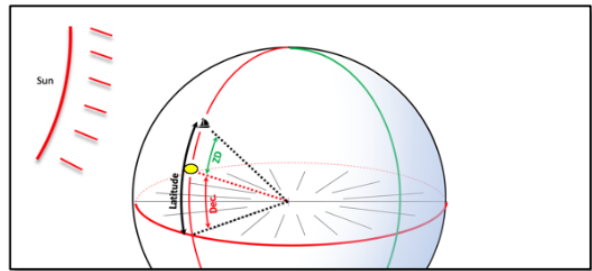


DATE 20th June 2020

DR LATITUDE 45⁰ 46 0 **N** S
 DR LONGITUDE 005⁰ 04 0 **W** E



ARC TO TIME CONVERSION (time difference between our vessel and Greenwich)
 DR LONGITUDE 'degrees' 005⁰ = 00 H 20 M
 DR LONGITUDE 'minutes' 04 = 00 M
00 H 20 M **A** →

Meridian Passage Pro-forma

SEXTANT ALTITUDE 67⁰ 30 0
 INDEX ERROR On arc = ~~SUBTRACT~~ 0 0
 Off arc = ~~ADD~~
67⁰ 30 0
 HEIGHT OF EYE 3 0 m SUBTRACT 3 0
 APPARENT ALTITUDE 67⁰ 27 0
 ALTITUDE CORRECTION ~~SUBTRACT~~ **ADD** 15 6
 TRUE SEXTANT ALTITUDE (Ho) 67⁰ 42 6 **C** →

TIME OF MER PASS AT GREENWICH (UT) 12 H 02 M
 ARC TO TIME CORRECTION **A** → **(+) if Longitude West** 00 H 20 M
(-) if Longitude East
 TIME OF MER PASS AT VESSEL (UT) 12 H 22 M **B** →

B → 12 H 22 M
 DEC 23⁰ 26 2 **N** S d 0 0 **(+)**
 + 0 0 ← v and d correctors
23⁰ 26 2 **D** →

WORKING AREA

TRUE SEXTANT ALTITUDE (Ho) 67⁰ 42 6 SUBTRACT
 ZENITH DISTANCE (ZD) 22⁰ 17 4
 DECLINATION 23⁰ 26 2
 LATITUDE 45⁰ 43 6

Lat = Dec + ZD
 Same Hemisphere - Latitude GREATER than Declination

~~**Lat = Dec - ZD**
 Same Hemisphere - Latitude LESS than Declination~~

~~**Lat = ZD - Dec**
 Opposite~~

The diagrams show three scenarios for calculating latitude (Lat) based on declination (Dec) and zenith distance (ZD):
 1. Same Hemisphere - Latitude GREATER than Declination: Lat = Dec + ZD (circled in red).
 2. Same Hemisphere - Latitude LESS than Declination: Lat = Dec - ZD (crossed out with a red X).
 3. Opposite Hemispheres: Lat = ZD - Dec (crossed out with a red X).