

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

L.H.A.	240°-	250°-	260°-	270°-	280°-	290°-	300°-	310°-	320°-	330°-	340°-	350°-
ARIES	249°	259°	269°	279°	289°	299°	309°	319°	329°	339°	349°	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 42.8	I 38.4	I 32.8	I 26.1	I 18.6	I 10.5	I 02.1	0 53.5	0 45.0	0 37.0	0 29.7	0 23.2
1	42.5	37.9	32.1	25.4	17.8	09.7	01.2	52.6	44.2	36.3	29.0	22.6
2	42.1	37.4	31.5	24.7	17.0	08.8	I 00.3	51.8	43.4	35.5	28.3	22.0
3	41.6	36.8	30.9	23.9	16.2	08.0	0 59.5	50.9	42.6	34.7	27.6	21.5
4	41.2	36.3	30.2	23.2	15.4	07.2	58.6	50.1	41.8	34.0	27.0	20.9
5	I 40.8	I 35.7	I 29.6	I 22.5	I 14.6	I 06.3	0 57.8	0 49.2	0 41.0	0 33.3	0 26.3	0 20.4
6	40.3	35.2	28.9	21.7	13.8	05.5	56.9	48.4	40.2	32.5	25.7	19.8
7	39.9	34.6	28.2	20.9	13.0	04.6	56.0	47.5	39.4	31.8	25.0	19.3
8	39.4	34.0	27.5	20.2	12.2	03.8	55.2	46.7	38.6	31.1	24.4	18.8
9	38.9	33.4	26.8	19.4	11.3	02.9	54.3	45.9	37.8	30.4	23.8	18.3
10	I 38.4	I 32.8	I 26.1	I 18.6	I 10.5	I 02.1	0 53.5	0 45.0	0 37.0	0 29.7	0 23.2	0 17.8
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	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4
10	.5	.4	.4	.3	.3	.2	.2	.3	.3	.3	.4	.5
20	.5	.5	.4	.4	.3	.3	.3	.3	.3	.4	.4	.5
30	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.5	.5
40	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
45	.6	.6	.6	.5	.5	.5	.5	.5	.5	.6	.6	.6
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.6	.6	.7	.7	.7	.7	.7	.7	.7	.7	.6	.6
60	.7	.7	.7	.7	.8	.8	.8	.8	.8	.7	.7	.7
62	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
64	.7	.7	.8	.8	.9	.9	.9	.9	.9	.8	.8	.7
66	.7	.8	.8	0.9	0.9	1.0	1.0	1.0	0.9	.9	.8	.7
68	0.7	0.8	0.9	1.0	1.0	1.0	1.1	1.0	1.0	0.9	0.9	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	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Feb.	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.6
Mar.	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4
Apr.	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3
May	.7	.6	.5	.5	.4	.3	.3	.2	.2	.2	.2	.2
June	.8	.7	.7	.6	.5	.5	.4	.3	.3	.2	.2	.2
July	0.9	0.9	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.3
Aug.	1.0	.9	.9	.9	.8	.8	.7	.6	.6	.5	.5	.4
Sept.	0.9	.9	.9	.9	.9	.9	.8	.8	.7	.7	.6	.6
Oct.	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
Nov.	.7	.7	.8	.9	.9	.9	1.0	1.0	1.0	1.0	0.9	0.9
Dec.	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.0
Lat.	AZIMUTH											
0	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.5
20	0.5	0.6	0.7	0.8	0.8	0.9	0.9	0.9	0.8	0.7	0.7	0.5
40	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.1	1.1	1.0	0.9	0.7
50	0.7	0.8	1.0	1.1	1.2	1.3	1.3	1.3	1.2	1.1	1.0	0.8
55	0.7	0.9	1.1	1.2	1.3	1.4	1.4	1.4	1.3	1.2	1.1	0.9
60	0.8	1.1	1.3	1.4	1.5	1.6	1.6	1.6	1.5	1.4	1.2	1.0
65	1.0	1.3	1.5	1.7	1.8	1.9	1.9	1.9	1.8	1.7	1.5	1.2

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

The table is entered with L.H.A. 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 L.H.A. 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,
FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

