

POLARIS (POLE STAR) TABLES, 2014
FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

LHA ARIES	0° - 9°	10° - 19°	20° - 29°	30° - 39°	40° - 49°	50° - 59°	60° - 69°	70° - 79°	80° - 89°	90° - 99°	100° - 109°	110° - 119°
	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0
0	29.1	24.8	21.5	19.3	18.3	18.6	20.2	22.9	26.7	31.5	37.2	43.5
1	28.6	24.4	21.2	19.1	18.3	18.7	20.4	23.2	27.2	32.1	37.8	44.1
2	28.2	24.0	20.9	19.0	18.3	18.9	20.6	23.6	27.6	32.6	38.4	44.8
3	27.7	23.7	20.7	18.9	18.3	19.0	20.9	23.9	28.1	33.2	39.0	45.5
4	27.3	23.3	20.4	18.8	18.3	19.1	21.1	24.3	28.5	33.7	39.6	46.1
5	26.8	23.0	20.2	18.7	18.3	19.3	21.4	24.7	29.0	34.3	40.3	46.8
6	26.4	22.6	20.0	18.6	18.4	19.4	21.7	25.1	29.5	34.8	40.9	47.5
7	26.0	22.3	19.8	18.5	18.4	19.6	22.0	25.5	30.0	35.4	41.5	48.2
8	25.6	22.0	19.6	18.4	18.5	19.8	22.3	25.9	30.5	36.0	42.2	48.9
9	25.2	21.7	19.5	18.4	18.6	20.0	22.6	26.3	31.0	36.6	42.8	49.5
10	24.8	21.5	19.3	18.3	18.6	20.2	22.9	26.7	31.5	37.2	43.5	50.2
Lat.	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1
0	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3
10	.5	.5	.6	.6	.6	.6	.6	.5	.5	.4	.4	.4
20	.5	.6	.6	.6	.6	.6	.6	.5	.5	.5	.4	.4
30	.5	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5
40	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
45	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7
60	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7
62	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
64	.7	.6	.6	.6	.6	.6	.6	.7	.7	.7	.8	.8
66	.7	.7	.6	.6	.6	.6	.6	.7	.7	.8	.8	.8
68	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9
Month	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2
Jan.	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Feb.	.7	.7	.8	.8	.8	.9	.9	.9	.9	.9	.8	.8
Mar.	.5	.6	.7	.7	.8	.8	.9	.9	.9	.9	.9	0.9
Apr.	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	0.9	1.0
May	.3	.3	.4	.4	.5	.6	.6	.7	.7	.8	.9	0.9
June	.2	.3	.3	.3	.4	.4	.5	.5	.6	.7	.7	.8
July	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.6	0.6
Aug.	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.5
Sept.	.6	.5	.5	.4	.4	.4	.3	.3	.3	.3	.3	.3
Oct.	0.8	0.7	0.7	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3
Nov.	0.9	0.9	0.8	.8	.7	.7	.6	.5	.4	.4	.3	.3
Dec.	1.0	1.0	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.5	0.4	0.4
Lat.	AZIMUTH											
0	0.4	0.3	0.2	0.1	0.0	359.9	359.7	359.6	359.5	359.5	359.4	359.4
20	0.4	0.3	0.2	0.1	0.0	359.8	359.7	359.6	359.5	359.4	359.4	359.3
40	0.5	0.4	0.3	0.1	0.0	359.8	359.7	359.5	359.4	359.3	359.2	359.2
50	0.6	0.5	0.3	0.1	0.0	359.8	359.6	359.4	359.3	359.2	359.1	359.0
55	0.7	0.6	0.4	0.2	359.9	359.7	359.5	359.4	359.2	359.1	358.9	358.9
60	0.8	0.6	0.4	0.2	359.9	359.7	359.5	359.3	359.1	358.9	358.8	358.7
65	1.0	0.8	0.5	0.2	359.9	359.6	359.4	359.1	358.9	358.7	358.6	358.5

Latitude = Apparent altitude (corrected for refraction) $-1^\circ + a_0 + a_1 + a_2$

The table is entered with LHA Aries to determine the column to be used; each column refers to a range of 10° . a_0 is taken, with mental interpolation, from the upper table with the units of LHA Aries in degrees as argument; a_1 , a_2 are taken, without interpolation, from the second and third tables with arguments latitude and month respectively. a_0 , a_1 , a_2 , are always positive. The final table gives the azimuth of *Polaris*.

