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

seconds	arc° (b)	arc'
0	0	0
1	0	0.3
2	0	0.5
3	0	0.8
4	0	1.0
5	0	1.3
6	0	1.5
7	0	1.8
8	0	2.0
9	0	2.3
10	0	2.5
11	0	2.8
12	0	3
13	0	3.3
14	0	3.5
15	0	3.8
16	0	4
17	0	4.3
18	0	4.5
19	0	4.8
20	0	5
21	0	5.3
22	0	5.5
23	0	5.8
24	0	6
25	0	6.3
26	0	6.5
27	0	6.8
28	0	7
29	0	7.3
30	0	7.5
31	0	7.8
32	0	8
33	0	8.3
34	0	8.5
35	0	8.8
36	0	9
37	0	9.3
38	0	9.5
39	0	9.8
40	0	10
41	0	10.3
42	0	10.5
43	0	10.8
44	0	11
45	0	11.3
46	0	11.5
47	0	11.8
48	0	12
49	0	12.3
50	0	12.5
51	0	12.8
52	0	13
53	0	13.3
54	0	13.5
55	0	13.8
56	0	14
57	0	14.3
58	0	14.5
59	0	14.8
60	0	15

EasySextant One Page Conversion Table

TIME TO ARC

Sun Hour Angle Increment Table

The Sun's hour angle increases by 15° in 60 minutes.

Therefore, the proportional part (pp) for less than 60 minutes is obtained by adding column a and column b.

a + b = pp (increment)

example 1: time to arc.

UT = XX h 23 m 53 s

a = 5° 45'
b = 0° 13.3' +
pp = 5° 58.3'

example 2 : time to arc

UT = XX h 49 m 09 s

a = 12° 15'
b = 0° 02.3' +
pp = 12° 17.3'

SUN'S DECLINATION INCREMENTS FOR MINUTES OF TIME

At the time of the sun sight, note the day's hourly change (d) in declination and use this table to determine the corresponding change for every four minutes.

d: hourly change in declination →

minutes ↓	0,2'	0,4'	0,6'	0,8'	1,0'
04	0,0'	0,0'	0,0'	0,1'	0,1'
08	0,0'	0,1'	0,1'	0,1'	0,1'
12	0,0'	0,1'	0,1'	0,2'	0,2'
16	0,1'	0,1'	0,2'	0,2'	0,3'
20	0,1'	0,1'	0,2'	0,3'	0,3'
24	0,1'	0,2'	0,2'	0,3'	0,4'
28	0,1'	0,2'	0,3'	0,4'	0,5'
32	0,1'	0,2'	0,3'	0,4'	0,5'
36	0,1'	0,2'	0,4'	0,5'	0,6'
40	0,1'	0,3'	0,4'	0,5'	0,7'
44	0,1'	0,3'	0,4'	0,6'	0,7'
48	0,2'	0,3'	0,5'	0,6'	0,8'
52	0,2'	0,3'	0,5'	0,7'	0,9'
56	0,2'	0,4'	0,6'	0,7'	0,9'
60	0,2'	0,4'	0,6'	0,8'	1,0'

Example

Declination at 10 h UT: 10° 21.9′ N
Declination at 11 h UT: 10° 22.7′ N

The declination increases by 0.8′ per hour.

At 10 h 13 min UT, i.e. 13 minutes after 10 h, the increase is approximately 0.2′.