L.H.A. 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	17.8	13.7	10.9	09.7	09.9	11.7	14.9	19.5	25.3	32.1	39.7	47.9
1	17.3	13.3	10.7	09.6	10.1	12.0	15.3	20.0	25.9	32.8	40.5	48.7
2	16.9	13.0	10.6	09.6	10.2	12.2	15.7	20.6	26.6	33.5	41.3	49.6
3	16.4	12.7	10.4	09.6	10.3	12.5	16.2	21.1	27.2	34.3	42.1	50.4
4	16.0	12.4	10.3	09.6	10.5	12.8	16.6	21.7	27.9	35.0	42.9	51.3
5	15.6	12.1	10.1	09.6	10.6	13.1	17.1	22.3	28.6	35.8	43.7	52.1
6	15.2	11.9	10.0	09.7	10.8	13.5	17.5	22.8	29.3	36.6	44.6	53.0
7	14.8	11.6	09.9	09.7	11.0	13.8	18.0	23.4	29.9	37.3	45.4	53.8
8	14.4	11.4	09.8	09.8	11.2	14.2	18.5	24.0	30.6	38.1	46.2	54.7
9	14.0	11.2	09.7	09.8	11.5	14.5	19.0	24.7	31.4	38.9	47.0	55.5
10	13.7	10.9	09.7	09.9	11.7	14.9	19.5	25.3	32.1	39.7	47.9	56.4
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	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2
10	.5	.6	.6	.6	.6	.6	.5	.4	.4	.3	.3	.2
20	.5	.6	.6	.6	.6	.6	.5	.5	.4	.4	.3	.3
30	.6	.6	.6	.6	.6	.6	.5	.5	.5	.4	.4	.4
40	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5
45	.6	.6	.6	.6	.6	.6	.6	.6	.6	.5	.5	.5
50	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6	.6
55	.6	.6	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7
60	.6	.6	.6	.6	.6	.6	.7	.7	.7	.7	.8	.8
62	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8
64	.7	.6	.6	.6	.6	.6	.7	.7	.8	.8	.9	0.9
66	.7	.6	.6	.6	.6	.7	.7	.8	.8	0.9	0.9	1.0
68	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	1.0	1.0	1.0
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	0.6	0.6	0.6
Feb.	.6	.6	.7	.7	.7	.7	.8	.8	.8	.8	.8	.8
Mar.	.5	.5	.6	.6	.7	.7	.8	.8	.8	.9	.9	.9
Apr.	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	0.9
May	.2	.2	.3	.3	.4	.5	.5	.6	.7	.7	.8	.9
June	.2	.2	.2	.2	.3	.3	.4	.5	.5	.6	.7	.7
July	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6
Aug.	.3	.3	.3	.2	.2	.2	.2	.3	.3	.3	.4	.4
Sept.	.5	.5	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3
Oct.	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Nov.	0.9	0.8	.8	.7	.6	.6	.5	.5	.4	.3	.3	.3
Dec.	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.4	0.4
Lat.	AZIMUTH											
0	0.4	0.3	0.1	0.0	359.8	359.7	359.6	359.5	359.4	359.3	359.2	359.2
20	0.4	0.3	0.1	0.0	359.8	359.7	359.5	359.4	359.3	359.2	359.2	359.1
40	0.5	0.3	0.2	0.0	359.8	359.6	359.4	359.3	359.2	359.1	359.0	358.9
50	0.6	0.4	0.2	0.0	359.7	359.5	359.3	359.1	359.0	358.9	358.8	358.7
55	0.7	0.5	0.2	0.0	359.7	359.5	359.2	359.0	358.9	358.7	358.6	358.6
60	0.8	0.5	0.2	0.0	359.7	359.4	359.1	358.9	358.7	358.5	358.4	358.4
65	0.9	0.6	0.3	359.9	359.6	359.3	359.0	358.7	358.4	358.3	358.1	358.1

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

The table is entered with: L.H.A. 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 L.H.A. 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, 1981

