

POLARIS (POLE STAR) TABLES, 2000
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°
	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀
0	0 24.2	0 20.0	0 16.9	0 15.1	0 14.7	0 15.7	0 17.9	0 21.5	0 26.1	0 31.8	0 38.3	0 45.4
1	23.7	19.6	16.7	15.0	14.8	15.8	18.2	21.9	26.7	32.4	39.0	46.2
2	23.3	19.3	16.5	15.0	14.8	16.0	18.5	22.3	27.2	33.0	39.7	46.9
3	22.8	18.9	16.2	14.9	14.9	16.2	18.9	22.7	27.7	33.7	40.4	47.6
4	22.4	18.6	16.0	14.8	14.9	16.4	19.2	23.2	28.3	34.3	41.1	48.4
5	0 22.0	0 18.3	0 15.9	0 14.8	0 15.0	0 16.6	0 19.5	0 23.7	0 28.9	0 35.0	0 41.8	0 49.1
6	21.5	18.0	15.7	14.7	15.1	16.9	19.9	24.1	29.4	35.6	42.5	49.9
7	21.1	17.7	15.5	14.7	15.2	17.1	20.3	24.6	30.0	36.3	43.2	50.6
8	20.7	17.4	15.4	14.7	15.4	17.4	20.7	25.1	30.6	36.9	44.0	51.4
9	20.3	17.2	15.3	14.7	15.5	17.6	21.1	25.6	31.2	37.6	44.7	52.2
10	0 20.0	0 16.9	0 15.1	0 14.7	0 15.7	0 17.9	0 21.5	0 26.1	0 31.8	0 38.3	0 45.4	0 52.9
Lat.	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁
0	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3
10	.5	.6	.6	.6	.6	.6	.5	.5	.4	.4	.4	.3
20	.5	.6	.6	.6	.6	.6	.6	.5	.5	.4	.4	.4
30	.5	.6	.6	.6	.6	.6	.6	.5	.5	.5	.5	.4
40	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
45	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7
60	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7	.7
62	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8
64	.7	.6	.6	.6	.6	.6	.6	.7	.7	.8	.8	.8
66	.7	.6	.6	.6	.6	.6	.7	.7	.8	.8	.9	.9
68	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.9	0.9
Month	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂
Jan.	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
Feb.	.7	.7	.7	.8	.8	.8	.8	.8	.8	.8	.8	.8
Mar.	.5	.6	.6	.7	.7	.8	.8	.8	.9	.9	.9	.9
Apr.	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9
May	.3	.3	.3	.4	.4	.5	.6	.6	.7	.8	.8	.9
June	.2	.2	.3	.3	.3	.4	.4	.5	.6	.6	.7	.8
July	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6
Aug.	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4
Sept.	.6	.5	.5	.4	.4	.3	.3	.3	.3	.3	.3	.3
Oct.	0.8	0.7	0.6	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	.6	.6	.5	.4	.4	.3	.3
Dec.	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.4	0.4

Lat.	AZIMUTH											
0	0.4	0.3	0.2	0.0	359.9	359.8	359.7	359.6	359.5	359.4	359.3	359.3
20	0.4	0.3	0.2	0.0	359.9	359.8	359.6	359.5	359.4	359.3	359.3	359.2
40	0.5	0.4	0.2	0.1	359.9	359.7	359.6	359.4	359.3	359.2	359.1	359.1
50	0.6	0.5	0.3	0.1	359.9	359.7	359.5	359.3	359.2	359.0	358.9	358.9
55	0.7	0.5	0.3	0.1	359.8	359.6	359.4	359.2	359.1	358.9	358.8	358.7
60	0.8	0.6	0.3	0.1	359.8	359.6	359.3	359.1	358.9	358.8	358.6	358.6
65	1.0	0.7	0.4	0.1	359.8	359.5	359.2	358.9	358.7	358.5	358.4	358.3

Latitude = Apparent altitude (corrected for refraction) - 1° + *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, 2000

FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

LHA ARIES	120° - 129°	130° - 139°	140° - 149°	150° - 159°	160° - 169°	170° - 179°	180° - 189°	190° - 199°	200° - 209°	210° - 219°	220° - 229°	230° - 239°
	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀	<i>a</i> ₀
0	0 52.9	I 00.6	I 08.2	I 15.6	I 22.4	I 28.4	I 33.6	I 37.8	I 40.8	I 42.5	I 42.9	I 42.0
1	53.7	01.4	09.0	16.3	23.0	29.0	34.1	38.1	41.0	42.6	42.8	41.8
2	54.5	02.1	09.7	17.0	23.6	29.6	34.6	38.5	41.2	42.7	42.8	41.6
3	55.2	02.9	10.5	17.7	24.3	30.1	35.0	38.8	41.4	42.7	42.7	41.4
4	56.0	03.7	11.2	18.3	24.9	30.6	35.4	39.1	41.6	42.8	42.7	41.2
5	0 56.8	I 04.4	I 11.9	I 19.0	I 25.5	I 31.2	I 35.9	I 39.4	I 41.8	I 42.8	I 42.6	I 41.0
6	57.5	05.2	12.7	19.7	26.1	31.7	36.3	39.7	41.9	42.9	42.5	40.8
7	58.3	06.0	13.4	20.4	26.7	32.2	36.7	40.0	42.1	42.9	42.4	40.6
8	59.1	06.7	14.1	21.0	27.3	32.7	37.0	40.3	42.2	42.9	42.3	40.3
9	0 59.8	I 07.5	I 14.8	I 21.7	I 27.9	I 33.2	I 37.4	I 40.5	I 42.4	I 42.9	I 42.1	I 40.0
10	I 00.6	I 08.2	I 15.6	I 22.4	I 28.4	I 33.6	I 37.8	I 40.8	I 42.5	I 42.9	I 42.0	I 39.8
Lat.	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁	<i>a</i> ₁
0	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6
10	.3	.3	.3	.4	.4	.5	.5	.6	.6	.6	.6	.6
20	.4	.4	.4	.4	.5	.5	.5	.6	.6	.6	.6	.6
30	.4	.4	.4	.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	.5	.5	.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	.7	.6	.6	.6	.6	.6	.6	.6	.6
60	.8	.8	.7	.7	.7	.7	.6	.6	.6	.6	.6	.6
62	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
64	.8	.8	.8	.8	.8	.7	.7	.6	.6	.6	.6	.6
66	0.9	0.9	.9	.8	.8	.7	.7	.6	.6	.6	.6	.6
68	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6
Month	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂	<i>a</i> ₂
Jan.	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Feb.	.8	.7	.7	.7	.6	.6	.5	.5	.5	.4	.4	.4
Mar.	0.9	0.9	0.8	.8	.8	.7	.7	.6	.6	.5	.5	.4
Apr.	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6	0.5
May	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.9	.9	.8	.8	.7
June	.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	0.9	.9	.9	.8
July	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9
Aug.	.5	.5	.6	.7	.7	.8	.8	.8	0.9	.9	.9	.9
Sept.	.4	.4	.4	.5	.5	.6	.6	.7	.7	.8	.8	.9
Oct.	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7
Nov.	.2	.2	.2	.2	.2	.2	.3	.3	.4	.4	.5	.6
Dec.	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4

Lat.	AZIMUTH											
0	359.3	359.3	359.3	359.3	359.4	359.5	359.6	359.7	359.8	0.0	0.1	0.2
20	359.2	359.2	359.3	359.3	359.4	359.5	359.6	359.7	359.8	0.0	0.1	0.2
40	359.0	359.0	359.1	359.1	359.2	359.3	359.5	359.6	359.8	359.9	0.1	0.3
50	358.9	358.9	358.9	359.0	359.1	359.2	359.4	359.6	359.7	359.9	0.1	0.3
55	358.7	358.7	358.8	358.9	359.0	359.1	359.3	359.5	359.7	359.9	0.2	0.4
60	358.5	358.5	358.6	358.7	358.8	359.0	359.2	359.4	359.7	359.9	0.2	0.4
65	358.3	358.3	358.3	358.5	358.6	358.8	359.1	359.3	359.6	359.9	0.2	0.5

ILLUSTRATION
 On 2000 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) 195 18.9
 Increment (18^m 56^s) 4 44.8
 Longitude (west) -37 14

LHA Aries

*H*₀ 49 31.6
*a*₀ (argument 162° 50') 1 24.2
*a*₁ (Lat 50° approx.) 0.6
*a*₂ (April) 0.9

