2754	3-1015	7-1719	3-5446	8-0684	3-9876	8-9649	4-4307	42
5-3781	2-6600	6-2745	3-1033	7-1709	3-5467	8-0672	3-9900	8-9636	4-4333	41
5-3774	2-6616	6-2736	3-1051	7-1698	3-5487	8-0661	3-9923	8-9623	4-4359	40
5-3766	2-6631	6-2727	3-1070	7-1688	3-5508	8-0649	3-9947	8-9610	4-4385	39
5-3758	2-6647	6-2718	3-1088	7-1678	3-5529	8-0637	3-9970	8-9597	4-4411	38
5-3750	2-6662	6-2709	3-1106	7-1667	3-5550	8-0626	3-9994	8-9584	4-4437	37
5-3743	2-6678	6-2700	3-1124	7-1657	3-5571	8-0614	4-0017	8-9571	4-4464	36
5-3735	2-6694	6-2691	3-1143	7-1647	3-5592	8-0602	4-0041	8-9558	4-4490	35
5-3727	2-6709	6-2682	3-1161	7-1636	3-5612	8-0591	4-0064	8-9545	4-4516	34
5-3719	2-6725	6-2673	3-1179	7-1626	3-5633	8-0579	4-0088	8-9532	4-4542	33
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5-3704	2-6756	6-2654	3-1216	7-1605	3-5675	8-0556	4-0134	8-9506	4-4594	31
5-3696	2-6772	6-2645	3-1234	7-1595	3-5696	8-0544	4-0158	8-9493	4-4620	30
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5-3665	2-6834	6-2609	3-1307	7-1553	3-5779	8-0497	4-0251	8-9441	4-4724	26
5-3657	2-6850	6-2600	3-1325	7-1543	3-5800	8-0486	4-0275	8-9428	4-4750	25
5-3649	2-6866	6-2591	3-1343	7-1532	3-5821	8-0474	4-0298	8-9415	4-4776	24
5-3641	2-6881	6-2582	3-1361	7-1522	3-5842	8-0462	4-0322	8-9402	4-4802	23
5-3634	2-6897	6-2573	3-1380	7-1511	3-5862	8-0450	4-0345	8-9389	4-4828	22
5-3626	2-6912	6-2563	3-1398	7-1501	3-5883	8-0439	4-0369	8-9376	4-4854	21
5-3618	2-6928	6-2554	3-1416	7-1491	3-5904	8-0427	4-0392	8-9363	4-4880	20
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5-3602	2-6959	6-2536	3-1452	7-1470	3-5946	8-0403	4-0439	8-9337	4-4932	18
5-3594	2-6975	6-2527	3-1471	7-1459	3-5966	8-0392	4-0462	8-9324	4-4958	17
5-3587	2-6990	6-2518	3-1489	7-1449	3-5987	8-0380	4-0485	8-9311	4-4984	16
5-3579	2-7006	6-2509	3-1507	7-1438	3-6008	8-0368	4-0509	8-9298	4-5010	15
5-3571	2-7021	6-2499	3-1525	7-1428	3-6029	8-0356	4-0532	8-9285	4-5036	14
5-3563	2-7037	6-2490	3-1543	7-1417	3-6049	8-0345	4-0556	8-9272	4-5062	13
5-3555	2-7053	6-2481	3-1561	7-1407	3-6070	8-0333	4-0579	8-9259	4-5088	12
5-3547	2-7068	6-2472	3-1580	7-1396	3-6091	8-0321	4-0602	8-9245	4-5114	11
5-3539	2-7084	6-2463	3-1598	7-1386	3-6112	8-0309	4-0626	8-9232	4-5140	10
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5-3500	2-7162	6-2417	3-1689	7-1333	3-6216	8-0250	4-0742	8-9167	4-5269	5
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5-3484	2-7193	6-2398	3-1725	7-1312	3-6257	8-0226	4-0789	8-9140	4-5321	3
5-3476	2-7208	6-2389	3-1743	7-1302	3-6278	8-0214	4-0812	8-9127	4-5347	2
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5-3460	2-7239	6-2370	3-1779	7-1281	3-6319	8-0191	4-0859	8-9101	4-5399	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 27 Degrees.

Dist.	1		2		3		4		5	
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2	0°8907	0°4545	1°7815	0°9090	2°6722	1°3635	3°5630	1°8180	4°4537	2°2725
3	0°8906	0°4548	1°7812	0°9095	2°6718	1°3643	3°5624	1°8191	4°4531	2°2738
4	0°8905	0°4550	1°7810	0°9101	2°6714	1°3651	3°5619	1°8201	4°4524	2°2751
5	0°8903	0°4553	1°7807	0°9106	2°6710	1°3659	3°5614	1°8211	4°4517	2°2764
6	0°8902	0°4555	1°7804	0°9111	2°6706	1°3666	3°5609	1°8222	4°4511	2°2777
7	0°8901	0°4558	1°7802	0°9116	2°6702	1°3674	3°5603	1°8232	4°4504	2°2790
8	0°8899	0°4561	1°7799	0°9121	2°6698	1°3682	3°5598	1°8243	4°4497	2°2803
9	0°8898	0°4563	1°7796	0°9126	2°6694	1°3690	3°5593	1°8253	4°4491	2°2816
10	0°8897	0°4566	1°7794	0°9132	2°6690	1°3697	3°5587	1°8263	4°4484	2°2829
11	0°8895	0°4568	1°7791	0°9137	2°6686	1°3705	3°5582	1°8274	4°4477	2°2842
12	0°8894	0°4571	1°7788	0°9142	2°6682	1°3713	3°5577	1°8284	4°4471	2°2855
13	0°8893	0°4574	1°7786	0°9147	2°6679	1°3721	3°5571	1°8294	4°4464	2°2868
14	0°8892	0°4576	1°7783	0°9152	2°6675	1°3728	3°5566	1°8305	4°4458	2°2881
15	0°8890	0°4579	1°7780	0°9157	2°6671	1°3736	3°5561	1°8315	4°4451	2°2894
16	0°8889	0°4581	1°7778	0°9163	2°6667	1°3744	3°5555	1°8325	4°4444	2°2907
17	0°8888	0°4584	1°7775	0°9168	2°6663	1°3752	3°5550	1°8336	4°4438	2°2920
18	0°8886	0°4586	1°7772	0°9173	2°6659	1°3759	3°5545	1°8346	4°4431	2°2932
19	0°8885	0°4589	1°7770	0°9178	2°6655	1°3767	3°5539	1°8356	4°4424	2°2945
20	0°8884	0°4592	1°7767	0°9183	2°6651	1°3775	3°5534	1°8367	4°4418	2°2958
21	0°8882	0°4594	1°7764	0°9188	2°6646	1°3783	3°5529	1°8377	4°4411	2°2971
22	0°8881	0°4597	1°7762	0°9194	2°6642	1°3790	3°5523	1°8387	4°4404	2°2984
23	0°8879	0°4599	1°7759	0°9199	2°6638	1°3798	3°5518	1°8398	4°4397	2°2997
24	0°8878	0°4602	1°7756	0°9204	2°6634	1°3806	3°5513	1°8408	4°4391	2°3010
25	0°8877	0°4605	1°7754	0°9209	2°6630	1°3814	3°5507	1°8418	4°4384	2°3023
26	0°8875	0°4607	1°7751	0°9214	2°6626	1°3821	3°5502	1°8429	4°4377	2°3036
27	0°8874	0°4610	1°7748	0°9219	2°6622	1°3829	3°5497	1°8439	4°4371	2°3049
28	0°8873	0°4612	1°7746	0°9225	2°6618	1°3837	3°5491	1°8449	4°4364	2°3062
29	0°8871	0°4615	1°7743	0°9230	2°6614	1°3845	3°5486	1°8460	4°4357	2°3075
30	0°8870	0°4617	1°7740	0°9235	2°6610	1°3852	3°5480	1°8470	4°4351	2°3087
31	0°8869	0°4620	1°7738	0°9240	2°6606	1°3860	3°5475	1°8480	4°4344	2°3100
32	0°8867	0°4623	1°7735	0°9245	2°6602	1°3868	3°5470	1°8491	4°4337	2°3113
33	0°8866	0°4625	1°7732	0°9250	2°6598	1°3876	3°5464	1°8501	4°4330	2°3126
34	0°8865	0°4628	1°7729	0°9256	2°6594	1°3883	3°5459	1°8511	4°4324	2°3139
35	0°8863	0°4630	1°7727	0°9261	2°6590	1°3891	3°5454	1°8522	4°4317	2°3152
36	0°8862	0°4633	1°7724	0°9266	2°6586	1°3899	3°5448	1°8532	4°4310	2°3165
37	0°8861	0°4636	1°7721	0°9271	2°6582	1°3907	3°5443	1°8542	4°4303	2°3178
38	0°8859	0°4638	1°7719	0°9276	2°6578	1°3914	3°5437	1°8552	4°4297	2°3191
39	0°8858	0°4641	1°7716	0°9281	2°6574	1°3922	3°5432	1°8563	4°4290	2°3203
40	0°8857	0°4643	1°7713	0°9287	2°6570	1°3930	3°5427	1°8573	4°4283	2°3216
41	0°8855	0°4646	1°7711	0°9292	2°6566	1°3938	3°5421	1°8583	4°4276	2°3229
42	0°8854	0°4648	1°7708	0°9297	2°6562	1°3945	3°5416	1°8594	4°4270	2°3242
43	0°8853	0°4651	1°7705	0°9302	2°6558	1°3953	3°5410	1°8604	4°4263	2°3255
44	0°8851	0°4654	1°7702	0°9307	2°6554	1°3961	3°5405	1°8614	4°4256	2°3268
45	0°8850	0°4656	1°7700	0°9312	2°6550	1°3968	3°5400	1°8625	4°4249	2°3281
46	0°8849	0°4659	1°7697	0°9317	2°6546	1°3976	3°5394	1°8635	4°4243	2°3294
47	0°8847	0°4661	1°7694	0°9323	2°6541	1°3984	3°5389	1°8645	4°4236	2°3306
48	0°8846	0°4664	1°7692	0°9328	2°6537	1°3992	3°5383	1°8655	4°4229	2°3319
49	0°8844	0°4666	1°7689	0°9333	2°6533	1°3999	3°5378	1°8666	4°4222	2°3332
50	0°8843	0°4669	1°7686	0°9338	2°6529	1°4007	3°5372	1°8676	4°4215	2°3345
51	0°8842	0°4672	1°7683	0°9343	2°6525	1°4015	3°5367	1°8686	4°4209	2°3358
52	0°8840	0°4674	1°7681	0°9348	2°6521	1°4022	3°5362	1°8697	4°4202	2°3371
53	0°8839	0°4677	1°7678	0°9353	2°6517	1°4030	3°5356	1°8707	4°4195	2°3384
54	0°8838	0°4679	1°7675	0°9359	2°6513	1°4038	3°5351	1°8717	4°4188	2°3396
55	0°8836	0°4682	1°7673	0°9364	2°6509	1°4046	3°5345	1°8727	4°4181	2°3409
56	0°8835	0°4684	1°7670	0°9369	2°6505	1°4053	3°5340	1°8738	4°4175	2°3422
57	0°8834	0°4687	1°7667	0°9374	2°6501	1°4061	3°5334	1°8748	4°4168	2°3435
58	0°8832	0°4690	1°7664	0°9379	2°6497	1°4069	3°5329	1°8758	4°4161	2°3448
59	0°8831	0°4692	1°7662	0°9384	2°6493	1°4076	3°5323	1°8769	4°4154	2°3461
60	0°8829	0°4695	1°7659	0°9389	2°6488	1°4084	3°5318	1°8779	4°4147	2°3474
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-3460	2-7289	6-2370	3-1779	7-1281	3-6319	8-0191	4-0859	8-9101	4-5399	60
5-3452	2-7255	6-2361	3-1797	7-1270	3-6340	8-0179	4-0882	8-9087	4-5425	59
5-3445	2-7271	6-2352	3-1816	7-1259	3-6361	8-0167	4-0906	8-9074	4-5451	58
5-3437	2-7286	6-2343	3-1834	7-1249	3-6381	8-0155	4-0929	8-9061	4-5477	57
5-3429	2-7302	6-2333	3-1852	7-1238	3-6402	8-0143	4-0952	8-9048	4-5503	56
5-3421	2-7317	6-2324	3-1870	7-1228	3-6423	8-0131	4-0976	8-9035	4-5529	55
5-3413	2-7333	6-2315	3-1888	7-1217	3-6444	8-0119	4-0999	8-9021	4-5554	54
5-3405	2-7348	6-2306	3-1906	7-1206	3-6464	8-0107	4-1022	8-9008	4-5580	53
5-3397	2-7364	6-2296	3-1924	7-1196	3-6485	8-0095	4-1046	8-8995	4-5606	52
5-3389	2-7379	6-2287	3-1943	7-1185	3-6506	8-0083	4-1069	8-8981	4-5632	51
5-3381	2-7395	6-2278	3-1961	7-1175	3-6526	8-0071	4-1092	8-8968	4-5658	50
5-3373	2-7410	6-2268	3-1979	7-1164	3-6547	8-0059	4-1116	8-8955	4-5684	49
5-3365	2-7426	6-2259	3-1997	7-1153	3-6568	8-0047	4-1139	8-8942	4-5710	48
5-3357	2-7441	6-2250	3-2015	7-1143	3-6589	8-0036	4-1162	8-8928	4-5736	47
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5-3341	2-7472	6-2231	3-2051	7-1121	3-6630	8-0012	4-1209	8-8902	4-5787	45
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5-3301	2-7550	6-2185	3-2142	7-1068	3-6733	7-9952	4-1325	8-8835	4-5917	40
5-3293	2-7565	6-2175	3-2160	7-1057	3-6754	7-9939	4-1348	8-8822	4-5942	39
5-3285	2-7581	6-2166	3-2178	7-1047	3-6775	7-9927	4-1371	8-8808	4-5968	38
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5-3261	2-7627	6-2138	3-2232	7-1015	3-6837	7-9891	4-1441	8-8768	4-6046	35
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5-3237	2-7674	6-2110	3-2286	7-0982	3-6899	7-9855	4-1511	8-8728	4-6123	32
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5-3180	2-7782	6-2044	3-2413	7-0907	3-7043	7-9770	4-1673	8-8634	4-6304	25
5-3172	2-7798	6-2034	3-2431	7-0896	3-7064	7-9758	4-1697	8-8620	4-6330	24
5-3164	2-7813	6-2025	3-2449	7-0886	3-7084	7-9746	4-1720	8-8607	4-6355	23
5-3156	2-7829	6-2015	3-2467	7-0875	3-7105	7-9734	4-1743	8-8593	4-6381	22
5-3148	2-7844	6-2006	3-2485	7-0864	3-7126	7-9722	4-1766	8-8580	4-6407	21
5-3140	2-7860	6-1996	3-2503	7-0853	3-7146	7-9710	4-1789	8-8566	4-6433	20
5-3132	2-7875	6-1987	3-2521	7-0842	3-7167	7-9698	4-1813	8-8553	4-6458	19
5-3124	2-7891	6-1978	3-2539	7-0831	3-7187	7-9685	4-1836	8-8539	4-6484	18
5-3116	2-7906	6-1968	3-2557	7-0821	3-7208	7-9673	4-1859	8-8526	4-6510	17
5-3107	2-7921	6-1959	3-2575	7-0810	3-7229	7-9661	4-1882	8-8512	4-6536	16
5-3099	2-7937	6-1949	3-2593	7-0799	3-7249	7-9649	4-1905	8-8499	4-6561	15
5-3091	2-7952	6-1940	3-2611	7-0788	3-7270	7-9637	4-1928	8-8485	4-6587	14
5-3083	2-7968	6-1930	3-2629	7-0777	3-7290	7-9624	4-1952	8-8472	4-6613	13
5-3075	2-7983	6-1921	3-2647	7-0766	3-7311	7-9612	4-1975	8-8458	4-6639	12
5-3067	2-7999	6-1911	3-2665	7-0756	3-7332	7-9600	4-1998	8-8445	4-6664	11
5-3059	2-8014	6-1902	3-2683	7-0745	3-7352	7-9588	4-2021	8-8431	4-6690	10
5-3050	2-8030	6-1892	3-2701	7-0734	3-7373	7-9576	4-2044	8-8417	4-6716	9
5-3042	2-8045	6-1883	3-2719	7-0723	3-7393	7-9563	4-2067	8-8404	4-6742	8
5-3034	2-8060	6-1873	3-2737	7-0712	3-7414	7-9551	4-2091	8-8390	4-6767	7
5-3026	2-8076	6-1864	3-2755	7-0701	3-7434	7-9539	4-2114	8-8377	4-6793	6
5-3018	2-8091	6-1854	3-2773	7-0690	3-7455	7-9527	4-2137	8-8363	4-6819	5
5-3010	2-8107	6-1845	3-2791	7-0679	3-7476	7-9514	4-2160	8-8349	4-6844	4
5-3001	2-8122	6-1835	3-2809	7-0669	3-7496	7-9502	4-2183	8-8336	4-6870	3
5-2993	2-8137	6-1825	3-2827	7-0658	3-7517	7-9490	4-2206	8-8322	4-6896	2
5-2985	2-8153	6-1816	3-2845	7-0647	3-7537	7-9478	4-2229	8-8308	4-6921	1
5-2977	2-8168	6-1806	3-2863	7-0636	3-7558	7-9465	4-2252	8-8295	4-6947	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

62 Degrees.

# 28 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·8829	0·4695	1·7659	0·9389	2·6488	1·4084	3·5318	1·8779	4·4147	2·3474	
1	0·8828	0·4697	1·7656	0·9395	2·6484	1·4092	3·5312	1·8789	4·4141	2·3486	
2	0·8827	0·4700	1·7653	0·9400	2·6480	1·4100	3·5307	1·8799	4·4134	2·3499	
3	0·8825	0·4702	1·7651	0·9405	2·6476	1·4107	3·5302	1·8810	4·4127	2·3512	
4	0·8824	0·4705	1·7648	0·9410	2·6472	1·4115	3·5296	1·8820	4·4120	2·3525	
5	0·8823	0·4708	1·7645	0·9415	2·6468	1·4123	3·5291	1·8830	4·4113	2·3538	
6	0·8821	0·4710	1·7643	0·9420	2·6464	1·4130	3·5285	1·8840	4·4106	2·3551	
7	0·8820	0·4713	1·7640	0·9425	2·6460	1·4138	3·5280	1·8851	4·4099	2·3563	
8	0·8819	0·4715	1·7637	0·9431	2·6456	1·4146	3·5274	1·8861	4·4093	2·3576	
9	0·8817	0·4718	1·7634	0·9436	2·6451	1·4153	3·5269	1·8871	4·4086	2·3589	
10	0·8816	0·4720	1·7632	0·9441	2·6447	1·4161	3·5263	1·8882	4·4079	2·3602	
11	0·8814	0·4723	1·7629	0·9446	2·6443	1·4169	3·5258	1·8892	4·4072	2·3615	
12	0·8813	0·4726	1·7626	0·9451	2·6439	1·4177	3·5252	1·8902	4·4065	2·3628	
13	0·8812	0·4728	1·7623	0·9456	2·6435	1·4184	3·5247	1·8912	4·4058	2·3640	
14	0·8810	0·4731	1·7621	0·9461	2·6431	1·4192	3·5241	1·8923	4·4051	2·3653	
15	0·8809	0·4733	1·7618	0·9466	2·6427	1·4200	3·5236	1·8933	4·4045	2·3666	
16	0·8808	0·4736	1·7615	0·9472	2·6423	1·4207	3·5230	1·8943	4·4038	2·3679	
17	0·8806	0·4738	1·7612	0·9477	2·6418	1·4215	3·5225	1·8953	4·4031	2·3692	
18	0·8805	0·4741	1·7610	0·9482	2·6414	1·4223	3·5219	1·8964	4·4024	2·3704	
19	0·8803	0·4743	1·7607	0·9487	2·6410	1·4230	3·5214	1·8974	4·4017	2·3717	
20	0·8802	0·4746	1·7604	0·9492	2·6406	1·4238	3·5208	1·8984	4·4010	2·3730	
21	0·8801	0·4749	1·7601	0·9497	2·6402	1·4246	3·5203	1·8994	4·4003	2·3743	
22	0·8799	0·4751	1·7599	0·9502	2·6398	1·4253	3·5197	1·9004	4·3996	2·3756	
23	0·8798	0·4754	1·7596	0·9507	2·6394	1·4261	3·5191	1·9015	4·3989	2·3768	
24	0·8796	0·4756	1·7593	0·9512	2·6389	1·4269	3·5186	1·9025	4·3982	2·3781	
25	0·8795	0·4759	1·7590	0·9518	2·6385	1·4276	3·5180	1·9035	4·3976	2·3794	
26	0·8794	0·4761	1·7587	0·9523	2·6381	1·4284	3·5175	1·9045	4·3969	2·3807	
27	0·8792	0·4764	1·7585	0·9528	2·6377	1·4292	3·5169	1·9056	4·3962	2·3820	
28	0·8791	0·4766	1·7582	0·9533	2·6373	1·4299	3·5164	1·9066	4·3955	2·3832	
29	0·8790	0·4769	1·7579	0·9538	2·6369	1·4307	3·5158	1·9076	4·3948	2·3845	
30	0·8788	0·4772	1·7576	0·9543	2·6365	1·4315	3·5153	1·9086	4·3941	2·3858	
31	0·8787	0·4774	1·7574	0·9548	2·6360	1·4322	3·5147	1·9097	4·3934	2·3871	
32	0·8785	0·4777	1·7571	0·9553	2·6356	1·4330	3·5142	1·9107	4·3927	2·3884	
33	0·8784	0·4779	1·7568	0·9559	2·6352	1·4338	3·5136	1·9117	4·3920	2·3896	
34	0·8783	0·4782	1·7565	0·9564	2·6348	1·4345	3·5130	1·9127	4·3913	2·3909	
35	0·8781	0·4784	1·7562	0·9569	2·6344	1·4353	3·5125	1·9137	4·3906	2·3922	
36	0·8780	0·4787	1·7560	0·9574	2·6339	1·4361	3·5119	1·9148	4·3899	2·3935	
37	0·8778	0·4789	1·7557	0·9579	2·6335	1·4368	3·5114	1·9158	4·3892	2·3947	
38	0·8777	0·4792	1·7554	0·9584	2·6331	1·4376	3·5108	1·9168	4·3885	2·3960	
39	0·8776	0·4795	1·7551	0·9589	2·6327	1·4384	3·5103	1·9178	4·3878	2·3973	
40	0·8774	0·4797	1·7549	0·9594	2·6323	1·4391	3·5097	1·9189	4·3871	2·3986	
41	0·8773	0·4800	1·7546	0·9599	2·6319	1·4399	3·5091	1·9199	4·3864	2·3998	
42	0·8771	0·4802	1·7543	0·9604	2·6314	1·4407	3·5086	1·9209	4·3857	2·4011	
43	0·8770	0·4805	1·7540	0·9610	2·6310	1·4414	3·5080	1·9219	4·3850	2·4024	
44	0·8769	0·4807	1·7537	0·9615	2·6306	1·4422	3·5075	1·9229	4·3843	2·4037	
45	0·8767	0·4810	1·7535	0·9620	2·6302	1·4430	3·5069	1·9240	4·3836	2·4049	
46	0·8766	0·4812	1·7532	0·9625	2·6298	1·4437	3·5063	1·9250	4·3829	2·4062	
47	0·8764	0·4815	1·7529	0·9630	2·6293	1·4445	3·5058	1·9260	4·3822	2·4075	
48	0·8763	0·4818	1·7526	0·9635	2·6289	1·4453	3·5052	1·9270	4·3815	2·4088	
49	0·8762	0·4820	1·7523	0·9640	2·6285	1·4460	3·5047	1·9280	4·3808	2·4100	
50	0·8760	0·4823	1·7521	0·9645	2·6281	1·4468	3·5041	1·9291	4·3801	2·4113	
51	0·8759	0·4825	1·7518	0·9650	2·6277	1·4476	3·5035	1·9301	4·3794	2·4126	
52	0·8757	0·4828	1·7515	0·9655	2·6272	1·4483	3·5030	1·9311	4·3787	2·4139	
53	0·8756	0·4830	1·7512	0·9661	2·6268	1·4491	3·5024	1·9321	4·3780	2·4151	
54	0·8755	0·4833	1·7509	0·9666	2·6264	1·4498	3·5019	1·9331	4·3773	2·4164	
55	0·8753	0·4835	1·7506	0·9671	2·6260	1·4506	3·5013	1·9341	4·3766	2·4177	
56	0·8752	0·4838	1·7504	0·9676	2·6255	1·4514	3·5007	1·9352	4·3759	2·4190	
57	0·8750	0·4840	1·7501	0·9681	2·6251	1·4521	3·5002	1·9362	4·3752	2·4202	
58	0·8749	0·4843	1·7498	0·9686	2·6247	1·4529	3·4996	1·9372	4·3745	2·4215	
59	0·8748	0·4846	1·7495	0·9691	2·6243	1·4537	3·4990	1·9382	4·3738	2·4228	
60	0·8746	0·4848	1·7492	0·9696	2·6239	1·4544	3·4985	1·9392	4·3731	2·4240	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-2977	2-8168	6-1806	3-2863	7-0636	3-7558	7-9465	4-2252	8-8295	4-6947	60
5-2969	2-8184	6-1797	3-2881	7-0625	3-7578	7-9453	4-2276	8-8281	4-6973	59
5-2960	2-8199	6-1787	3-2899	7-0614	3-7599	7-9441	4-2299	8-8267	4-6999	58
5-2952	2-8215	6-1778	3-2917	7-0603	3-7619	7-9428	4-2322	8-8254	4-7024	57
5-2944	2-8230	6-1768	3-2935	7-0592	3-7640	7-9416	4-2345	8-8240	4-7050	56
5-2936	2-8245	6-1758	3-2953	7-0581	3-7660	7-9404	4-2368	8-8226	4-7076	55
5-2928	2-8261	6-1749	3-2971	7-0570	3-7681	7-9391	4-2391	8-8213	4-7101	54
5-2919	2-8276	6-1739	3-2989	7-0559	3-7701	7-9379	4-2414	8-8199	4-7127	53
5-2911	2-8292	6-1730	3-3007	7-0548	3-7722	7-9367	4-2437	8-8185	4-7153	52
5-2903	2-8307	6-1720	3-3025	7-0537	3-7743	7-9354	4-2460	8-8172	4-7178	51
5-2895	2-8322	6-1710	3-3043	7-0526	3-7763	7-9342	4-2483	8-8158	4-7204	50
5-2886	2-8338	6-1701	3-3061	7-0515	3-7784	7-9330	4-2506	8-8144	4-7229	49
5-2878	2-8353	6-1691	3-3079	7-0504	3-7804	7-9317	4-2530	8-8130	4-7255	48
5-2870	2-8368	6-1682	3-3096	7-0493	3-7825	7-9305	4-2553	8-8117	4-7281	47
5-2862	2-8384	6-1672	3-3114	7-0482	3-7845	7-9293	4-2576	8-8103	4-7306	46
5-2853	2-8399	6-1662	3-3132	7-0471	3-7866	7-9280	4-2599	8-8089	4-7332	45
5-2845	2-8415	6-1653	3-3150	7-0460	3-7886	7-9268	4-2622	8-8075	4-7358	44
5-2837	2-8430	6-1643	3-3168	7-0449	3-7907	7-9255	4-2645	8-8062	4-7383	43
5-2829	2-8445	6-1633	3-3186	7-0438	3-7927	7-9243	4-2668	8-8048	4-7409	42
5-2820	2-8461	6-1624	3-3204	7-0427	3-7948	7-9231	4-2691	8-8034	4-7434	41
5-2812	2-8476	6-1614	3-3222	7-0416	3-7968	7-9218	4-2714	8-8020	4-7460	40
5-2804	2-8491	6-1604	3-3240	7-0405	3-7989	7-9206	4-2737	8-8006	4-7486	39
5-2796	2-8507	6-1595	3-3258	7-0394	3-8009	7-9193	4-2760	8-7993	4-7511	38
5-2787	2-8522	6-1585	3-3276	7-0383	3-8029	7-9181	4-2783	8-7979	4-7537	37
5-2779	2-8537	6-1575	3-3294	7-0372	3-8050	7-9168	4-2806	8-7965	4-7562	36
5-2771	2-8553	6-1566	3-3312	7-0361	3-8070	7-9156	4-2829	8-7951	4-7588	35
5-2762	2-8568	6-1556	3-3330	7-0350	3-8091	7-9143	4-2852	8-7937	4-7614	34
5-2754	2-8584	6-1546	3-3347	7-0339	3-8111	7-9131	4-2875	8-7923	4-7639	33
5-2746	2-8599	6-1537	3-3365	7-0328	3-8132	7-9119	4-2898	8-7909	4-7665	32
5-2737	2-8614	6-1527	3-3383	7-0316	3-8152	7-9106	4-2921	8-7896	4-7690	31
5-2729	2-8630	6-1517	3-3401	7-0305	3-8173	7-9094	4-2944	8-7882	4-7716	30
5-2721	2-8645	6-1507	3-3419	7-0294	3-8193	7-9081	4-2967	8-7868	4-7741	29
5-2712	2-8660	6-1498	3-3437	7-0283	3-8214	7-9069	4-2990	8-7854	4-7767	28
5-2704	2-8676	6-1488	3-3455	7-0272	3-8234	7-9056	4-3013	8-7840	4-7793	27
5-2696	2-8691	6-1478	3-3473	7-0261	3-8254	7-9044	4-3036	8-7826	4-7818	26
5-2687	2-8706	6-1469	3-3491	7-0250	3-8275	7-9031	4-3059	8-7812	4-7844	25
5-2679	2-8722	6-1459	3-3508	7-0239	3-8295	7-9018	4-3082	8-7798	4-7869	24
5-2671	2-8737	6-1449	3-3526	7-0227	3-8316	7-9006	4-3105	8-7784	4-7895	23
5-2662	2-8752	6-1439	3-3544	7-0216	3-8336	7-8993	4-3128	8-7770	4-7920	22
5-2654	2-8767	6-1430	3-3562	7-0205	3-8357	7-8981	4-3151	8-7756	4-7946	21
5-2646	2-8783	6-1420	3-3580	7-0194	3-8377	7-8968	4-3174	8-7743	4-7971	20
5-2637	2-8798	6-1410	3-3598	7-0183	3-8397	7-8956	4-3197	8-7729	4-7997	19
5-2629	2-8813	6-1400	3-3616	7-0172	3-8418	7-8943	4-3220	8-7715	4-8022	18
5-2620	2-8829	6-1390	3-3634	7-0161	3-8438	7-8931	4-3243	8-7701	4-8048	17
5-2612	2-8844	6-1381	3-3651	7-0149	3-8459	7-8918	4-3266	8-7687	4-8073	16
5-2604	2-8859	6-1371	3-3669	7-0138	3-8479	7-8905	4-3289	8-7673	4-8099	15
5-2595	2-8875	6-1361	3-3687	7-0127	3-8500	7-8893	4-3312	8-7659	4-8124	14
5-2587	2-8890	6-1351	3-3705	7-0116	3-8520	7-8880	4-3335	8-7645	4-8150	13
5-2578	2-8905	6-1341	3-3723	7-0105	3-8540	7-8868	4-3358	8-7631	4-8175	12
5-2570	2-8921	6-1332	3-3741	7-0093	3-8561	7-8855	4-3381	8-7617	4-8201	11
5-2562	2-8936	6-1322	3-3758	7-0082	3-8581	7-8842	4-3404	8-7603	4-8226	10
5-2553	2-8951	6-1312	3-3776	7-0071	3-8601	7-8830	4-3427	8-7589	4-8252	9
5-2545	2-8966	6-1302	3-3794	7-0060	3-8622	7-8817	4-3450	8-7575	4-8277	8
5-2536	2-8982	6-1292	3-3812	7-0048	3-8642	7-8804	4-3472	8-7561	4-8303	7
5-2528	2-8997	6-1283	3-3830	7-0037	3-8663	7-8792	4-3495	8-7546	4-8328	6
5-2519	2-9012	6-1273	3-3848	7-0026	3-8683	7-8779	4-3518	8-7532	4-8354	5
5-2511	2-9027	6-1263	3-3865	7-0015	3-8703	7-8766	4-3541	8-7518	4-8379	4
5-2503	2-9043	6-1253	3-3883	7-0003	3-8724	7-8754	4-3564	8-7504	4-8405	3
5-2494	2-9058	6-1243	3-3901	6-9992	3-8744	7-8741	4-3587	8-7490	4-8430	2
5-2486	2-9073	6-1233	3-3919	6-9981	3-8764	7-8728	4-3610	8-7476	4-8456	1
5-2477	2-9089	6-1223	3-3937	6-9970	3-8785	7-8716	4-3633	8-7462	4-8481	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