FOR DETERMINING LATITUDE FROM SEXTANT ALTITUDE AND FOR AZIMUTH

L.H.A. 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 56.4	I 05.0	I 13.3	I 21.2	I 28.5	I 34.8	I 40.0	I 44.1	I 46.7	I 47.9	I 47.7	I 46.0
1	57.2	05.8	14.1	22.0	29.1	35.4	40.5	44.4	46.9	48.0	47.6	45.7
2	58.1	06.7	15.0	22.7	29.8	35.9	41.0	44.7	47.1	48.0	47.4	45.4
3	59.0	07.5	15.8	23.5	30.5	36.5	41.4	45.0	47.2	48.0	47.3	45.2
4	0 59.8	08.3	16.6	24.2	31.1	37.0	41.8	45.3	47.4	48.0	47.2	44.9
5	I 00.7	I 09.2	I 17.4	I 25.0	I 31.8	I 37.6	I 42.2	I 45.6	I 47.5	I 48.0	I 47.0	I 44.6
6	01.5	10.0	18.1	25.7	32.4	38.1	42.6	45.8	47.6	47.9	46.8	44.3
7	02.4	10.8	18.9	26.4	33.0	38.6	43.0	46.1	47.7	47.9	46.6	43.9
8	03.2	11.7	19.7	27.1	33.6	39.1	43.4	46.3	47.8	47.8	46.4	43.6
9	04.1	12.5	20.5	27.8	34.2	39.6	43.7	46.5	47.9	47.8	46.2	43.2
10	I 05.0	I 13.3	I 21.2	I 28.5	I 34.8	I 40.0	I 44.1	I 46.7	I 47.9	I 47.7	I 46.0	I 42.8
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	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.5
10	.2	.3	.3	.3	.4	.5	.5	.6	.6	.6	.6	.6
20	.3	.3	.3	.4	.4	.5	.5	.6	.6	.6	.6	.6
30	.4	.4	.4	.4	.5	.5	.6	.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	.5	.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	.8	.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	0.9	0.9	.9	.8	.8	.7	.7	.6	.6	.6	.6	.6
66	1.0	1.0	0.9	.9	.8	.7	.7	.6	.6	.6	.6	.7
68	1.1	1.0	1.0	0.9	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.7
Month	<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
Jan.	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Feb.	.8	.7	.7	.7	.7	.6	.6	.6	.5	.5	.5	.5
Mar.	.9	0.9	0.9	0.8	.8	.8	.7	.7	.6	.6	.5	.5
Apr.	0.9	1.0	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.6
May	.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	.8	.7
June	.8	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
July	0.7	0.7	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0
Aug.	.5	.6	.6	.7	.7	.8	0.9	0.9	0.9	1.0	1.0	1.0
Sept.	.4	.4	.5	.5	.6	.6	.7	.7	.8	0.8	0.9	0.9
Oct.	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8
Nov.	.2	.2	.2	.2	.3	.3	.3	.4	.4	.5	.6	.6
Dec.	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4

Lat.	AZIMUTH											
0	359.2	359.2	359.2	359.3	359.4	359.5	359.6	359.7	359.9	0.0	0.2	0.3
20	359.1	359.1	359.2	359.3	359.4	359.5	359.6	359.7	359.9	0.0	0.2	0.3
40	358.9	359.0	359.0	359.1	359.2	359.3	359.5	359.7	359.8	0.0	0.2	0.4
50	358.7	358.8	358.8	358.9	359.1	359.2	359.4	359.6	359.8	0.0	0.3	0.5
55	358.6	358.6	358.7	358.8	358.9	359.1	359.3	359.6	359.8	0.0	0.3	0.5
60	358.4	358.4	358.5	358.6	358.8	359.0	359.2	359.5	359.8	0.0	0.3	0.6
65	358.1	358.1	358.2	358.4	358.6	358.8	359.1	359.4	359.7	0.1	0.4	0.7

ILLUSTRATION
 On 1981 April 21 at G.M.T.
 23^h 18^m 56^s in longitude
 W. 37° 14' the apparent altitude
 (corrected for refraction), *Ho*, of

From the daily pages: ° /
 G.H.A. Aries (23^h) 194 55.4
 Increment (18^m 56^s) 4 44.8
 Longitude (west) -37 14

Ho 49 31.6
*a*₀ (argument 162° 26') I 30.1
*a*₁ (lat. 50° approx.) 0.6
*a*₁ (April) 0.9