POLARIS (POLE STAR) TABLES, 2014

FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

LHA	120° - 129°	130° - 139°	140° - 149°	150° - 159°	160° - 169°	170° - 179°	180° - 189°	190° - 199°	200° - 209°	210° - 219°	220° - 229°	230° - 239°
ARIES	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0
0	0 50.2	0 57.2	I 04.3	I 11.2	I 17.7	I 23.6	I 28.7	I 33.0	I 36.2	I 38.3	I 39.3	I 39.0
1	50.9	58.0	05.0	11.8	18.3	24.1	29.2	33.4	36.5	38.5	39.3	38.9
2	51.6	58.7	05.7	12.5	18.9	24.7	29.7	33.7	36.7	38.6	39.3	38.8
3	52.3	0 59.4	06.4	13.2	19.5	25.2	30.1	34.1	37.0	38.7	39.3	38.6
4	53.0	I 00.1	07.1	13.8	20.1	25.7	30.6	34.4	37.2	38.9	39.3	38.5
5	0 53.7	I 00.8	I 07.8	I 14.5	I 20.7	I 26.3	I 31.0	I 34.8	I 37.4	I 38.9	I 39.3	I 38.4
6	54.4	01.5	08.5	15.1	21.3	26.8	31.4	35.1	37.6	39.0	39.2	38.2
7	55.1	02.2	09.1	15.8	21.9	27.3	31.8	35.4	37.8	39.1	39.2	38.0
8	55.8	02.9	09.8	16.4	22.4	27.8	32.2	35.7	38.0	39.2	39.1	37.9
9	56.5	03.6	10.5	17.0	23.0	28.3	32.6	36.0	38.2	39.2	39.1	37.7
10	0 57.2	I 04.3	I 11.2	I 17.7	I 23.6	I 28.7	I 33.0	I 36.2	I 38.3	I 39.3	I 39.0	I 37.5
Lat.	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1
0	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6
10	.4	.4	.4	.4	.4	.5	.5	.5	.6	.6	.6	.6
20	.4	.4	.4	.4	.5	.5	.5	.6	.6	.6	.6	.6
30	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6	.6	.6
40	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
45	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.7	.7	.7	.6	.6	.6	.6	.6	.6	.6	.6	.6
60	.7	.7	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6
62	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
64	.8	.8	.8	.8	.7	.7	.7	.6	.6	.6	.6	.6
66	.8	.9	.8	.8	.8	.7	.7	.7	.6	.6	.6	.6
68	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6
Month	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2
Jan.	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Feb.	.8	.7	.7	.7	.6	.6	.5	.5	.4	.4	.4	.3
Mar.	0.9	0.9	0.8	.8	.8	.7	.7	.6	.5	.5	.4	.4
Apr.	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.5
May	0.9	1.0	1.0	1.0	1.0	0.9	0.9	.9	.8	.8	.7	.6
June	.8	0.9	0.9	0.9	0.9	1.0	1.0	.9	.9	.9	.8	.8
July	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Aug.	.5	.5	.6	.6	.7	.7	.8	.8	.9	.9	.9	.9
Sept.	.4	.4	.4	.5	.5	.6	.6	.7	.7	.8	.8	.8
Oct.	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7
Nov.	.2	.2	.2	.2	.2	.2	.3	.3	.4	.4	.5	.5
Dec.	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.4

Lat.	AZIMUTH											
0	359.3	359.3	359.3	359.4	359.4	359.5	359.6	359.7	359.8	359.9	0.0	0.1
20	359.3	359.3	359.3	359.3	359.4	359.5	359.6	359.7	359.8	359.9	0.0	0.2
40	359.1	359.1	359.1	359.2	359.3	359.4	359.5	359.6	359.7	359.9	0.0	0.2
50	359.0	359.0	359.0	359.0	359.1	359.2	359.4	359.5	359.7	359.9	0.0	0.2
55	358.8	358.8	358.9	358.9	359.0	359.1	359.3	359.5	359.6	359.8	0.0	0.2
60	358.7	358.7	358.7	358.8	358.9	359.0	359.2	359.4	359.6	359.8	0.1	0.3
65	358.4	358.4	358.4	358.5	358.7	358.8	359.0	359.3	359.5	359.8	0.1	0.3

ILLUSTRATION
 On 2014 April 21 at
 23^h 18^m 56^s UT in longitude
 W 37° 14' the apparent altitude
 (corrected for refraction), H_0 , of
 Polaris was 49° 31.6

From the daily pages:
 GHA Aries (23^h) 194 56.2
 Increment (18^m 56^s) 4 44.8
 Longitude (west) -37 14
 LHA Aries 162 27