61 Degrees.



# 29 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°8746	0°4848	1°7492	0°9696	2°6239	1°4544	3°4985	1°9392	4°3731	2°4240
1	0°8745	0°4851	1°7490	0°9701	2°6234	1°4552	3°4979	1°9403	4°3724	2°4253
2	0°8743	0°4853	1°7487	0°9706	2°6230	1°4560	3°4974	1°9413	4°3717	2°4266
3	0°8742	0°4856	1°7484	0°9711	2°6226	1°4567	3°4968	1°9423	4°3710	2°4279
4	0°8741	0°4858	1°7481	0°9717	2°6222	1°4575	3°4962	1°9433	4°3703	2°4291
5	0°8739	0°4861	1°7478	0°9722	2°6217	1°4582	3°4957	1°9443	4°3696	2°4304
6	0°8738	0°4863	1°7475	0°9727	2°6213	1°4590	3°4951	1°9453	4°3689	2°4317
7	0°8736	0°4866	1°7473	0°9732	2°6209	1°4598	3°4945	1°9464	4°3682	2°4329
8	0°8735	0°4868	1°7470	0°9737	2°6205	1°4605	3°4940	1°9474	4°3674	2°4342
9	0°8733	0°4871	1°7467	0°9742	2°6200	1°4613	3°4934	1°9484	4°3667	2°4355
10	0°8732	0°4874	1°7464	0°9747	2°6196	1°4621	3°4928	1°9494	4°3660	2°4368
11	0°8731	0°4876	1°7461	0°9752	2°6192	1°4628	3°4923	1°9504	4°3653	2°4380
12	0°8729	0°4879	1°7458	0°9757	2°6188	1°4636	3°4917	1°9514	4°3646	2°4393
13	0°8728	0°4881	1°7456	0°9762	2°6183	1°4643	3°4911	1°9525	4°3639	2°4406
14	0°8726	0°4884	1°7453	0°9767	2°6179	1°4651	3°4906	1°9535	4°3632	2°4418
15	0°8725	0°4886	1°7450	0°9772	2°6175	1°4659	3°4900	1°9545	4°3625	2°4431
16	0°8724	0°4889	1°7447	0°9778	2°6171	1°4666	3°4894	1°9555	4°3618	2°4444
17	0°8722	0°4891	1°7444	0°9783	2°6166	1°4674	3°4888	1°9565	4°3611	2°4456
18	0°8721	0°4894	1°7441	0°9788	2°6162	1°4681	3°4883	1°9575	4°3603	2°4469
19	0°8719	0°4896	1°7439	0°9793	2°6158	1°4689	3°4877	1°9585	4°3596	2°4482
20	0°8718	0°4899	1°7436	0°9798	2°6154	1°4697	3°4871	1°9596	4°3589	2°4494
21	0°8716	0°4901	1°7433	0°9803	2°6149	1°4704	3°4866	1°9606	4°3582	2°4507
22	0°8715	0°4904	1°7430	0°9808	2°6145	1°4712	3°4860	1°9616	4°3575	2°4520
23	0°8714	0°4907	1°7427	0°9813	2°6141	1°4720	3°4854	1°9626	4°3568	2°4533
24	0°8712	0°4909	1°7424	0°9818	2°6136	1°4727	3°4849	1°9636	4°3561	2°4545
25	0°8711	0°4912	1°7421	0°9823	2°6132	1°4735	3°4843	1°9646	4°3554	2°4558
26	0°8709	0°4914	1°7419	0°9828	2°6128	1°4742	3°4837	1°9656	4°3546	2°4571
27	0°8708	0°4917	1°7416	0°9833	2°6124	1°4750	3°4831	1°9667	4°3539	2°4583
28	0°8706	0°4919	1°7413	0°9838	2°6119	1°4758	3°4826	1°9677	4°3532	2°4596
29	0°8705	0°4922	1°7410	0°9843	2°6115	1°4765	3°4820	1°9687	4°3525	2°4609
30	0°8704	0°4924	1°7407	0°9848	2°6111	1°4773	3°4814	1°9697	4°3518	2°4621
31	0°8702	0°4927	1°7404	0°9854	2°6106	1°4780	3°4808	1°9707	4°3511	2°4634
32	0°8701	0°4929	1°7401	0°9859	2°6102	1°4788	3°4803	1°9717	4°3503	2°4646
33	0°8699	0°4932	1°7399	0°9864	2°6098	1°4795	3°4797	1°9727	4°3496	2°4659
34	0°8698	0°4934	1°7396	0°9869	2°6093	1°4803	3°4791	1°9737	4°3489	2°4672
35	0°8696	0°4937	1°7393	0°9874	2°6089	1°4811	3°4786	1°9748	4°3482	2°4684
36	0°8695	0°4939	1°7390	0°9879	2°6085	1°4818	3°4780	1°9758	4°3475	2°4697
37	0°8694	0°4942	1°7387	0°9884	2°6081	1°4826	3°4774	1°9768	4°3468	2°4710
38	0°8692	0°4944	1°7384	0°9889	2°6076	1°4833	3°4768	1°9778	4°3460	2°4722
39	0°8691	0°4947	1°7381	0°9894	2°6072	1°4841	3°4763	1°9788	4°3453	2°4735
40	0°8689	0°4950	1°7378	0°9899	2°6068	1°4849	3°4757	1°9798	4°3446	2°4748
41	0°8688	0°4952	1°7376	0°9904	2°6063	1°4856	3°4751	1°9808	4°3439	2°4760
42	0°8686	0°4955	1°7373	0°9909	2°6059	1°4864	3°4745	1°9818	4°3432	2°4773
43	0°8685	0°4957	1°7370	0°9914	2°6055	1°4871	3°4739	1°9828	4°3424	2°4786
44	0°8683	0°4960	1°7367	0°9919	2°6050	1°4879	3°4734	1°9839	4°3417	2°4798
45	0°8682	0°4962	1°7364	0°9924	2°6046	1°4886	3°4728	1°9849	4°3410	2°4811
46	0°8681	0°4965	1°7361	0°9929	2°6042	1°4894	3°4722	1°9859	4°3403	2°4823
47	0°8679	0°4967	1°7358	0°9934	2°6037	1°4902	3°4716	1°9869	4°3396	2°4836
48	0°8678	0°4970	1°7355	0°9939	2°6033	1°4909	3°4711	1°9879	4°3388	2°4849
49	0°8676	0°4972	1°7352	0°9945	2°6029	1°4917	3°4705	1°9889	4°3381	2°4861
50	0°8675	0°4975	1°7350	0°9950	2°6024	1°4924	3°4699	1°9899	4°3374	2°4874
51	0°8673	0°4977	1°7347	0°9955	2°6020	1°4932	3°4693	1°9909	4°3367	2°4887
52	0°8672	0°4980	1°7344	0°9960	2°6016	1°4939	3°4687	1°9919	4°3359	2°4899
53	0°8670	0°4982	1°7341	0°9965	2°6011	1°4947	3°4682	1°9929	4°3352	2°4912
54	0°8669	0°4985	1°7338	0°9970	2°6007	1°4955	3°4676	1°9940	4°3345	2°4924
55	0°8668	0°4987	1°7335	0°9975	2°6003	1°4962	3°4670	1°9950	4°3338	2°4937
56	0°8666	0°4990	1°7332	0°9980	2°5998	1°4970	3°4664	1°9960	4°3330	2°4950
57	0°8665	0°4992	1°7329	0°9985	2°5994	1°4977	3°4658	1°9970	4°3323	2°4962
58	0°8663	0°4995	1°7326	0°9990	2°5989	1°4985	3°4653	1°9980	4°3316	2°4975
59	0°8662	0°4997	1°7323	0°9995	2°5985	1°4992	3°4647	1°9990	4°3309	2°4987
60	0°8660	0°5000	1°7321	1°0000	2°5981	1°5000	3°4641	2°0000	4°3301	2°5000
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-2477	2-9089	6-1223	3-3937	6-9970	3-8785	7-8716	4-3633	8-7462	4-8481	60
5-2469	2-9104	6-1214	3-3954	6-9958	3-8805	7-8703	4-3656	8-7448	4-8506	59
5-2460	2-9119	6-1204	3-3972	6-9947	3-8825	7-8690	4-3679	8-7434	4-8532	58
5-2452	2-9134	6-1194	3-3990	6-9936	3-8846	7-8678	4-3702	8-7420	4-8557	57
5-2443	2-9150	6-1184	3-4008	6-9924	3-8866	7-8665	4-3724	8-7406	4-8583	56
5-2435	2-9165	6-1174	3-4026	6-9913	3-8886	7-8652	4-3747	8-7391	4-8608	55
5-2426	2-9180	6-1164	3-4043	6-9902	3-8907	7-8639	4-3770	8-7377	4-8634	54
5-2418	2-9195	6-1154	3-4061	6-9890	3-8927	7-8627	4-3793	8-7363	4-8659	53
5-2409	2-9211	6-1144	3-4079	6-9879	3-8947	7-8614	4-3816	8-7349	4-8684	52
5-2401	2-9226	6-1134	3-4097	6-9868	3-8968	7-8601	4-3839	8-7335	4-8710	51
5-2392	2-9241	6-1124	3-4115	6-9856	3-8988	7-8589	4-3862	8-7321	4-8735	50
5-2384	2-9256	6-1114	3-4132	6-9845	3-9008	7-8576	4-3885	8-7306	4-8761	49
5-2375	2-9272	6-1105	3-4150	6-9834	3-9029	7-8563	4-3907	8-7292	4-8786	48
5-2367	2-9287	6-1095	3-4168	6-9822	3-9049	7-8550	4-3930	8-7278	4-8811	47
5-2358	2-9302	6-1085	3-4186	6-9811	3-9069	7-8537	4-3953	8-7264	4-8837	46
5-2350	2-9317	6-1075	3-4203	6-9800	3-9090	7-8525	4-3976	8-7250	4-8862	45
5-2341	2-9333	6-1065	3-4221	6-9788	3-9110	7-8512	4-3999	8-7235	4-8888	44
5-2333	2-9348	6-1055	3-4239	6-9777	3-9130	7-8499	4-4022	8-7221	4-8913	43
5-2324	2-9363	6-1045	3-4257	6-9766	3-9151	7-8486	4-4044	8-7207	4-8938	42
5-2316	2-9378	6-1035	3-4275	6-9754	3-9171	7-8473	4-4067	8-7193	4-8964	41
5-2307	2-9393	6-1025	3-4292	6-9743	3-9191	7-8461	4-4090	8-7178	4-8989	40
5-2299	2-9409	6-1015	3-4310	6-9731	3-9211	7-8448	4-4113	8-7164	4-9014	39
5-2290	2-9424	6-1005	3-4328	6-9720	3-9232	7-8435	4-4136	8-7150	4-9040	38
5-2281	2-9439	6-0995	3-4346	6-9709	3-9252	7-8422	4-4159	8-7136	4-9065	37
5-2273	2-9454	6-0985	3-4363	6-9697	3-9272	7-8409	4-4181	8-7121	4-9090	36
5-2264	2-9469	6-0975	3-4381	6-9686	3-9293	7-8396	4-4204	8-7107	4-9116	35
5-2256	2-9485	6-0965	3-4399	6-9674	3-9313	7-8384	4-4227	8-7093	4-9141	34
5-2247	2-9500	6-0955	3-4416	6-9663	3-9333	7-8371	4-4250	8-7079	4-9166	33
5-2239	2-9515	6-0945	3-4434	6-9651	3-9353	7-8358	4-4273	8-7064	4-9192	32
5-2230	2-9530	6-0935	3-4452	6-9640	3-9374	7-8345	4-4295	8-7050	4-9217	31
5-2221	2-9545	6-0925	3-4470	6-9628	3-9394	7-8332	4-4318	8-7036	4-9242	30
5-2213	2-9561	6-0915	3-4487	6-9617	3-9414	7-8319	4-4341	8-7021	4-9268	29
5-2204	2-9576	6-0905	3-4505	6-9606	3-9434	7-8306	4-4364	8-7007	4-9293	28
5-2196	2-9591	6-0895	3-4523	6-9594	3-9455	7-8293	4-4386	8-6993	4-9318	27
5-2187	2-9606	6-0885	3-4541	6-9583	3-9475	7-8280	4-4409	8-6978	4-9344	26
5-2178	2-9621	6-0875	3-4558	6-9571	3-9495	7-8267	4-4432	8-6964	4-9369	25
5-2170	2-9637	6-0865	3-4576	6-9560	3-9515	7-8255	4-4455	8-6949	4-9394	24
5-2161	2-9652	6-0855	3-4594	6-9548	3-9536	7-8242	4-4478	8-6935	4-9419	23
5-2152	2-9667	6-0845	3-4611	6-9537	3-9556	7-8229	4-4500	8-6921	4-9445	22
5-2144	2-9682	6-0834	3-4629	6-9525	3-9576	7-8216	4-4523	8-6906	4-9470	21
5-2135	2-9697	6-0824	3-4647	6-9514	3-9596	7-8203	4-4546	8-6892	4-9495	20
5-2127	2-9712	6-0814	3-4664	6-9502	3-9616	7-8190	4-4569	8-6878	4-9521	19
5-2118	2-9728	6-0804	3-4682	6-9491	3-9637	7-8177	4-4591	8-6863	4-9546	18
5-2109	2-9743	6-0794	3-4700	6-9479	3-9657	7-8164	4-4614	8-6849	4-9571	17
5-2101	2-9758	6-0784	3-4717	6-9467	3-9677	7-8151	4-4637	8-6834	4-9596	16
5-2092	2-9773	6-0774	3-4735	6-9456	3-9697	7-8138	4-4659	8-6820	4-9622	15
5-2083	2-9788	6-0764	3-4753	6-9444	3-9718	7-8125	4-4682	8-6805	4-9647	14
5-2075	2-9803	6-0754	3-4771	6-9433	3-9738	7-8112	4-4705	8-6791	4-9672	13
5-2066	2-9818	6-0744	3-4788	6-9421	3-9758	7-8099	4-4728	8-6777	4-9697	12
5-2057	2-9834	6-0733	3-4806	6-9410	3-9778	7-8086	4-4750	8-6762	4-9723	11
5-2049	2-9849	6-0723	3-4824	6-9398	3-9798	7-8073	4-4773	8-6748	4-9748	10
5-2040	2-9864	6-0713	3-4841	6-9387	3-9818	7-8060	4-4796	8-6733	4-9773	9
5-2031	2-9879	6-0703	3-4859	6-9375	3-9839	7-8047	4-4818	8-6719	4-9798	8
5-2023	2-9894	6-0693	3-4876	6-9363	3-9859	7-8034	4-4841	8-6704	4-9824	7
5-2014	2-9909	6-0683	3-4894	6-9352	3-9879	7-8021	4-4864	8-6690	4-9849	6
5-2005	2-9924	6-0673	3-4912	6-9340	3-9899	7-8008	4-4887	8-6675	4-9874	5
5-1996	2-9940	6-0662	3-4929	6-9329	3-9919	7-7995	4-4909	8-6661	4-9899	4
5-1988	2-9955	6-0652	3-4947	6-9317	3-9940	7-7982	4-4932	8-6646	4-9924	3
5-1979	2-9970	6-0642	3-4965	6-9305	3-9960	7-7968	4-4955	8-6632	4-9950	2
5-1970	2-9985	6-0632	3-4982	6-9294	3-9980	7-7955	4-4977	8-6617	4-9975	1
5-1962	3-0000	6-0622	3-5000	6-9282	4-0000	7-7942	4-5000	8-6603	5-0000	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

60 Degrees.

# 30 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
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2	0°8657	0°5005	1°7315	1°0010	2°5972	1°5015	3°4629	2°0020	4°3287	2°5025
3	0°8656	0°5008	1°7312	1°0015	2°5968	1°5023	3°4624	2°0030	4°3279	2°5038
4	0°8654	0°5010	1°7309	1°0020	2°5963	1°5030	3°4618	2°0040	4°3272	2°5050
5	0°8653	0°5013	1°7306	1°0025	2°5959	1°5038	3°4612	2°0050	4°3265	2°5063
6	0°8652	0°5015	1°7303	1°0030	2°5955	1°5045	3°4606	2°0060	4°3258	2°5076
7	0°8650	0°5018	1°7300	1°0035	2°5950	1°5053	3°4600	2°0070	4°3250	2°5088
8	0°8649	0°5020	1°7297	1°0040	2°5946	1°5060	3°4594	2°0081	4°3243	2°5101
9	0°8647	0°5023	1°7294	1°0045	2°5941	1°5068	3°4589	2°0091	4°3236	2°5113
10	0°8646	0°5025	1°7291	1°0050	2°5937	1°5076	3°4583	2°0101	4°3228	2°5126
11	0°8644	0°5028	1°7288	1°0055	2°5933	1°5083	3°4577	2°0111	4°3221	2°5138
12	0°8643	0°5030	1°7285	1°0060	2°5928	1°5091	3°4571	2°0121	4°3214	2°5151
13	0°8641	0°5033	1°7283	1°0065	2°5924	1°5098	3°4565	2°0131	4°3206	2°5164
14	0°8640	0°5035	1°7280	1°0070	2°5919	1°5106	3°4559	2°0141	4°3199	2°5176
15	0°8638	0°5038	1°7277	1°0075	2°5915	1°5113	3°4553	2°0151	4°3192	2°5189
16	0°8637	0°5040	1°7274	1°0081	2°5911	1°5121	3°4548	2°0161	4°3184	2°5201
17	0°8635	0°5043	1°7271	1°0086	2°5906	1°5128	3°4542	2°0171	4°3177	2°5214
18	0°8634	0°5045	1°7268	1°0091	2°5902	1°5136	3°4536	2°0181	4°3170	2°5226
19	0°8632	0°5048	1°7265	1°0096	2°5897	1°5143	3°4530	2°0191	4°3162	2°5239
20	0°8631	0°5050	1°7262	1°0101	2°5893	1°5151	3°4524	2°0201	4°3155	2°5251
21	0°8630	0°5053	1°7259	1°0106	2°5889	1°5158	3°4518	2°0211	4°3148	2°5264
22	0°8628	0°5055	1°7256	1°0111	2°5884	1°5166	3°4512	2°0221	4°3140	2°5277
23	0°8627	0°5058	1°7253	1°0116	2°5880	1°5173	3°4506	2°0231	4°3133	2°5289
24	0°8625	0°5060	1°7250	1°0121	2°5875	1°5181	3°4501	2°0241	4°3126	2°5302
25	0°8624	0°5063	1°7247	1°0126	2°5871	1°5189	3°4495	2°0251	4°3118	2°5314
26	0°8622	0°5065	1°7244	1°0131	2°5867	1°5196	3°4489	2°0261	4°3111	2°5327
27	0°8621	0°5068	1°7241	1°0136	2°5862	1°5204	3°4483	2°0271	4°3104	2°5339
28	0°8619	0°5070	1°7238	1°0141	2°5858	1°5211	3°4477	2°0281	4°3096	2°5352
29	0°8618	0°5073	1°7236	1°0146	2°5853	1°5219	3°4471	2°0292	4°3089	2°5364
30	0°8616	0°5075	1°7233	1°0151	2°5849	1°5226	3°4465	2°0302	4°3081	2°5377
31	0°8615	0°5078	1°7230	1°0156	2°5844	1°5234	3°4459	2°0312	4°3074	2°5389
32	0°8613	0°5080	1°7227	1°0161	2°5840	1°5241	3°4453	2°0322	4°3067	2°5402
33	0°8612	0°5083	1°7224	1°0166	2°5836	1°5249	3°4447	2°0332	4°3059	2°5415
34	0°8610	0°5085	1°7221	1°0171	2°5831	1°5256	3°4442	2°0342	4°3052	2°5427
35	0°8609	0°5088	1°7218	1°0176	2°5827	1°5264	3°4436	2°0352	4°3045	2°5440
36	0°8607	0°5090	1°7215	1°0181	2°5822	1°5271	3°4430	2°0362	4°3037	2°5452
37	0°8606	0°5093	1°7212	1°0186	2°5818	1°5279	3°4424	2°0372	4°3030	2°5465
38	0°8604	0°5095	1°7209	1°0191	2°5813	1°5286	3°4418	2°0382	4°3022	2°5477
39	0°8603	0°5098	1°7206	1°0196	2°5809	1°5294	3°4412	2°0392	4°3015	2°5490
40	0°8601	0°5100	1°7203	1°0201	2°5804	1°5301	3°4406	2°0402	4°3007	2°5502
41	0°8600	0°5103	1°7200	1°0206	2°5800	1°5309	3°4400	2°0412	4°3000	2°5515
42	0°8599	0°5105	1°7197	1°0211	2°5796	1°5316	3°4394	2°0422	4°2993	2°5527
43	0°8597	0°5108	1°7194	1°0216	2°5791	1°5324	3°4388	2°0432	4°2985	2°5540
44	0°8596	0°5110	1°7191	1°0221	2°5787	1°5331	3°4382	2°0442	4°2978	2°5552
45	0°8594	0°5113	1°7188	1°0226	2°5782	1°5339	3°4376	2°0452	4°2970	2°5565
46	0°8593	0°5115	1°7185	1°0231	2°5778	1°5346	3°4370	2°0462	4°2963	2°5577
47	0°8591	0°5118	1°7182	1°0236	2°5773	1°5354	3°4364	2°0472	4°2955	2°5590
48	0°8590	0°5120	1°7179	1°0241	2°5769	1°5361	3°4358	2°0482	4°2948	2°5602
49	0°8588	0°5123	1°7176	1°0246	2°5764	1°5369	3°4352	2°0492	4°2941	2°5615
50	0°8587	0°5125	1°7173	1°0251	2°5760	1°5376	3°4346	2°0502	4°2933	2°5627
51	0°8585	0°5128	1°7170	1°0256	2°5755	1°5384	3°4341	2°0512	4°2926	2°5640
52	0°8584	0°5130	1°7167	1°0261	2°5751	1°5391	3°4335	2°0522	4°2918	2°5652
53	0°8582	0°5133	1°7164	1°0266	2°5746	1°5399	3°4329	2°0532	4°2911	2°5665
54	0°8581	0°5135	1°7161	1°0271	2°5742	1°5406	3°4323	2°0542	4°2903	2°5677
55	0°8579	0°5138	1°7158	1°0276	2°5737	1°5414	3°4317	2°0552	4°2896	2°5690
56	0°8578	0°5140	1°7155	1°0281	2°5733	1°5421	3°4311	2°0562	4°2888	2°5702
57	0°8576	0°5143	1°7152	1°0286	2°5728	1°5429	3°4305	2°0572	4°2881	2°5714
58	0°8575	0°5145	1°7149	1°0291	2°5724	1°5436	3°4299	2°0582	4°2873	2°5727
59	0°8573	0°5148	1°7146	1°0296	2°5720	1°5444	3°4293	2°0592	4°2866	2°5739
60	0°8572	0°5150	1°7143	1°0301	2°5715	1°5451	3°4287	2°0602	4°2858	2°5752
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-1962	3-0000	6-0622	3-5000	6-9282	4-0000	7-7942	4-5000	8-6603	5-0000	60
5-1953	3-0015	6-0612	3-5018	6-9270	4-0020	7-7929	4-5023	8-6588	5-0025	59
5-1944	3-0030	6-0601	3-5035	6-9259	4-0040	7-7916	4-5045	8-6573	5-0050	58
5-1935	3-0045	6-0591	3-5053	6-9247	4-0060	7-7903	4-5068	8-6559	5-0076	57
5-1927	3-0060	6-0581	3-5071	6-9235	4-0081	7-7890	4-5091	8-6544	5-0101	56
5-1918	3-0076	6-0571	3-5088	6-9224	4-0101	7-7877	4-5113	8-6530	5-0126	55
5-1909	3-0091	6-0561	3-5106	6-9212	4-0121	7-7864	4-5136	8-6515	5-0151	54
5-1900	3-0106	6-0550	3-5123	6-9200	4-0141	7-7850	4-5159	8-6501	5-0176	53
5-1892	3-0121	6-0540	3-5141	6-9189	4-0161	7-7837	4-5181	8-6486	5-0201	52
5-1883	3-0136	6-0530	3-5159	6-9177	4-0181	7-7824	4-5204	8-6471	5-0227	51
5-1874	3-0151	6-0520	3-5176	6-9165	4-0201	7-7811	4-5227	8-6457	5-0252	50
5-1865	3-0166	6-0509	3-5194	6-9154	4-0221	7-7798	4-5249	8-6442	5-0277	49
5-1856	3-0181	6-0499	3-5211	6-9142	4-0242	7-7785	4-5272	8-6427	5-0302	48
5-1848	3-0196	6-0489	3-5229	6-9130	4-0262	7-7772	4-5294	8-6413	5-0327	47
5-1839	3-0211	6-0479	3-5247	6-9119	4-0282	7-7758	4-5317	8-6398	5-0352	46
5-1830	3-0226	6-0468	3-5264	6-9107	4-0302	7-7745	4-5340	8-6384	5-0377	45
5-1821	3-0242	6-0458	3-5282	6-9095	4-0322	7-7732	4-5362	8-6369	5-0403	44
5-1813	3-0257	6-0448	3-5299	6-9083	4-0342	7-7719	4-5385	8-6354	5-0428	43
5-1804	3-0272	6-0438	3-5317	6-9072	4-0362	7-7706	4-5407	8-6340	5-0453	42
5-1795	3-0287	6-0427	3-5335	6-9060	4-0382	7-7692	4-5430	8-6325	5-0478	41
5-1786	3-0302	6-0417	3-5352	6-9048	4-0402	7-7679	4-5453	8-6310	5-0503	40
5-1777	3-0317	6-0407	3-5370	6-9036	4-0422	7-7666	4-5475	8-6295	5-0528	39
5-1768	3-0332	6-0397	3-5387	6-9025	4-0443	7-7653	4-5498	8-6281	5-0553	38
5-1760	3-0347	6-0386	3-5405	6-9013	4-0463	7-7639	4-5520	8-6266	5-0578	37
5-1751	3-0362	6-0376	3-5422	6-9001	4-0483	7-7626	4-5543	8-6251	5-0603	36
5-1742	3-0377	6-0366	3-5440	6-8989	4-0503	7-7613	4-5566	8-6237	5-0628	35
5-1733	3-0392	6-0355	3-5457	6-8978	4-0523	7-7600	4-5588	8-6222	5-0654	34
5-1724	3-0407	6-0345	3-5475	6-8966	4-0543	7-7586	4-5611	8-6207	5-0679	33
5-1715	3-0422	6-0335	3-5493	6-8954	4-0563	7-7573	4-5633	8-6192	5-0704	32
5-1707	3-0437	6-0324	3-5510	6-8942	4-0583	7-7560	4-5656	8-6178	5-0729	31
5-1698	3-0452	6-0314	3-5528	6-8930	4-0603	7-7547	4-5678	8-6163	5-0754	30
5-1689	3-0467	6-0304	3-5545	6-8919	4-0623	7-7533	4-5701	8-6148	5-0779	29
5-1680	3-0482	6-0293	3-5563	6-8907	4-0643	7-7520	4-5724	8-6133	5-0804	28
5-1671	3-0497	6-0283	3-5580	6-8895	4-0663	7-7507	4-5746	8-6119	5-0829	27
5-1662	3-0512	6-0273	3-5598	6-8883	4-0683	7-7493	4-5769	8-6104	5-0854	26
5-1653	3-0527	6-0262	3-5615	6-8871	4-0703	7-7480	4-5791	8-6089	5-0879	25
5-1645	3-0542	6-0252	3-5633	6-8859	4-0723	7-7467	4-5814	8-6074	5-0904	24
5-1636	3-0558	6-0242	3-5650	6-8848	4-0743	7-7453	4-5836	8-6059	5-0929	23
5-1627	3-0573	6-0231	3-5668	6-8836	4-0763	7-7440	4-5859	8-6045	5-0954	22
5-1618	3-0588	6-0221	3-5685	6-8824	4-0783	7-7427	4-5881	8-6030	5-0979	21
5-1609	3-0603	6-0210	3-5703	6-8812	4-0803	7-7413	4-5904	8-6015	5-1004	20
5-1600	3-0618	6-0200	3-5720	6-8800	4-0823	7-7400	4-5926	8-6000	5-1029	19
5-1591	3-0633	6-0190	3-5738	6-8788	4-0843	7-7387	4-5949	8-5985	5-1054	18
5-1582	3-0648	6-0179	3-5756	6-8776	4-0863	7-7373	4-5971	8-5970	5-1079	17
5-1573	3-0663	6-0169	3-5773	6-8764	4-0883	7-7360	4-5994	8-5956	5-1104	16
5-1564	3-0678	6-0158	3-5791	6-8753	4-0903	7-7347	4-6016	8-5941	5-1129	15
5-1555	3-0693	6-0148	3-5808	6-8741	4-0923	7-7333	4-6039	8-5926	5-1154	14
5-1547	3-0708	6-0138	3-5826	6-8729	4-0943	7-7320	4-6061	8-5911	5-1179	13
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5-1529	3-0738	6-0117	3-5860	6-8705	4-0983	7-7293	4-6106	8-5881	5-1229	11
5-1520	3-0753	6-0106	3-5878	6-8693	4-1003	7-7280	4-6129	8-5866	5-1254	10
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5-1493	3-0797	6-0075	3-5930	6-8657	4-1063	7-7239	4-6196	8-5821	5-1329	7
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5-1475	3-0827	6-0054	3-5965	6-8633	4-1103	7-7212	4-6241	8-5792	5-1379	5
5-1466	3-0842	6-0044	3-5983	6-8621	4-1123	7-7199	4-6264	8-5777	5-1404	4
5-1457	3-0857	6-0033	3-6000	6-8609	4-1143	7-7185	4-6286	8-5762	5-1429	3
5-1448	3-0872	6-0023	3-6018	6-8597	4-1163	7-7172	4-6309	8-5747	5-1454	2
5-1439	3-0887	6-0012	3-6035	6-8585	4-1183	7-7159	4-6331	8-5732	5-1479	1
5-1430	3-0902	6-0002	3-6053	6-8573	4-1203	7-7145	4-6353	8-5717	5-1504	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

