

**Demo PDF file. This file includes questions: 10 from 324. 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**

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## Q212 - Navigation General: Oceans

**1. According to Buys Ballot's law, when an observer in the Northern Hemisphere experiences a northwest wind, where is the center of low pressure located?**

- **Northeast of the observer**
- Northwest of the observer
- South-southeast of the observer
- West-southwest of the observer

Note:

*According to Buys Ballot's law in the Northern Hemisphere, a northwest wind indicates the low-pressure center is located northeast of the observer; this is because facing the wind's direction (southeast) places the low-pressure center to the observer's left.*

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**2. How can the accuracy of an azimuth circle be checked?**

- Ensuring that the alignment marks on the inner face of the circle are in line with those on the repeater on relative bearings of 000° and 090°
- Aligning the relative bearing markings so that 000° is on the lubber's line and the line of sight passes over the center of the compass
- Sighting a terrestrial range in line and comparing the observed bearing against the charted bearing
- **Comparing observed azimuths at different altitudes with computed values at the times of observation to see if the difference is constant**

Note:

*The accuracy of an azimuth circle is verified by comparing observed azimuths of celestial bodies at different altitudes with computed true azimuths to determine if the resulting difference remains constant. This method isolates instrument error from compass or gyro error, ensuring the circle's scale and sight line are consistent.*

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**3. How are aids to navigation marking the intracoastal waterway (ICW) identified?**

- The light characteristic and color for lighted aids
- White retro-reflective material
- The letters ICW after the aid's number or letter
- **Yellow bands, squares, or triangles marked on them**

Note:

*Intracoastal Waterway (ICW) aids are identified by yellow bands, squares, or triangles marked on them, distinguishing them from standard lateral marks.*

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**4. When is an air mass termed "warm"?**

- If it originated in a high-pressure area
- **If the ground over which it moves is cooler than the air**
- If it originated in a low-pressure area
- If the mass is above 70°F

Note:

*An air mass is classified as warm when its temperature is higher than that of the surface it traverses, a distinction based on relative temperature rather than origin or absolute temperature.*

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**5. Aneroid barometers are usually calibrated to indicate atmospheric pressure in which units?**

- Inches of mercury and centimeters
- **Inches of mercury and millibars**
- Inches of mercury and millimeters
- Feet of mercury and millibars

Note:

*Aneroid barometers on ships are typically calibrated to display atmospheric pressure in inches of mercury and millibars.*

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**6. Which term is the angle measured eastward from the vernal equinox along the celestial equator often expressed in time units?**

- Local sidereal time
- **Right ascension**
- Sidereal hour angle
- Greenwich sidereal time

Note:

*Right ascension is defined as the angle eastward from the vernal equinox along the celestial equator, typically expressed in time units.*

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**7. Where can the annual change in variation for an area be found?**

- The handbook for Magnetic Compass Adjustment, Pub 226
- **The center of the compass rose on a chart of the area**
- The compass deviation table
- Variation does not change.

Note:

*The annual change in magnetic variation is indicated on nautical charts at the center of the compass rose.*

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**8. Which is another name for Universal time (UT)?**

- Sidereal time
- Atomic time
- Ephemeris time
- **Greenwich mean time**

Note:

*Greenwich mean time (GMT) is the historical term for Universal Time (UT). GMT and UT both refer to mean solar time at the Prime Meridian in Greenwich, England, and are used interchangeably in navigation.*

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**9. The apparent wind's speed can be zero, but only when two conditions are present. One condition is that the true \_\_\_\_\_.**

- wind must be from dead ahead
- **wind's speed equals the ship's speed**
- wind must be on the beam
- wind's speed must be zero

Note:

*Apparent wind speed is zero when the true wind's speed equals the ship's speed, and the wind is from dead astern. This requires the true wind and ship's velocity vectors to be equal in magnitude and direction, resulting in a zero vector difference.*

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# 10. What should you apply to a fathometer reading to determine the depth of water?

- Subtract the sea water correction.
- Add the sea water correction.
- Subtract the draft of the vessel.
- **Add the draft of the vessel.**

Note:

*A fathometer measures depth below the transducer, which is typically the keel. To determine the total water depth, add the vessel's draft, the vertical distance from the waterline to the keel, to the fathometer reading.*

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