Sum - 1° = Lat = 49 57.3

POLARIS (POLE STAR) TABLES, 2000
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°
0	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀	a ₀
1	39·8	36·3	31·8	26·2	19·8	12·8	05·3	057·7	050·0	042·6	035·7	029·5
2	39·5	35·9	31·3	25·6	19·1	12·1	04·6	56·9	49·3	41·9	35·1	29·0
3	39·2	35·5	30·7	25·0	18·5	11·3	03·8	56·1	48·5	41·2	34·4	28·4
4	38·9	35·1	30·2	24·4	17·8	10·6	03·0	55·4	47·8	40·5	33·8	27·8
5	38·5	34·6	29·7	23·7	17·1	09·8	02·3	54·6	47·0	39·8	33·2	27·3
6	38·2	34·2	29·1	23·1	16·4	09·1	01·5	53·8	46·3	39·1	32·5	26·7
7	37·8	33·7	28·5	22·5	15·7	08·4	00·7	53·1	45·5	38·4	31·9	26·2
8	37·5	33·2	28·0	21·8	15·0	07·6	00·0	52·3	44·8	37·7	31·3	25·7
9	37·1	32·8	27·4	21·2	14·2	06·8	059·2	51·5	44·1	37·1	30·7	25·2
10	36·7	32·3	26·8	20·5	13·5	06·1	58·4	50·8	43·4	36·4	30·1	24·7
10	36·3	31·8	26·2	19·8	12·8	05·3	057·7	050·0	042·6	035·7	029·5	024·2
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	0·4	0·4	0·3	0·3	0·3	0·3	0·3	0·3	0·4	0·4
10	·5	·5	·4	·4	·4	·3	·3	·3	·3	·4	·4	·5
20	·6	·5	·5	·4	·4	·4	·4	·4	·4	·4	·5	·5
30	·6	·5	·5	·5	·5	·4	·4	·4	·4	·5	·5	·5
40	0·6	0·6	0·5	0·5	0·5	0·5	0·5	0·5	0·5	0·5	0·5	0·6
45	·6	·6	·6	·6	·6	·5	·5	·5	·6	·6	·6	·6
50	·6	·6	·6	·6	·6	·6	·6	·6	·6	·6	·6	·6
55	·6	·6	·6	·6	·7	·7	·7	·7	·7	·7	·6	·6
60	·6	·7	·7	·7	·7	·7	·8	·8	·7	·7	·7	·7
62	0·6	0·7	0·7	0·7	0·8	0·8	0·8	0·8	0·8	0·8	0·7	0·7
64	·6	·7	·7	·8	·8	·8	·8	·8	·8	·8	·8	·7
66	·7	·7	·8	·8	·9	·9	0·9	0·9	·9	·8	·8	·7
68	0·7	0·7	0·8	0·9	0·9	0·9	1·0	1·0	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.	0·5	0·5	0·5	0·5	0·5	0·6	0·6	0·6	0·6	0·7	0·7	0·7
Feb.	·4	·4	·4	·4	·4	·4	·4	·5	·5	·5	·6	·6
Mar.	·4	·4	·3	·3	·3	·3	·3	·3	·4	·4	·4	·5
Apr.	0·5	0·4	0·4	0·3	0·3	0·3	0·2	0·2	0·2	0·3	0·3	0·3
May	·6	·6	·5	·4	·4	·3	·3	·2	·2	·2	·2	·2
June	·8	·7	·6	·6	·5	·4	·4	·3	·3	·3	·2	·2
July	0·9	0·8	0·8	0·7	0·7	0·6	0·5	0·5	0·4	0·4	0·3	0·3
Aug.	·9	·9	·9	·8	·8	·8	·7	·7	·6	·5	·5	·4
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.	0·4	0·5	0·6	0·7	0·8	0·8	0·9	0·9	1·0	1·0	1·0	1·0
Lat.	AZIMUTH											
0	0·3	0·4	0·5	0·6	0·7	0·7	0·7	0·7	0·7	0·7	0·6	0·5
20	0·4	0·5	0·6	0·7	0·7	0·8	0·8	0·8	0·7	0·7	0·6	0·5
40	0·4	0·6	0·7	0·8	0·9	0·9	1·0	1·0	0·9	0·9	0·8	0·7
50	0·5	0·7	0·8	1·0	1·0	1·1	1·1	1·1	1·1	1·0	0·9	0·8
55	0·6	0·8	0·9	1·1	1·2	1·2	1·3	1·3	1·2	1·2	1·0	0·9
60	0·7	0·9	1·1	1·2	1·3	1·4	1·5	1·5	1·4	1·3	1·2	1·0
65	0·8	1·0	1·2	1·4	1·6	1·7	1·7	1·7	1·7	1·6	1·4	1·2

Latitude = Apparent altitude (corrected for refraction) - 1° + a₀ + a₁ + a₂

The table is entered with LHA Aries to determine the column to be used; each column refers to a range of 10°. a₀ is taken, with mental interpolation, from the upper table with the units of LHA Aries in degrees as argument; a₁, a₂ are taken, without interpolation, from the second and third tables with arguments latitude and month respectively. a₀, a₁, a₂, are always positive. The final table gives the azimuth of *Polaris*.