59 Degrees.

# 31 Degrees.

Dist.	1		2		3		4		5	
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2	0°8569	0°5155	1°7137	1°0311	2°5706	1°5466	3°4275	2°0621	4°2843	2°5777
3	0°8567	0°5158	1°7134	1°0316	2°5702	1°5474	3°4269	2°0631	4°2836	2°5789
4	0°8566	0°5160	1°7131	1°0321	2°5697	1°5481	3°4263	2°0641	4°2828	2°5802
5	0°8564	0°5163	1°7128	1°0326	2°5693	1°5489	3°4257	2°0651	4°2821	2°5814
6	0°8563	0°5165	1°7125	1°0331	2°5688	1°5496	3°4251	2°0661	4°2813	2°5827
7	0°8561	0°5168	1°7122	1°0336	2°5684	1°5503	3°4245	2°0671	4°2806	2°5839
8	0°8560	0°5170	1°7119	1°0341	2°5679	1°5511	3°4239	2°0681	4°2798	2°5852
9	0°8558	0°5173	1°7116	1°0346	2°5674	1°5518	3°4233	2°0691	4°2791	2°5864
10	0°8557	0°5175	1°7113	1°0351	2°5670	1°5526	3°4227	2°0701	4°2783	2°5876
11	0°8555	0°5178	1°7110	1°0356	2°5665	1°5533	3°4221	2°0711	4°2776	2°5889
12	0°8554	0°5180	1°7107	1°0361	2°5661	1°5541	3°4215	2°0721	4°2768	2°5901
13	0°8552	0°5183	1°7104	1°0366	2°5656	1°5548	3°4209	2°0731	4°2761	2°5914
14	0°8551	0°5185	1°7101	1°0370	2°5652	1°5556	3°4203	2°0741	4°2753	2°5926
15	0°8549	0°5188	1°7098	1°0375	2°5647	1°5563	3°4196	2°0751	4°2746	2°5939
16	0°8548	0°5190	1°7095	1°0380	2°5643	1°5571	3°4190	2°0761	4°2738	2°5951
17	0°8546	0°5193	1°7092	1°0385	2°5638	1°5578	3°4184	2°0771	4°2730	2°5964
18	0°8545	0°5195	1°7089	1°0390	2°5634	1°5586	3°4178	2°0781	4°2723	2°5976
19	0°8543	0°5198	1°7086	1°0395	2°5629	1°5593	3°4172	2°0791	4°2715	2°5988
20	0°8542	0°5200	1°7083	1°0400	2°5625	1°5600	3°4166	2°0801	4°2708	2°6001
21	0°8540	0°5203	1°7080	1°0405	2°5620	1°5608	3°4160	2°0811	4°2700	2°6013
22	0°8539	0°5205	1°7077	1°0410	2°5616	1°5615	3°4154	2°0821	4°2693	2°6026
23	0°8537	0°5208	1°7074	1°0415	2°5611	1°5623	3°4148	2°0830	4°2685	2°6038
24	0°8536	0°5210	1°7071	1°0420	2°5607	1°5630	3°4142	2°0840	4°2678	2°6050
25	0°8534	0°5213	1°7068	1°0425	2°5602	1°5638	3°4136	2°0850	4°2670	2°6063
26	0°8532	0°5215	1°7065	1°0430	2°5597	1°5645	3°4130	2°0860	4°2662	2°6075
27	0°8531	0°5218	1°7062	1°0435	2°5593	1°5653	3°4124	2°0870	4°2655	2°6088
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32	0°8523	0°5230	1°7047	1°0460	2°5570	1°5690	3°4093	2°0920	4°2617	2°6150
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35	0°8519	0°5237	1°7038	1°0475	2°5556	1°5712	3°4075	2°0950	4°2594	2°6187
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39	0°8513	0°5247	1°7025	1°0495	2°5538	1°5742	3°4051	2°0989	4°2563	2°6236
40	0°8511	0°5250	1°7022	1°0500	2°5534	1°5749	3°4045	2°0999	4°2556	2°6249
41	0°8510	0°5252	1°7019	1°0504	2°5529	1°5757	3°4039	2°1009	4°2548	2°6261
42	0°8508	0°5255	1°7016	1°0509	2°5524	1°5764	3°4032	2°1019	4°2541	2°6274
43	0°8507	0°5257	1°7013	1°0514	2°5520	1°5772	3°4026	2°1029	4°2533	2°6286
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45	0°8504	0°5262	1°7007	1°0524	2°5511	1°5786	3°4014	2°1049	4°2518	2°6311
46	0°8502	0°5265	1°7004	1°0529	2°5506	1°5794	3°4008	2°1058	4°2510	2°6323
47	0°8500	0°5267	1°7001	1°0534	2°5501	1°5801	3°4002	2°1068	4°2502	2°6335
48	0°8499	0°5270	1°6998	1°0539	2°5497	1°5809	3°3996	2°1078	4°2495	2°6348
49	0°8497	0°5272	1°6995	1°0544	2°5492	1°5816	3°3990	2°1088	4°2487	2°6360
50	0°8496	0°5275	1°6992	1°0549	2°5488	1°5824	3°3983	2°1098	4°2479	2°6373
51	0°8494	0°5277	1°6989	1°0554	2°5483	1°5831	3°3977	2°1108	4°2472	2°6385
52	0°8493	0°5279	1°6986	1°0559	2°5478	1°5838	3°3971	2°1118	4°2464	2°6397
53	0°8491	0°5282	1°6983	1°0564	2°5474	1°5846	3°3965	2°1128	4°2456	2°6410
54	0°8490	0°5284	1°6979	1°0569	2°5469	1°5853	3°3959	2°1138	4°2449	2°6422
55	0°8488	0°5287	1°6976	1°0574	2°5465	1°5861	3°3953	2°1147	4°2441	2°6434
56	0°8487	0°5289	1°6973	1°0579	2°5460	1°5868	3°3947	2°1157	4°2433	2°6447
57	0°8485	0°5292	1°6970	1°0584	2°5455	1°5875	3°3940	2°1167	4°2426	2°6459
58	0°8484	0°5294	1°6967	1°0589	2°5451	1°5883	3°3934	2°1177	4°2418	2°6471
59	0°8482	0°5297	1°6964	1°0593	2°5446	1°5890	3°3928	2°1187	4°2410	2°6484
60	0°8480	0°5299	1°6961	1°0598	2°5441	1°5898	3°3922	2°1197	4°2402	2°6496
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·1430	3·0902	6·0002	3·6053	6·8573	4·1203	7·7145	4·6353	8·5717	5·1504	60
5·1421	3·0917	5·9991	3·6070	6·8561	4·1223	7·7132	4·6376	8·5702	5·1529	59
5·1412	3·0932	5·9981	3·6088	6·8549	4·1243	7·7118	4·6398	8·5687	5·1554	58
5·1403	3·0947	5·9970	3·6105	6·8537	4·1263	7·7105	4·6421	8·5672	5·1579	57
5·1394	3·0962	5·9960	3·6122	6·8525	4·1283	7·7091	4·6443	8·5657	5·1604	56
5·1385	3·0977	5·9949	3·6140	6·8513	4·1303	7·7078	4·6466	8·5642	5·1628	55
5·1376	3·0992	5·9939	3·6157	6·8501	4·1323	7·7064	4·6488	8·5627	5·1653	54
5·1367	3·1007	5·9928	3·6175	6·8489	4·1343	7·7051	4·6510	8·5612	5·1678	53
5·1358	3·1022	5·9918	3·6192	6·8477	4·1363	7·7037	4·6533	8·5597	5·1703	52
5·1349	3·1037	5·9907	3·6210	6·8465	4·1382	7·7023	4·6555	8·5582	5·1728	51
5·1340	3·1052	5·9897	3·6227	6·8453	4·1402	7·7010	4·6578	8·5567	5·1753	50
5·1331	3·1067	5·9886	3·6244	6·8441	4·1422	7·6996	4·6600	8·5551	5·1778	49
5·1322	3·1082	5·9876	3·6262	6·8429	4·1442	7·6983	4·6622	8·5536	5·1803	48
5·1313	3·1097	5·9865	3·6279	6·8417	4·1462	7·6969	4·6645	8·5521	5·1828	47
5·1304	3·1111	5·9854	3·6297	6·8405	4·1482	7·6956	4·6667	8·5506	5·1852	46
5·1295	3·1126	5·9844	3·6314	6·8393	4·1502	7·6942	4·6690	8·5491	5·1877	45
5·1286	3·1141	5·9833	3·6332	6·8381	4·1522	7·6928	4·6712	8·5476	5·1902	44
5·1277	3·1156	5·9823	3·6349	6·8369	4·1542	7·6915	4·6734	8·5461	5·1927	43
5·1268	3·1171	5·9812	3·6366	6·8357	4·1562	7·6901	4·6757	8·5446	5·1952	42
5·1258	3·1186	5·9802	3·6384	6·8345	4·1581	7·6888	4·6779	8·5431	5·1977	41
5·1249	3·1201	5·9791	3·6401	6·8333	4·1601	7·6874	4·6801	8·5416	5·2002	40
5·1240	3·1216	5·9780	3·6419	6·8320	4·1621	7·6860	4·6824	8·5401	5·2026	39
5·1231	3·1231	5·9770	3·6436	6·8308	4·1641	7·6847	4·6846	8·5385	5·2051	38
5·1222	3·1246	5·9759	3·6453	6·8296	4·1661	7·6833	4·6869	8·5370	5·2076	37
5·1213	3·1261	5·9749	3·6471	6·8284	4·1681	7·6820	4·6891	8·5355	5·2101	36
5·1204	3·1275	5·9738	3·6488	6·8272	4·1701	7·6806	4·6913	8·5340	5·2126	35
5·1195	3·1290	5·9727	3·6505	6·8260	4·1720	7·6792	4·6936	8·5325	5·2151	34
5·1186	3·1305	5·9717	3·6523	6·8248	4·1740	7·6779	4·6958	8·5310	5·2175	33
5·1177	3·1320	5·9706	3·6540	6·8236	4·1760	7·6765	4·6980	8·5294	5·2200	32
5·1168	3·1335	5·9695	3·6558	6·8223	4·1780	7·6751	4·7003	8·5279	5·2225	31
5·1158	3·1350	5·9685	3·6575	6·8211	4·1800	7·6738	4·7025	8·5264	5·2250	30
5·1149	3·1365	5·9674	3·6592	6·8199	4·1820	7·6724	4·7047	8·5249	5·2275	29
5·1140	3·1380	5·9664	3·6610	6·8187	4·1840	7·6710	4·7070	8·5234	5·2299	28
5·1131	3·1395	5·9653	3·6627	6·8175	4·1859	7·6697	4·7092	8·5218	5·2324	27
5·1122	3·1409	5·9642	3·6644	6·8163	4·1879	7·6683	4·7114	8·5203	5·2349	26
5·1113	3·1424	5·9632	3·6662	6·8150	4·1899	7·6669	4·7136	8·5188	5·2374	25
5·1104	3·1439	5·9621	3·6679	6·8138	4·1919	7·6655	4·7159	8·5173	5·2399	24
5·1094	3·1454	5·9610	3·6696	6·8126	4·1939	7·6642	4·7181	8·5157	5·2423	23
5·1085	3·1469	5·9600	3·6714	6·8114	4·1959	7·6628	4·7203	8·5142	5·2448	22
5·1076	3·1484	5·9589	3·6731	6·8102	4·1978	7·6614	4·7226	8·5127	5·2473	21
5·1067	3·1499	5·9578	3·6748	6·8089	4·1998	7·6601	4·7248	8·5112	5·2498	20
5·1058	3·1513	5·9567	3·6766	6·8077	4·2018	7·6587	4·7270	8·5096	5·2522	19
5·1049	3·1528	5·9557	3·6783	6·8065	4·2038	7·6573	4·7292	8·5081	5·2547	18
5·1039	3·1543	5·9546	3·6800	6·8053	4·2058	7·6559	4·7315	8·5066	5·2572	17
5·1030	3·1558	5·9535	3·6818	6·8040	4·2077	7·6545	4·7337	8·5051	5·2597	16
5·1021	3·1573	5·9525	3·6835	6·8028	4·2097	7·6532	4·7359	8·5035	5·2621	15
5·1012	3·1588	5·9514	3·6852	6·8016	4·2117	7·6518	4·7382	8·5020	5·2646	14
5·1003	3·1603	5·9503	3·6870	6·8004	4·2137	7·6504	4·7404	8·5005	5·2671	13
5·0994	3·1617	5·9492	3·6887	6·7991	4·2156	7·6490	4·7426	8·4989	5·2696	12
5·0984	3·1632	5·9482	3·6904	6·7979	4·2176	7·6477	4·7448	8·4974	5·2720	11
5·0975	3·1647	5·9471	3·6922	6·7967	4·2196	7·6463	4·7471	8·4959	5·2745	10
5·0966	3·1662	5·9460	3·6939	6·7955	4·2216	7·6449	4·7493	8·4943	5·2770	9
5·0957	3·1677	5·9450	3·6956	6·7942	4·2236	7·6435	4·7515	8·4928	5·2794	8
5·0948	3·1691	5·9439	3·6973	6·7930	4·2255	7·6421	4·7537	8·4913	5·2819	7
5·0938	3·1706	5·9428	3·6991	6·7918	4·2275	7·6407	4·7559	8·4897	5·2844	6
5·0929	3·1721	5·9417	3·7008	6·7905	4·2295	7·6394	4·7582	8·4882	5·2869	5
5·0920	3·1736	5·9406	3·7025	6·7893	4·2315	7·6380	4·7604	8·4866	5·2893	4
5·0911	3·1751	5·9396	3·7043	6·7881	4·2334	7·6366	4·7626	8·4851	5·2918	3
5·0901	3·1766	5·9385	3·7060	6·7868	4·2354	7·6352	4·7648	8·4836	5·2943	2
5·0892	3·1780	5·9374	3·7077	6·7856	4·2374	7·6338	4·7671	8·4820	5·2967	1
5·0883	3·1795	5·9363	3·7094	6·7844	4·2394	7·6324	4·7693	8·4805	5·2992	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

58 Degrees.



# 32 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°8480	0°5299	1°6961	1°0598	2°5441	1°5898	3°3922	2°1197	4°2402	2°6496
1	0°8479	0°5302	1°6958	1°0603	2°5437	1°5905	3°3916	2°1207	4°2395	2°6508
2	0°8477	0°5304	1°6955	1°0608	2°5432	1°5912	3°3910	2°1217	4°2387	2°6521
3	0°8476	0°5307	1°6952	1°0613	2°5428	1°5920	3°3903	2°1226	4°2379	2°6533
4	0°8474	0°5309	1°6949	1°0618	2°5423	1°5927	3°3897	2°1236	4°2372	2°6545
5	0°8473	0°5312	1°6946	1°0623	2°5418	1°5935	3°3891	2°1246	4°2364	2°6558
6	0°8471	0°5314	1°6942	1°0628	2°5414	1°5942	3°3885	2°1256	4°2356	2°6570
7	0°8470	0°5316	1°6939	1°0633	2°5409	1°5949	3°3879	2°1266	4°2348	2°6582
8	0°8468	0°5319	1°6936	1°0638	2°5404	1°5957	3°3873	2°1276	4°2341	2°6595
9	0°8467	0°5321	1°6933	1°0643	2°5400	1°5964	3°3866	2°1286	4°2333	2°6607
10	0°8465	0°5324	1°6930	1°0648	2°5395	1°5972	3°3860	2°1295	4°2325	2°6619
11	0°8463	0°5326	1°6927	1°0653	2°5390	1°5979	3°3854	2°1305	4°2317	2°6632
12	0°8462	0°5329	1°6924	1°0658	2°5386	1°5986	3°3848	2°1315	4°2310	2°6644
13	0°8460	0°5331	1°6921	1°0662	2°5381	1°5994	3°3842	2°1325	4°2302	2°6656
14	0°8459	0°5334	1°6918	1°0667	2°5376	1°6001	3°3835	2°1335	4°2294	2°6668
15	0°8457	0°5336	1°6915	1°0672	2°5372	1°6008	3°3829	2°1345	4°2286	2°6681
16	0°8456	0°5339	1°6911	1°0677	2°5367	1°6016	3°3823	2°1354	4°2279	2°6693
17	0°8454	0°5341	1°6908	1°0682	2°5363	1°6023	3°3817	2°1364	4°2271	2°6705
18	0°8453	0°5344	1°6905	1°0687	2°5358	1°6031	3°3810	2°1374	4°2263	2°6718
19	0°8451	0°5346	1°6902	1°0692	2°5353	1°6038	3°3804	2°1384	4°2255	2°6730
20	0°8450	0°5348	1°6899	1°0697	2°5349	1°6045	3°3798	2°1394	4°2248	2°6742
21	0°8448	0°5351	1°6896	1°0702	2°5344	1°6053	3°3792	2°1404	4°2240	2°6754
22	0°8446	0°5353	1°6893	1°0707	2°5339	1°6060	3°3786	2°1413	4°2232	2°6767
23	0°8445	0°5356	1°6890	1°0712	2°5335	1°6067	3°3779	2°1423	4°2224	2°6779
24	0°8443	0°5358	1°6887	1°0717	2°5330	1°6075	3°3773	2°1433	4°2216	2°6791
25	0°8442	0°5361	1°6883	1°0721	2°5325	1°6082	3°3767	2°1443	4°2209	2°6804
26	0°8440	0°5363	1°6880	1°0726	2°5320	1°6090	3°3761	2°1453	4°2201	2°6816
27	0°8439	0°5366	1°6877	1°0731	2°5316	1°6097	3°3754	2°1463	4°2193	2°6828
28	0°8437	0°5368	1°6874	1°0736	2°5311	1°6104	3°3748	2°1472	4°2185	2°6840
29	0°8435	0°5371	1°6871	1°0741	2°5306	1°6112	3°3742	2°1482	4°2177	2°6853
30	0°8434	0°5373	1°6868	1°0746	2°5302	1°6119	3°3736	2°1492	4°2170	2°6865
31	0°8432	0°5375	1°6865	1°0751	2°5297	1°6126	3°3729	2°1502	4°2162	2°6877
32	0°8431	0°5378	1°6862	1°0756	2°5292	1°6134	3°3723	2°1512	4°2154	2°6890
33	0°8429	0°5380	1°6858	1°0761	2°5288	1°6141	3°3717	2°1521	4°2146	2°6902
34	0°8428	0°5383	1°6855	1°0766	2°5283	1°6148	3°3711	2°1531	4°2138	2°6914
35	0°8426	0°5385	1°6852	1°0771	2°5278	1°6156	3°3704	2°1541	4°2130	2°6926
36	0°8425	0°5388	1°6849	1°0775	2°5274	1°6163	3°3698	2°1551	4°2122	2°6939
37	0°8423	0°5390	1°6846	1°0780	2°5269	1°6170	3°3692	2°1561	4°2115	2°6951
38	0°8421	0°5393	1°6843	1°0785	2°5264	1°6178	3°3686	2°1570	4°2107	2°6963
39	0°8420	0°5395	1°6840	1°0790	2°5259	1°6185	3°3679	2°1580	4°2099	2°6975
40	0°8418	0°5398	1°6836	1°0795	2°5255	1°6193	3°3673	2°1590	4°2091	2°6988
41	0°8417	0°5400	1°6833	1°0800	2°5250	1°6200	3°3667	2°1600	4°2083	2°7000
42	0°8415	0°5402	1°6830	1°0805	2°5245	1°6207	3°3660	2°1610	4°2076	2°7012
43	0°8414	0°5405	1°6827	1°0810	2°5241	1°6215	3°3654	2°1619	4°2068	2°7024
44	0°8412	0°5407	1°6824	1°0815	2°5236	1°6222	3°3648	2°1629	4°2060	2°7036
45	0°8410	0°5410	1°6821	1°0819	2°5231	1°6229	3°3642	2°1639	4°2052	2°7049
46	0°8409	0°5412	1°6818	1°0824	2°5226	1°6237	3°3635	2°1649	4°2044	2°7061
47	0°8407	0°5415	1°6814	1°0829	2°5222	1°6244	3°3629	2°1659	4°2036	2°7073
48	0°8406	0°5417	1°6811	1°0834	2°5217	1°6251	3°3623	2°1668	4°2028	2°7085
49	0°8404	0°5420	1°6808	1°0839	2°5212	1°6259	3°3616	2°1678	4°2020	2°7098
50	0°8403	0°5422	1°6805	1°0844	2°5208	1°6266	3°3610	2°1688	4°2013	2°7110
51	0°8401	0°5424	1°6802	1°0849	2°5203	1°6273	3°3604	2°1698	4°2005	2°7122
52	0°8399	0°5427	1°6799	1°0854	2°5198	1°6281	3°3597	2°1707	4°1997	2°7134
53	0°8398	0°5429	1°6796	1°0859	2°5193	1°6288	3°3591	2°1717	4°1989	2°7147
54	0°8396	0°5432	1°6792	1°0863	2°5189	1°6295	3°3585	2°1727	4°1981	2°7159
55	0°8395	0°5434	1°6789	1°0868	2°5184	1°6303	3°3578	2°1737	4°1973	2°7171
56	0°8393	0°5437	1°6786	1°0873	2°5179	1°6310	3°3572	2°1747	4°1965	2°7183
57	0°8391	0°5439	1°6783	1°0878	2°5174	1°6317	3°3566	2°1756	4°1957	2°7195
58	0°8390	0°5442	1°6780	1°0883	2°5170	1°6325	3°3559	2°1766	4°1949	2°7208
59	0°8388	0°5444	1°6777	1°0888	2°5165	1°6332	3°3553	2°1776	4°1941	2°7220
60	0°8387	0°5446	1°6773	1°0893	2°5160	1°6339	3°3547	2°1786	4°1934	2°7232
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5·0883	3·1795	5·9363	3·7094	6·7844	4·2394	7·6324	4·7693	8·4805	5·2992	60
5·0874	3·1810	5·9353	3·7112	6·7832	4·2413	7·6310	4·7715	8·4789	5·3017	59
5·0864	3·1825	5·9342	3·7129	6·7819	4·2433	7·6297	4·7737	8·4774	5·3041	58
5·0855	3·1840	5·9331	3·7146	6·7807	4·2453	7·6283	4·7759	8·4759	5·3066	57
5·0846	3·1854	5·9320	3·7163	6·7794	4·2472	7·6269	4·7782	8·4743	5·3091	56
5·0837	3·1869	5·9309	3·7181	6·7782	4·2492	7·6255	4·7804	8·4728	5·3115	55
5·0827	3·1884	5·9299	3·7198	6·7770	4·2512	7·6241	4·7826	8·4712	5·3140	54
5·0818	3·1899	5·9288	3·7215	6·7757	4·2532	7·6227	4·7848	8·4697	5·3165	53
5·0809	3·1913	5·9277	3·7232	6·7745	4·2551	7·6213	4·7870	8·4681	5·3189	52
5·0799	3·1928	5·9266	3·7250	6·7733	4·2571	7·6199	4·7892	8·4666	5·3214	51
5·0790	3·1943	5·9255	3·7267	6·7720	4·2591	7·6185	4·7915	8·4650	5·3238	50
5·0781	3·1958	5·9244	3·7284	6·7708	4·2610	7·6171	4·7937	8·4635	5·3263	49
5·0772	3·1973	5·9234	3·7301	6·7695	4·2630	7·6157	4·7959	8·4619	5·3288	48
5·0762	3·1987	5·9223	3·7319	6·7683	4·2650	7·6143	4·7981	8·4604	5·3312	47
5·0753	3·2002	5·9212	3·7336	6·7671	4·2669	7·6129	4·8003	8·4588	5·3337	46
5·0744	3·2017	5·9201	3·7353	6·7658	4·2689	7·6116	4·8025	8·4573	5·3361	45
5·0734	3·2032	5·9190	3·7370	6·7646	4·2709	7·6102	4·8047	8·4557	5·3386	44
5·0725	3·2046	5·9179	3·7387	6·7633	4·2729	7·6088	4·8070	8·4542	5·3411	43
5·0716	3·2061	5·9168	3·7405	6·7621	4·2748	7·6074	4·8092	8·4526	5·3435	42
5·0706	3·2076	5·9157	3·7422	6·7609	4·2768	7·6060	4·8114	8·4511	5·3460	41
5·0697	3·2091	5·9147	3·7439	6·7596	4·2788	7·6046	4·8136	8·4495	5·3484	40
5·0688	3·2105	5·9136	3·7456	6·7584	4·2807	7·6032	4·8158	8·4480	5·3509	39
5·0678	3·2120	5·9125	3·7473	6·7571	4·2827	7·6018	4·8180	8·4464	5·3534	38
5·0669	3·2135	5·9114	3·7491	6·7559	4·2846	7·6004	4·8202	8·4448	5·3558	37
5·0660	3·2150	5·9103	3·7508	6·7546	4·2866	7·5990	4·8224	8·4433	5·3583	36
5·0650	3·2164	5·9092	3·7525	6·7534	4·2886	7·5975	4·8247	8·4417	5·3607	35
5·0641	3·2179	5·9081	3·7542	6·7521	4·2905	7·5961	4·8269	8·4402	5·3632	34
5·0632	3·2194	5·9070	3·7559	6·7509	4·2925	7·5947	4·8291	8·4386	5·3656	33
5·0622	3·2209	5·9059	3·7577	6·7496	4·2945	7·5933	4·8313	8·4370	5·3681	32
5·0613	3·2223	5·9048	3·7594	6·7484	4·2964	7·5919	4·8335	8·4355	5·3705	31
5·0603	3·2238	5·9037	3·7611	6·7471	4·2984	7·5905	4·8357	8·4339	5·3730	30
5·0594	3·2253	5·9026	3·7628	6·7459	4·3004	7·5891	4·8379	8·4324	5·3754	29
5·0585	3·2267	5·9016	3·7645	6·7446	4·3023	7·5877	4·8401	8·4308	5·3779	28
5·0575	3·2282	5·9005	3·7662	6·7434	4·3043	7·5863	4·8423	8·4292	5·3804	27
5·0566	3·2297	5·8994	3·7680	6·7421	4·3062	7·5849	4·8445	8·4277	5·3828	26
5·0557	3·2312	5·8983	3·7697	6·7409	4·3082	7·5835	4·8467	8·4261	5·3853	25
5·0547	3·2326	5·8972	3·7714	6·7396	4·3102	7·5821	4·8489	8·4245	5·3877	24
5·0538	3·2341	5·8961	3·7731	6·7384	4·3121	7·5807	4·8511	8·4230	5·3902	23
5·0528	3·2356	5·8950	3·7748	6·7371	4·3141	7·5792	4·8533	8·4214	5·3926	22
5·0519	3·2370	5·8939	3·7765	6·7359	4·3160	7·5778	4·8556	8·4198	5·3951	21
5·0509	3·2385	5·8928	3·7783	6·7346	4·3180	7·5764	4·8578	8·4182	5·3975	20
5·0500	3·2400	5·8917	3·7800	6·7333	4·3200	7·5750	4·8600	8·4167	5·4000	19
5·0491	3·2414	5·8906	3·7817	6·7321	4·3219	7·5736	4·8622	8·4151	5·4024	18
5·0481	3·2429	5·8895	3·7834	6·7308	4·3239	7·5722	4·8644	8·4135	5·4049	17
5·0472	3·2444	5·8884	3·7851	6·7296	4·3258	7·5708	4·8666	8·4120	5·4073	16
5·0462	3·2458	5·8873	3·7868	6·7283	4·3278	7·5694	4·8688	8·4104	5·4097	15
5·0453	3·2473	5·8862	3·7885	6·7271	4·3298	7·5679	4·8710	8·4088	5·4122	14
5·0443	3·2488	5·8851	3·7902	6·7258	4·3317	7·5665	4·8732	8·4072	5·4146	13
5·0434	3·2502	5·8840	3·7920	6·7245	4·3337	7·5651	4·8754	8·4057	5·4171	12
5·0425	3·2517	5·8829	3·7937	6·7233	4·3356	7·5637	4·8776	8·4041	5·4195	11
5·0415	3·2532	5·8818	3·7954	6·7220	4·3376	7·5623	4·8798	8·4025	5·4220	10
5·0406	3·2546	5·8807	3·7971	6·7207	4·3395	7·5608	4·8820	8·4009	5·4244	9
5·0396	3·2561	5·8795	3·7988	6·7195	4·3415	7·5594	4·8842	8·3994	5·4269	8
5·0387	3·2576	5·8784	3·8005	6·7182	4·3434	7·5580	4·8864	8·3978	5·4293	7
5·0377	3·2590	5·8773	3·8022	6·7170	4·3454	7·5566	4·8886	8·3962	5·4317	6
5·0368	3·2605	5·8762	3·8039	6·7157	4·3473	7·5552	4·8908	8·3946	5·4342	5
5·0358	3·2620	5·8751	3·8056	6·7144	4·3493	7·5537	4·8930	8·3930	5·4366	4
5·0349	3·2634	5·8740	3·8073	6·7132	4·3513	7·5523	4·8952	8·3915	5·4391	3
5·0339	3·2649	5·8729	3·8091	6·7119	4·3532	7·5509	4·8974	8·3899	5·4415	2
5·0330	3·2664	5·8718	3·8108	6·7106	4·3552	7·5495	4·8996	8·3883	5·4440	1
5·0320	3·2678	5·8707	3·8125	6·7094	4·3571	7·5480	4·9018	8·3867	5·4464	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 33 Degrees.

Dist.	1		2		3		4		5	
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1	0°8385	0°5449	1°6770	1°0898	2°5155	1°6346	3°3540	2°1795	4°1926	2°7244
2	0°8384	0°5451	1°6767	1°0903	2°5151	1°6354	3°3534	2°1805	4°1918	2°7256
3	0°8382	0°5454	1°6764	1°0907	2°5146	1°6361	3°3528	2°1815	4°1910	2°7269
4	0°8380	0°5456	1°6761	1°0912	2°5141	1°6368	3°3521	2°1825	4°1902	2°7281
5	0°8379	0°5459	1°6758	1°0917	2°5136	1°6376	3°3515	2°1834	4°1894	2°7293
6	0°8377	0°5461	1°6754	1°0922	2°5132	1°6383	3°3509	2°1844	4°1886	2°7305
7	0°8376	0°5463	1°6751	1°0927	2°5127	1°6390	3°3502	2°1854	4°1878	2°7317
8	0°8374	0°5466	1°6748	1°0932	2°5122	1°6398	3°3496	2°1864	4°1870	2°7329
9	0°8372	0°5468	1°6745	1°0937	2°5117	1°6405	3°3490	2°1873	4°1862	2°7342
10	0°8371	0°5471	1°6742	1°0942	2°5112	1°6412	3°3483	2°1883	4°1854	2°7354
11	0°8369	0°5473	1°6738	1°0946	2°5108	1°6420	3°3477	2°1893	4°1846	2°7366
12	0°8368	0°5476	1°6735	1°0951	2°5103	1°6427	3°3471	2°1903	4°1838	2°7378
13	0°8366	0°5478	1°6732	1°0956	2°5098	1°6434	3°3464	2°1912	4°1830	2°7390
14	0°8364	0°5480	1°6729	1°0961	2°5093	1°6441	3°3458	2°1922	4°1822	2°7402
15	0°8363	0°5483	1°6726	1°0966	2°5089	1°6449	3°3451	2°1932	4°1814	2°7415
16	0°8361	0°5485	1°6723	1°0971	2°5084	1°6456	3°3445	2°1941	4°1806	2°7427
17	0°8360	0°5488	1°6719	1°0976	2°5079	1°6463	3°3439	2°1951	4°1798	2°7439
18	0°8358	0°5490	1°6716	1°0980	2°5074	1°6471	3°3432	2°1961	4°1790	2°7451
19	0°8356	0°5493	1°6713	1°0985	2°5069	1°6478	3°3426	2°1971	4°1782	2°7463
20	0°8355	0°5495	1°6710	1°0990	2°5065	1°6485	3°3420	2°1980	4°1774	2°7475
21	0°8353	0°5498	1°6707	1°0995	2°5060	1°6493	3°3413	2°1990	4°1766	2°7488
22	0°8352	0°5500	1°6703	1°1000	2°5055	1°6500	3°3407	2°2000	4°1758	2°7500
23	0°8350	0°5502	1°6700	1°1005	2°5050	1°6507	3°3400	2°2010	4°1750	2°7512
24	0°8348	0°5505	1°6697	1°1010	2°5045	1°6514	3°3394	2°2019	4°1742	2°7524
25	0°8347	0°5507	1°6694	1°1014	2°5041	1°6522	3°3388	2°2029	4°1734	2°7536
26	0°8345	0°5510	1°6691	1°1019	2°5036	1°6529	3°3381	2°2039	4°1726	2°7548
27	0°8344	0°5512	1°6687	1°1024	2°5031	1°6536	3°3375	2°2048	4°1718	2°7560
28	0°8342	0°5515	1°6684	1°1029	2°5026	1°6544	3°3368	2°2058	4°1710	2°7573
29	0°8340	0°5517	1°6681	1°1034	2°5021	1°6551	3°3362	2°2068	4°1702	2°7585
30	0°8339	0°5519	1°6678	1°1039	2°5017	1°6558	3°3355	2°2077	4°1694	2°7597
31	0°8337	0°5522	1°6675	1°1044	2°5012	1°6565	3°3349	2°2087	4°1686	2°7609
32	0°8336	0°5524	1°6671	1°1048	2°5007	1°6573	3°3343	2°2097	4°1678	2°7621
33	0°8334	0°5527	1°6668	1°1053	2°5002	1°6580	3°3336	2°2107	4°1670	2°7633
34	0°8332	0°5529	1°6665	1°1058	2°4997	1°6587	3°3330	2°2116	4°1662	2°7645
35	0°8331	0°5531	1°6662	1°1063	2°4992	1°6594	3°3323	2°2126	4°1654	2°7657
36	0°8329	0°5534	1°6658	1°1068	2°4988	1°6602	3°3317	2°2136	4°1646	2°7670
37	0°8328	0°5536	1°6655	1°1073	2°4983	1°6609	3°3310	2°2145	4°1638	2°7682
38	0°8326	0°5539	1°6652	1°1078	2°4978	1°6616	3°3304	2°2155	4°1630	2°7694
39	0°8324	0°5541	1°6649	1°1082	2°4973	1°6624	3°3298	2°2165	4°1622	2°7706
40	0°8323	0°5544	1°6646	1°1087	2°4968	1°6631	3°3291	2°2174	4°1614	2°7718
41	0°8321	0°5546	1°6642	1°1092	2°4963	1°6638	3°3285	2°2184	4°1606	2°7730
42	0°8320	0°5548	1°6639	1°1097	2°4959	1°6645	3°3278	2°2194	4°1598	2°7742
43	0°8318	0°5551	1°6636	1°1102	2°4954	1°6653	3°3272	2°2203	4°1590	2°7754
44	0°8316	0°5553	1°6633	1°1107	2°4949	1°6660	3°3265	2°2213	4°1582	2°7766
45	0°8315	0°5556	1°6629	1°1111	2°4944	1°6667	3°3259	2°2223	4°1573	2°7779
46	0°8313	0°5558	1°6626	1°1116	2°4939	1°6674	3°3252	2°2232	4°1565	2°7791
47	0°8311	0°5561	1°6623	1°1121	2°4934	1°6682	3°3246	2°2242	4°1557	2°7803
48	0°8310	0°5563	1°6620	1°1126	2°4930	1°6689	3°3239	2°2252	4°1549	2°7815
49	0°8308	0°5565	1°6616	1°1131	2°4925	1°6696	3°3233	2°2261	4°1541	2°7827
50	0°8307	0°5568	1°6613	1°1136	2°4920	1°6703	3°3226	2°2271	4°1533	2°7839
51	0°8305	0°5570	1°6610	1°1140	2°4915	1°6711	3°3220	2°2281	4°1525	2°7851
52	0°8303	0°5573	1°6607	1°1145	2°4910	1°6718	3°3213	2°2290	4°1517	2°7863
53	0°8302	0°5575	1°6603	1°1150	2°4905	1°6725	3°3207	2°2300	4°1509	2°7875
54	0°8300	0°5577	1°6600	1°1155	2°4900	1°6732	3°3200	2°2310	4°1501	2°7887
55	0°8299	0°5580	1°6597	1°1160	2°4896	1°6740	3°3194	2°2319	4°1493	2°7899
56	0°8297	0°5582	1°6594	1°1165	2°4891	1°6747	3°3188	2°2329	4°1484	2°7911
57	0°8295	0°5585	1°6591	1°1169	2°4886	1°6754	3°3181	2°2339	4°1476	2°7923
58	0°8294	0°5587	1°6587	1°1174	2°4881	1°6761	3°3175	2°2348	4°1468	2°7936
59	0°8292	0°5590	1°6584	1°1179	2°4876	1°6769	3°3168	2°2358	4°1460	2°7948
60	0°8290	0°5592	1°6581	1°1184	2°4871	1°6776	3°3162	2°2368	4°1452	2°7960
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
5-0320	3-2678	5-8707	3-8125	6-7094	4-3571	7-5480	4-9018	8-3867	5-4464	<b>60</b>
5-0311	3-2693	5-8696	3-8142	6-7081	4-3591	7-5466	4-9039	8-3851	5-4488	<b>59</b>
5-0301	3-2708	5-8685	3-8159	6-7068	4-3610	7-5452	4-9061	8-3835	5-4513	<b>58</b>
5-0292	3-2722	5-8674	3-8176	6-7056	4-3630	7-5438	4-9083	8-3820	5-4537	<b>57</b>
5-0282	3-2737	5-8663	3-8193	6-7043	4-3649	7-5423	4-9105	8-3804	5-4561	<b>56</b>
5-0273	3-2751	5-8651	3-8210	6-7030	4-3669	7-5409	4-9127	8-3788	5-4586	<b>55</b>
5-0263	3-2766	5-8640	3-8227	6-7017	4-3688	7-5395	4-9149	8-3772	5-4610	<b>54</b>
5-0254	3-2781	5-8629	3-8244	6-7005	4-3708	7-5380	4-9171	8-3756	5-4635	<b>53</b>
5-0244	3-2795	5-8618	3-8261	6-6992	4-3727	7-5366	4-9193	8-3740	5-4659	<b>52</b>
5-0235	3-2810	5-8607	3-8278	6-6979	4-3747	7-5352	4-9215	8-3724	5-4683	<b>51</b>
5-0225	3-2825	5-8596	3-8295	6-6967	4-3766	7-5337	4-9237	8-3708	5-4708	<b>50</b>
5-0215	3-2839	5-8585	3-8312	6-6954	4-3786	7-5323	4-9259	8-3692	5-4732	<b>49</b>
5-0206	3-2854	5-8574	3-8329	6-6941	4-3805	7-5309	4-9281	8-3676	5-4756	<b>48</b>
5-0196	3-2868	5-8562	3-8346	6-6928	4-3825	7-5294	4-9303	8-3661	5-4781	<b>47</b>
5-0187	3-2883	5-8551	3-8363	6-6916	4-3844	7-5280	4-9324	8-3645	5-4805	<b>46</b>
5-0177	3-2898	5-8540	3-8381	6-6903	4-3863	7-5266	4-9346	8-3629	5-4829	<b>45</b>
5-0168	3-2912	5-8529	3-8398	6-6890	4-3883	7-5251	4-9368	8-3613	5-4854	<b>44</b>
5-0158	3-2927	5-8518	3-8415	6-6877	4-3902	7-5237	4-9390	8-3597	5-4878	<b>43</b>
5-0148	3-2941	5-8507	3-8432	6-6865	4-3922	7-5223	4-9412	8-3581	5-4902	<b>42</b>
5-0139	3-2956	5-8495	3-8449	6-6852	4-3941	7-5208	4-9434	8-3565	5-4927	<b>41</b>
5-0129	3-2971	5-8484	3-8466	6-6839	4-3961	7-5194	4-9456	8-3549	5-4951	<b>40</b>
5-0120	3-2985	5-8473	3-8483	6-6826	4-3980	7-5180	4-9478	8-3533	5-4975	<b>39</b>
5-0110	3-3000	5-8462	3-8500	6-6813	4-4000	7-5165	4-9500	8-3517	5-5000	<b>38</b>
5-0100	3-3014	5-8451	3-8517	6-6801	4-4019	7-5151	4-9521	8-3501	5-5024	<b>37</b>
5-0091	3-3029	5-8439	3-8534	6-6788	4-4038	7-5136	4-9543	8-3485	5-5048	<b>36</b>
5-0081	3-3043	5-8428	3-8551	6-6775	4-4058	7-5122	4-9565	8-3469	5-5072	<b>35</b>
5-0072	3-3058	5-8417	3-8568	6-6762	4-4077	7-5107	4-9587	8-3453	5-5097	<b>34</b>
5-0062	3-3073	5-8406	3-8585	6-6749	4-4097	7-5093	4-9609	8-3437	5-5121	<b>33</b>
5-0052	3-3087	5-8394	3-8602	6-6737	4-4116	7-5079	4-9631	8-3421	5-5145	<b>32</b>
5-0043	3-3102	5-8383	3-8619	6-6724	4-4136	7-5064	4-9652	8-3405	5-5169	<b>31</b>
5-0033	3-3116	5-8372	3-8636	6-6711	4-4155	7-5050	4-9674	8-3389	5-5194	<b>30</b>
5-0024	3-3131	5-8361	3-8653	6-6698	4-4174	7-5035	4-9696	8-3373	5-5218	<b>29</b>
5-0014	3-3145	5-8350	3-8670	6-6685	4-4194	7-5021	4-9718	8-3356	5-5242	<b>28</b>
5-0004	3-3160	5-8338	3-8687	6-6672	4-4213	7-5006	4-9740	8-3340	5-5266	<b>27</b>
4-9995	3-3174	5-8327	3-8703	6-6659	4-4233	7-4992	4-9762	8-3324	5-5291	<b>26</b>
4-9985	3-3189	5-8316	3-8720	6-6647	4-4252	7-4977	4-9783	8-3308	5-5315	<b>25</b>
4-9975	3-3203	5-8304	3-8737	6-6634	4-4271	7-4963	4-9805	8-3292	5-5339	<b>24</b>
4-9966	3-3218	5-8293	3-8754	6-6621	4-4291	7-4948	4-9827	8-3276	5-5363	<b>23</b>
4-9956	3-3233	5-8282	3-8771	6-6608	4-4310	7-4934	4-9849	8-3260	5-5388	<b>22</b>
4-9946	3-3247	5-8271	3-8788	6-6595	4-4329	7-4919	4-9871	8-3244	5-5412	<b>21</b>
4-9937	3-3262	5-8259	3-8805	6-6582	4-4349	7-4905	4-9892	8-3228	5-5436	<b>20</b>
4-9927	3-3276	5-8248	3-8822	6-6569	4-4368	7-4890	4-9914	8-3212	5-5460	<b>19</b>
4-9917	3-3291	5-8237	3-8839	6-6556	4-4388	7-4876	4-9936	8-3195	5-5484	<b>18</b>
4-9908	3-3305	5-8225	3-8856	6-6543	4-4407	7-4861	4-9958	8-3179	5-5509	<b>17</b>
4-9898	3-3320	5-8214	3-8873	6-6530	4-4426	7-4847	4-9980	8-3163	5-5533	<b>16</b>
4-9888	3-3334	5-8203	3-8890	6-6518	4-4446	7-4832	5-0001	8-3147	5-5557	<b>15</b>
4-9878	3-3349	5-8192	3-8907	6-6505	4-4465	7-4818	5-0023	8-3131	5-5581	<b>14</b>
4-9869	3-3363	5-8180	3-8924	6-6492	4-4484	7-4803	5-0045	8-3115	5-5605	<b>13</b>
4-9859	3-3378	5-8169	3-8941	6-6479	4-4504	7-4789	5-0067	8-3098	5-5630	<b>12</b>
4-9849	3-3392	5-8158	3-8958	6-6466	4-4523	7-4774	5-0088	8-3082	5-5654	<b>11</b>
4-9840	3-3407	5-8146	3-8975	6-6453	4-4542	7-4759	5-0110	8-3066	5-5678	<b>10</b>
4-9830	3-3421	5-8135	3-8991	6-6440	4-4562	7-4745	5-0132	8-3050	5-5702	<b>9</b>
4-9820	3-3436	5-8124	3-9008	6-6427	4-4581	7-4730	5-0154	8-3034	5-5726	<b>8</b>
4-9810	3-3450	5-8112	3-9025	6-6414	4-4600	7-4716	5-0175	8-3017	5-5750	<b>7</b>
4-9801	3-3465	5-8101	3-9042	6-6401	4-4620	7-4701	5-0197	8-3001	5-5775	<b>6</b>
4-9791	3-3479	5-8090	3-9059	6-6388	4-4639	7-4687	5-0219	8-2985	5-5799	<b>5</b>
4-9781	3-3494	5-8078	3-9076	6-6375	4-4658	7-4672	5-0241	8-2969	5-5823	<b>4</b>
4-9772	3-3508	5-8067	3-9093	6-6362	4-4678	7-4657	5-0262	8-2953	5-5847	<b>3</b>
4-9762	3-3523	5-8055	3-9110	6-6349	4-4697	7-4643	5-0284	8-2936	5-5871	<b>2</b>
4-9752	3-3537	5-8044	3-9127	6-6336	4-4716	7-4628	5-0306	8-2920	5-5895	<b>1</b>
4-9742	3-3552	5-8033	3-9144	6-6323	4-4735	7-4613	5-0327	8-2904	5-5919	<b>0</b>
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 34 Degrees.

