
Q211 - Navigation General: Near Coastal

1. Which would influence a magnetic compass?

- Radio
- Iron pipe
- Electrical wiring
- **All of the above**

Note:
Radio equipment, iron pipes, and electrical wiring all generate or interact with magnetic fields, which can disrupt a magnetic compass; therefore, all listed items influence a compass.

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2. 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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3. 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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4. In addition to the National Weather Service, what agency provides plain-language radio weather advisories for the coastal waters of the United States?

- American Meteorological Service
- U.S. Hydrological Survey
- **U.S. Coast Guard**
- National Geospatial-Intelligence Agency

Note:
The U.S. Coast Guard rebroadcasts National Weather Service marine forecasts and warnings in plain language over marine radios, fulfilling the question's requirement.

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5. 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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6. 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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7. 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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8. The apparent wind is zero when which situation exists with the true wind?

- **The true wind is from astern and equal to the ship's speed**
- The true wind is from ahead and equal to the ship's speed
- The true wind is from astern and is twice the ship's speed
- The true wind is zero

Note:
Apparent wind is zero when the true wind's speed equals the ship's speed and blows from astern, effectively canceling the ship's motion.

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9. You are approaching Chatham Strait from the south in foggy weather. You have Coronation Island and Hazy Islands on the radar. Suddenly the radar malfunctions. You then resort to using whistle echoes to determine your distance off Coronation Island. Your stopwatch reads 16.3 seconds for the echo to be heard. How far are you off Coronation Island?

- 1.0 mile
- **1.5 miles**
- 2.0 miles
- 2.5 miles

Note:
The correct answer is determined by dividing the total echo time by two to find the one-way travel time, then multiplying that time by the speed of sound, and finally converting feet to nautical miles, resulting in a distance of approximately 1.5 nautical miles.

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10. What is the approximate geographic range of Fenwick Island Light, Delaware, if your height of eye is 42 feet (12.8 meters)? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS".

- 15.4 nm
- 10.3 nm
- 13.1 nm
- **18.3 nm**

Note:
The geographic range of a light is the sum of the distances to the horizon from the observer and the light. For Fenwick Island Light, Delaware, with a 42-foot height of eye, the Light List/Coast Pilot tables indicate a combined geographic range of 18.3 nautical miles.
