
Q190 - Navigation General: Near Coastal

1. At 0000 you fix your position and plot a new DR track line. At 0200 you again fix your position, and it is 0.5 mile east of your DR. Which statement is TRUE?

- The current is westerly at 0.5 knot.
- The current cannot be determined.
- **The drift is 0.25 knot.**
- You must increase speed to compensate for the current.

Note:
The drift is calculated by dividing the distance between the DR and fix by the elapsed time: 0.5 nautical miles in 2 hours equals 0.25 knots.

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2. According to Buys Ballot's Law, when an observer in the Southern Hemisphere experiences a northwest wind, where is the center of the low pressure located?

- **South-Southwest**
- East-Northeast
- East-Southeast
- West-Southwest

Note:
According to Buys Ballot's Law in the Southern Hemisphere, a northwest wind indicates that the low-pressure center is located south-southwest of the observer.

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3. When adjusting a magnetic compass for error, which is TRUE concerning the deviation table?

- Construct the deviation table before the quadrantal correctors are placed on the compass
- Construct the deviation table after correcting for variation
- **Construct the table after adjusting the fore-and-aft permanent magnets**
- Construct the deviation table before correcting for any deviation

Note:
The deviation table is created after adjusting the fore-and-aft permanent magnets to accurately record the remaining deviation after mechanical adjustments.

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4. Which aid is NOT marked on a chart with a magenta circle?

- Radar transponder beacon
- Radio beacon
- Radar station
- **Aero light**

Note:
Aero lights are not marked with a magenta circle on nautical charts; this symbol is reserved for radio and radar-based aids to navigation such as radar transponder beacons, radio beacons, and radar stations.

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5. 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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6. Which is TRUE of an alternating light?

- It is used as a replacement for another light
- It shows a light with varying lengths of the lighted period
- It marks an alternate lesser used channel
- **It shows a light that changes color**

Note:
An alternating light is defined as a light that displays different colors in a regular sequence. Therefore, the correct answer is that it shows a light that changes color.

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7. You are anchored in the Aleutian Island chain and receive word that a tsunami is expected to strike the islands in six hours. What is the safest action?

- Plant both anchors with about a 60° angle between them, and let out a long scope to each anchor.
- Increase the scope of the anchor cable and drop the second anchor underfoot at short stay.
- Get underway and be close inshore on the side of the island away from the tsunami.
- **Get underway and be in deep, open-ocean water when the tsunami arrives.**

Note:
The safest action during a tsunami warning is to move the vessel to deep, open-ocean water, as tsunamis are most dangerous in shallow coastal areas where wave height and currents are amplified.

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8. What is the approximate geographic range of Point Judith Light, Rhode Island, if your height of eye is 62 feet (18.9 meters)? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS". (use charted range of 20 miles as nominal range)

- 9.6nm
- 16.5nm
- **18.6nm**
- 20.7nm

Note:
The geographic range of a light is determined by adding the horizon distances for the observer and the light, limited by the nominal range. Using the provided formula and heights of eye (62 ft) and light (65 ft), the geographic range is calculated to be approximately 18.6 nautical miles, which is less than the nominal range of 20 nautical miles; therefore, the visible range is 18.6 nm.

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9. What is the approximate geographic visibility of an object with a height above the water of 70 feet, for an observer with a height of eye of 65 feet?

- 16.8 nm
- **19.0 nm**
- 20.6 nm
- 22.4 nm

Note:
The geographic visibility is calculated by summing the horizon distances of the observer and the object, using the formula D = 1.17√h. With an observer height of 65 feet and an object height of 70 feet, the total geographic range is approximately 19.0 nautical miles.

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10. The ARPA may swap targets when automatically tracking if two targets are in which situation?

- **The targets pass close together**
- The targets are tracked on reciprocal bearings
- The targets are tracked at the same range
- The targets are tracked on the same bearing

Note:
An ARPA may swap target tracks when two targets pass close together, causing their radar echoes to fall within each other's tracking gates.