Dist.	1		2		3		4		5	
Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°8290	0°5592	1°6581	1°1184	2°4871	1°6776	3°3162	2°2368	4°1452	2°7960
1	0°8289	0°5594	1°6577	1°1189	2°4866	1°6783	3°3155	2°2377	4°1444	2°7972
2	0°8287	0°5597	1°6574	1°1194	2°4861	1°6790	3°3148	2°2387	4°1436	2°7984
3	0°8285	0°5599	1°6571	1°1198	2°4856	1°6797	3°3142	2°2397	4°1427	2°7996
4	0°8284	0°5602	1°6568	1°1203	2°4852	1°6805	3°3135	2°2406	4°1419	2°8008
5	0°8282	0°5604	1°6564	1°1208	2°4847	1°6812	3°3129	2°2416	4°1411	2°8020
6	0°8281	0°5606	1°6561	1°1213	2°4842	1°6819	3°3122	2°2426	4°1403	2°8032
7	0°8279	0°5609	1°6558	1°1218	2°4837	1°6826	3°3116	2°2435	4°1395	2°8044
8	0°8277	0°5611	1°6555	1°1222	2°4832	1°6834	3°3109	2°2445	4°1387	2°8056
9	0°8276	0°5614	1°6551	1°1227	2°4827	1°6841	3°3103	2°2454	4°1379	2°8068
10	0°8274	0°5616	1°6548	1°1232	2°4822	1°6848	3°3096	2°2464	4°1370	2°8080
11	0°8272	0°5618	1°6545	1°1237	2°4817	1°6855	3°3090	2°2474	4°1362	2°8092
12	0°8271	0°5621	1°6542	1°1242	2°4812	1°6863	3°3083	2°2483	4°1354	2°8104
13	0°8269	0°5623	1°6538	1°1246	2°4808	1°6870	3°3077	2°2493	4°1346	2°8116
14	0°8268	0°5626	1°6535	1°1251	2°4803	1°6877	3°3070	2°2503	4°1338	2°8128
15	0°8266	0°5628	1°6532	1°1256	2°4798	1°6884	3°3064	2°2512	4°1329	2°8140
16	0°8264	0°5630	1°6529	1°1261	2°4793	1°6891	3°3057	2°2522	4°1321	2°8152
17	0°8263	0°5633	1°6525	1°1266	2°4788	1°6899	3°3050	2°2531	4°1313	2°8164
18	0°8261	0°5635	1°6522	1°1271	2°4783	1°6906	3°3044	2°2541	4°1305	2°8176
19	0°8259	0°5638	1°6519	1°1275	2°4778	1°6913	3°3037	2°2551	4°1297	2°8188
20	0°8258	0°5640	1°6515	1°1280	2°4773	1°6920	3°3031	2°2560	4°1289	2°8200
21	0°8256	0°5642	1°6512	1°1285	2°4768	1°6927	3°3024	2°2570	4°1280	2°8212
22	0°8254	0°5645	1°6509	1°1290	2°4763	1°6935	3°3018	2°2579	4°1272	2°8224
23	0°8253	0°5647	1°6506	1°1295	2°4758	1°6942	3°3011	2°2589	4°1264	2°8236
24	0°8251	0°5650	1°6502	1°1299	2°4753	1°6949	3°3005	2°2599	4°1256	2°8248
25	0°8249	0°5652	1°6499	1°1304	2°4748	1°6956	3°2998	2°2608	4°1247	2°8260
26	0°8248	0°5654	1°6496	1°1309	2°4744	1°6963	3°2991	2°2618	4°1239	2°8272
27	0°8246	0°5657	1°6492	1°1314	2°4739	1°6971	3°2985	2°2627	4°1231	2°8284
28	0°8245	0°5659	1°6489	1°1319	2°4734	1°6978	3°2978	2°2637	4°1223	2°8296
29	0°8243	0°5662	1°6486	1°1323	2°4729	1°6985	3°2972	2°2647	4°1215	2°8308
30	0°8241	0°5664	1°6483	1°1328	2°4724	1°6992	3°2965	2°2656	4°1206	2°8320
31	0°8240	0°5666	1°6479	1°1333	2°4719	1°6999	3°2958	2°2666	4°1198	2°8332
32	0°8238	0°5669	1°6476	1°1338	2°4714	1°7007	3°2952	2°2675	4°1190	2°8344
33	0°8236	0°5671	1°6473	1°1343	2°4709	1°7014	3°2945	2°2685	4°1182	2°8356
34	0°8235	0°5674	1°6469	1°1347	2°4704	1°7021	3°2939	2°2695	4°1173	2°8368
35	0°8233	0°5676	1°6466	1°1352	2°4699	1°7028	3°2932	2°2704	4°1165	2°8380
36	0°8231	0°5678	1°6463	1°1357	2°4694	1°7035	3°2925	2°2714	4°1157	2°8392
37	0°8230	0°5681	1°6459	1°1362	2°4689	1°7042	3°2919	2°2723	4°1149	2°8404
38	0°8228	0°5683	1°6456	1°1366	2°4684	1°7050	3°2912	2°2733	4°1140	2°8416
39	0°8226	0°5686	1°6453	1°1371	2°4679	1°7057	3°2906	2°2742	4°1132	2°8428
40	0°8225	0°5688	1°6450	1°1376	2°4674	1°7064	3°2899	2°2752	4°1124	2°8440
41	0°8223	0°5690	1°6446	1°1381	2°4669	1°7071	3°2892	2°2762	4°1115	2°8452
42	0°8221	0°5693	1°6443	1°1386	2°4664	1°7078	3°2886	2°2771	4°1107	2°8464
43	0°8220	0°5695	1°6440	1°1390	2°4659	1°7086	3°2879	2°2781	4°1099	2°8476
44	0°8218	0°5698	1°6436	1°1395	2°4654	1°7093	3°2873	2°2790	4°1091	2°8488
45	0°8216	0°5700	1°6433	1°1400	2°4649	1°7100	3°2866	2°2800	4°1082	2°8500
46	0°8215	0°5702	1°6430	1°1405	2°4644	1°7107	3°2859	2°2809	4°1074	2°8512
47	0°8213	0°5705	1°6426	1°1409	2°4639	1°7114	3°2853	2°2819	4°1066	2°8524
48	0°8211	0°5707	1°6423	1°1414	2°4634	1°7121	3°2846	2°2829	4°1057	2°8536
49	0°8210	0°5710	1°6420	1°1419	2°4629	1°7129	3°2839	2°2838	4°1049	2°8548
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51	0°8207	0°5714	1°6413	1°1429	2°4620	1°7143	3°2826	2°2857	4°1033	2°8571
52	0°8205	0°5717	1°6410	1°1433	2°4615	1°7150	3°2819	2°2867	4°1024	2°8583
53	0°8203	0°5719	1°6406	1°1438	2°4610	1°7157	3°2813	2°2876	4°1016	2°8595
54	0°8202	0°5721	1°6403	1°1443	2°4605	1°7164	3°2806	2°2886	4°1008	2°8607
55	0°8200	0°5724	1°6400	1°1448	2°4600	1°7172	3°2799	2°2895	4°0999	2°8619
56	0°8198	0°5726	1°6396	1°1452	2°4595	1°7179	3°2793	2°2905	4°0991	2°8631
57	0°8197	0°5729	1°6393	1°1457	2°4590	1°7186	3°2786	2°2914	4°0983	2°8643
58	0°8195	0°5731	1°6390	1°1462	2°4585	1°7193	3°2779	2°2924	4°0974	2°8655
59	0°8193	0°5733	1°6386	1°1467	2°4580	1°7200	3°2773	2°2934	4°0966	2°8667
60	0°8192	0°5736	1°6383	1°1472	2°4575	1°7207	3°2766	2°2943	4°0958	2°8679
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°9'42	3°35'52	5°8'033	3°9'144	6°6'323	4°4'735	7°4'613	5°0'327	8°2'904	5°5'919	60
4°9'32	3°35'06	5°8'021	3°9'160	6°6'310	4°4'755	7°4'599	5°0'349	8°2'887	5°5'943	59
4°9'23	3°35'51	5°8'010	3°9'177	6°6'297	4°4'774	7°4'584	5°0'371	8°2'871	5°5'968	58
4°9'13	3°35'95	5°7'998	3°9'194	6°6'284	4°4'793	7°4'569	5°0'392	8°2'855	5°5'992	57
4°9'03	3°36'09	5°7'987	3°9'211	6°6'271	4°4'813	7°4'555	5°0'414	8°2'839	5°6'016	56
4°9'693	3°36'24	5°7'976	3°9'228	6°6'258	4°4'832	7°4'540	5°0'436	8°2'822	5°6'040	55
4°9'684	3°36'38	5°7'964	3°9'245	6°6'245	4°4'851	7°4'525	5°0'458	8°2'806	5°6'064	54
4°9'674	3°36'53	5°7'953	3°9'262	6°6'232	4°4'870	7°4'511	5°0'479	8°2'790	5°6'088	53
4°9'664	3°36'67	5°7'941	3°9'278	6°6'219	4°4'890	7°4'496	5°0'501	8°2'773	5°6'112	52
4°9'654	3°36'82	5°7'930	3°9'295	6°6'206	4°4'909	7°4'481	5°0'523	8°2'757	5°6'136	51
4°9'644	3°36'96	5°7'919	3°9'312	6°6'193	4°4'928	7°4'467	5°0'544	8°2'741	5°6'160	50
4°9'635	3°37'11	5°7'907	3°9'329	6°6'180	4°4'947	7°4'452	5°0'566	8°2'724	5°6'184	49
4°9'625	3°37'25	5°7'896	3°9'346	6°6'166	4°4'967	7°4'437	5°0'588	8°2'708	5°6'208	48
4°9'615	3°37'39	5°7'884	3°9'363	6°6'153	4°4'986	7°4'423	5°0'609	8°2'692	5°6'232	47
4°9'605	3°37'54	5°7'873	3°9'380	6°6'140	4°4'505	7°4'408	5°0'631	8°2'675	5°6'256	46
4°9'595	3°37'68	5°7'861	3°9'396	6°6'127	4°4'524	7°4'393	5°0'652	8°2'659	5°6'280	45
4°9'586	3°37'83	5°7'850	3°9'413	6°6'114	4°4'544	7°4'378	5°0'674	8°2'643	5°6'305	44
4°9'576	3°37'97	5°7'838	3°9'430	6°6'101	4°4'563	7°4'364	5°0'696	8°2'626	5°6'329	43
4°9'566	3°38'12	5°7'827	3°9'447	6°6'088	4°4'582	7°4'349	5°0'717	8°2'610	5°6'353	42
4°9'556	3°38'26	5°7'815	3°9'464	6°6'075	4°4'510	7°4'334	5°0'739	8°2'593	5°6'377	41
4°9'546	3°38'40	5°7'804	3°9'480	6°6'062	4°4'512	7°4'319	5°0'761	8°2'577	5°6'401	40
4°9'536	3°38'55	5°7'792	3°9'497	6°6'048	4°4'510	7°4'305	5°0'782	8°2'561	5°6'425	39
4°9'527	3°38'69	5°7'781	3°9'514	6°6'035	4°4'519	7°4'290	5°0'804	8°2'544	5°6'449	38
4°9'517	3°38'84	5°7'769	3°9'531	6°6'022	4°4'517	7°4'275	5°0'825	8°2'528	5°6'473	37
4°9'507	3°38'98	5°7'758	3°9'548	6°6'009	4°4'519	7°4'260	5°0'847	8°2'511	5°6'497	36
4°9'497	3°39'12	5°7'746	3°9'564	6°5'996	4°4'521	7°4'245	5°0'869	8°2'495	5°6'521	35
4°9'487	3°39'27	5°7'735	3°9'581	6°5'983	4°4'523	7°4'231	5°0'890	8°2'478	5°6'545	34
4°9'477	3°39'41	5°7'723	3°9'598	6°5'970	4°4'525	7°4'216	5°0'912	8°2'462	5°6'569	33
4°9'467	3°39'56	5°7'712	3°9'615	6°5'956	4°4'527	7°4'201	5°0'933	8°2'446	5°6'593	32
4°9'457	3°39'70	5°7'700	3°9'632	6°5'943	4°4'529	7°4'186	5°0'955	8°2'429	5°6'617	31
4°9'448	3°39'84	5°7'689	3°9'648	6°5'930	4°4'531	7°4'171	5°0'977	8°2'413	5°6'641	30
4°9'438	3°39'99	5°7'677	3°9'665	6°5'917	4°4'533	7°4'157	5°0'998	8°2'396	5°6'665	29
4°9'428	3°40'13	5°7'666	3°9'682	6°5'904	4°4'535	7°4'142	5°0'1020	8°2'380	5°6'689	28
4°9'418	3°40'28	5°7'654	3°9'699	6°5'891	4°4'537	7°4'127	5°0'1041	8°2'363	5°6'713	27
4°9'408	3°40'42	5°7'643	3°9'716	6°5'877	4°4'538	7°4'112	5°0'1063	8°2'347	5°6'736	26
4°9'398	3°40'56	5°7'631	3°9'732	6°5'864	4°4'540	7°4'097	5°0'1084	8°2'330	5°6'760	25
4°9'388	3°40'71	5°7'620	3°9'749	6°5'851	4°4'542	7°4'082	5°0'1106	8°2'314	5°6'784	24
4°9'378	3°40'85	5°7'608	3°9'766	6°5'838	4°4'544	7°4'067	5°0'1127	8°2'297	5°6'808	23
4°9'368	3°40'99	5°7'596	3°9'783	6°5'824	4°4'546	7°4'053	5°0'1149	8°2'281	5°6'832	22
4°9'358	3°41'14	5°7'585	3°9'799	6°5'811	4°4'548	7°4'038	5°0'1171	8°2'264	5°6'856	21
4°9'349	3°41'28	5°7'573	3°9'816	6°5'798	4°4'550	7°4'023	5°0'1192	8°2'248	5°6'880	20
4°9'339	3°41'42	5°7'562	3°9'833	6°5'785	4°4'552	7°4'008	5°0'1214	8°2'231	5°6'904	19
4°9'329	3°41'57	5°7'550	3°9'850	6°5'772	4°4'554	7°3'993	5°0'1235	8°2'214	5°6'928	18
4°9'319	3°41'71	5°7'538	3°9'866	6°5'758	4°4'556	7°3'978	5°0'1257	8°2'198	5°6'952	17
4°9'309	3°41'85	5°7'527	3°9'883	6°5'745	4°4'558	7°3'963	5°0'1278	8°2'181	5°6'976	16
4°9'299	3°42'00	5°7'515	3°9'900	6°5'732	4°4'560	7°3'948	5°0'1300	8°2'165	5°7'000	15
4°9'289	3°42'14	5°7'504	3°9'916	6°5'718	4°4'5619	7°3'933	5°0'1321	8°2'148	5°7'024	14
4°9'279	3°42'28	5°7'492	3°9'933	6°5'705	4°4'5638	7°3'918	5°0'1343	8°2'132	5°7'047	13
4°9'269	3°42'43	5°7'480	3°9'950	6°5'692	4°4'5657	7°3'903	5°0'1364	8°2'115	5°7'071	12
4°9'259	3°42'57	5°7'469	3°9'967	6°5'679	4°4'5676	7°3'888	5°0'1386	8°2'098	5°7'095	11
4°9'249	3°42'71	5°7'457	3°9'983	6°5'665	4°4'5695	7°3'874	5°0'1407	8°2'082	5°7'119	10
4°9'239	3°42'86	5°7'446	4°0'000	6°5'652	4°4'5714	7°3'859	5°0'1429	8°2'065	5°7'143	9
4°9'229	3°43'00	5°7'434	4°0'017	6°5'639	4°4'5733	7°3'844	5°0'1450	8°2'048	5°7'167	8
4°9'219	3°43'14	5°7'422	4°0'034	6°5'625	4°4'5753	7°3'829	5°0'1472	8°2'032	5°7'191	7
4°9'209	3°43'29	5°7'411	4°0'050	6°5'612	4°4'5772	7°3'814	5°0'1493	8°2'015	5°7'215	6
4°9'199	3°43'43	5°7'399	4°0'067	6°5'599	4°4'5791	7°3'799	5°0'1515	8°1'999	5°7'238	5
4°9'189	3°43'57	5°7'387	4°0'084	6°5'586	4°4'5810	7°3'784	5°0'1536	8°1'982	5°7'262	4
4°9'179	3°43'72	5°7'376	4°0'100	6°5'572	4°4'5829	7°3'769	5°0'1558	8°1'965	5°7'286	3
4°9'169	3°43'86	5°7'364	4°0'117	6°5'559	4°4'5848	7°3'754	5°0'1579	8°1'949	5°7'310	2
4°9'159	3°44'00	5°7'352	4°0'134	6°5'546	4°4'5867	7°3'739	5°0'1600	8°1'932	5°7'334	1
4°9'149	3°44'15	5°7'341	4°0'150	6°5'532	4°4'5886	7°3'724	5°0'1622	8°1'915	5°7'358	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.



# 35 Degrees.

Dist.	1		2		3		4		5		
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0°8192	0°5736	1°6383	1°1472	2°4575	1°7207	3°2766	2°2943	4°0958	2°8679	
1	0°8190	0°5738	1°6380	1°1476	2°4570	1°7214	3°2759	2°2953	4°0949	2°8691	
2	0°8188	0°5741	1°6376	1°1481	2°4565	1°7222	3°2753	2°2962	4°0941	2°8703	
3	0°8187	0°5743	1°6373	1°1486	2°4560	1°7229	3°2746	2°2972	4°0933	2°8715	
4	0°8185	0°5745	1°6370	1°1491	2°4555	1°7236	3°2739	2°2981	4°0924	2°8726	
5	0°8183	0°5748	1°6366	1°1495	2°4550	1°7243	3°2733	2°2991	4°0916	2°8738	
6	0°8181	0°5750	1°6363	1°1500	2°4544	1°7250	3°2726	2°3000	4°0907	2°8750	
7	0°8180	0°5752	1°6360	1°1505	2°4539	1°7257	3°2719	2°3010	4°0899	2°8762	
8	0°8178	0°5755	1°6356	1°1510	2°4534	1°7264	3°2713	2°3019	4°0891	2°8774	
9	0°8176	0°5757	1°6353	1°1514	2°4529	1°7272	3°2706	2°3029	4°0882	2°8786	
10	0°8175	0°5760	1°6350	1°1519	2°4524	1°7279	3°2699	2°3038	4°0874	2°8798	
11	0°8173	0°5762	1°6346	1°1524	2°4519	1°7286	3°2693	2°3048	4°0866	2°8810	
12	0°8171	0°5764	1°6343	1°1529	2°4514	1°7293	3°2686	2°3057	4°0857	2°8822	
13	0°8170	0°5767	1°6340	1°1533	2°4509	1°7300	3°2679	2°3067	4°0849	2°8834	
14	0°8168	0°5769	1°6336	1°1538	2°4504	1°7307	3°2672	2°3076	4°0840	2°8845	
15	0°8166	0°5771	1°6333	1°1543	2°4499	1°7314	3°2666	2°3086	4°0832	2°8857	
16	0°8165	0°5774	1°6329	1°1548	2°4494	1°7321	3°2659	2°3095	4°0824	2°8869	
17	0°8163	0°5776	1°6326	1°1552	2°4489	1°7329	3°2652	2°3105	4°0815	2°8881	
18	0°8161	0°5779	1°6323	1°1557	2°4484	1°7336	3°2646	2°3114	4°0807	2°8893	
19	0°8160	0°5781	1°6319	1°1562	2°4479	1°7343	3°2639	2°3124	4°0798	2°8905	
20	0°8158	0°5783	1°6316	1°1567	2°4474	1°7350	3°2632	2°3133	4°0790	2°8917	
21	0°8156	0°5786	1°6313	1°1571	2°4469	1°7357	3°2625	2°3143	4°0782	2°8928	
22	0°8155	0°5788	1°6309	1°1576	2°4464	1°7364	3°2619	2°3152	4°0773	2°8940	
23	0°8153	0°5790	1°6306	1°1581	2°4459	1°7371	3°2612	2°3162	4°0765	2°8952	
24	0°8151	0°5793	1°6303	1°1586	2°4454	1°7378	3°2605	2°3171	4°0756	2°8964	
25	0°8150	0°5795	1°6299	1°1590	2°4449	1°7386	3°2598	2°3181	4°0748	2°8976	
26	0°8148	0°5798	1°6296	1°1595	2°4444	1°7393	3°2592	2°3190	4°0740	2°8988	
27	0°8146	0°5800	1°6292	1°1600	2°4439	1°7400	3°2585	2°3200	4°0731	2°9000	
28	0°8145	0°5802	1°6289	1°1605	2°4434	1°7407	3°2578	2°3209	4°0723	2°9011	
29	0°8143	0°5805	1°6286	1°1609	2°4429	1°7414	3°2571	2°3219	4°0714	2°9023	
30	0°8141	0°5807	1°6282	1°1614	2°4423	1°7421	3°2565	2°3228	4°0706	2°9035	
31	0°8139	0°5809	1°6279	1°1619	2°4418	1°7428	3°2558	2°3238	4°0697	2°9047	
32	0°8138	0°5812	1°6276	1°1624	2°4413	1°7435	3°2551	2°3247	4°0689	2°9059	
33	0°8136	0°5814	1°6272	1°1628	2°4408	1°7442	3°2544	2°3257	4°0680	2°9071	
34	0°8134	0°5816	1°6269	1°1633	2°4403	1°7449	3°2538	2°3266	4°0672	2°9082	
35	0°8133	0°5819	1°6265	1°1638	2°4398	1°7457	3°2531	2°3275	4°0664	2°9094	
36	0°8131	0°5821	1°6262	1°1642	2°4393	1°7464	3°2524	2°3285	4°0655	2°9106	
37	0°8129	0°5824	1°6259	1°1647	2°4388	1°7471	3°2517	2°3294	4°0647	2°9118	
38	0°8128	0°5826	1°6255	1°1652	2°4383	1°7478	3°2510	2°3304	4°0638	2°9130	
39	0°8126	0°5828	1°6252	1°1657	2°4378	1°7485	3°2504	2°3313	4°0630	2°9142	
40	0°8124	0°5831	1°6248	1°1661	2°4373	1°7492	3°2497	2°3323	4°0621	2°9153	
41	0°8123	0°5833	1°6245	1°1666	2°4368	1°7499	3°2490	2°3332	4°0613	2°9165	
42	0°8121	0°5835	1°6242	1°1671	2°4363	1°7506	3°2483	2°3342	4°0604	2°9177	
43	0°8119	0°5838	1°6238	1°1676	2°4357	1°7513	3°2477	2°3351	4°0596	2°9189	
44	0°8117	0°5840	1°6235	1°1680	2°4352	1°7520	3°2470	2°3361	4°0587	2°9201	
45	0°8116	0°5842	1°6231	1°1685	2°4347	1°7527	3°2463	2°3370	4°0579	2°9212	
46	0°8114	0°5845	1°6228	1°1690	2°4342	1°7535	3°2456	2°3379	4°0570	2°9224	
47	0°8112	0°5847	1°6225	1°1694	2°4337	1°7542	3°2449	2°3389	4°0562	2°9236	
48	0°8111	0°5850	1°6221	1°1699	2°4332	1°7549	3°2443	2°3398	4°0553	2°9248	
49	0°8109	0°5852	1°6218	1°1704	2°4327	1°7556	3°2436	2°3408	4°0545	2°9260	
50	0°8107	0°5854	1°6214	1°1709	2°4322	1°7563	3°2429	2°3417	4°0536	2°9271	
51	0°8106	0°5857	1°6211	1°1713	2°4317	1°7570	3°2422	2°3427	4°0528	2°9283	
52	0°8104	0°5859	1°6208	1°1718	2°4311	1°7577	3°2415	2°3436	4°0519	2°9295	
53	0°8102	0°5861	1°6204	1°1723	2°4306	1°7584	3°2408	2°3445	4°0511	2°9307	
54	0°8100	0°5864	1°6201	1°1727	2°4301	1°7591	3°2402	2°3455	4°0502	2°9319	
55	0°8099	0°5866	1°6197	1°1732	2°4296	1°7598	3°2395	2°3464	4°0494	2°9330	
56	0°8097	0°5868	1°6194	1°1737	2°4291	1°7605	3°2388	2°3474	4°0485	2°9342	
57	0°8095	0°5871	1°6191	1°1742	2°4286	1°7612	3°2381	2°3483	4°0476	2°9354	
58	0°8094	0°5873	1°6187	1°1746	2°4281	1°7619	3°2374	2°3493	4°0468	2°9366	
59	0°8092	0°5875	1°6184	1°1751	2°4276	1°7626	3°2368	2°3502	4°0459	2°9377	
60	0°8090	0°5878	1°6180	1°1756	2°4271	1°7634	3°2361	2°3511	4°0451	2°9389	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°9149	3°4415	5°7341	4°0150	6°5532	4°5886	7°3724	5°1622	8°1915	5°7358	60
4°9139	3°4429	5°7329	4°0167	6°5519	4°5905	7°3709	5°1643	8°1899	5°7381	59
4°9129	3°4443	5°7317	4°0184	6°5505	4°5924	7°3694	5°1665	8°1882	5°7405	58
4°9119	3°4457	5°7306	4°0200	6°5492	4°5943	7°3679	5°1686	8°1865	5°7429	57
4°9109	3°4472	5°7294	4°0217	6°5479	4°5962	7°3664	5°1708	8°1848	5°7453	56
4°9099	3°4486	5°7282	4°0234	6°5465	4°5981	7°3649	5°1729	8°1832	5°7477	55
4°9089	3°4500	5°7270	4°0250	6°5452	4°6000	7°3633	5°1750	8°1815	5°7501	54
4°9079	3°4515	5°7259	4°0267	6°5439	4°6019	7°3618	5°1772	8°1798	5°7524	53
4°9069	3°4529	5°7247	4°0284	6°5425	4°6038	7°3603	5°1793	8°1782	5°7548	52
4°9059	3°4543	5°7235	4°0300	6°5412	4°6058	7°3588	5°1815	8°1765	5°7572	51
4°9049	3°4557	5°7224	4°0317	6°5398	4°6077	7°3573	5°1836	8°1748	5°7596	50
4°9039	3°4572	5°7212	4°0334	6°5385	4°6096	7°3558	5°1858	8°1731	5°7619	49
4°9029	3°4586	5°7200	4°0350	6°5372	4°6115	7°3543	5°1879	8°1714	5°7643	48
4°9019	3°4600	5°7188	4°0367	6°5358	4°6134	7°3528	5°1900	8°1698	5°7667	47
4°9009	3°4614	5°7177	4°0384	6°5345	4°6153	7°3513	5°1922	8°1681	5°7691	46
4°8998	3°4629	5°7165	4°0400	6°5331	4°6172	7°3498	5°1943	8°1664	5°7715	45
4°8988	3°4643	5°7153	4°0417	6°5318	4°6191	7°3483	5°1964	8°1647	5°7738	44
4°8978	3°4657	5°7141	4°0433	6°5304	4°6210	7°3468	5°1986	8°1631	5°7762	43
4°8968	3°4671	5°7130	4°0450	6°5291	4°6229	7°3452	5°2007	8°1614	5°7786	42
4°8958	3°4686	5°7118	4°0467	6°5278	4°6248	7°3437	5°2029	8°1597	5°7810	41
4°8948	3°4700	5°7106	4°0483	6°5264	4°6267	7°3422	5°2050	8°1580	5°7833	40
4°8938	3°4714	5°7094	4°0500	6°5251	4°6286	7°3407	5°2071	8°1563	5°7857	39
4°8928	3°4728	5°7083	4°0516	6°5237	4°6305	7°3392	5°2093	8°1546	5°7881	38
4°8918	3°4743	5°7071	4°0533	6°5224	4°6324	7°3377	5°2114	8°1530	5°7904	37
4°8908	3°4757	5°7059	4°0550	6°5210	4°6342	7°3362	5°2135	8°1513	5°7928	36
4°8898	3°4771	5°7047	4°0566	6°5197	4°6361	7°3346	5°2157	8°1496	5°7952	35
4°8887	3°4785	5°7035	4°0583	6°5183	4°6380	7°3331	5°2178	8°1479	5°7976	34
4°8877	3°4800	5°7024	4°0599	6°5170	4°6399	7°3316	5°2199	8°1462	5°7999	33
4°8867	3°4814	5°7012	4°0616	6°5156	4°6418	7°3301	5°2221	8°1445	5°8023	32
4°8857	3°4828	5°7000	4°0633	6°5143	4°6437	7°3286	5°2242	8°1428	5°8047	31
4°8847	3°4842	5°6988	4°0649	6°5129	4°6456	7°3270	5°2263	8°1412	5°8070	30
4°8837	3°4856	5°6976	4°0666	6°5116	4°6475	7°3255	5°2285	8°1395	5°8094	29
4°8827	3°4871	5°6964	4°0682	6°5102	4°6494	7°3240	5°2306	8°1378	5°8118	28
4°8817	3°4885	5°6953	4°0699	6°5089	4°6513	7°3225	5°2327	8°1361	5°8141	27
4°8806	3°4899	5°6941	4°0715	6°5075	4°6532	7°3210	5°2348	8°1344	5°8165	26
4°8796	3°4913	5°6929	4°0732	6°5062	4°6551	7°3194	5°2370	8°1327	5°8189	25
4°8786	3°4927	5°6917	4°0749	6°5048	4°6570	7°3179	5°2391	8°1310	5°8212	24
4°8776	3°4942	5°6905	4°0765	6°5035	4°6589	7°3164	5°2412	8°1293	5°8236	23
4°8766	3°4956	5°6893	4°0782	6°5021	4°6608	7°3149	5°2434	8°1276	5°8260	22
4°8756	3°4970	5°6881	4°0798	6°5007	4°6627	7°3133	5°2455	8°1259	5°8283	21
4°8745	3°4984	5°6870	4°0815	6°4994	4°6645	7°3118	5°2476	8°1242	5°8307	20
4°8735	3°4998	5°6858	4°0831	6°4980	4°6664	7°3103	5°2497	8°1225	5°8331	19
4°8725	3°5012	5°6846	4°0848	6°4967	4°6683	7°3088	5°2519	8°1208	5°8354	18
4°8715	3°5027	5°6834	4°0864	6°4953	4°6702	7°3072	5°2540	8°1191	5°8378	17
4°8705	3°5041	5°6822	4°0881	6°4940	4°6721	7°3057	5°2561	8°1174	5°8401	16
4°8694	3°5055	5°6810	4°0897	6°4926	4°6740	7°3042	5°2582	8°1157	5°8425	15
4°8684	3°5069	5°6798	4°0914	6°4912	4°6759	7°3026	5°2604	8°1140	5°8449	14
4°8674	3°5083	5°6786	4°0931	6°4899	4°6778	7°3011	5°2625	8°1123	5°8472	13
4°8664	3°5097	5°6774	4°0947	6°4885	4°6797	7°2996	5°2646	8°1106	5°8496	12
4°8654	3°5112	5°6763	4°0964	6°4871	4°6815	7°2980	5°2667	8°1089	5°8519	11
4°8643	3°5126	5°6751	4°0980	6°4858	4°6834	7°2965	5°2689	8°1072	5°8543	10
4°8633	3°5140	5°6739	4°0997	6°4844	4°6853	7°2950	5°2710	8°1055	5°8567	9
4°8623	3°5154	5°6727	4°1013	6°4831	4°6872	7°2934	5°2731	8°1038	5°8590	8
4°8613	3°5168	5°6715	4°1030	6°4817	4°6891	7°2919	5°2752	8°1021	5°8614	7
4°8602	3°5182	5°6703	4°1046	6°4803	4°6910	7°2904	5°2774	8°1004	5°8637	6
4°8592	3°5196	5°6691	4°1063	6°4790	4°6929	7°2888	5°2795	8°0987	5°8661	5
4°8582	3°5211	5°6679	4°1079	6°4776	4°6947	7°2873	5°2816	8°0970	5°8684	4
4°8572	3°5225	5°6667	4°1096	6°4762	4°6966	7°2858	5°2837	8°0953	5°8708	3
4°8562	3°5239	5°6655	4°1112	6°4749	4°6985	7°2842	5°2858	8°0936	5°8731	2
4°8551	3°5253	5°6643	4°1128	6°4735	4°7004	7°2827	5°2879	8°0919	5°8755	1
4°8541	3°5267	5°6631	4°1145	6°4721	4°7023	7°2812	5°2901	8°0902	5°8779	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 36 Degrees.

