

Demo PDF file. This file includes questions: 10 from 294. Full version of file looks the same as demo, but full version includes all questions. You may download file with all questions by link on bottom of this page

Q157 - Navigation Problems: Oceans

1. You are on course 042°T. To check the course of your vessel you should observe a celestial body on which bearing?

- 090°
- **132°**
- 180°
- 222°

Note:

To check your course, observe a celestial body at a bearing approximately 90 from your heading. On a course of 042T, this bearing is 132T, providing the greatest sensitivity to course errors.

2. You are on course 138°T. To check the latitude of your vessel you should observe a celestial body on which bearing?

- 270°
- 318°
- 138°
- **000°**

Note:

A latitude check requires observing a celestial body on the meridian, which corresponds to a bearing of due north or due south. Therefore, the correct bearing is 000.

3. What is the equivalent of 2° 35' in time units?

- 7 min. 06 sec.
- 9 min. 10 sec.
- **10 min. 20 sec.**
- 6 min. 43 sec.

Note:

2 35' is equivalent to 10 minutes 20 seconds. One degree of arc represents 4 minutes of time, and one minute of arc represents 4 seconds of time. Therefore, 2 degrees is 8 minutes, and 35 minutes is 140 seconds, which is 2 minutes and 20 seconds. The total time is 10 minutes 20 seconds.

4. What is the equivalent of 83°29.6' in time units?

- **5h 33m 58.4s**
- 5h 01m 42.3s
- 5h 47m 34.8s
- 5h 18m 22.7s

Note:

8329.6' is equivalent to 5h 33m 58.4s because 1 represents 4 minutes of time and 1' represents 4 seconds of time, resulting in a total time calculation of 5 hours, 33 minutes, and 58.4 seconds.

5. In the horizon system of coordinates what is equivalent to the equator on the Earth?

- **Horizon**
- Principal vertical circle
- Parallels of altitude
- Prime vertical circle

Note:

In the horizon coordinate system, the horizon serves as the reference point for altitude measurements, analogous to the equator's role as the reference point for latitude measurements on Earth.

6. In the horizon system of coordinates what is equivalent to the poles on the Earth?

- Celestial poles
- Ecliptic poles
- **Zenith, nadir**
- Nodes

Note:

In the horizon coordinate system, zenith and nadir correspond to the Earth's poles as they represent the two opposite points along the observer's vertical, mirroring the function of the Earth's rotational axis.

7. A sidereal day is approximately how much shorter than a solar day?

- **4 minutes**
- 8 minutes
- 12 minutes
- 16 minutes

Note:

A sidereal day is approximately 4 minutes shorter than a solar day due to Earth's orbital motion requiring an additional rotation to return the Sun to the same apparent position.

8. While steering a course of 150°T, you wish to observe a body for a latitude check. What would the azimuth have to be?

- 090°T
- 150°T
- 240°T
- **000°T**

Note:

A latitude check requires an east-west line of position, achieved with a body's azimuth of 000T.

9. While steering a course of 150°T, you wish to observe the Sun for a speed check. What would the azimuth have to be?

- **150°T**
- 090°T
- 060°T
- 240°T

Note:

To perform a celestial speed check, the Sun must be directly ahead or astern, requiring its azimuth to match the course (150T).

10. Your 0000 zone time position on 13 June is LAT 24° 35' N, LONG 142° 26' E. Your vessel is on course 245° T, speed is 13.5 knots. What is the zone time of sunrise?

- Time 0440
- **Time 0445**
- Time 0503
- Time 0528

Note:

After converting the Nautical Almanac's sunrise time to zone time using the ship's longitude and zone description, the correct sunrise time is 0445 ZT.