H_0 49 31.6
 a_0 (argument 162° 27') 1 19.2
 a_1 (Lat 50° approx.) 0.6
 a_2 (April) 0.9
 Sum - 1° = Lat = 49 52.3

POLARIS (POLE STAR) TABLES, 2014
FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

LHA ARIES	240° - 249°	250° - 259°	260° - 269°	270° - 279°	280° - 289°	290° - 299°	300° - 309°	310° - 319°	320° - 329°	330° - 339°	340° - 349°	350° - 359°
	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0	a_0
°	'	'	'	'	'	'	'	'	'	'	'	'
0	I 37.5	I 34.8	I 31.1	I 26.4	I 20.8	I 14.6	I 07.9	I 00.9	0 53.9	0 46.9	0 40.4	0 34.4
1	37.3	34.5	30.6	25.8	20.2	14.0	07.2	00.2	53.2	46.3	39.8	33.8
2	37.0	34.2	30.2	25.3	19.6	13.3	06.5	05.5	52.5	45.6	39.1	33.3
3	36.8	33.8	29.8	24.8	19.0	12.6	05.8	58.8	51.8	44.9	38.5	32.7
4	36.5	33.4	29.3	24.2	18.4	12.0	05.1	58.1	51.1	44.3	37.9	32.2
5	I 36.3	I 33.1	I 28.8	I 23.7	I 17.8	I 11.3	I 04.4	0 57.4	0 50.4	0 43.6	0 37.3	0 31.6
6	36.0	32.7	28.4	23.1	17.2	10.6	03.7	56.7	49.7	43.0	36.7	31.1
7	35.7	32.3	27.9	22.6	16.5	10.0	03.0	56.0	49.0	42.3	36.1	30.6
8	35.4	31.9	27.4	22.0	15.9	09.3	02.3	55.3	48.3	41.7	35.5	30.1
9	35.1	31.5	26.9	21.4	15.3	08.6	01.6	54.6	47.6	41.0	35.0	29.6
10	I 34.8	I 31.1	I 26.4	I 20.8	I 14.6	I 07.9	I 00.9	0 53.9	0 46.9	0 40.4	0 34.4	0 29.1
Lat.	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1	a_1
°	'	'	'	'	'	'	'	'	'	'	'	'
0	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4
10	.6	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5
20	.6	.5	.5	.5	.4	.4	.4	.4	.4	.4	.5	.5
30	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
40	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
45	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.6	.6	.6	.6	.6	.7	.7	.7	.7	.6	.6	.6
60	.6	.6	.7	.7	.7	.7	.7	.7	.7	.7	.7	.7
62	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7
64	.6	.7	.7	.7	.8	.8	.8	.8	.8	.8	.7	.7
66	.6	.7	.7	.8	.8	.8	.8	.9	.8	.8	.8	.7
68	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.8
Month	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2	a_2
°	'	'	'	'	'	'	'	'	'	'	'	'
Jan.	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
Feb.	.3	.3	.3	.3	.4	.4	.4	.5	.5	.5	.6	.6
Mar.	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.5
Apr.	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3
May	.6	.5	.5	.4	.3	.3	.3	.2	.2	.2	.2	.3
June	.7	.7	.6	.5	.5	.4	.4	.3	.3	.3	.3	.2
July	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3
Aug.	.9	.9	.9	.8	.8	.7	.7	.7	.6	.6	.5	.5
Sept.	.9	.9	.9	.9	.9	.9	.8	.8	.8	.7	.7	.6
Oct.	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
Nov.	.6	.7	.8	.8	.9	.9	1.0	1.0	1.0	1.0	1.0	1.0
Dec.	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.0	1.1
Lat.	AZIMUTH											
°	°	°	°	°	°	°	°	°	°	°	°	°
0	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.5
20	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.6	0.5
40	0.3	0.5	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7
50	0.4	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.8
55	0.4	0.6	0.8	0.9	1.0	1.1	1.2	1.2	1.2	1.1	1.0	0.9
60	0.5	0.7	0.9	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.0
65	0.6	0.8	1.1	1.2	1.4	1.5	1.6	1.6	1.6	1.5	1.4	1.2

Latitude = Apparent altitude (corrected for refraction) $-1^\circ + a_0 + a_1 + a_2$

The table is entered with LHA Aries to determine the column to be used; each column refers to a range of 10° . a_0 is taken, with mental interpolation, from the upper table with the units of LHA Aries in degrees as argument; a_1 , a_2 are taken, without interpolation, from the second and third tables with arguments latitude and month respectively. a_0 , a_1 , a_2 , are always positive. The final table gives the azimuth of *Polaris*.