Dist.	1		2		3		4		5	
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
0	0·8090	0·5878	1·6180	1·1756	2·4271	1·7634	3·2361	2·3511	4·0451	2·9389
1	0·8088	0·5880	1·6177	1·1760	2·4265	1·7641	3·2354	2·3521	4·0442	2·9401
2	0·8087	0·5883	1·6173	1·1765	2·4260	1·7648	3·2347	2·3530	4·0434	2·9413
3	0·8085	0·5885	1·6170	1·1770	2·4255	1·7655	3·2340	2·3540	4·0425	2·9425
4	0·8083	0·5887	1·6167	1·1775	2·4250	1·7662	3·2333	2·3549	4·0417	2·9436
5	0·8082	0·5890	1·6163	1·1779	2·4245	1·7669	3·2326	2·3558	4·0408	2·9448
6	0·8080	0·5892	1·6160	1·1784	2·4240	1·7676	3·2320	2·3568	4·0399	2·9460
7	0·8078	0·5894	1·6156	1·1789	2·4235	1·7683	3·2313	2·3577	4·0391	2·9472
8	0·8076	0·5897	1·6153	1·1793	2·4229	1·7690	3·2306	2·3587	4·0382	2·9483
9	0·8075	0·5899	1·6150	1·1798	2·4224	1·7697	3·2299	2·3596	4·0374	2·9495
10	0·8073	0·5901	1·6146	1·1803	2·4219	1·7704	3·2292	2·3605	4·0365	2·9507
11	0·8071	0·5904	1·6143	1·1807	2·4214	1·7711	3·2285	2·3615	4·0357	2·9519
12	0·8070	0·5906	1·6139	1·1812	2·4209	1·7718	3·2278	2·3624	4·0348	2·9530
13	0·8068	0·5908	1·6136	1·1817	2·4204	1·7725	3·2272	2·3634	4·0339	2·9542
14	0·8066	0·5911	1·6132	1·1822	2·4198	1·7732	3·2265	2·3643	4·0331	2·9554
15	0·8064	0·5913	1·6129	1·1826	2·4193	1·7739	3·2258	2·3652	4·0322	2·9565
16	0·8063	0·5915	1·6125	1·1831	2·4188	1·7746	3·2251	2·3662	4·0314	2·9577
17	0·8061	0·5918	1·6122	1·1836	2·4183	1·7753	3·2244	2·3671	4·0305	2·9589
18	0·8059	0·5920	1·6119	1·1840	2·4178	1·7760	3·2237	2·3681	4·0296	2·9601
19	0·8058	0·5922	1·6115	1·1845	2·4173	1·7767	3·2230	2·3690	4·0288	2·9612
20	0·8056	0·5925	1·6112	1·1850	2·4168	1·7774	3·2223	2·3699	4·0279	2·9624
21	0·8054	0·5927	1·6108	1·1854	2·4162	1·7781	3·2216	2·3709	4·0271	2·9636
22	0·8052	0·5930	1·6105	1·1859	2·4157	1·7788	3·2210	2·3718	4·0262	2·9648
23	0·8051	0·5932	1·6101	1·1864	2·4152	1·7796	3·2203	2·3727	4·0253	2·9659
24	0·8049	0·5934	1·6098	1·1868	2·4147	1·7803	3·2196	2·3737	4·0245	2·9671
25	0·8047	0·5937	1·6094	1·1873	2·4142	1·7810	3·2189	2·3746	4·0236	2·9683
26	0·8045	0·5939	1·6091	1·1878	2·4136	1·7817	3·2182	2·3755	4·0227	2·9694
27	0·8044	0·5941	1·6088	1·1882	2·4131	1·7824	3·2175	2·3765	4·0219	2·9706
28	0·8042	0·5944	1·6084	1·1887	2·4126	1·7831	3·2168	2·3774	4·0210	2·9718
29	0·8040	0·5946	1·6081	1·1892	2·4121	1·7838	3·2161	2·3784	4·0201	2·9729
30	0·8039	0·5948	1·6077	1·1896	2·4116	1·7845	3·2154	2·3793	4·0193	2·9741
31	0·8037	0·5951	1·6074	1·1901	2·4111	1·7852	3·2147	2·3802	4·0184	2·9753
32	0·8035	0·5953	1·6070	1·1906	2·4105	1·7859	3·2140	2·3812	4·0176	2·9765
33	0·8033	0·5955	1·6067	1·1910	2·4100	1·7866	3·2134	2·3821	4·0167	2·9776
34	0·8032	0·5958	1·6063	1·1915	2·4095	1·7873	3·2127	2·3830	4·0158	2·9788
35	0·8030	0·5960	1·6060	1·1920	2·4090	1·7880	3·2120	2·3840	4·0150	2·9800
36	0·8028	0·5962	1·6056	1·1924	2·4085	1·7887	3·2113	2·3849	4·0141	2·9811
37	0·8026	0·5965	1·6053	1·1929	2·4079	1·7894	3·2106	2·3858	4·0132	2·9823
38	0·8025	0·5967	1·6049	1·1934	2·4074	1·7901	3·2099	2·3868	4·0124	2·9835
39	0·8023	0·5969	1·6046	1·1939	2·4069	1·7908	3·2092	2·3877	4·0115	2·9846
40	0·8021	0·5972	1·6042	1·1943	2·4064	1·7915	3·2085	2·3886	4·0106	2·9858
41	0·8019	0·5974	1·6039	1·1948	2·4058	1·7922	3·2078	2·3896	4·0097	2·9870
42	0·8018	0·5976	1·6036	1·1953	2·4053	1·7929	3·2071	2·3905	4·0089	2·9881
43	0·8016	0·5979	1·6032	1·1957	2·4048	1·7936	3·2064	2·3914	4·0080	2·9893
44	0·8014	0·5981	1·6029	1·1962	2·4043	1·7943	3·2057	2·3924	4·0071	2·9905
45	0·8013	0·5983	1·6025	1·1966	2·4038	1·7950	3·2050	2·3933	4·0063	2·9916
46	0·8011	0·5986	1·6022	1·1971	2·4032	1·7957	3·2043	2·3942	4·0054	2·9928
47	0·8009	0·5988	1·6018	1·1976	2·4027	1·7964	3·2036	2·3952	4·0045	2·9940
48	0·8007	0·5990	1·6015	1·1980	2·4022	1·7971	3·2029	2·3961	4·0037	2·9951
49	0·8006	0·5993	1·6011	1·1985	2·4017	1·7978	3·2022	2·3970	4·0028	2·9963
50	0·8004	0·5995	1·6008	1·1990	2·4011	1·7985	3·2015	2·3980	4·0019	2·9974
51	0·8002	0·5997	1·6004	1·1994	2·4006	1·7992	3·2008	2·3989	4·0010	2·9986
52	0·8000	0·6000	1·6001	1·1999	2·4001	1·7999	3·2001	2·3998	4·0002	2·9998
53	0·7999	0·6002	1·5997	1·2004	2·3996	1·8006	3·1994	2·4008	3·9993	3·0009
54	0·7997	0·6004	1·5994	1·2008	2·3991	1·8013	3·1987	2·4017	3·9984	3·0021
55	0·7995	0·6007	1·5990	1·2013	2·3985	1·8020	3·1980	2·4026	3·9976	3·0033
56	0·7993	0·6009	1·5987	1·2018	2·3980	1·8027	3·1973	2·4035	3·9967	3·0044
57	0·7992	0·6011	1·5983	1·2022	2·3975	1·8034	3·1966	2·4045	3·9958	3·0056
58	0·7990	0·6014	1·5980	1·2027	2·3970	1·8041	3·1959	2·4054	3·9949	3·0068
59	0·7988	0·6016	1·5976	1·2032	2·3964	1·8047	3·1952	2·4063	3·9941	3·0079
60	0·7986	0·6018	1·5973	1·2036	2·3959	1·8054	3·1945	2·4073	3·9932	3·0091
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°8541	3°5267	5°6631	4°1145	6°4721	4°7023	7°2812	5°2901	8°0902	5°8779	<b>60</b>
4°8531	3°5281	5°6619	4°1161	6°4708	4°7042	7°2796	5°2922	8°0885	5°8802	<b>59</b>
4°8520	3°5295	5°6607	4°1178	6°4694	4°7060	7°2781	5°2943	8°0867	5°8826	<b>58</b>
4°8510	3°5309	5°6595	4°1194	6°4680	4°7079	7°2765	5°2964	8°0850	5°8849	<b>57</b>
4°8500	3°5324	5°6583	4°1211	6°4667	4°7098	7°2750	5°2985	8°0833	5°8873	<b>56</b>
4°8490	3°5338	5°6571	4°1227	6°4653	4°7117	7°2735	5°3007	8°0816	5°8896	<b>55</b>
4°8479	3°5352	5°6559	4°1244	6°4639	4°7136	7°2719	5°3028	8°0799	5°8920	<b>54</b>
4°8469	3°5366	5°6547	4°1260	6°4625	4°7155	7°2704	5°3049	8°0782	5°8943	<b>53</b>
4°8459	3°5380	5°6535	4°1277	6°4612	4°7173	7°2688	5°3070	8°0765	5°8967	<b>52</b>
4°8449	3°5394	5°6523	4°1293	6°4598	4°7192	7°2673	5°3091	8°0748	5°8990	<b>51</b>
4°8438	3°5408	5°6511	4°1310	6°4584	4°7211	7°2657	5°3112	8°0730	5°9014	<b>50</b>
4°8428	3°5422	5°6499	4°1326	6°4571	4°7230	7°2642	5°3133	8°0713	5°9037	<b>49</b>
4°8418	3°5436	5°6487	4°1342	6°4557	4°7248	7°2626	5°3155	8°0696	5°9061	<b>48</b>
4°8407	3°5450	5°6475	4°1359	6°4543	4°7267	7°2611	5°3176	8°0679	5°9084	<b>47</b>
4°8397	3°5465	5°6463	4°1375	6°4529	4°7286	7°2595	5°3197	8°0662	5°9108	<b>46</b>
4°8387	3°5479	5°6451	4°1392	6°4516	4°7305	7°2580	5°3218	8°0644	5°9131	<b>45</b>
4°8376	3°5493	5°6439	4°1408	6°4502	4°7324	7°2565	5°3239	8°0627	5°9154	<b>44</b>
4°8366	3°5507	5°6427	4°1425	6°4488	4°7342	7°2549	5°3260	8°0610	5°9178	<b>43</b>
4°8356	3°5521	5°6415	4°1441	6°4474	4°7361	7°2534	5°3281	8°0593	5°9201	<b>42</b>
4°8345	3°5535	5°6403	4°1457	6°4460	4°7380	7°2518	5°3302	8°0576	5°9225	<b>41</b>
4°8335	3°5549	5°6391	4°1474	6°4447	4°7399	7°2503	5°3323	8°0558	5°9248	<b>40</b>
4°8325	3°5563	5°6379	4°1490	6°4433	4°7417	7°2487	5°3344	8°0541	5°9272	<b>39</b>
4°8314	3°5577	5°6367	4°1507	6°4419	4°7436	7°2472	5°3366	8°0524	5°9295	<b>38</b>
4°8304	3°5591	5°6355	4°1523	6°4405	4°7455	7°2456	5°3387	8°0507	5°9318	<b>37</b>
4°8294	3°5605	5°6343	4°1539	6°4392	4°7474	7°2440	5°3408	8°0489	5°9342	<b>36</b>
4°8283	3°5619	5°6330	4°1556	6°4378	4°7492	7°2425	5°3429	8°0472	5°9365	<b>35</b>
4°8273	3°5633	5°6318	4°1572	6°4364	4°7511	7°2409	5°3450	8°0455	5°9389	<b>34</b>
4°8263	3°5647	5°6306	4°1588	6°4350	4°7530	7°2394	5°3471	8°0438	5°9412	<b>33</b>
4°8252	3°5661	5°6294	4°1605	6°4336	4°7548	7°2378	5°3492	8°0420	5°9436	<b>32</b>
4°8242	3°5675	5°6282	4°1621	6°4322	4°7567	7°2363	5°3513	8°0403	5°9459	<b>31</b>
4°8231	3°5689	5°6270	4°1638	6°4309	4°7586	7°2347	5°3534	8°0386	5°9482	<b>30</b>
4°8221	3°5703	5°6258	4°1654	6°4295	4°7605	7°2332	5°3555	8°0368	5°9506	<b>29</b>
4°8211	3°5717	5°6246	4°1670	6°4281	4°7623	7°2316	5°3576	8°0351	5°9529	<b>28</b>
4°8200	3°5731	5°6234	4°1687	6°4267	4°7642	7°2300	5°3597	8°0334	5°9552	<b>27</b>
4°8190	3°5745	5°6221	4°1703	6°4253	4°7661	7°2285	5°3618	8°0316	5°9576	<b>26</b>
4°8179	3°5759	5°6209	4°1719	6°4239	4°7679	7°2269	5°3639	8°0299	5°9599	<b>25</b>
4°8169	3°5773	5°6197	4°1736	6°4225	4°7698	7°2254	5°3660	8°0282	5°9622	<b>24</b>
4°8159	3°5788	5°6185	4°1752	6°4212	4°7717	7°2238	5°3681	8°0264	5°9646	<b>23</b>
4°8148	3°5802	5°6173	4°1768	6°4198	4°7735	7°2222	5°3702	8°0247	5°9669	<b>22</b>
4°8138	3°5816	5°6161	4°1785	6°4184	4°7754	7°2207	5°3723	8°0230	5°9693	<b>21</b>
4°8127	3°5830	5°6149	4°1801	6°4170	4°7773	7°2191	5°3744	8°0212	5°9716	<b>20</b>
4°8117	3°5844	5°6136	4°1817	6°4156	4°7791	7°2175	5°3765	8°0195	5°9739	<b>19</b>
4°8107	3°5858	5°6124	4°1834	6°4142	4°7810	7°2160	5°3786	8°0178	5°9763	<b>18</b>
4°8096	3°5871	5°6112	4°1850	6°4128	4°7829	7°2144	5°3807	8°0160	5°9786	<b>17</b>
4°8086	3°5885	5°6100	4°1866	6°4114	4°7847	7°2129	5°3828	8°0143	5°9809	<b>16</b>
4°8075	3°5899	5°6088	4°1883	6°4100	4°7866	7°2113	5°3849	8°0125	5°9832	<b>15</b>
4°8065	3°5913	5°6076	4°1899	6°4086	4°7885	7°2097	5°3870	8°0108	5°9856	<b>14</b>
4°8054	3°5927	5°6063	4°1915	6°4072	4°7903	7°2082	5°3891	8°0091	5°9879	<b>13</b>
4°8044	3°5941	5°6051	4°1932	6°4059	4°7922	7°2066	5°3912	8°0073	5°9902	<b>12</b>
4°8033	3°5955	5°6039	4°1948	6°4045	4°7941	7°2050	5°3933	8°0056	5°9926	<b>11</b>
4°8023	3°5969	5°6027	4°1964	6°4031	4°7959	7°2034	5°3954	8°0038	5°9949	<b>10</b>
4°8012	3°5983	5°6015	4°1981	6°4017	4°7978	7°2019	5°3975	8°0021	5°9972	<b>9</b>
4°8002	3°5997	5°6002	4°1997	6°4003	4°7996	7°2003	5°3996	8°0003	5°9995	<b>8</b>
4°7992	3°6011	5°5990	4°2013	6°3989	4°8015	7°1987	5°4017	7°9986	6°0019	<b>7</b>
4°7981	3°6025	5°5978	4°2029	6°3975	4°8034	7°1972	5°4038	7°9968	6°0042	<b>6</b>
4°7971	3°6039	5°5966	4°2046	6°3961	4°8052	7°1956	5°4059	7°9951	6°0065	<b>5</b>
4°7960	3°6053	5°5953	4°2062	6°3947	4°8071	7°1940	5°4080	7°9934	6°0089	<b>4</b>
4°7950	3°6067	5°5941	4°2078	6°3933	4°8089	7°1924	5°4101	7°9916	6°0112	<b>3</b>
4°7939	3°6081	5°5929	4°2095	6°3919	4°8108	7°1909	5°4122	7°9899	6°0135	<b>2</b>
4°7929	3°6095	5°5917	4°2111	6°3905	4°8127	7°1893	5°4142	7°9881	6°0158	<b>1</b>
4°7918	3°6109	5°5904	4°2127	6°3891	4°8145	7°1877	5°4163	7°9864	6°0182	<b>0</b>
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 37 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0.7986	0.6018	1.5973	1.2036	2.3959	1.8054	3.1945	2.4073	3.9932	3.0091
1	0.7985	0.6020	1.5969	1.2041	2.3954	1.8061	3.1938	2.4082	3.9923	3.0102
2	0.7983	0.6023	1.5966	1.2046	2.3949	1.8068	3.1931	2.4091	3.9914	3.0114
3	0.7981	0.6025	1.5962	1.2050	2.3943	1.8075	3.1924	2.4100	3.9906	3.0126
4	0.7979	0.6027	1.5959	1.2055	2.3938	1.8082	3.1917	2.4110	3.9897	3.0137
5	0.7978	0.6030	1.5955	1.2060	2.3933	1.8089	3.1910	2.4119	3.9888	3.0149
6	0.7976	0.6032	1.5952	1.2064	2.3928	1.8096	3.1903	2.4128	3.9879	3.0160
7	0.7974	0.6034	1.5948	1.2069	2.3922	1.8103	3.1896	2.4138	3.9870	3.0172
8	0.7972	0.6037	1.5945	1.2073	2.3917	1.8110	3.1889	2.4147	3.9862	3.0184
9	0.7971	0.6039	1.5941	1.2078	2.3912	1.8117	3.1882	2.4156	3.9853	3.0195
10	0.7969	0.6041	1.5938	1.2083	2.3906	1.8124	3.1875	2.4165	3.9844	3.0207
11	0.7967	0.6044	1.5934	1.2087	2.3901	1.8131	3.1868	2.4175	3.9835	3.0218
12	0.7965	0.6046	1.5931	1.2092	2.3896	1.8138	3.1861	2.4184	3.9826	3.0230
13	0.7964	0.6048	1.5927	1.2097	2.3891	1.8145	3.1854	2.4193	3.9818	3.0242
14	0.7962	0.6051	1.5924	1.2101	2.3885	1.8152	3.1847	2.4202	3.9809	3.0253
15	0.7960	0.6053	1.5920	1.2106	2.3880	1.8159	3.1840	2.4212	3.9800	3.0265
16	0.7958	0.6055	1.5917	1.2111	2.3875	1.8166	3.1833	2.4221	3.9791	3.0276
17	0.7956	0.6058	1.5913	1.2115	2.3869	1.8173	3.1826	2.4230	3.9782	3.0288
18	0.7955	0.6060	1.5909	1.2120	2.3864	1.8180	3.1819	2.4240	3.9774	3.0299
19	0.7953	0.6062	1.5906	1.2124	2.3859	1.8187	3.1812	2.4249	3.9765	3.0311
20	0.7951	0.6065	1.5902	1.2129	2.3854	1.8194	3.1805	2.4258	3.9756	3.0323
21	0.7949	0.6067	1.5899	1.2134	2.3848	1.8200	3.1798	2.4267	3.9747	3.0334
22	0.7948	0.6069	1.5895	1.2138	2.3843	1.8207	3.1791	2.4277	3.9738	3.0346
23	0.7946	0.6071	1.5892	1.2143	2.3838	1.8214	3.1784	2.4286	3.9730	3.0357
24	0.7944	0.6074	1.5888	1.2148	2.3832	1.8221	3.1777	2.4295	3.9721	3.0369
25	0.7942	0.6076	1.5885	1.2152	2.3827	1.8228	3.1770	2.4304	3.9712	3.0380
26	0.7941	0.6078	1.5881	1.2157	2.3822	1.8235	3.1762	2.4314	3.9703	3.0392
27	0.7939	0.6081	1.5878	1.2161	2.3817	1.8242	3.1755	2.4323	3.9694	3.0403
28	0.7937	0.6083	1.5874	1.2166	2.3811	1.8249	3.1748	2.4332	3.9685	3.0415
29	0.7935	0.6085	1.5871	1.2171	2.3806	1.8256	3.1741	2.4341	3.9677	3.0427
30	0.7934	0.6088	1.5867	1.2175	2.3801	1.8263	3.1734	2.4350	3.9668	3.0438
31	0.7932	0.6090	1.5864	1.2180	2.3795	1.8270	3.1727	2.4360	3.9659	3.0450
32	0.7930	0.6092	1.5860	1.2184	2.3790	1.8277	3.1720	2.4369	3.9650	3.0461
33	0.7928	0.6095	1.5856	1.2189	2.3785	1.8284	3.1713	2.4378	3.9641	3.0473
34	0.7926	0.6097	1.5853	1.2194	2.3779	1.8291	3.1706	2.4387	3.9632	3.0484
35	0.7925	0.6099	1.5849	1.2198	2.3774	1.8297	3.1699	2.4397	3.9623	3.0496
36	0.7923	0.6101	1.5846	1.2203	2.3769	1.8304	3.1692	2.4406	3.9614	3.0507
37	0.7921	0.6104	1.5842	1.2208	2.3763	1.8311	3.1684	2.4415	3.9606	3.0519
38	0.7919	0.6106	1.5839	1.2212	2.3758	1.8318	3.1677	2.4424	3.9597	3.0530
39	0.7918	0.6108	1.5835	1.2217	2.3753	1.8325	3.1670	2.4433	3.9588	3.0542
40	0.7916	0.6111	1.5832	1.2221	2.3747	1.8332	3.1663	2.4443	3.9579	3.0553
41	0.7914	0.6113	1.5828	1.2226	2.3742	1.8339	3.1656	2.4452	3.9570	3.0565
42	0.7912	0.6115	1.5824	1.2231	2.3737	1.8346	3.1649	2.4461	3.9561	3.0576
43	0.7910	0.6118	1.5821	1.2235	2.3731	1.8353	3.1642	2.4470	3.9552	3.0588
44	0.7909	0.6120	1.5817	1.2240	2.3726	1.8360	3.1635	2.4479	3.9543	3.0599
45	0.7907	0.6122	1.5814	1.2244	2.3721	1.8367	3.1628	2.4488	3.9534	3.0611
46	0.7905	0.6124	1.5810	1.2249	2.3715	1.8373	3.1620	2.4498	3.9526	3.0622
47	0.7903	0.6127	1.5807	1.2254	2.3710	1.8380	3.1613	2.4507	3.9517	3.0634
48	0.7902	0.6129	1.5803	1.2258	2.3705	1.8387	3.1606	2.4516	3.9508	3.0645
49	0.7900	0.6131	1.5800	1.2263	2.3699	1.8394	3.1599	2.4525	3.9499	3.0657
50	0.7898	0.6134	1.5796	1.2267	2.3694	1.8401	3.1592	2.4535	3.9490	3.0668
51	0.7896	0.6136	1.5792	1.2272	2.3689	1.8408	3.1585	2.4544	3.9481	3.0680
52	0.7894	0.6138	1.5789	1.2277	2.3683	1.8415	3.1578	2.4553	3.9472	3.0691
53	0.7893	0.6141	1.5785	1.2281	2.3678	1.8422	3.1571	2.4562	3.9463	3.0703
54	0.7891	0.6143	1.5782	1.2286	2.3673	1.8429	3.1563	2.4571	3.9454	3.0714
55	0.7889	0.6145	1.5778	1.2290	2.3667	1.8435	3.1556	2.4581	3.9445	3.0726
56	0.7887	0.6147	1.5775	1.2295	2.3662	1.8442	3.1549	2.4590	3.9436	3.0737
57	0.7885	0.6150	1.5771	1.2299	2.3656	1.8449	3.1542	2.4599	3.9427	3.0749
58	0.7884	0.6152	1.5767	1.2304	2.3651	1.8456	3.1535	2.4608	3.9418	3.0760
59	0.7882	0.6154	1.5764	1.2309	2.3646	1.8463	3.1528	2.4617	3.9409	3.0772
60	0.7880	0.6157	1.5760	1.2313	2.3640	1.8470	3.1520	2.4626	3.9401	3.0783
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°7918	3°6109	5°5904	4°2127	6°3891	4°8145	7°1877	5°4163	7°9864	6°0182	60
4°7908	3°6123	5°5892	4°2143	6°3877	4°8164	7°1861	5°4184	7°9846	6°0205	59
4°7897	3°6137	5°5880	4°2160	6°3863	4°8182	7°1846	5°4205	7°9829	6°0228	58
4°7887	3°6151	5°5868	4°2176	6°3849	4°8201	7°1830	5°4226	7°9811	6°0251	57
4°7876	3°6165	5°5855	4°2192	6°3835	4°8220	7°1814	5°4247	7°9793	6°0274	56
4°7866	3°6179	5°5843	4°2208	6°3821	4°8238	7°1798	5°4268	7°9776	6°0298	55
4°7855	3°6192	5°5831	4°2225	6°3807	4°8257	7°1783	5°4289	7°9758	6°0321	54
4°7845	3°6206	5°5819	4°2241	6°3793	4°8275	7°1767	5°4310	7°9741	6°0344	53
4°7834	3°6220	5°5806	4°2257	6°3779	4°8294	7°1751	5°4330	7°9723	6°0367	52
4°7823	3°6234	5°5794	4°2273	6°3765	4°8312	7°1735	5°4351	7°9706	6°0390	51
4°7813	3°6248	5°5782	4°2289	6°3751	4°8331	7°1719	5°4372	7°9688	6°0414	50
4°7802	3°6262	5°5769	4°2306	6°3736	4°8349	7°1704	5°4393	7°9671	6°0437	49
4°7792	3°6276	5°5757	4°2322	6°3722	4°8368	7°1688	5°4414	7°9653	6°0460	48
4°7781	3°6290	5°5745	4°2338	6°3708	4°8386	7°1672	5°4435	7°9635	6°0483	47
4°7771	3°6304	5°5732	4°2354	6°3694	4°8405	7°1656	5°4456	7°9618	6°0506	46
4°7760	3°6318	5°5720	4°2371	6°3680	4°8424	7°1640	5°4477	7°9600	6°0529	45
4°7750	3°6332	5°5708	4°2387	6°3666	4°8442	7°1624	5°4497	7°9583	6°0553	44
4°7739	3°6345	5°5695	4°2403	6°3652	4°8461	7°1608	5°4518	7°9565	6°0576	43
4°7728	3°6359	5°5683	4°2419	6°3638	4°8479	7°1593	5°4539	7°9547	6°0599	42
4°7718	3°6373	5°5671	4°2435	6°3624	4°8498	7°1577	5°4560	7°9530	6°0622	41
4°7707	3°6387	5°5658	4°2452	6°3610	4°8516	7°1561	5°4581	7°9512	6°0645	40
4°7697	3°6401	5°5646	4°2468	6°3596	4°8535	7°1545	5°4601	7°9494	6°0668	39
4°7686	3°6415	5°5634	4°2484	6°3581	4°8553	7°1529	5°4622	7°9477	6°0691	38
4°7675	3°6429	5°5621	4°2500	6°3567	4°8572	7°1513	5°4643	7°9459	6°0714	37
4°7665	3°6443	5°5609	4°2516	6°3553	4°8590	7°1497	5°4664	7°9441	6°0738	36
4°7654	3°6456	5°5597	4°2532	6°3539	4°8609	7°1481	5°4685	7°9424	6°0761	35
4°7644	3°6470	5°5584	4°2549	6°3525	4°8627	7°1465	5°4705	7°9406	6°0784	34
4°7633	3°6484	5°5572	4°2565	6°3511	4°8646	7°1450	5°4726	7°9388	6°0807	33
4°7622	3°6498	5°5560	4°2581	6°3497	4°8664	7°1434	5°4747	7°9371	6°0830	32
4°7612	3°6512	5°5547	4°2597	6°3482	4°8682	7°1418	5°4768	7°9353	6°0853	31
4°7601	3°6526	5°5535	4°2613	6°3468	4°8701	7°1402	5°4789	7°9335	6°0876	30
4°7591	3°6540	5°5522	4°2629	6°3454	4°8719	7°1386	5°4809	7°9318	6°0899	29
4°7580	3°6553	5°5510	4°2646	6°3440	4°8738	7°1370	5°4830	7°9300	6°0922	28
4°7569	3°6567	5°5498	4°2662	6°3426	4°8756	7°1354	5°4851	7°9282	6°0945	27
4°7559	3°6581	5°5485	4°2678	6°3412	4°8775	7°1338	5°4872	7°9264	6°0968	26
4°7548	3°6595	5°5473	4°2694	6°3397	4°8793	7°1322	5°4892	7°9247	6°0991	25
4°7537	3°6609	5°5460	4°2710	6°3383	4°8812	7°1306	5°4913	7°9229	6°1015	24
4°7527	3°6623	5°5448	4°2726	6°3369	4°8830	7°1290	5°4934	7°9211	6°1038	23
4°7516	3°6636	5°5435	4°2742	6°3355	4°8848	7°1274	5°4955	7°9193	6°1061	22
4°7505	3°6650	5°5423	4°2759	6°3341	4°8867	7°1258	5°4975	7°9176	6°1084	21
4°7495	3°6664	5°5411	4°2775	6°3326	4°8885	7°1242	5°4996	7°9158	6°1107	20
4°7484	3°6678	5°5398	4°2791	6°3312	4°8904	7°1226	5°5017	7°9140	6°1130	19
4°7473	3°6692	5°5386	4°2807	6°3298	4°8922	7°1210	5°5037	7°9122	6°1153	18
4°7463	3°6705	5°5373	4°2823	6°3284	4°8941	7°1194	5°5058	7°9105	6°1176	17
4°7452	3°6719	5°5361	4°2839	6°3269	4°8959	7°1178	5°5079	7°9087	6°1199	16
4°7441	3°6733	5°5348	4°2855	6°3255	4°8977	7°1162	5°5100	7°9069	6°1222	15
4°7431	3°6747	5°5336	4°2871	6°3241	4°8996	7°1146	5°5120	7°9051	6°1245	14
4°7420	3°6761	5°5323	4°2887	6°3227	4°9014	7°1130	5°5141	7°9033	6°1268	13
4°7409	3°6774	5°5311	4°2903	6°3212	4°9033	7°1114	5°5162	7°9016	6°1291	12
4°7399	3°6788	5°5298	4°2920	6°3198	4°9051	7°1098	5°5182	7°8998	6°1314	11
4°7388	3°6802	5°5286	4°2936	6°3184	4°9069	7°1082	5°5203	7°8980	6°1337	10
4°7377	3°6816	5°5273	4°2952	6°3170	4°9088	7°1066	5°5224	7°8962	6°1360	9
4°7366	3°6830	5°5261	4°2968	6°3155	4°9106	7°1050	5°5244	7°8944	6°1383	8
4°7356	3°6843	5°5248	4°2984	6°3141	4°9124	7°1034	5°5265	7°8926	6°1406	7
4°7345	3°6857	5°5236	4°3000	6°3127	4°9143	7°1018	5°5286	7°8908	6°1429	6
4°7334	3°6871	5°5223	4°3016	6°3112	4°9161	7°1001	5°5306	7°8891	6°1451	5
4°7324	3°6885	5°5211	4°3032	6°3098	4°9180	7°0985	5°5327	7°8873	6°1474	4
4°7313	3°6898	5°5198	4°3048	6°3084	4°9198	7°0969	5°5348	7°8855	6°1497	3
4°7302	3°6912	5°5186	4°3064	6°3070	4°9216	7°0953	5°5368	7°8837	6°1520	2
4°7291	3°6926	5°5173	4°3080	6°3055	4°9235	7°0937	5°5389	7°8819	6°1543	1
4°7281	3°6940	5°5161	4°3096	6°3041	4°9253	7°0921	5°5410	7°8801	6°1566	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

