
Q171 - Navigation General: Near Coastal

1. As a vessel changes course to starboard, which is TRUE concerning the compass card in a magnetic compass?

- The card also turns to starboard
- It first turns to starboard then counterclockwise to port
- The card turns counterclockwise to port
- **The card remains aligned with compass north**

Note:
The magnetic compass card remains aligned with magnetic north as the vessel changes course; the ship rotates around the card.

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2. 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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3. 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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4. 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. 4.1.1.4C1-27) Your height of eye is 40 feet (12.2 meters). What is the approximate geographical distance at which Ambrose Light, NY, could be visible? Refer to "Reprints from the LIGHT LISTS AND COAST PILOTS".

- 19.5 nm
- **21.0 nm**
- 22.8 nm
- 18.3 nm

Note:
The geographical range is the sum of the observer's horizon distance and the light's horizon distance. With a 40-foot eye height and Ambrose Light's height, the combined geographical range is approximately 21.0 nautical miles.

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5. Advection fog is most commonly caused by _____.

- **warm moist air being blown over a colder surface**
- saturation of cold air by rain
- air being warmed above the dew point
- a rapid cooling of the air near the surface of the Earth at night

Note:
Advection fog occurs when warm, moist air moves horizontally over a colder surface, cooling the air to its dew point and causing condensation. This process, defined by the term 'advection,' distinguishes it from fog formed by rain saturation, warming above the dew point, or nighttime radiational cooling.

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6. Which agency publishes the Light Lists?

- Oceanographic Office
- National Ocean Service
- Army Corps of Engineers
- **United States Coast Guard**

Note:
The United States Coast Guard publishes the Light Lists as the federal agency responsible for U.S. aids to navigation.

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7. 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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8. 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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9. You are at anchor in the anchorage at the entrance to Delaware Bay. You weigh anchor at 1445 DST (ZD +4) on 24 July 1983 and proceed northbound enroute to Philadelphia at a speed of 10 knots. Which of the following should you expect to experience?

- a flood current from Ship John Shoal Lt. to Philadelphia
- an ebb current north of New Castle, DE
- a flood current the entire trip
- **a weak flood between Reedy Island and Edgemoor**

Note:
Based on the 1983 Tidal Current Tables for Delaware Bay, a northbound transit at 1445 DST with a speed of 10 knots will experience a weak flood current between Reedy Island and Edgemoor.
