OCTOBER 2026

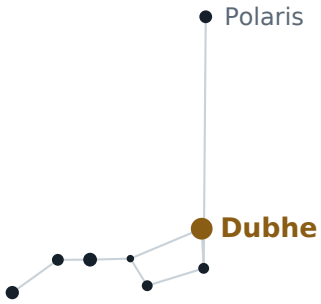
Latitude from two stars · tray of oil · pencil · no calculator

Tonight: one star due NORTH, one star due SOUTH. Each gives your latitude. Average the two.

NORTH STAR

DUBHE

Front ‘pointer’ star of the Big Dipper. The Dipper hangs low in the north, below Polaris.



Facing NORTH · Dubhe 41° above the horizon

Set sextant to about **81°** — Keep the **LOWEST**

Due north at (OffTrack base, local time):

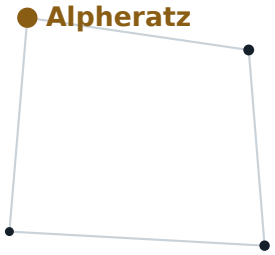
1 Oct	8 Oct	15 Oct	22 Oct	29 Oct
23:07	22:39	22:12	21:44	20:17

Star is 41° high then.

SOUTH STAR

ALPHERATZ

Top-left corner of the Great Square of Pegasus, high in the south.



Facing SOUTH · Alpheratz 50° above the horizon

Set sextant to about **100°** — Keep the **HIGHEST**

Due south at (OffTrack base, local time):

1 Oct	8 Oct	15 Oct	22 Oct	29 Oct
00:11	23:43	23:16	22:48	21:21

Star is 50° high then. 00:xx = just after midnight.

HOW

1. Index error: set 0°, look at a bright star, merge its two images. Write the reading on page 2.
2. Set up the tray of oil 20 m from the dogs. Let the oil go still.
3. 10 minutes before the time above: find the star's reflection in the oil, set the sextant, merge the two stars.
4. Keep following it with the tangent screw for 15 minutes. Write down the LOWEST (north) or HIGHEST (south) reading.
5. Do page 2 in the warm. Only adding, subtracting and halving.

Times are for OffTrack base. Further east: a little earlier (4 min per degree of longitude). West: later.
Camp 100 km further south? South-star preset +2°, north-star preset −2°. The calculation stays the same.
Clocks go back on 25 October: from then on times are one hour earlier, as shown in the table.
For the OffTrack base (Øverbygd) · more: celestic-nav.pages.dev

OCTOBER 2026 · CALCULATE (1 of 2)

Grey = worked example. Write yours in the big boxes.

NORTH STAR · DUBHE

A	Lowest reading	81° 17.6'	° '
B	Index error (on the arc)	2.4'	'
C	A minus B	81° 15.2'	° '
D	C halved	40° 37.6'	° '
E	Refraction (printed)	1.2'	1.2'
F	D minus E	40° 36.4'	° '
G	Magic number (printed)	28° 23.8'	28° 23.8'
LATITUDE = F + G		69° 00.2'	° '

PENCIL TIPS

Halving Odd degrees? Take 1° off, add 60' to the minutes, then halve.
`97° 25'  →  96° 85'  →  48° 42.5'`

Borrowing Not enough minutes to subtract? Turn 1° into 60'.
`119° 05'  →  118° 65'`

Carrying Over 60 minutes after adding? Take 60' off, add 1°.
`28° 70'  →  29° 10'`

Index error On the arc: subtract it (as printed). Off the arc: ADD it.

OCTOBER 2026 · CALCULATE (2 of 2)

Grey = worked example. Write yours in the big boxes.

SOUTH STAR · ALPHERATZ

A	Highest reading	100° 33.4'	° '
B	Index error (on the arc)	2.4'	'
C	A minus B	100° 31.0'	° '
D	C halved	50° 15.5'	° '
E	Refraction (printed)	0.9'	**0.9'**
F	D minus E	50° 14.6'	° '
G	Magic number (printed)	119° 14.5'	**119° 14.5'**
LATITUDE = G − F		68° 59.9'	° '

AVERAGE = (north latitude + south latitude) halved

YOUR LATITUDE	69° 00.0'	° '

OffTrack base is at 68° 59.6' N. 1' of latitude = 1.85 km. The example was taken there.