52 Degrees.



# 38 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°7880	0°6157	1°5760	1°2313	2°3640	1°8470	3°1520	2°4626	3°9401	3°0783
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2	0°7877	0°6161	1°5753	1°2322	2°3630	1°8484	3°1506	2°4645	3°9383	3°0806
3	0°7875	0°6163	1°5749	1°2327	2°3624	1°8490	3°1499	2°4654	3°9374	3°0817
4	0°7873	0°6166	1°5746	1°2332	2°3619	1°8497	3°1492	2°4663	3°9365	3°0829
5	0°7871	0°6168	1°5742	1°2336	2°3613	1°8504	3°1485	2°4672	3°9356	3°0840
6	0°7869	0°6170	1°5739	1°2341	2°3608	1°8511	3°1477	2°4681	3°9347	3°0852
7	0°7868	0°6173	1°5735	1°2345	2°3603	1°8518	3°1470	2°4691	3°9338	3°0863
8	0°7866	0°6175	1°5732	1°2350	2°3597	1°8525	3°1463	2°4700	3°9329	3°0875
9	0°7864	0°6177	1°5728	1°2354	2°3592	1°8532	3°1456	2°4709	3°9320	3°0886
10	0°7862	0°6180	1°5724	1°2359	2°3586	1°8539	3°1449	2°4718	3°9311	3°0898
11	0°7860	0°6182	1°5721	1°2364	2°3581	1°8545	3°1441	2°4727	3°9302	3°0909
12	0°7859	0°6184	1°5717	1°2368	2°3576	1°8552	3°1434	2°4736	3°9293	3°0920
13	0°7857	0°6186	1°5714	1°2373	2°3570	1°8559	3°1427	2°4745	3°9284	3°0932
14	0°7855	0°6189	1°5710	1°2377	2°3565	1°8566	3°1420	2°4755	3°9275	3°0943
15	0°7853	0°6191	1°5706	1°2382	2°3560	1°8573	3°1413	2°4764	3°9266	3°0955
16	0°7851	0°6193	1°5703	1°2386	2°3554	1°8580	3°1405	2°4773	3°9257	3°0966
17	0°7850	0°6196	1°5699	1°2391	2°3549	1°8587	3°1398	2°4782	3°9248	3°0978
18	0°7848	0°6198	1°5696	1°2396	2°3543	1°8593	3°1391	2°4791	3°9239	3°0989
19	0°7846	0°6200	1°5692	1°2400	2°3538	1°8600	3°1384	2°4800	3°9230	3°1000
20	0°7844	0°6202	1°5688	1°2405	2°3532	1°8607	3°1377	2°4809	3°9221	3°1012
21	0°7842	0°6205	1°5685	1°2409	2°3527	1°8614	3°1369	2°4819	3°9212	3°1023
22	0°7841	0°6207	1°5681	1°2414	2°3522	1°8621	3°1362	2°4828	3°9203	3°1035
23	0°7839	0°6209	1°5677	1°2418	2°3516	1°8628	3°1355	2°4837	3°9194	3°1046
24	0°7837	0°6211	1°5674	1°2423	2°3511	1°8634	3°1348	2°4846	3°9185	3°1057
25	0°7835	0°6214	1°5670	1°2428	2°3505	1°8641	3°1341	2°4855	3°9176	3°1069
26	0°7833	0°6216	1°5667	1°2432	2°3500	1°8648	3°1333	2°4864	3°9167	3°1080
27	0°7832	0°6218	1°5663	1°2437	2°3495	1°8655	3°1326	2°4873	3°9158	3°1092
28	0°7830	0°6221	1°5659	1°2441	2°3489	1°8662	3°1319	2°4882	3°9149	3°1103
29	0°7828	0°6223	1°5656	1°2446	2°3484	1°8669	3°1312	2°4891	3°9139	3°1114
30	0°7826	0°6225	1°5652	1°2450	2°3478	1°8675	3°1304	2°4901	3°9130	3°1126
31	0°7824	0°6227	1°5649	1°2455	2°3473	1°8682	3°1297	2°4910	3°9121	3°1137
32	0°7822	0°6230	1°5645	1°2459	2°3467	1°8689	3°1290	2°4919	3°9112	3°1148
33	0°7821	0°6232	1°5641	1°2464	2°3462	1°8696	3°1283	2°4928	3°9103	3°1160
34	0°7819	0°6234	1°5638	1°2468	2°3456	1°8703	3°1275	2°4937	3°9094	3°1171
35	0°7817	0°6237	1°5634	1°2473	2°3451	1°8710	3°1268	2°4946	3°9085	3°1183
36	0°7815	0°6239	1°5630	1°2478	2°3446	1°8716	3°1261	2°4955	3°9076	3°1194
37	0°7813	0°6241	1°5627	1°2482	2°3440	1°8723	3°1254	2°4964	3°9067	3°1205
38	0°7812	0°6243	1°5623	1°2487	2°3435	1°8730	3°1246	2°4973	3°9058	3°1217
39	0°7810	0°6246	1°5620	1°2491	2°3429	1°8737	3°1239	2°4982	3°9049	3°1228
40	0°7808	0°6248	1°5616	1°2496	2°3424	1°8744	3°1232	2°4992	3°9040	3°1239
41	0°7806	0°6250	1°5612	1°2500	2°3418	1°8750	3°1224	2°5001	3°9031	3°1251
42	0°7804	0°6252	1°5609	1°2505	2°3413	1°8757	3°1217	2°5010	3°9022	3°1262
43	0°7802	0°6255	1°5605	1°2509	2°3407	1°8764	3°1210	2°5019	3°9012	3°1273
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45	0°7799	0°6259	1°5598	1°2518	2°3397	1°8778	3°1195	2°5037	3°8994	3°1296
46	0°7797	0°6262	1°5594	1°2523	2°3391	1°8785	3°1188	2°5046	3°8985	3°1308
47	0°7795	0°6264	1°5590	1°2528	2°3386	1°8791	3°1181	2°5055	3°8976	3°1319
48	0°7793	0°6266	1°5587	1°2532	2°3380	1°8798	3°1174	2°5064	3°8967	3°1330
49	0°7792	0°6268	1°5583	1°2537	2°3375	1°8805	3°1166	2°5073	3°8958	3°1342
50	0°7790	0°6271	1°5579	1°2541	2°3369	1°8812	3°1159	2°5082	3°8949	3°1353
51	0°7788	0°6273	1°5576	1°2546	2°3364	1°8819	3°1152	2°5091	3°8940	3°1364
52	0°7786	0°6275	1°5572	1°2550	2°3358	1°8825	3°1144	2°5100	3°8930	3°1376
53	0°7784	0°6277	1°5569	1°2555	2°3353	1°8832	3°1137	2°5109	3°8921	3°1387
54	0°7782	0°6280	1°5565	1°2559	2°3347	1°8839	3°1130	2°5119	3°8912	3°1398
55	0°7781	0°6282	1°5561	1°2564	2°3342	1°8846	3°1122	2°5128	3°8903	3°1409
56	0°7779	0°6284	1°5558	1°2568	2°3336	1°8852	3°1115	2°5137	3°8894	3°1421
57	0°7777	0°6286	1°5554	1°2573	2°3331	1°8859	3°1108	2°5146	3°8885	3°1432
58	0°7775	0°6289	1°5550	1°2577	2°3325	1°8866	3°1100	2°5155	3°8876	3°1443
59	0°7773	0°6291	1°5547	1°2582	2°3320	1°8873	3°1093	2°5164	3°8866	3°1455
60	0°7771	0°6293	1°5543	1°2586	2°3314	1°8880	3°1086	2°5173	3°8857	3°1466
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4-7281	3-6940	5-5161	4-3096	6-3041	4-9253	7-0921	5-5410	7-8801	6-1566	60
4-7270	3-6953	5-5148	4-3112	6-3027	4-9271	7-0905	5-5430	7-8783	6-1589	59
4-7259	3-6967	5-5136	4-3128	6-3012	4-9290	7-0889	5-5451	7-8765	6-1612	58
4-7248	3-6981	5-5123	4-3144	6-2998	4-9308	7-0873	5-5471	7-8747	6-1635	57
4-7238	3-6995	5-5111	4-3160	6-2984	4-9326	7-0856	5-5492	7-8729	6-1658	56
4-7227	3-7008	5-5098	4-3176	6-2969	4-9345	7-0840	5-5513	7-8711	6-1681	55
4-7216	3-7022	5-5085	4-3193	6-2955	4-9363	7-0824	5-5533	7-8694	6-1704	54
4-7205	3-7036	5-5073	4-3209	6-2940	4-9381	7-0808	5-5554	7-8676	6-1726	53
4-7195	3-7050	5-5060	4-3225	6-2926	4-9399	7-0792	5-5574	7-8658	6-1749	52
4-7184	3-7063	5-5048	4-3241	6-2912	4-9418	7-0776	5-5595	7-8640	6-1772	51
4-7173	3-7077	5-5035	4-3257	6-2897	4-9436	7-0759	5-5616	7-8622	6-1795	50
4-7162	3-7091	5-5023	4-3273	6-2883	4-9454	7-0743	5-5636	7-8604	6-1818	49
4-7151	3-7105	5-5010	4-3289	6-2869	4-9473	7-0727	5-5657	7-8586	6-1841	48
4-7141	3-7118	5-4997	4-3305	6-2854	4-9491	7-0711	5-5677	7-8568	6-1864	47
4-7130	3-7132	5-4985	4-3321	6-2840	4-9509	7-0695	5-5698	7-8550	6-1887	46
4-7119	3-7146	5-4972	4-3337	6-2825	4-9528	7-0679	5-5718	7-8532	6-1909	45
4-7108	3-7159	5-4960	4-3353	6-2811	4-9546	7-0662	5-5739	7-8514	6-1932	44
4-7097	3-7173	5-4947	4-3369	6-2797	4-9564	7-0646	5-5760	7-8496	6-1955	43
4-7087	3-7187	5-4934	4-3385	6-2782	4-9582	7-0630	5-5780	7-8478	6-1978	42
4-7076	3-7200	5-4922	4-3401	6-2768	4-9601	7-0614	5-5801	7-8460	6-2001	41
4-7065	3-7214	5-4909	4-3416	6-2753	4-9619	7-0597	5-5821	7-8442	6-2024	40
4-7054	3-7228	5-4896	4-3432	6-2739	4-9637	7-0581	5-5842	7-8424	6-2046	39
4-7043	3-7242	5-4884	4-3448	6-2724	4-9655	7-0565	5-5862	7-8405	6-2069	38
4-7032	3-7255	5-4871	4-3464	6-2710	4-9674	7-0549	5-5883	7-8387	6-2092	37
4-7022	3-7269	5-4859	4-3480	6-2695	4-9692	7-0532	5-5903	7-8369	6-2115	36
4-7011	3-7283	5-4846	4-3496	6-2681	4-9710	7-0516	5-5924	7-8351	6-2138	35
4-7000	3-7296	5-4833	4-3512	6-2667	4-9728	7-0500	5-5944	7-8333	6-2160	34
4-6989	3-7310	5-4821	4-3528	6-2652	4-9747	7-0484	5-5965	7-8315	6-2183	33
4-6978	3-7324	5-4808	4-3544	6-2638	4-9765	7-0467	5-5985	7-8297	6-2206	32
4-6967	3-7337	5-4795	4-3560	6-2623	4-9783	7-0451	5-6006	7-8279	6-2229	31
4-6956	3-7351	5-4783	4-3576	6-2609	4-9801	7-0435	5-6026	7-8261	6-2251	30
4-6946	3-7365	5-4770	4-3592	6-2594	4-9819	7-0418	5-6047	7-8243	6-2274	29
4-6935	3-7378	5-4757	4-3608	6-2580	4-9838	7-0402	5-6067	7-8225	6-2297	28
4-6924	3-7392	5-4745	4-3624	6-2565	4-9856	7-0386	5-6088	7-8206	6-2320	27
4-6913	3-7405	5-4732	4-3640	6-2551	4-9874	7-0369	5-6108	7-8188	6-2342	26
4-6902	3-7419	5-4719	4-3656	6-2536	4-9892	7-0353	5-6129	7-8170	6-2365	25
4-6891	3-7433	5-4706	4-3672	6-2522	4-9910	7-0337	5-6149	7-8152	6-2388	24
4-6880	3-7446	5-4694	4-3687	6-2507	4-9929	7-0321	5-6170	7-8134	6-2411	23
4-6869	3-7460	5-4681	4-3703	6-2493	4-9947	7-0304	5-6190	7-8116	6-2433	22
4-6859	3-7474	5-4668	4-3719	6-2478	4-9965	7-0288	5-6211	7-8098	6-2456	21
4-6848	3-7487	5-4656	4-3735	6-2464	4-9983	7-0271	5-6231	7-8079	6-2479	20
4-6837	3-7501	5-4643	4-3751	6-2449	5-0001	7-0255	5-6251	7-8061	6-2502	19
4-6826	3-7515	5-4630	4-3767	6-2434	5-0019	7-0239	5-6272	7-8043	6-2524	18
4-6815	3-7528	5-4617	4-3783	6-2420	5-0038	7-0222	5-6292	7-8025	6-2547	17
4-6804	3-7542	5-4605	4-3799	6-2405	5-0056	7-0206	5-6313	7-8007	6-2570	16
4-6793	3-7555	5-4592	4-3815	6-2391	5-0074	7-0190	5-6333	7-7988	6-2592	15
4-6782	3-7569	5-4579	4-3831	6-2376	5-0092	7-0173	5-6354	7-7970	6-2615	14
4-6771	3-7583	5-4566	4-3846	6-2362	5-0110	7-0157	5-6374	7-7952	6-2638	13
4-6760	3-7596	5-4554	4-3862	6-2347	5-0128	7-0140	5-6394	7-7934	6-2660	12
4-6749	3-7610	5-4541	4-3878	6-2332	5-0146	7-0124	5-6415	7-7916	6-2683	11
4-6738	3-7623	5-4528	4-3894	6-2318	5-0165	7-0108	5-6435	7-7897	6-2706	10
4-6727	3-7637	5-4515	4-3910	6-2303	5-0183	7-0091	5-6456	7-7879	6-2728	9
4-6717	3-7651	5-4503	4-3926	6-2289	5-0201	7-0075	5-6476	7-7861	6-2751	8
4-6706	3-7664	5-4490	4-3942	6-2274	5-0219	7-0058	5-6496	7-7843	6-2774	7
4-6695	3-7678	5-4477	4-3957	6-2259	5-0237	7-0042	5-6517	7-7824	6-2796	6
4-6684	3-7691	5-4464	4-3973	6-2245	5-0255	7-0025	5-6537	7-7806	6-2819	5
4-6673	3-7705	5-4451	4-3989	6-2230	5-0273	7-0009	5-6557	7-7788	6-2842	4
4-6662	3-7719	5-4439	4-4005	6-2216	5-0291	6-9993	5-6578	7-7769	6-2864	3
4-6651	3-7732	5-4426	4-4021	6-2201	5-0309	6-9976	5-6598	7-7751	6-2887	2
4-6640	3-7746	5-4413	4-4037	6-2186	5-0328	6-9960	5-6618	7-7733	6-2909	1
4-6629	3-7759	5-4400	4-4052	6-2172	5-0346	6-9943	5-6639	7-7715	6-2932	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

# 39 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0.7771	0.6293	1.5543	1.2586	2.3314	1.8880	3.1086	2.5173	3.8857	3.1466
1	0.7770	0.6295	1.5539	1.2591	2.3309	1.8886	3.1079	2.5182	3.8848	3.1477
2	0.7768	0.6298	1.5536	1.2595	2.3303	1.8893	3.1071	2.5191	3.8839	3.1489
3	0.7766	0.6300	1.5532	1.2600	2.3298	1.8900	3.1064	2.5200	3.8830	3.1500
4	0.7764	0.6302	1.5528	1.2604	2.3292	1.8907	3.1057	2.5209	3.8821	3.1511
5	0.7762	0.6305	1.5525	1.2609	2.3287	1.8914	3.1049	2.5218	3.8811	3.1523
6	0.7760	0.6307	1.5521	1.2614	2.3281	1.8920	3.1042	2.5227	3.8802	3.1534
7	0.7759	0.6309	1.5517	1.2618	2.3276	1.8927	3.1035	2.5236	3.8793	3.1545
8	0.7757	0.6311	1.5514	1.2623	2.3270	1.8934	3.1027	2.5245	3.8784	3.1556
9	0.7755	0.6314	1.5510	1.2627	2.3265	1.8941	3.1020	2.5254	3.8775	3.1568
10	0.7753	0.6316	1.5506	1.2632	2.3259	1.8947	3.1012	2.5263	3.8766	3.1579
11	0.7751	0.6318	1.5503	1.2636	2.3254	1.8954	3.1005	2.5272	3.8756	3.1590
12	0.7749	0.6320	1.5499	1.2641	2.3248	1.8961	3.0998	2.5281	3.8747	3.1601
13	0.7748	0.6323	1.5495	1.2645	2.3243	1.8968	3.0990	2.5290	3.8738	3.1613
14	0.7746	0.6325	1.5492	1.2650	2.3237	1.8974	3.0983	2.5299	3.8729	3.1624
15	0.7744	0.6327	1.5488	1.2654	2.3232	1.8981	3.0976	2.5308	3.8720	3.1635
16	0.7742	0.6329	1.5484	1.2659	2.3226	1.8988	3.0968	2.5317	3.8710	3.1647
17	0.7740	0.6332	1.5480	1.2663	2.3221	1.8995	3.0961	2.5326	3.8701	3.1658
18	0.7738	0.6334	1.5477	1.2668	2.3215	1.9001	3.0954	2.5335	3.8692	3.1669
19	0.7737	0.6336	1.5473	1.2672	2.3210	1.9008	3.0946	2.5344	3.8683	3.1680
20	0.7735	0.6338	1.5469	1.2677	2.3204	1.9015	3.0939	2.5353	3.8674	3.1692
21	0.7733	0.6341	1.5466	1.2681	2.3199	1.9022	3.0931	2.5362	3.8664	3.1703
22	0.7731	0.6343	1.5462	1.2686	2.3193	1.9028	3.0924	2.5371	3.8655	3.1714
23	0.7729	0.6345	1.5458	1.2690	2.3188	1.9035	3.0917	2.5380	3.8646	3.1725
24	0.7727	0.6347	1.5455	1.2695	2.3182	1.9042	3.0909	2.5389	3.8637	3.1737
25	0.7725	0.6350	1.5451	1.2699	2.3176	1.9049	3.0902	2.5398	3.8627	3.1748
26	0.7724	0.6352	1.5447	1.2704	2.3171	1.9055	3.0895	2.5407	3.8618	3.1759
27	0.7722	0.6354	1.5444	1.2708	2.3165	1.9062	3.0887	2.5416	3.8609	3.1770
28	0.7720	0.6356	1.5440	1.2713	2.3160	1.9069	3.0880	2.5425	3.8600	3.1781
29	0.7718	0.6359	1.5436	1.2717	2.3154	1.9076	3.0872	2.5434	3.8590	3.1793
30	0.7716	0.6361	1.5432	1.2722	2.3149	1.9082	3.0865	2.5443	3.8581	3.1804
31	0.7714	0.6363	1.5429	1.2726	2.3143	1.9089	3.0858	2.5452	3.8572	3.1815
32	0.7713	0.6365	1.5425	1.2731	2.3138	1.9096	3.0850	2.5461	3.8563	3.1826
33	0.7711	0.6368	1.5421	1.2735	2.3132	1.9103	3.0843	2.5470	3.8553	3.1838
34	0.7709	0.6370	1.5418	1.2740	2.3127	1.9109	3.0835	2.5479	3.8544	3.1849
35	0.7707	0.6372	1.5414	1.2744	2.3121	1.9116	3.0828	2.5488	3.8535	3.1860
36	0.7705	0.6374	1.5410	1.2748	2.3115	1.9123	3.0821	2.5497	3.8526	3.1871
37	0.7703	0.6376	1.5407	1.2753	2.3110	1.9129	3.0813	2.5506	3.8516	3.1882
38	0.7701	0.6379	1.5403	1.2757	2.3104	1.9136	3.0806	2.5515	3.8507	3.1894
39	0.7700	0.6381	1.5399	1.2762	2.3099	1.9143	3.0798	2.5524	3.8498	3.1905
40	0.7698	0.6383	1.5395	1.2766	2.3093	1.9150	3.0791	2.5533	3.8489	3.1916
41	0.7696	0.6385	1.5392	1.2771	2.3088	1.9156	3.0783	2.5542	3.8479	3.1927
42	0.7694	0.6388	1.5388	1.2775	2.3082	1.9163	3.0776	2.5551	3.8470	3.1938
43	0.7692	0.6390	1.5384	1.2780	2.3076	1.9170	3.0769	2.5560	3.8461	3.1950
44	0.7690	0.6392	1.5381	1.2784	2.3071	1.9176	3.0761	2.5569	3.8451	3.1961
45	0.7688	0.6394	1.5377	1.2789	2.3065	1.9183	3.0754	2.5578	3.8442	3.1972
46	0.7687	0.6397	1.5373	1.2793	2.3060	1.9190	3.0746	2.5587	3.8433	3.1983
47	0.7685	0.6399	1.5369	1.2798	2.3054	1.9197	3.0739	2.5595	3.8423	3.1994
48	0.7683	0.6401	1.5366	1.2802	2.3049	1.9203	3.0731	2.5604	3.8414	3.2005
49	0.7681	0.6403	1.5362	1.2807	2.3043	1.9210	3.0724	2.5613	3.8405	3.2017
50	0.7679	0.6406	1.5358	1.2811	2.3037	1.9217	3.0716	2.5622	3.8396	3.2028
51	0.7677	0.6408	1.5354	1.2816	2.3032	1.9223	3.0709	2.5631	3.8386	3.2039
52	0.7675	0.6410	1.5351	1.2820	2.3026	1.9230	3.0702	2.5640	3.8377	3.2050
53	0.7674	0.6412	1.5347	1.2825	2.3021	1.9237	3.0694	2.5649	3.8368	3.2061
54	0.7672	0.6414	1.5343	1.2829	2.3015	1.9243	3.0687	2.5658	3.8358	3.2072
55	0.7670	0.6417	1.5340	1.2833	2.3009	1.9250	3.0679	2.5667	3.8349	3.2084
56	0.7668	0.6419	1.5336	1.2838	2.3004	1.9257	3.0672	2.5676	3.8340	3.2095
57	0.7666	0.6421	1.5332	1.2842	2.2998	1.9264	3.0664	2.5685	3.8330	3.2106
58	0.7664	0.6423	1.5328	1.2847	2.2993	1.9270	3.0657	2.5694	3.8321	3.2117
59	0.7662	0.6426	1.5325	1.2851	2.2987	1.9277	3.0649	2.5703	3.8312	3.2128
60	0.7660	0.6428	1.5321	1.2856	2.2981	1.9284	3.0642	2.5712	3.8302	3.2139
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°6'29	3°7'59	5°4'40	4°4'52	6°2'12	5°0'34	6°9'43	5°6'39	7°7'15	6°2'92	60
4°6'18	3°7'73	5°4'38	4°4'68	6°2'15	5°0'36	6°9'27	5°6'59	7°7'69	6°2'55	59
4°6'07	3°7'78	5°4'37	4°4'84	6°2'14	5°0'38	6°9'10	5°6'80	7°7'67	6°2'77	58
4°6'56	3°7'80	5°4'36	4°4'10	6°2'12	5°0'40	6°9'84	5°6'70	7°7'60	6°3'00	57
4°6'58	3°7'81	5°4'34	4°4'16	6°2'11	5°0'41	6°9'87	5°6'72	7°7'64	6°3'02	56
4°6'57	3°7'82	5°4'33	4°4'12	6°2'09	5°0'43	6°9'81	5°6'74	7°7'62	6°3'04	55
4°6'56	3°7'84	5°4'33	4°4'17	6°2'08	5°0'45	6°9'84	5°6'71	7°7'65	6°3'06	54
4°6'52	3°7'85	5°4'31	4°4'13	6°2'06	5°0'47	6°9'82	5°6'71	7°7'58	6°3'09	53
4°6'54	3°7'86	5°4'29	4°4'17	6°2'05	5°0'49	6°9'81	5°6'80	7°7'56	6°3'11	52
4°6'53	3°7'88	5°4'28	4°4'15	6°2'04	5°0'50	6°9'75	5°6'82	7°7'55	6°3'13	51
4°6'51	3°7'89	5°4'27	4°4'21	6°2'02	5°0'52	6°9'78	5°6'81	7°7'51	6°3'15	50
4°6'50	3°7'90	5°4'25	4°4'22	6°2'01	5°0'54	6°9'76	5°6'82	7°7'51	6°3'18	49
4°6'49	3°7'92	5°4'24	4°4'24	6°1'99	5°0'56	6°9'75	5°6'83	7°7'49	6°3'20	48
4°6'48	3°7'95	5°4'23	4°4'25	6°1'98	5°0'58	6°9'72	5°6'90	7°7'47	6°3'25	47
4°6'47	3°7'94	5°4'22	4°4'24	6°1'96	5°0'59	6°9'71	5°6'92	7°7'45	6°3'24	46
4°6'46	3°7'92	5°4'20	4°4'28	6°1'95	5°0'61	6°9'65	5°6'94	7°7'43	6°3'21	45
4°6'45	3°7'97	5°4'19	4°4'35	6°1'93	5°0'63	6°9'67	5°6'94	7°7'42	6°3'23	44
4°6'44	3°7'98	5°4'18	4°4'31	6°1'92	5°0'65	6°9'62	5°6'94	7°7'40	6°3'16	43
4°6'43	3°8'03	5°4'16	4°4'37	6°1'90	5°0'67	6°9'64	5°7'04	7°7'38	6°3'38	42
4°6'41	3°8'01	5°4'15	4°4'32	6°1'89	5°0'68	6°9'62	5°7'02	7°7'36	6°3'31	41
4°6'40	3°8'03	5°4'13	4°4'36	6°1'87	5°0'70	6°9'61	5°7'04	7°7'34	6°3'33	40
4°6'39	3°8'04	5°4'13	4°4'34	6°1'86	5°0'72	6°9'59	5°7'05	7°7'32	6°3'40	39
4°6'38	3°8'05	5°4'11	4°4'40	6°1'84	5°0'74	6°9'57	5°7'05	7°7'31	6°3'42	38
4°6'37	3°8'07	5°4'10	4°4'15	6°1'83	5°0'76	6°9'56	5°7'10	7°7'29	6°3'45	37
4°6'36	3°8'08	5°4'09	4°4'41	6°1'81	5°0'77	6°9'54	5°7'12	7°7'27	6°3'47	36
4°6'35	3°8'09	5°4'07	4°4'31	6°1'80	5°0'79	6°9'52	5°7'14	7°7'25	6°3'49	35
4°6'34	3°8'11	5°4'05	4°4'43	6°1'78	5°0'81	6°9'51	5°7'16	7°7'23	6°3'51	34
4°6'33	3°8'12	5°4'03	4°4'47	6°1'77	5°0'83	6°9'49	5°7'16	7°7'21	6°3'54	33
4°6'32	3°8'13	5°4'04	4°4'49	6°1'76	5°0'85	6°9'48	5°7'20	7°7'19	6°3'56	32
4°6'30	3°8'15	5°4'02	4°4'51	6°1'74	5°0'86	6°9'46	5°7'22	7°7'18	6°3'58	31
4°6'29	3°8'16	5°4'04	4°4'52	6°1'73	5°0'88	6°9'44	5°7'24	7°7'16	6°3'68	30
4°6'28	3°8'17	5°4'01	4°4'51	6°1'71	5°0'90	6°9'43	5°7'26	7°7'14	6°3'63	29
4°6'27	3°8'19	5°3'98	4°4'57	6°1'70	5°0'92	6°9'41	5°7'28	7°7'12	6°3'65	28
4°6'26	3°8'20	5°3'95	4°4'57	6°1'68	5°0'94	6°9'39	5°7'30	7°7'10	6°3'67	27
4°6'25	3°8'21	5°3'92	4°4'58	6°1'67	5°0'95	6°9'38	5°7'32	7°7'08	6°3'69	26
4°6'24	3°8'22	5°3'94	4°4'60	6°1'65	5°0'97	6°9'36	5°7'34	7°7'07	6°3'72	25
4°6'23	3°8'24	5°3'93	4°4'62	6°1'64	5°0'99	6°9'34	5°7'36	7°7'05	6°3'74	24
4°6'22	3°8'25	5°3'92	4°4'63	6°1'62	5°1'02	6°9'33	5°7'38	7°7'03	6°3'75	23
4°6'20	3°8'27	5°3'91	4°4'65	6°1'61	5°1'03	6°9'31	5°7'40	7°7'04	6°3'77	22
4°6'19	3°8'28	5°3'89	4°4'67	6°1'59	5°1'04	6°9'29	5°7'42	7°6'99	6°3'81	21
4°6'18	3°8'29	5°3'88	4°4'68	6°1'58	5°1'06	6°9'27	5°7'44	7°6'97	6°3'82	20
4°6'17	3°8'31	5°3'87	4°4'69	6°1'56	5°1'08	6°9'26	5°7'46	7°6'95	6°3'85	19
4°6'16	3°8'32	5°3'85	4°4'74	6°1'55	5°1'10	6°9'24	5°7'48	7°6'94	6°3'87	18
4°6'15	3°8'33	5°3'84	4°4'72	6°1'53	5°1'11	6°9'22	5°7'50	7°6'92	6°3'89	17
4°6'14	3°8'35	5°3'82	4°4'74	6°1'52	5°1'13	6°9'21	5°7'52	7°6'93	6°3'92	16
4°6'13	3°8'36	5°3'81	4°4'71	6°1'50	5°1'15	6°9'19	5°7'55	7°6'88	6°3'94	15
4°6'11	3°8'38	5°3'80	4°4'76	6°1'49	5°1'17	6°9'17	5°7'57	7°6'86	6°3'96	14
4°6'10	3°8'39	5°3'79	4°4'72	6°1'47	5°1'19	6°9'16	5°7'59	7°6'84	6°3'98	13
4°6'09	3°8'40	5°3'78	4°4'80	6°1'46	5°1'20	6°9'14	5°7'61	7°6'82	6°4'01	12
4°6'08	3°8'42	5°3'76	4°4'82	6°1'44	5°1'22	6°9'12	5°7'63	7°6'81	6°4'03	11
4°6'07	3°8'43	5°3'75	4°4'83	6°1'43	5°1'24	6°9'11	5°7'65	7°6'79	6°4'05	10
4°6'06	3°8'47	5°3'74	4°4'85	6°1'41	5°1'26	6°9'09	5°7'67	7°6'77	6°4'07	9
4°6'05	3°8'46	5°3'72	4°4'87	6°1'40	5°1'28	6°9'07	5°7'69	7°6'75	6°4'10	8
4°6'04	3°8'47	5°3'71	4°4'86	6°1'38	5°1'29	6°9'06	5°7'71	7°6'73	6°4'12	7
4°6'03	3°8'48	5°3'70	4°4'90	6°1'37	5°1'31	6°9'04	5°7'73	7°6'71	6°4'14	6
4°6'01	3°8'50	5°3'68	4°4'91	6°1'35	5°1'33	6°9'02	5°7'75	7°6'69	6°4'17	5
4°6'00	3°8'51	5°3'67	4°4'93	6°1'34	5°1'35	6°9'01	5°7'77	7°6'67	6°4'19	4
4°5'99	3°8'52	5°3'66	4°4'94	6°1'32	5°1'37	6°8'99	5°7'79	7°6'66	6°4'21	3
4°5'98	3°8'54	5°3'64	4°4'94	6°1'31	5°1'38	6°8'97	5°7'81	7°6'64	6°4'23	2
4°5'97	3°8'54	5°3'63	4°4'98	6°1'29	5°1'40	6°8'96	5°7'83	7°6'62	6°4'25	1
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Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

50 Degrees.

# 40 Degrees.

Dist.	1		2		3		4		5	
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3	0°7655	0°6435	1°5310	1°2869	2°2964	1°9304	3°0619	2°5738	3°8274	3°2173
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5	0°7651	0°6439	1°5302	1°2878	2°2953	1°9317	3°0604	2°5756	3°8255	3°2195
6	0°7649	0°6441	1°5298	1°2882	2°2948	1°9324	3°0597	2°5765	3°8246	3°2206
7	0°7647	0°6443	1°5295	1°2887	2°2942	1°9330	3°0589	2°5774	3°8237	3°2217
8	0°7645	0°6446	1°5291	1°2891	2°2936	1°9337	3°0582	2°5783	3°8227	3°2228
9	0°7644	0°6448	1°5287	1°2896	2°2931	1°9344	3°0574	2°5792	3°8218	3°2240
10	0°7642	0°6450	1°5283	1°2900	2°2925	1°9350	3°0567	2°5801	3°8209	3°2251
11	0°7640	0°6452	1°5280	1°2905	2°2920	1°9357	3°0559	2°5809	3°8199	3°2262
12	0°7638	0°6455	1°5276	1°2909	2°2914	1°9364	3°0552	2°5818	3°8190	3°2273
13	0°7636	0°6457	1°5272	1°2914	2°2908	1°9370	3°0544	2°5827	3°8180	3°2284
14	0°7634	0°6459	1°5268	1°2918	2°2903	1°9377	3°0537	2°5836	3°8171	3°2295
15	0°7632	0°6461	1°5265	1°2922	2°2897	1°9384	3°0529	2°5845	3°8162	3°2306
16	0°7630	0°6463	1°5261	1°2927	2°2891	1°9390	3°0522	2°5854	3°8152	3°2317
17	0°7629	0°6466	1°5257	1°2931	2°2886	1°9397	3°0514	2°5863	3°8143	3°2328
18	0°7627	0°6468	1°5253	1°2936	2°2880	1°9404	3°0507	2°5872	3°8133	3°2339
19	0°7625	0°6470	1°5250	1°2940	2°2874	1°9410	3°0499	2°5880	3°8124	3°2351
20	0°7623	0°6472	1°5246	1°2945	2°2869	1°9417	3°0492	2°5889	3°8115	3°2362
21	0°7621	0°6475	1°5242	1°2949	2°2863	1°9424	3°0484	2°5898	3°8105	3°2373
22	0°7619	0°6477	1°5238	1°2954	2°2857	1°9430	3°0477	2°5907	3°8096	3°2384
23	0°7617	0°6479	1°5235	1°2958	2°2852	1°9437	3°0469	2°5916	3°8086	3°2395
24	0°7615	0°6481	1°5231	1°2962	2°2846	1°9444	3°0462	2°5925	3°8077	3°2406
25	0°7613	0°6483	1°5227	1°2967	2°2840	1°9450	3°0454	2°5934	3°8067	3°2417
26	0°7612	0°6486	1°5223	1°2971	2°2835	1°9457	3°0446	2°5943	3°8058	3°2428
27	0°7610	0°6488	1°5219	1°2976	2°2829	1°9464	3°0439	2°5951	3°8049	3°2439
28	0°7608	0°6490	1°5216	1°2980	2°2824	1°9470	3°0431	2°5960	3°8039	3°2450
29	0°7606	0°6492	1°5212	1°2985	2°2818	1°9477	3°0424	2°5969	3°8030	3°2461
30	0°7604	0°6494	1°5208	1°2989	2°2812	1°9483	3°0416	2°5978	3°8020	3°2472
31	0°7602	0°6497	1°5204	1°2993	2°2807	1°9490	3°0409	2°5987	3°8011	3°2483
32	0°7600	0°6499	1°5201	1°2998	2°2801	1°9497	3°0401	2°5996	3°8001	3°2495
33	0°7598	0°6501	1°5197	1°3002	2°2795	1°9503	3°0394	2°6004	3°7992	3°2506
34	0°7596	0°6503	1°5193	1°3007	2°2789	1°9510	3°0386	2°6013	3°7982	3°2517
35	0°7595	0°6506	1°5189	1°3011	2°2784	1°9517	3°0378	2°6022	3°7973	3°2528
36	0°7593	0°6508	1°5185	1°3015	2°2778	1°9523	3°0371	2°6031	3°7964	3°2539
37	0°7591	0°6510	1°5182	1°3020	2°2772	1°9530	3°0363	2°6040	3°7954	3°2550
38	0°7589	0°6512	1°5178	1°3024	2°2767	1°9536	3°0356	2°6049	3°7945	3°2561
39	0°7587	0°6514	1°5174	1°3029	2°2761	1°9543	3°0348	2°6057	3°7935	3°2572
40	0°7585	0°6517	1°5170	1°3033	2°2755	1°9550	3°0341	2°6066	3°7926	3°2583
41	0°7583	0°6519	1°5166	1°3038	2°2750	1°9556	3°0333	2°6075	3°7916	3°2594
42	0°7581	0°6521	1°5163	1°3042	2°2744	1°9563	3°0325	2°6084	3°7907	3°2605
43	0°7579	0°6523	1°5159	1°3046	2°2738	1°9570	3°0318	2°6093	3°7897	3°2616
44	0°7578	0°6525	1°5155	1°3051	2°2733	1°9576	3°0310	2°6102	3°7888	3°2627
45	0°7576	0°6528	1°5151	1°3055	2°2727	1°9583	3°0303	2°6110	3°7878	3°2638
46	0°7574	0°6530	1°5148	1°3060	2°2721	1°9589	3°0295	2°6119	3°7869	3°2649
47	0°7572	0°6532	1°5144	1°3064	2°2716	1°9596	3°0287	2°6128	3°7859	3°2660
48	0°7570	0°6534	1°5140	1°3068	2°2710	1°9603	3°0280	2°6137	3°7850	3°2671
49	0°7568	0°6536	1°5136	1°3073	2°2704	1°9609	3°0272	2°6146	3°7840	3°2682
50	0°7566	0°6539	1°5132	1°3077	2°2698	1°9616	3°0265	2°6154	3°7831	3°2693
51	0°7564	0°6541	1°5128	1°3082	2°2693	1°9622	3°0257	2°6163	3°7821	3°2704
52	0°7562	0°6543	1°5125	1°3086	2°2687	1°9629	3°0249	2°6172	3°7812	3°2715
53	0°7560	0°6545	1°5121	1°3090	2°2681	1°9636	3°0242	2°6181	3°7802	3°2726
54	0°7559	0°6547	1°5117	1°3095	2°2676	1°9642	3°0234	2°6190	3°7793	3°2737
55	0°7557	0°6550	1°5113	1°3099	2°2670	1°9649	3°0227	2°6198	3°7783	3°2748
56	0°7555	0°6552	1°5109	1°3104	2°2664	1°9655	3°0219	2°6207	3°7774	3°2759
57	0°7553	0°6554	1°5106	1°3108	2°2658	1°9662	3°0211	2°6216	3°7764	3°2770
58	0°7551	0°6556	1°5102	1°3112	2°2653	1°9669	3°0204	2°6225	3°7755	3°2781
59	0°7549	0°6558	1°5098	1°3117	2°2647	1°9675	3°0196	2°6234	3°7745	3°2792
60	0°7547	0°6561	1°5094	1°3121	2°2641	1°9682	3°0188	2°6242	3°7735	3°2803

Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat. Dep. Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4-5963	3-8567	5-3623	4-4995	6-1284	5-1423	6-8944	5-7851	7-6604	6-4279	60
4-5951	3-8581	5-3610	4-5011	6-1269	5-1441	6-8927	5-7871	7-6586	6-4301	59
4-5940	3-8594	5-3597	4-5026	6-1254	5-1459	6-8910	5-7891	7-6567	6-4323	58
4-5929	3-8607	5-3584	4-5042	6-1239	5-1476	6-8893	5-7911	7-6548	6-4346	57
4-5918	3-8621	5-3571	4-5057	6-1224	5-1494	6-8877	5-7931	7-6530	6-4368	56
4-5907	3-8634	5-3558	4-5073	6-1209	5-1512	6-8860	5-7951	7-6511	6-4390	55
4-5895	3-8647	5-3544	4-5089	6-1194	5-1530	6-8843	5-7971	7-6492	6-4412	54
4-5884	3-8661	5-3531	4-5104	6-1179	5-1548	6-8826	5-7991	7-6473	6-4435	53
4-5873	3-8674	5-3518	4-5120	6-1164	5-1565	6-8809	5-8011	7-6455	6-4457	52
4-5862	3-8687	5-3505	4-5135	6-1149	5-1583	6-8792	5-8031	7-6436	6-4479	51
4-5850	3-8701	5-3492	4-5151	6-1134	5-1601	6-8775	5-8051	7-6417	6-4501	50
4-5839	3-8714	5-3479	4-5166	6-1119	5-1619	6-8759	5-8071	7-6398	6-4524	49
4-5828	3-8727	5-3466	4-5182	6-1104	5-1637	6-8742	5-8091	7-6380	6-4546	48
4-5816	3-8741	5-3453	4-5198	6-1089	5-1654	6-8725	5-8111	7-6361	6-4568	47
4-5805	3-8754	5-3439	4-5213	6-1074	5-1672	6-8708	5-8131	7-6342	6-4590	46
4-5794	3-8767	5-3426	4-5229	6-1059	5-1690	6-8691	5-8151	7-6323	6-4612	45
4-5783	3-8781	5-3413	4-5244	6-1044	5-1708	6-8674	5-8171	7-6304	6-4635	44
4-5771	3-8794	5-3400	4-5260	6-1029	5-1725	6-8657	5-8191	7-6286	6-4657	43
4-5760	3-8807	5-3387	4-5275	6-1013	5-1743	6-8640	5-8211	7-6267	6-4679	42
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4-5499	3-9113	5-3083	4-5631	6-0666	5-2150	6-8249	5-8669	7-5832	6-5188	19
4-5488	3-9126	5-3069	4-5647	6-0651	5-2168	6-8232	5-8689	7-5813	6-5210	18
4-5477	3-9139	5-3056	4-5662	6-0636	5-2186	6-8215	5-8709	7-5794	6-5232	17
4-5465	3-9152	5-3043	4-5678	6-0620	5-2203	6-8198	5-8729	7-5775	6-5254	16
4-5454	3-9166	5-3030	4-5693	6-0605	5-2221	6-8181	5-8748	7-5757	6-5276	15
4-5443	3-9179	5-3016	4-5709	6-0590	5-2238	6-8164	5-8768	7-5738	6-5298	14
4-5431	3-9192	5-3003	4-5724	6-0575	5-2256	6-8147	5-8788	7-5719	6-5320	13
4-5420	3-9205	5-2990	4-5739	6-0560	5-2274	6-8130	5-8808	7-5700	6-5342	12
4-5408	3-9218	5-2976	4-5755	6-0544	5-2291	6-8112	5-8828	7-5681	6-5364	11
4-5397	3-9232	5-2963	4-5770	6-0529	5-2309	6-8095	5-8847	7-5661	6-5386	10
4-5385	3-9245	5-2950	4-5786	6-0514	5-2326	6-8078	5-8867	7-5642	6-5408	9
4-5374	3-9258	5-2936	4-5801	6-0499	5-2344	6-8061	5-8887	7-5623	6-5430	8
4-5363	3-9271	5-2923	4-5816	6-0484	5-2362	6-8044	5-8907	7-5604	6-5452	7
4-5351	3-9284	5-2910	4-5832	6-0468	5-2379	6-8027	5-8927	7-5585	6-5474	6
4-5340	3-9298	5-2896	4-5847	6-0453	5-2397	6-8010	5-8946	7-5566	6-5496	5
4-5328	3-9311	5-2883	4-5863	6-0438	5-2414	6-7993	5-8966	7-5547	6-5518	4
4-5317	3-9324	5-2870	4-5878	6-0423	5-2432	6-7975	5-8986	7-5528	6-5540	3
4-5305	3-9337	5-2856	4-5893	6-0407	5-2450	6-7958	5-9006	7-5509	6-5562	2
4-5294	3-9350	5-2843	4-5909	6-0392	5-2467	6-7941	5-9026	7-5490	6-5584	1
4-5283	3-9364	5-2830	4-5924	6-0377	5-2485	6-7924	5-9045	7-5471	6-5606	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

49 Degrees.



# 41 Degrees.

Dist.	1		2		3		4		5		
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1	0°7545	0°6563	1°5090	1°3126	2°2636	1°9688	3°0181	2°6251	3°7726	3°2814	
2	0°7543	0°6565	1°5087	1°3130	2°2630	1°9695	3°0173	2°6260	3°7716	3°2825	
3	0°7541	0°6567	1°5083	1°3134	2°2624	1°9702	3°0165	2°6269	3°7707	3°2836	
4	0°7539	0°6569	1°5079	1°3139	2°2618	1°9708	3°0158	2°6277	3°7697	3°2847	
5	0°7538	0°6572	1°5075	1°3143	2°2613	1°9715	3°0150	2°6286	3°7688	3°2858	
6	0°7536	0°6574	1°5071	1°3148	2°2607	1°9721	3°0143	2°6295	3°7678	3°2869	
7	0°7534	0°6576	1°5067	1°3152	2°2601	1°9728	3°0135	2°6304	3°7669	3°2880	
8	0°7532	0°6578	1°5064	1°3156	2°2595	1°9734	3°0127	2°6313	3°7659	3°2891	
9	0°7530	0°6580	1°5060	1°3161	2°2590	1°9741	3°0120	2°6321	3°7649	3°2902	
10	0°7528	0°6583	1°5056	1°3165	2°2584	1°9748	3°0112	2°6330	3°7640	3°2913	
11	0°7526	0°6585	1°5052	1°3169	2°2578	1°9754	3°0104	2°6339	3°7630	3°2924	
12	0°7524	0°6587	1°5048	1°3174	2°2572	1°9761	3°0097	2°6348	3°7621	3°2934	
13	0°7522	0°6589	1°5044	1°3178	2°2567	1°9767	3°0089	2°6356	3°7611	3°2945	
14	0°7520	0°6591	1°5041	1°3183	2°2561	1°9774	3°0081	2°6365	3°7602	3°2956	
15	0°7518	0°6593	1°5037	1°3187	2°2555	1°9780	3°0074	2°6374	3°7592	3°2967	
16	0°7516	0°6596	1°5033	1°3191	2°2549	1°9787	3°0066	2°6383	3°7582	3°2978	
17	0°7515	0°6598	1°5029	1°3196	2°2544	1°9793	3°0058	2°6391	3°7573	3°2989	
18	0°7513	0°6600	1°5025	1°3200	2°2538	1°9800	3°0051	2°6400	3°7563	3°3000	
19	0°7511	0°6602	1°5021	1°3204	2°2532	1°9807	3°0043	2°6409	3°7554	3°3011	
20	0°7509	0°6604	1°5018	1°3209	2°2526	1°9813	3°0035	2°6418	3°7544	3°3022	
21	0°7507	0°6607	1°5014	1°3213	2°2521	1°9820	3°0028	2°6426	3°7534	3°3033	
22	0°7505	0°6609	1°5010	1°3218	2°2515	1°9826	3°0020	2°6435	3°7525	3°3044	
23	0°7503	0°6611	1°5006	1°3222	2°2509	1°9833	3°0012	2°6444	3°7515	3°3055	
24	0°7501	0°6613	1°5002	1°3226	2°2503	1°9839	3°0004	2°6452	3°7506	3°3066	
25	0°7499	0°6615	1°4998	1°3231	2°2498	1°9846	2°9997	2°6461	3°7496	3°3077	
26	0°7497	0°6617	1°4995	1°3235	2°2492	1°9852	2°9989	2°6470	3°7486	3°3087	
27	0°7495	0°6620	1°4991	1°3239	2°2486	1°9859	2°9981	2°6479	3°7477	3°3098	
28	0°7493	0°6622	1°4987	1°3244	2°2480	1°9866	2°9974	2°6487	3°7467	3°3109	
29	0°7491	0°6624	1°4983	1°3248	2°2474	1°9872	2°9966	2°6496	3°7457	3°3120	
30	0°7490	0°6626	1°4979	1°3252	2°2469	1°9879	2°9958	2°6505	3°7448	3°3131	
31	0°7488	0°6628	1°4975	1°3257	2°2463	1°9885	2°9951	2°6514	3°7438	3°3142	
32	0°7486	0°6631	1°4971	1°3261	2°2457	1°9892	2°9943	2°6522	3°7429	3°3153	
33	0°7484	0°6633	1°4968	1°3265	2°2451	1°9898	2°9935	2°6531	3°7419	3°3164	
34	0°7482	0°6635	1°4964	1°3270	2°2446	1°9905	2°9927	2°6540	3°7409	3°3175	
35	0°7480	0°6637	1°4960	1°3274	2°2440	1°9911	2°9920	2°6548	3°7400	3°3185	
36	0°7478	0°6639	1°4956	1°3279	2°2434	1°9918	2°9912	2°6557	3°7390	3°3196	
37	0°7476	0°6641	1°4952	1°3283	2°2428	1°9924	2°9904	2°6566	3°7380	3°3207	
38	0°7474	0°6644	1°4948	1°3287	2°2422	1°9931	2°9896	2°6574	3°7371	3°3218	
39	0°7472	0°6646	1°4944	1°3292	2°2417	1°9937	2°9889	2°6583	3°7361	3°3229	
40	0°7470	0°6648	1°4941	1°3296	2°2411	1°9944	2°9881	2°6592	3°7351	3°3240	
41	0°7468	0°6650	1°4937	1°3300	2°2405	1°9950	2°9873	2°6601	3°7342	3°3251	
42	0°7466	0°6652	1°4933	1°3305	2°2399	1°9957	2°9866	2°6609	3°7332	3°3262	
43	0°7464	0°6654	1°4929	1°3309	2°2393	1°9963	2°9858	2°6618	3°7322	3°3272	
44	0°7463	0°6657	1°4925	1°3313	2°2388	1°9970	2°9850	2°6627	3°7313	3°3283	
45	0°7461	0°6659	1°4921	1°3318	2°2382	1°9976	2°9842	2°6635	3°7303	3°3294	
46	0°7459	0°6661	1°4917	1°3322	2°2376	1°9983	2°9835	2°6644	3°7293	3°3305	
47	0°7457	0°6663	1°4913	1°3326	2°2370	1°9989	2°9827	2°6653	3°7283	3°3316	
48	0°7455	0°6665	1°4910	1°3331	2°2364	1°9996	2°9819	2°6661	3°7274	3°3327	
49	0°7453	0°6667	1°4906	1°3335	2°2358	2°0002	2°9811	2°6670	3°7264	3°3337	
50	0°7451	0°6670	1°4902	1°3339	2°2353	2°0009	2°9804	2°6679	3°7254	3°3348	
51	0°7449	0°6672	1°4898	1°3344	2°2347	2°0015	2°9796	2°6687	3°7245	3°3359	
52	0°7447	0°6674	1°4894	1°3348	2°2341	2°0022	2°9788	2°6696	3°7235	3°3370	
53	0°7445	0°6676	1°4890	1°3352	2°2335	2°0028	2°9780	2°6705	3°7225	3°3381	
54	0°7443	0°6678	1°4886	1°3357	2°2329	2°0035	2°9772	2°6713	3°7216	3°3392	
55	0°7441	0°6680	1°4882	1°3361	2°2324	2°0041	2°9765	2°6722	3°7206	3°3402	
56	0°7439	0°6683	1°4878	1°3365	2°2318	2°0048	2°9757	2°6731	3°7196	3°3413	
57	0°7437	0°6685	1°4875	1°3370	2°2312	2°0054	2°9749	2°6739	3°7186	3°3424	
58	0°7435	0°6687	1°4871	1°3374	2°2306	2°0061	2°9741	2°6748	3°7177	3°3435	
59	0°7433	0°6689	1°4867	1°3378	2°2300	2°0067	2°9734	2°6757	3°7167	3°3446	
60	0°7431	0°6691	1°4863	1°3383	2°2294	2°0074	2°9726	2°6765	3°7157	3°3457	
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°5283	3°9364	5°2830	4°5924	6°0377	5°2485	6°7924	5°9045	7°5471	6°5606	60
4°5271	3°9377	5°2816	4°5939	6°0361	5°2502	6°7907	5°9065	7°5452	6°5628	59
4°5260	3°9390	5°2803	4°5955	6°0346	5°2520	6°7890	5°9085	7°5433	6°5650	58
4°5248	3°9403	5°2790	4°5970	6°0331	5°2537	6°7872	5°9105	7°5414	6°5672	57
4°5237	3°9416	5°2776	4°5986	6°0316	5°2555	6°7855	5°9124	7°5395	6°5694	56
4°5225	3°9429	5°2763	4°6001	6°0300	5°2572	6°7838	5°9144	7°5375	6°5716	55
4°5214	3°9443	5°2749	4°6016	6°0285	5°2590	6°7821	5°9164	7°5356	6°5738	54
4°5202	3°9456	5°2736	4°6032	6°0270	5°2608	6°7803	5°9183	7°5337	6°5759	53
4°5191	3°9469	5°2723	4°6047	6°0254	5°2625	6°7786	5°9203	7°5318	6°5781	52
4°5179	3°9482	5°2709	4°6062	6°0239	5°2643	6°7769	5°9223	7°5299	6°5803	51
4°5168	3°9495	5°2696	4°6078	6°0224	5°2660	6°7752	5°9243	7°5280	6°5825	50
4°5156	3°9508	5°2682	4°6093	6°0209	5°2678	6°7735	5°9262	7°5261	6°5847	49
4°5145	3°9521	5°2669	4°6108	6°0193	5°2695	6°7717	5°9282	7°5241	6°5869	48
4°5133	3°9534	5°2656	4°6124	6°0178	5°2713	6°7700	5°9302	7°5222	6°5891	47
4°5122	3°9548	5°2642	4°6139	6°0163	5°2730	6°7683	5°9321	7°5203	6°5913	46
4°5110	3°9561	5°2629	4°6154	6°0147	5°2748	6°7666	5°9341	7°5184	6°5935	45
4°5099	3°9574	5°2615	4°6170	6°0132	5°2765	6°7648	5°9361	7°5165	6°5956	44
4°5087	3°9587	5°2602	4°6185	6°0116	5°2783	6°7631	5°9380	7°5146	6°5978	43
4°5076	3°9600	5°2588	4°6200	6°0101	5°2800	6°7614	5°9400	7°5126	6°6000	42
4°5064	3°9613	5°2575	4°6215	6°0086	5°2818	6°7596	5°9420	7°5107	6°6022	41
4°5053	3°9626	5°2562	4°6231	6°0070	5°2835	6°7579	5°9439	7°5088	6°6044	40
4°5041	3°9639	5°2548	4°6246	6°0055	5°2853	6°7562	5°9459	7°5069	6°6066	39
4°5030	3°9653	5°2535	4°6261	6°0040	5°2870	6°7545	5°9479	7°5050	6°6088	38
4°5018	3°9666	5°2521	4°6277	6°0024	5°2887	6°7527	5°9498	7°5030	6°6109	37
4°5007	3°9679	5°2508	4°6292	6°0009	5°2905	6°7510	5°9518	7°5011	6°6131	36
4°4995	3°9692	5°2494	4°6307	5°9993	5°2922	6°7493	5°9538	7°4992	6°6153	35
4°4984	3°9705	5°2481	4°6322	5°9978	5°2940	6°7475	5°9557	7°4973	6°6175	34
4°4972	3°9718	5°2467	4°6338	5°9963	5°2957	6°7458	5°9577	7°4953	6°6197	33
4°4960	3°9731	5°2454	4°6353	5°9947	5°2975	6°7441	5°9597	7°4934	6°6218	32
4°4949	3°9744	5°2440	4°6368	5°9932	5°2992	6°7423	5°9616	7°4915	6°6240	31
4°4937	3°9757	5°2427	4°6383	5°9916	5°3010	6°7406	5°9636	7°4896	6°6262	30
4°4926	3°9770	5°2413	4°6399	5°9901	5°3027	6°7389	5°9655	7°4876	6°6284	29
4°4914	3°9783	5°2400	4°6414	5°9886	5°3044	6°7371	5°9675	7°4857	6°6306	28
4°4903	3°9796	5°2386	4°6429	5°9870	5°3062	6°7354	5°9695	7°4838	6°6327	27
4°4891	3°9809	5°2373	4°6444	5°9855	5°3079	6°7337	5°9714	7°4818	6°6349	26
4°4879	3°9823	5°2359	4°6460	5°9839	5°3097	6°7319	5°9734	7°4799	6°6371	25
4°4868	3°9836	5°2346	4°6475	5°9824	5°3114	6°7302	5°9753	7°4780	6°6393	24
4°4856	3°9849	5°2332	4°6490	5°9808	5°3131	6°7284	5°9773	7°4760	6°6414	23
4°4845	3°9862	5°2319	4°6505	5°9793	5°3149	6°7267	5°9793	7°4741	6°6436	22
4°4833	3°9875	5°2305	4°6520	5°9777	5°3166	6°7250	5°9812	7°4722	6°6458	21
4°4822	3°9888	5°2292	4°6536	5°9762	5°3184	6°7232	5°9832	7°4703	6°6480	20
4°4810	3°9901	5°2278	4°6551	5°9747	5°3201	6°7215	5°9851	7°4683	6°6501	19
4°4798	3°9914	5°2265	4°6566	5°9731	5°3218	6°7197	5°9871	7°4664	6°6523	18
4°4787	3°9927	5°2251	4°6581	5°9716	5°3236	6°7180	5°9890	7°4644	6°6545	17
4°4775	3°9940	5°2238	4°6597	5°9700	5°3253	6°7163	5°9910	7°4625	6°6566	16
4°4763	3°9953	5°2224	4°6612	5°9685	5°3271	6°7145	5°9929	7°4606	6°6588	15
4°4752	3°9966	5°2210	4°6627	5°9669	5°3288	6°7128	5°9949	7°4586	6°6610	14
4°4740	3°9979	5°2197	4°6642	5°9654	5°3305	6°7110	5°9968	7°4567	6°6632	13
4°4729	3°9992	5°2183	4°6657	5°9638	5°3323	6°7093	5°9988	7°4548	6°6653	12
4°4717	4°0005	5°2170	4°6672	5°9623	5°3340	6°7075	6°0007	7°4528	6°6675	11
4°4705	4°0018	5°2156	4°6688	5°9607	5°3357	6°7058	6°0027	7°4509	6°6697	10
4°4694	4°0031	5°2143	4°6703	5°9592	5°3375	6°7040	6°0046	7°4489	6°6718	9
4°4682	4°0044	5°2129	4°6718	5°9576	5°3392	6°7023	6°0066	7°4470	6°6740	8
4°4670	4°0057	5°2115	4°6733	5°9560	5°3409	6°7006	6°0085	7°4451	6°6762	7
4°4659	4°0070	5°2102	4°6748	5°9545	5°3427	6°6988	6°0105	7°4431	6°6783	6
4°4647	4°0083	5°2088	4°6763	5°9529	5°3444	6°6971	6°0124	7°4412	6°6805	5
4°4635	4°0096	5°2075	4°6779	5°9514	5°3461	6°6953	6°0144	7°4392	6°6827	4
4°4624	4°0109	5°2061	4°6794	5°9498	5°3479	6°6936	6°0163	7°4373	6°6848	3
4°4612	4°0122	5°2047	4°6809	5°9483	5°3496	6°6918	6°0183	7°4353	6°6870	2
4°4600	4°0135	5°2034	4°6824	5°9467	5°3513	6°6901	6°0202	7°4334	6°6891	1
4°4589	4°0148	5°2020	4°6839	5°9452	5°3530	6°6883	6°0222	7°4314	6°6913	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

48 Degrees.

# 42 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
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1	0°7430	0°6693	1°4859	1°3387	2°2289	2°0080	2°9718	2°6774	3°7148	3°3467
2	0°7428	0°6696	1°4855	1°3391	2°2283	2°0087	2°9710	2°6783	3°7138	3°3478
3	0°7426	0°6698	1°4851	1°3396	2°2277	2°0093	2°9702	2°6791	3°7128	3°3489
4	0°7424	0°6700	1°4847	1°3400	2°2271	2°0100	2°9695	2°6800	3°7118	3°3500
5	0°7422	0°6702	1°4843	1°3404	2°2265	2°0106	2°9687	2°6808	3°7109	3°3511
6	0°7420	0°6704	1°4840	1°3409	2°2259	2°0113	2°9679	2°6817	3°7099	3°3521
7	0°7418	0°6706	1°4836	1°3413	2°2253	2°0119	2°9671	2°6826	3°7089	3°3532
8	0°7416	0°6709	1°4832	1°3417	2°2248	2°0126	2°9663	2°6834	3°7079	3°3543
9	0°7414	0°6711	1°4828	1°3421	2°2242	2°0132	2°9656	2°6843	3°7070	3°3554
10	0°7412	0°6713	1°4824	1°3426	2°2236	2°0139	2°9648	2°6852	3°7060	3°3564
11	0°7410	0°6715	1°4820	1°3430	2°2230	2°0145	2°9640	2°6860	3°7050	3°3575
12	0°7408	0°6717	1°4816	1°3434	2°2224	2°0152	2°9632	2°6869	3°7040	3°3586
13	0°7406	0°6719	1°4812	1°3439	2°2218	2°0158	2°9624	2°6877	3°7030	3°3597
14	0°7404	0°6722	1°4808	1°3443	2°2212	2°0165	2°9617	2°6886	3°7021	3°3608
15	0°7402	0°6724	1°4804	1°3447	2°2207	2°0171	2°9609	2°6895	3°7011	3°3618
16	0°7400	0°6726	1°4800	1°3452	2°2201	2°0177	2°9601	2°6903	3°7001	3°3629
17	0°7398	0°6728	1°4797	1°3456	2°2195	2°0184	2°9593	2°6912	3°6991	3°3640
18	0°7396	0°6730	1°4793	1°3460	2°2189	2°0190	2°9585	2°6921	3°6982	3°3651
19	0°7394	0°6732	1°4789	1°3465	2°2183	2°0197	2°9577	2°6929	3°6972	3°3661
20	0°7392	0°6734	1°4785	1°3469	2°2177	2°0203	2°9570	2°6938	3°6962	3°3672
21	0°7390	0°6737	1°4781	1°3473	2°2171	2°0210	2°9562	2°6946	3°6952	3°3683
22	0°7388	0°6739	1°4777	1°3477	2°2165	2°0216	2°9554	2°6955	3°6942	3°3694
23	0°7387	0°6741	1°4773	1°3482	2°2160	2°0223	2°9546	2°6964	3°6933	3°3704
24	0°7385	0°6743	1°4769	1°3486	2°2154	2°0229	2°9538	2°6972	3°6923	3°3715
25	0°7383	0°6745	1°4765	1°3490	2°2148	2°0236	2°9530	2°6981	3°6913	3°3726
26	0°7381	0°6747	1°4761	1°3495	2°2142	2°0242	2°9523	2°6989	3°6903	3°3737
27	0°7379	0°6749	1°4757	1°3499	2°2136	2°0248	2°9515	2°6998	3°6893	3°3747
28	0°7377	0°6752	1°4753	1°3503	2°2130	2°0255	2°9507	2°7006	3°6884	3°3758
29	0°7375	0°6754	1°4749	1°3508	2°2124	2°0261	2°9499	2°7015	3°6874	3°3769
30	0°7373	0°6756	1°4746	1°3512	2°2118	2°0268	2°9491	2°7024	3°6864	3°3780
31	0°7371	0°6758	1°4742	1°3516	2°2112	2°0274	2°9483	2°7032	3°6854	3°3790
32	0°7369	0°6760	1°4738	1°3520	2°2107	2°0281	2°9475	2°7041	3°6844	3°3801
33	0°7367	0°6762	1°4734	1°3525	2°2101	2°0287	2°9468	2°7049	3°6834	3°3812
34	0°7365	0°6764	1°4730	1°3529	2°2095	2°0293	2°9460	2°7058	3°6825	3°3822
35	0°7363	0°6767	1°4726	1°3533	2°2089	2°0300	2°9452	2°7066	3°6815	3°3833
36	0°7361	0°6769	1°4722	1°3538	2°2083	2°0306	2°9444	2°7075	3°6805	3°3844
37	0°7359	0°6771	1°4718	1°3542	2°2077	2°0313	2°9436	2°7084	3°6795	3°3855
38	0°7357	0°6773	1°4714	1°3546	2°2071	2°0319	2°9428	2°7092	3°6785	3°3865
39	0°7355	0°6775	1°4710	1°3550	2°2065	2°0326	2°9420	2°7101	3°6775	3°3876
40	0°7353	0°6777	1°4706	1°3555	2°2059	2°0332	2°9412	2°7109	3°6765	3°3887
41	0°7351	0°6779	1°4702	1°3559	2°2053	2°0338	2°9404	2°7118	3°6756	3°3897
42	0°7349	0°6782	1°4698	1°3563	2°2047	2°0345	2°9397	2°7126	3°6746	3°3908
43	0°7347	0°6784	1°4694	1°3567	2°2042	2°0351	2°9389	2°7135	3°6736	3°3919
44	0°7345	0°6786	1°4690	1°3572	2°2036	2°0358	2°9381	2°7143	3°6726	3°3929
45	0°7343	0°6788	1°4686	1°3576	2°2030	2°0364	2°9373	2°7152	3°6716	3°3940
46	0°7341	0°6790	1°4683	1°3580	2°2024	2°0370	2°9365	2°7161	3°6706	3°3951
47	0°7339	0°6792	1°4679	1°3585	2°2018	2°0377	2°9357	2°7169	3°6696	3°3961
48	0°7337	0°6794	1°4675	1°3589	2°2012	2°0383	2°9349	2°7178	3°6686	3°3972
49	0°7335	0°6797	1°4671	1°3593	2°2006	2°0390	2°9341	2°7186	3°6677	3°3983
50	0°7333	0°6799	1°4667	1°3597	2°2000	2°0396	2°9333	2°7195	3°6667	3°3993
51	0°7331	0°6801	1°4663	1°3602	2°1994	2°0402	2°9325	2°7203	3°6657	3°4004
52	0°7329	0°6803	1°4659	1°3606	2°1988	2°0409	2°9318	2°7212	3°6647	3°4015
53	0°7327	0°6805	1°4655	1°3610	2°1982	2°0415	2°9310	2°7220	3°6637	3°4025
54	0°7325	0°6807	1°4651	1°3614	2°1976	2°0422	2°9302	2°7229	3°6627	3°4036
55	0°7323	0°6809	1°4647	1°3619	2°1970	2°0428	2°9294	2°7237	3°6617	3°4047
56	0°7321	0°6811	1°4643	1°3623	2°1964	2°0434	2°9286	2°7246	3°6607	3°4057
57	0°7319	0°6814	1°4639	1°3627	2°1958	2°0441	2°9278	2°7254	3°6597	3°4068
58	0°7318	0°6816	1°4635	1°3631	2°1953	2°0447	2°9270	2°7263	3°6588	3°4079
59	0°7316	0°6818	1°4631	1°3636	2°1947	2°0454	2°9262	2°7271	3°6578	3°4089
60	0°7314	0°6820	1°4627	1°3640	2°1941	2°0460	2°9254	2°7280	3°6568	3°4100
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°4589	4°0148	5°2020	4°6839	5°9452	5°3530	6°6883	6°0222	7°4314	6°6913	60
4°4577	4°0161	5°2007	4°6854	5°9436	5°3548	6°6866	6°0241	7°4295	6°6935	59
4°4565	4°0174	5°1993	4°6869	5°9420	5°3565	6°6848	6°0261	7°4276	6°6956	58
4°4554	4°0187	5°1979	4°6885	5°9405	5°3582	6°6830	6°0280	7°4256	6°6978	57
4°4542	4°0200	5°1966	4°6900	5°9389	5°3600	6°6813	6°0300	7°4237	6°6999	56
4°4530	4°0213	5°1952	4°6915	5°9374	5°3617	6°6795	6°0319	7°4217	6°7021	55
4°4519	4°0226	5°1938	4°6930	5°9358	5°3634	6°6778	6°0338	7°4198	6°7043	54
4°4507	4°0239	5°1925	4°6945	5°9342	5°3651	6°6760	6°0358	7°4178	6°7064	53
4°4495	4°0251	5°1911	4°6960	5°9327	5°3669	6°6743	6°0377	7°4159	6°7086	52
4°4483	4°0264	5°1897	4°6975	5°9311	5°3686	6°6725	6°0397	7°4139	6°7107	51
4°4472	4°0277	5°1884	4°6990	5°9296	5°3703	6°6708	6°0416	7°4120	6°7129	50
4°4460	4°0290	5°1870	4°7005	5°9280	5°3720	6°6690	6°0435	7°4100	6°7151	49
4°4448	4°0303	5°1856	4°7020	5°9264	5°3738	6°6672	6°0455	7°4080	6°7172	48
4°4437	4°0316	5°1843	4°7036	5°9249	5°3755	6°6655	6°0474	7°4061	6°7194	47
4°4425	4°0329	5°1829	4°7051	5°9233	5°3772	6°6637	6°0494	7°4041	6°7215	46
4°4413	4°0342	5°1815	4°7066	5°9217	5°3789	6°6620	6°0513	7°4022	6°7237	45
4°4401	4°0355	5°1802	4°7081	5°9202	5°3807	6°6602	6°0532	7°4002	6°7258	44
4°4390	4°0368	5°1788	4°7096	5°9186	5°3824	6°6584	6°0552	7°3983	6°7280	43
4°4378	4°0381	5°1774	4°7111	5°9170	5°3841	6°6567	6°0571	7°3963	6°7301	42
4°4366	4°0394	5°1760	4°7126	5°9155	5°3858	6°6549	6°0590	7°3944	6°7323	41
4°4354	4°0407	5°1747	4°7141	5°9139	5°3875	6°6532	6°0610	7°3924	6°7344	40
4°4343	4°0419	5°1733	4°7156	5°9123	5°3893	6°6514	6°0629	7°3904	6°7366	39
4°4331	4°0432	5°1719	4°7171	5°9108	5°3910	6°6496	6°0649	7°3885	6°7387	38
4°4319	4°0445	5°1706	4°7186	5°9092	5°3927	6°6479	6°0668	7°3865	6°7409	37
4°4307	4°0458	5°1692	4°7201	5°9076	5°3944	6°6461	6°0687	7°3846	6°7430	36
4°4296	4°0471	5°1678	4°7216	5°9061	5°3961	6°6443	6°0707	7°3826	6°7452	35
4°4284	4°0484	5°1664	4°7231	5°9045	5°3979	6°6426	6°0726	7°3806	6°7473	34
4°4272	4°0497	5°1651	4°7246	5°9029	5°3996	6°6408	6°0745	7°3787	6°7495	33
4°4260	4°0510	5°1637	4°7261	5°9014	5°4013	6°6390	6°0765	7°3767	6°7516	32
4°4248	4°0523	5°1623	4°7276	5°8998	5°4030	6°6373	6°0784	7°3747	6°7538	31
4°4237	4°0535	5°1609	4°7291	5°8982	5°4047	6°6355	6°0803	7°3728	6°7559	30
4°4225	4°0548	5°1596	4°7306	5°8966	5°4064	6°6337	6°0822	7°3708	6°7580	29
4°4213	4°0561	5°1582	4°7321	5°8951	5°4082	6°6320	6°0842	7°3688	6°7602	28
4°4201	4°0574	5°1568	4°7336	5°8935	5°4099	6°6302	6°0861	7°3669	6°7623	27
4°4189	4°0587	5°1554	4°7351	5°8919	5°4116	6°6284	6°0880	7°3649	6°7645	26
4°4178	4°0600	5°1541	4°7366	5°8904	5°4133	6°6266	6°0900	7°3629	6°7666	25
4°4166	4°0613	5°1527	4°7381	5°8888	5°4150	6°6249	6°0919	7°3610	6°7688	24
4°4154	4°0625	5°1513	4°7396	5°8872	5°4167	6°6231	6°0938	7°3590	6°7709	23
4°4142	4°0638	5°1499	4°7411	5°8856	5°4184	6°6213	6°0957	7°3570	6°7730	22
4°4130	4°0651	5°1485	4°7426	5°8840	5°4201	6°6196	6°0977	7°3551	6°7752	21
4°4119	4°0664	5°1472	4°7441	5°8825	5°4219	6°6178	6°0996	7°3531	6°7773	20
4°4107	4°0677	5°1458	4°7456	5°8809	5°4236	6°6160	6°1015	7°3511	6°7795	19
4°4095	4°0690	5°1444	4°7471	5°8793	5°4253	6°6142	6°1034	7°3491	6°7816	18
4°4083	4°0702	5°1430	4°7486	5°8777	5°4270	6°6125	6°1054	7°3472	6°7837	17
4°4071	4°0715	5°1416	4°7501	5°8762	5°4287	6°6107	6°1073	7°3452	6°7859	16
4°4059	4°0728	5°1403	4°7516	5°8746	5°4304	6°6089	6°1092	7°3432	6°7880	15
4°4048	4°0741	5°1389	4°7531	5°8730	5°4321	6°6071	6°1111	7°3413	6°7901	14
4°4036	4°0754	5°1375	4°7546	5°8714	5°4338	6°6053	6°1131	7°3393	6°7923	13
4°4024	4°0766	5°1361	4°7561	5°8698	5°4355	6°6036	6°1150	7°3373	6°7944	12
4°4012	4°0779	5°1347	4°7576	5°8683	5°4372	6°6018	6°1169	7°3353	6°7965	11
4°4000	4°0792	5°1333	4°7591	5°8667	5°4389	6°6000	6°1188	7°3333	6°7987	10
4°3988	4°0805	5°1320	4°7606	5°8651	5°4407	6°5982	6°1207	7°3314	6°8008	9
4°3976	4°0818	5°1306	4°7621	5°8635	5°4424	6°5964	6°1227	7°3294	6°8029	8
4°3964	4°0830	5°1292	4°7636	5°8619	5°4441	6°5947	6°1246	7°3274	6°8051	7
4°3953	4°0843	5°1278	4°7650	5°8603	5°4458	6°5929	6°1265	7°3254	6°8072	6
4°3941	4°0856	5°1264	4°7665	5°8588	5°4475	6°5911	6°1284	7°3234	6°8093	5
4°3929	4°0869	5°1250	4°7680	5°8572	5°4492	6°5893	6°1303	7°3215	6°8115	4
4°3917	4°0882	5°1236	4°7695	5°8556	5°4509	6°5875	6°1322	7°3195	6°8136	3
4°3905	4°0894	5°1223	4°7710	5°8540	5°4526	6°5858	6°1342	7°3175	6°8157	2
4°3893	4°0907	5°1209	4°7725	5°8524	5°4543	6°5840	6°1361	7°3155	6°8179	1
4°3881	4°0920	5°1195	4°7740	5°8508	5°4560	6°5822	6°1380	7°3135	6°8200	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.

47 Degrees.

# 43 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°7314	0°6820	1°4627	1°3640	2°1941	2°0460	2°9254	2°7280	3°6568	3°4100
1	0°7312	0°6822	1°4623	1°3644	2°1935	2°0466	2°9246	2°7288	3°6558	3°4111
2	0°7310	0°6824	1°4619	1°3648	2°1929	2°0473	2°9238	2°7297	3°6548	3°4121
3	0°7308	0°6826	1°4615	1°3653	2°1923	2°0479	2°9230	2°7305	3°6538	3°4132
4	0°7306	0°6828	1°4611	1°3657	2°1917	2°0485	2°9222	2°7314	3°6528	3°4142
5	0°7304	0°6831	1°4607	1°3661	2°1911	2°0492	2°9214	2°7322	3°6518	3°4153
6	0°7302	0°6833	1°4603	1°3665	2°1905	2°0498	2°9206	2°7331	3°6508	3°4164
7	0°7300	0°6835	1°4599	1°3670	2°1899	2°0505	2°9199	2°7339	3°6498	3°4174
8	0°7298	0°6837	1°4595	1°3674	2°1893	2°0511	2°9191	2°7348	3°6488	3°4185
9	0°7296	0°6839	1°4591	1°3678	2°1887	2°0517	2°9183	2°7356	3°6478	3°4196
10	0°7294	0°6841	1°4587	1°3682	2°1881	2°0524	2°9175	2°7365	3°6468	3°4206
11	0°7292	0°6843	1°4583	1°3687	2°1875	2°0530	2°9167	2°7373	3°6458	3°4217
12	0°7290	0°6845	1°4579	1°3691	2°1869	2°0536	2°9159	2°7382	3°6448	3°4227
13	0°7288	0°6848	1°4575	1°3695	2°1863	2°0543	2°9151	2°7390	3°6438	3°4238
14	0°7286	0°6850	1°4571	1°3699	2°1857	2°0549	2°9143	2°7399	3°6429	3°4249
15	0°7284	0°6852	1°4567	1°3704	2°1851	2°0555	2°9135	2°7407	3°6419	3°4259
16	0°7282	0°6854	1°4563	1°3708	2°1845	2°0562	2°9127	2°7416	3°6409	3°4270
17	0°7280	0°6856	1°4559	1°3712	2°1839	2°0568	2°9119	2°7424	3°6399	3°4280
18	0°7278	0°6858	1°4555	1°3716	2°1833	2°0575	2°9111	2°7433	3°6389	3°4291
19	0°7276	0°6860	1°4551	1°3721	2°1827	2°0581	2°9103	2°7441	3°6379	3°4302
20	0°7274	0°6862	1°4547	1°3725	2°1821	2°0587	2°9095	2°7450	3°6369	3°4312
21	0°7272	0°6865	1°4543	1°3729	2°1815	2°0594	2°9087	2°7458	3°6359	3°4323
22	0°7270	0°6867	1°4539	1°3733	2°1809	2°0600	2°9079	2°7467	3°6349	3°4333
23	0°7268	0°6869	1°4535	1°3738	2°1803	2°0606	2°9071	2°7475	3°6339	3°4344
24	0°7266	0°6871	1°4531	1°3742	2°1797	2°0613	2°9063	2°7484	3°6329	3°4354
25	0°7264	0°6873	1°4527	1°3746	2°1791	2°0619	2°9055	2°7492	3°6319	3°4365
26	0°7262	0°6875	1°4523	1°3750	2°1785	2°0625	2°9047	2°7500	3°6309	3°4376
27	0°7260	0°6877	1°4519	1°3754	2°1779	2°0632	2°9039	2°7509	3°6299	3°4386
28	0°7258	0°6879	1°4515	1°3759	2°1773	2°0638	2°9031	2°7517	3°6289	3°4397
29	0°7256	0°6881	1°4511	1°3763	2°1767	2°0644	2°9023	2°7526	3°6279	3°4407
30	0°7254	0°6884	1°4507	1°3767	2°1761	2°0651	2°9015	2°7534	3°6269	3°4418
31	0°7252	0°6886	1°4503	1°3771	2°1755	2°0657	2°9007	2°7543	3°6259	3°4428
32	0°7250	0°6888	1°4499	1°3776	2°1749	2°0663	2°8999	2°7551	3°6249	3°4439
33	0°7248	0°6890	1°4495	1°3780	2°1743	2°0670	2°8991	2°7559	3°6239	3°4449
34	0°7246	0°6892	1°4491	1°3784	2°1737	2°0676	2°8983	2°7568	3°6229	3°4460
35	0°7244	0°6894	1°4487	1°3788	2°1731	2°0682	2°8975	2°7576	3°6219	3°4470
36	0°7242	0°6896	1°4483	1°3792	2°1725	2°0689	2°8967	2°7585	3°6209	3°4481
37	0°7240	0°6898	1°4479	1°3797	2°1719	2°0695	2°8959	2°7593	3°6199	3°4492
38	0°7238	0°6900	1°4475	1°3801	2°1713	2°0701	2°8951	2°7602	3°6189	3°4502
39	0°7236	0°6903	1°4471	1°3805	2°1707	2°0708	2°8943	2°7610	3°6178	3°4513
40	0°7234	0°6905	1°4467	1°3809	2°1701	2°0714	2°8935	2°7618	3°6168	3°4523
41	0°7232	0°6907	1°4463	1°3813	2°1695	2°0720	2°8927	2°7627	3°6158	3°4534
42	0°7230	0°6909	1°4459	1°3818	2°1689	2°0726	2°8919	2°7635	3°6148	3°4544
43	0°7228	0°6911	1°4455	1°3822	2°1683	2°0733	2°8911	2°7644	3°6138	3°4555
44	0°7226	0°6913	1°4451	1°3826	2°1677	2°0739	2°8903	2°7652	3°6128	3°4565
45	0°7224	0°6915	1°4447	1°3830	2°1671	2°0745	2°8895	2°7661	3°6118	3°4576
46	0°7222	0°6917	1°4443	1°3834	2°1665	2°0752	2°8887	2°7669	3°6108	3°4586
47	0°7220	0°6919	1°4439	1°3839	2°1659	2°0758	2°8878	2°7677	3°6098	3°4597
48	0°7218	0°6921	1°4435	1°3843	2°1653	2°0764	2°8870	2°7686	3°6088	3°4607
49	0°7216	0°6924	1°4431	1°3847	2°1647	2°0771	2°8862	2°7694	3°6078	3°4618
50	0°7214	0°6926	1°4427	1°3851	2°1641	2°0777	2°8854	2°7703	3°6068	3°4628
51	0°7212	0°6928	1°4423	1°3855	2°1635	2°0783	2°8846	2°7711	3°6058	3°4639
52	0°7210	0°6930	1°4419	1°3860	2°1629	2°0789	2°8838	2°7719	3°6048	3°4649
53	0°7208	0°6932	1°4415	1°3864	2°1623	2°0796	2°8830	2°7728	3°6038	3°4660
54	0°7206	0°6934	1°4411	1°3868	2°1617	2°0802	2°8822	2°7736	3°6028	3°4670
55	0°7203	0°6936	1°4407	1°3872	2°1610	2°0808	2°8814	2°7744	3°6017	3°4681
56	0°7201	0°6938	1°4403	1°3876	2°1604	2°0815	2°8806	2°7753	3°6007	3°4691
57	0°7199	0°6940	1°4399	1°3881	2°1598	2°0821	2°8798	2°7761	3°5997	3°4702
58	0°7197	0°6942	1°4395	1°3885	2°1592	2°0827	2°8790	2°7770	3°5987	3°4712
59	0°7195	0°6944	1°4391	1°3889	2°1586	2°0833	2°8782	2°7778	3°5977	3°4722
60	0°7193	0°6947	1°4387	1°3893	2°1580	2°0840	2°8774	2°7786	3°5967	3°4733
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.



6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4°3881	4°0920	5°1195	4°7740	5°8508	5°4560	6°5822	6°1380	7°3135	6°8200	60
4°3869	4°0933	5°1181	4°7755	5°8492	5°4577	6°5804	6°1399	7°3116	6°8221	59
4°3857	4°0945	5°1167	4°7770	5°8477	5°4594	6°5786	6°1418	7°3096	6°8242	58
4°3845	4°0958	5°1153	4°7785	5°8461	5°4611	6°5768	6°1437	7°3076	6°8264	57
4°3834	4°0971	5°1139	4°7799	5°8445	5°4628	6°5750	6°1456	7°3056	6°8285	56
4°3822	4°0984	5°1125	4°7814	5°8429	5°4645	6°5732	6°1476	7°3036	6°8306	55
4°3810	4°0996	5°1111	4°7829	5°8413	5°4662	6°5715	6°1495	7°3016	6°8327	54
4°3798	4°1009	5°1097	4°7844	5°8397	5°4679	6°5697	6°1514	7°2996	6°8349	53
4°3786	4°1022	5°1084	4°7859	5°8381	5°4696	6°5679	6°1533	7°2976	6°8370	52
4°3774	4°1035	5°1070	4°7874	5°8365	5°4713	6°5661	6°1552	7°2957	6°8391	51
4°3762	4°1047	5°1056	4°7889	5°8349	5°4730	6°5643	6°1571	7°2937	6°8412	50
4°3750	4°1060	5°1042	4°7903	5°8333	5°4747	6°5625	6°1590	7°2917	6°8434	49
4°3738	4°1073	5°1028	4°7918	5°8317	5°4764	6°5607	6°1609	7°2897	6°8455	48
4°3726	4°1086	5°1014	4°7933	5°8302	5°4781	6°5589	6°1628	7°2877	6°8476	47
4°3714	4°1098	5°1000	4°7948	5°8286	5°4798	6°5571	6°1647	7°2857	6°8497	46
4°3702	4°1111	5°0986	4°7963	5°8270	5°4815	6°5553	6°1666	7°2837	6°8518	45
4°3690	4°1124	5°0972	4°7978	5°8254	5°4832	6°5535	6°1686	7°2817	6°8539	44
4°3678	4°1136	5°0958	4°7992	5°8238	5°4849	6°5517	6°1705	7°2797	6°8561	43
4°3666	4°1149	5°0944	4°8007	5°8222	5°4865	6°5500	6°1724	7°2777	6°8582	42
4°3654	4°1162	5°0930	4°8022	5°8206	5°4882	6°5482	6°1743	7°2757	6°8603	41
4°3642	4°1174	5°0916	4°8037	5°8190	5°4899	6°5464	6°1762	7°2737	6°8624	40
4°3630	4°1187	5°0902	4°8052	5°8174	5°4916	6°5446	6°1781	7°2717	6°8645	39
4°3618	4°1200	5°0888	4°8067	5°8158	5°4933	6°5428	6°1800	7°2697	6°8666	38
4°3606	4°1213	5°0874	4°8081	5°8142	5°4950	6°5410	6°1819	7°2677	6°8688	37
4°3594	4°1225	5°0860	4°8096	5°8126	5°4967	6°5392	6°1838	7°2657	6°8709	36
4°3582	4°1238	5°0846	4°8111	5°8110	5°4984	6°5374	6°1857	7°2637	6°8730	35
4°3570	4°1251	5°0832	4°8126	5°8094	5°5001	6°5356	6°1876	7°2617	6°8751	34
4°3558	4°1263	5°0818	4°8140	5°8078	5°5018	6°5338	6°1895	7°2597	6°8772	33
4°3546	4°1276	5°0804	4°8155	5°8062	5°5035	6°5320	6°1914	7°2577	6°8793	32
4°3534	4°1289	5°0790	4°8170	5°8046	5°5051	6°5302	6°1933	7°2557	6°8814	31
4°3522	4°1301	5°0776	4°8185	5°8030	5°5068	6°5284	6°1952	7°2537	6°8835	30
4°3510	4°1314	5°0762	4°8200	5°8014	5°5085	6°5266	6°1971	7°2517	6°8857	29
4°3498	4°1327	5°0748	4°8214	5°7998	5°5102	6°5248	6°1990	7°2497	6°8878	28
4°3486	4°1339	5°0734	4°8229	5°7982	5°5119	6°5230	6°2009	7°2477	6°8899	27
4°3474	4°1352	5°0720	4°8244	5°7966	5°5136	6°5212	6°2028	7°2457	6°8920	26
4°3462	4°1365	5°0706	4°8259	5°7950	5°5153	6°5194	6°2047	7°2437	6°8941	25
4°3450	4°1377	5°0692	4°8273	5°7934	5°5170	6°5175	6°2066	7°2417	6°8962	24
4°3438	4°1390	5°0678	4°8288	5°7918	5°5186	6°5157	6°2085	7°2397	6°8983	23
4°3426	4°1402	5°0664	4°8303	5°7902	5°5203	6°5139	6°2104	7°2377	6°9004	22
4°3414	4°1415	5°0650	4°8318	5°7886	5°5220	6°5121	6°2123	7°2357	6°9025	21
4°3402	4°1428	5°0636	4°8332	5°7870	5°5237	6°5103	6°2142	7°2337	6°9046	20
4°3390	4°1440	5°0622	4°8347	5°7853	5°5254	6°5085	6°2160	7°2317	6°9067	19
4°3378	4°1453	5°0608	4°8362	5°7837	5°5271	6°5067	6°2179	7°2297	6°9088	18
4°3366	4°1466	5°0594	4°8376	5°7821	5°5287	6°5049	6°2198	7°2277	6°9109	17
4°3354	4°1478	5°0580	4°8391	5°7805	5°5304	6°5031	6°2217	7°2257	6°9130	16
4°3342	4°1491	5°0565	4°8406	5°7789	5°5321	6°5013	6°2236	7°2236	6°9151	15
4°3330	4°1503	5°0551	4°8421	5°7773	5°5338	6°4995	6°2255	7°2216	6°9172	14
4°3318	4°1516	5°0537	4°8435	5°7757	5°5355	6°4977	6°2274	7°2196	6°9193	13
4°3306	4°1529	5°0523	4°8450	5°7741	5°5371	6°4958	6°2293	7°2176	6°9214	12
4°3294	4°1541	5°0509	4°8465	5°7725	5°5388	6°4940	6°2312	7°2156	6°9235	11
4°3281	4°1554	5°0495	4°8479	5°7709	5°5405	6°4922	6°2331	7°2136	6°9256	10
4°3269	4°1566	5°0481	4°8494	5°7692	5°5422	6°4904	6°2350	7°2116	6°9277	9
4°3257	4°1579	5°0467	4°8509	5°7676	5°5439	6°4886	6°2368	7°2095	6°9298	8
4°3245	4°1592	5°0453	4°8523	5°7660	5°5455	6°4868	6°2387	7°2075	6°9319	7
4°3233	4°1604	5°0439	4°8538	5°7644	5°5472	6°4850	6°2406	7°2055	6°9340	6
4°3221	4°1617	5°0424	4°8553	5°7628	5°5489	6°4831	6°2425	7°2035	6°9361	5
4°3209	4°1629	5°0410	4°8567	5°7612	5°5506	6°4813	6°2444	7°2015	6°9382	4
4°3197	4°1642	5°0396	4°8582	5°7596	5°5522	6°4795	6°2463	7°1995	6°9403	3
4°3185	4°1654	5°0382	4°8597	5°7580	5°5539	6°4777	6°2482	7°1974	6°9424	2
4°3173	4°1667	5°0368	4°8611	5°7563	5°5556	6°4759	6°2500	7°1954	6°9445	1
4°3160	4°1680	5°0354	4°8626	5°7547	5°5573	6°4741	6°2519	7°1934	6°9466	0
Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Min.



# 44 Degrees.

Dist.	1		2		3		4		5	
	Min.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.
0	0°7193	0°6947	1°4387	1°3893	2°1580	2°0840	2°8774	2°7786	3°5967	3°4733
1	0°7191	0°6949	1°4383	1°3897	2°1574	2°0846	2°8766	2°7795	3°5957	3°4743
2	0°7189	0°6951	1°4379	1°3902	2°1568	2°0852	2°8757	2°7803	3°5947	3°4754
3	0°7187	0°6953	1°4375	1°3906	2°1562	2°0859	2°8749	2°7811	3°5937	3°4764
4	0°7185	0°6955	1°4371	1°3910	2°1556	2°0865	2°8741	2°7820	3°5927	3°4775
5	0°7183	0°6957	1°4367	1°3914	2°1550	2°0871	2°8733	2°7828	3°5916	3°4785
6	0°7181	0°6959	1°4363	1°3918	2°1544	2°0877	2°8725	2°7837	3°5906	3°4796
7	0°7179	0°6961	1°4358	1°3922	2°1538	2°0884	2°8717	2°7845	3°5896	3°4806
8	0°7177	0°6963	1°4354	1°3927	2°1532	2°0890	2°8709	2°7853	3°5886	3°4817
9	0°7175	0°6965	1°4350	1°3931	2°1526	2°0896	2°8701	2°7862	3°5876	3°4827
10	0°7173	0°6967	1°4346	1°3935	2°1519	2°0902	2°8693	2°7870	3°5866	3°4837
11	0°7171	0°6970	1°4342	1°3939	2°1513	2°0909	2°8685	2°7878	3°5856	3°4848
12	0°7169	0°6972	1°4338	1°3943	2°1507	2°0915	2°8676	2°7887	3°5846	3°4858
13	0°7167	0°6974	1°4334	1°3947	2°1501	2°0921	2°8668	2°7895	3°5835	3°4869
14	0°7165	0°6976	1°4330	1°3952	2°1495	2°0927	2°8660	2°7903	3°5825	3°4879
15	0°7163	0°6978	1°4326	1°3956	2°1489	2°0934	2°8652	2°7912	3°5815	3°4890
16	0°7161	0°6980	1°4322	1°3960	2°1483	2°0940	2°8644	2°7920	3°5805	3°4900
17	0°7159	0°6982	1°4318	1°3964	2°1477	2°0946	2°8636	2°7928	3°5795	3°4910
18	0°7157	0°6984	1°4314	1°3968	2°1471	2°0952	2°8628	2°7937	3°5785	3°4921
19	0°7155	0°6986	1°4310	1°3972	2°1465	2°0959	2°8620	2°7945	3°5774	3°4931
20	0°7153	0°6988	1°4306	1°3977	2°1459	2°0965	2°8611	2°7953	3°5764	3°4942
21	0°7151	0°6990	1°4302	1°3981	2°1452	2°0971	2°8603	2°7962	3°5754	3°4952
22	0°7149	0°6992	1°4298	1°3985	2°1446	2°0977	2°8595	2°7970	3°5744	3°4962
23	0°7147	0°6995	1°4294	1°3989	2°1440	2°0984	2°8587	2°7978	3°5734	3°4973
24	0°7145	0°6997	1°4289	1°3993	2°1434	2°0990	2°8579	2°7987	3°5724	3°4983
25	0°7143	0°6999	1°4285	1°3997	2°1428	2°0996	2°8571	2°7995	3°5713	3°4994
26	0°7141	0°7001	1°4281	1°4002	2°1422	2°1002	2°8563	2°8003	3°5703	3°5004
27	0°7139	0°7003	1°4277	1°4006	2°1416	2°1009	2°8554	2°8011	3°5693	3°5014
28	0°7137	0°7005	1°4273	1°4010	2°1410	2°1015	2°8546	2°8020	3°5683	3°5025
29	0°7135	0°7007	1°4269	1°4014	2°1404	2°1021	2°8538	2°8028	3°5673	3°5035
30	0°7133	0°7009	1°4265	1°4018	2°1398	2°1027	2°8530	2°8036	3°5663	3°5045
31	0°7130	0°7011	1°4261	1°4022	2°1391	2°1034	2°8522	2°8045	3°5652	3°5056
32	0°7128	0°7013	1°4257	1°4026	2°1385	2°1040	2°8514	2°8053	3°5642	3°5066
33	0°7126	0°7015	1°4253	1°4031	2°1379	2°1046	2°8506	2°8061	3°5632	3°5077
34	0°7124	0°7017	1°4249	1°4035	2°1373	2°1052	2°8497	2°8070	3°5622	3°5087
35	0°7122	0°7019	1°4245	1°4039	2°1367	2°1058	2°8489	2°8078	3°5612	3°5097
36	0°7120	0°7022	1°4241	1°4043	2°1361	2°1065	2°8481	2°8086	3°5601	3°5108
37	0°7118	0°7024	1°4236	1°4047	2°1355	2°1071	2°8473	2°8094	3°5591	3°5118
38	0°7116	0°7026	1°4232	1°4051	2°1349	2°1077	2°8465	2°8103	3°5581	3°5128
39	0°7114	0°7028	1°4228	1°4055	2°1342	2°1083	2°8457	2°8111	3°5571	3°5139
40	0°7112	0°7030	1°4224	1°4060	2°1336	2°1089	2°8448	2°8119	3°5560	3°5149
41	0°7110	0°7032	1°4220	1°4064	2°1330	2°1096	2°8440	2°8128	3°5550	3°5159
42	0°7108	0°7034	1°4216	1°4068	2°1324	2°1102	2°8432	2°8136	3°5540	3°5170
43	0°7106	0°7036	1°4212	1°4072	2°1318	2°1108	2°8424	2°8144	3°5530	3°5180
44	0°7104	0°7038	1°4208	1°4076	2°1312	2°1114	2°8416	2°8152	3°5520	3°5190
45	0°7102	0°7040	1°4204	1°4080	2°1306	2°1120	2°8407	2°8161	3°5509	3°5201
46	0°7100	0°7042	1°4200	1°4084	2°1299	2°1127	2°8399	2°8169	3°5499	3°5211
47	0°7098	0°7044	1°4196	1°4089	2°1293	2°1133	2°8391	2°8177	3°5489	3°5221
48	0°7096	0°7046	1°4191	1°4093	2°1287	2°1139	2°8383	2°8185	3°5479	3°5232
49	0°7094	0°7048	1°4187	1°4097	2°1281	2°1145	2°8375	2°8194	3°5468	3°5242
50	0°7092	0°7050	1°4183	1°4101	2°1275	2°1151	2°8366	2°8202	3°5458	3°5252
51	0°7090	0°7053	1°4179	1°4105	2°1269	2°1158	2°8358	2°8210	3°5448	3°5263
52	0°7088	0°7055	1°4175	1°4109	2°1263	2°1164	2°8350	2°8218	3°5438	3°5273
53	0°7085	0°7057	1°4171	1°4113	2°1256	2°1170	2°8342	2°8227	3°5427	3°5283
54	0°7083	0°7059	1°4167	1°4117	2°1250	2°1176	2°8334	2°8235	3°5417	3°5294
55	0°7081	0°7061	1°4163	1°4122	2°1244	2°1182	2°8325	2°8243	3°5407	3°5304
56	0°7079	0°7063	1°4159	1°4126	2°1238	2°1189	2°8317	2°8251	3°5396	3°5314
57	0°7077	0°7065	1°4154	1°4130	2°1232	2°1195	2°8309	2°8260	3°5386	3°5324
58	0°7075	0°7067	1°4150	1°4134	2°1226	2°1201	2°8301	2°8268	3°5376	3°5335
59	0°7073	0°7069	1°4146	1°4138	2°1219	2°1207	2°8292	2°8276	3°5366	3°5345
60	0°7071	0°7071	1°4142	1°4142	2°1213	2°1213	2°8284	2°8284	3°5355	3°5355
	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.

6		7		8		9		10		Dist.
Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
4*3160	4*1680	5*0354	4*8626	5*7547	5*5573	6*4741	6*2519	7*1934	6*9466	60
4*3148	4*1692	5*0340	4*8641	5*7531	5*5589	6*4722	6*2538	7*1914	6*9487	59
4*3136	4*1705	5*0325	4*8655	5*7515	5*5606	6*4704	6*2557	7*1894	6*9508	58
4*3124	4*1717	5*0311	4*8670	5*7499	5*5623	6*4686	6*2576	7*1873	6*9529	57
4*3112	4*1730	5*0297	4*8685	5*7482	5*5640	6*4668	6*2595	7*1853	6*9549	56
4*3100	4*1742	5*0283	4*8699	5*7466	5*5656	6*4650	6*2613	7*1833	6*9570	55
4*3088	4*1755	5*0269	4*8714	5*7450	5*5673	6*4631	6*2632	7*1813	6*9591	54
4*3075	4*1767	5*0255	4*8729	5*7434	5*5690	6*4613	6*2651	7*1792	6*9612	53
4*3063	4*1780	5*0240	4*8743	5*7418	5*5706	6*4595	6*2670	7*1772	6*9633	52
4*3051	4*1792	5*0226	4*8758	5*7401	5*5723	6*4577	6*2689	7*1752	6*9654	51
4*3039	4*1805	5*0212	4*8772	5*7385	5*5740	6*4558	6*2707	7*1732	6*9675	50
4*3027	4*1817	5*0198	4*8787	5*7369	5*5757	6*4540	6*2726	7*1711	6*9696	49
4*3015	4*1830	5*0184	4*8802	5*7353	5*5773	6*4522	6*2745	7*1691	6*9717	48
4*3002	4*1842	5*0170	4*8816	5*7337	5*5790	6*4504	6*2764	7*1671	6*9737	47
4*2990	4*1855	5*0155	4*8831	5*7320	5*5807	6*4485	6*2782	7*1650	6*9758	46
4*2978	4*1867	5*0141	4*8845	5*7304	5*5823	6*4467	6*2801	7*1630	6*9779	45
4*2966	4*1880	5*0127	4*8860	5*7288	5*5840	6*4449	6*2820	7*1610	6*9800	44
4*2954	4*1892	5*0113	4*8874	5*7272	5*5857	6*4431	6*2839	7*1590	6*9821	43
4*2942	4*1905	5*0098	4*8889	5*7255	5*5873	6*4412	6*2857	7*1569	6*9842	42
4*2929	4*1917	5*0084	4*8904	5*7239	5*5890	6*4394	6*2876	7*1549	6*9862	41
4*2917	4*1930	5*0070	4*8918	5*7223	5*5907	6*4376	6*2895	7*1529	6*9883	40
4*2905	4*1942	5*0056	4*8933	5*7207	5*5923	6*4357	6*2914	7*1508	6*9904	39
4*2893	4*1955	5*0042	4*8947	5*7190	5*5940	6*4339	6*2932	7*1488	6*9925	38
4*2881	4*1967	5*0027	4*8962	5*7174	5*5956	6*4321	6*2951	7*1468	6*9946	37
4*2868	4*1980	5*0013	4*8976	5*7158	5*5973	6*4303	6*2970	7*1447	6*9966	36
4*2856	4*1992	4*9999	4*8991	5*7142	5*5990	6*4284	6*2988	7*1427	6*9987	35
4*2844	4*2005	4*9985	4*9006	5*7125	5*6006	6*4266	6*3007	7*1407	7*0008	34
4*2832	4*2017	4*9970	4*9020	5*7109	5*6023	6*4248	6*3026	7*1386	7*0029	33
4*2819	4*2030	4*9956	4*9035	5*7093	5*6040	6*4229	6*3044	7*1366	7*0049	32
4*2807	4*2042	4*9942	4*9049	5*7076	5*6056	6*4211	6*3063	7*1345	7*0070	31
4*2795	4*2055	4*9928	4*9064	5*7060	5*6073	6*4193	6*3082	7*1325	7*0091	30
4*2783	4*2067	4*9913	4*9078	5*7044	5*6089	6*4174	6*3101	7*1305	7*0112	29
4*2771	4*2079	4*9899	4*9093	5*7027	5*6106	6*4156	6*3119	7*1284	7*0132	28
4*2758	4*2092	4*9885	4*9107	5*7011	5*6123	6*4137	6*3138	7*1264	7*0153	27
4*2746	4*2104	4*9870	4*9122	5*6995	5*6139	6*4119	6*3156	7*1243	7*0174	26
4*2734	4*2117	4*9856	4*9136	5*6978	5*6156	6*4101	6*3175	7*1223	7*0195	25
4*2722	4*2129	4*9842	4*9151	5*6962	5*6172	6*4082	6*3194	7*1203	7*0215	24
4*2709	4*2142	4*9828	4*9165	5*6946	5*6189	6*4064	6*3212	7*1182	7*0236	23
4*2697	4*2154	4*9813	4*9180	5*6929	5*6205	6*4046	6*3231	7*1162	7*0257	22
4*2685	4*2166	4*9799	4*9194	5*6913	5*6222	6*4027	6*3250	7*1141	7*0277	21
4*2673	4*2179	4*9785	4*9209	5*6897	5*6238	6*4009	6*3268	7*1121	7*0298	20
4*2660	4*2191	4*9770	4*9223	5*6880	5*6255	6*3990	6*3287	7*1100	7*0319	19
4*2648	4*2204	4*9756	4*9238	5*6864	5*6272	6*3972	6*3306	7*1080	7*0339	18
4*2636	4*2216	4*9742	4*9252	5*6848	5*6288	6*3954	6*3324	7*1059	7*0360	17
4*2623	4*2228	4*9727	4*9267	5*6831	5*6305	6*3935	6*3343	7*1039	7*0381	16
4*2611	4*2241	4*9713	4*9281	5*6815	5*6321	6*3917	6*3361	7*1019	7*0401	15
4*2599	4*2253	4*9699	4*9295	5*6798	5*6338	6*3898	6*3380	7*0998	7*0422	14
4*2587	4*2266	4*9684	4*9310	5*6782	5*6354	6*3880	6*3399	7*0978	7*0443	13
4*2574	4*2278	4*9670	4*9324	5*6766	5*6371	6*3861	6*3417	7*0957	7*0463	12
4*2562	4*2290	4*9656	4*9339	5*6749	5*6387	6*3843	6*3436	7*0937	7*0484	11
4*2550	4*2303	4*9641	4*9353	5*6733	5*6404	6*3824	6*3454	7*0916	7*0505	10
4*2537	4*2315	4*9627	4*9368	5*6716	5*6420	6*3806	6*3473	7*0896	7*0525	9
4*2525	4*2328	4*9613	4*9382	5*6700	5*6437	6*3788	6*3491	7*0875	7*0546	8
4*2513	4*2340	4*9598	4*9397	5*6684	5*6453	6*3769	6*3510	7*0855	7*0567	7
4*2500	4*2352	4*9584	4*9411	5*6667	5*6470	6*3751	6*3528	7*0834	7*0587	6
4*2488	4*2365	4*9569	4*9425	5*6651	5*6486	6*3732	6*3547	7*0813	7*0608	5
4*2476	4*2377	4*9555	4*9440	5*6634	5*6503	6*3714	6*3566	7*0793	7*0628	4
4*2463	4*2389	4*9541	4*9454	5*6618	5*6519	6*3695	6*3584	7*0772	7*0649	3
4*2451	4*2402	4*9526	4*9469	5*6601	5*6536	6*3677	6*3603	7*0752	7*0670	2
4*2439	4*2414	4*9512	4*9483	5*6585	5*6552	6*3658	6*3621	7*0731	7*0690	1
4*2426	4*2426	4*9497	4*9497	5*6569	5*6569	6*3640	6*3640	7*0711	7*0711	0
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