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Q460 - Auxiliary Sail

1. Your 40-foot auxiliary sailing vessel has just run aground on a bar. She has a relatively long, deep keel and the tide is falling. You have checked the bilges for damage and found none. Which is the most prudent action to take immediately?

- Sheet the sails in flat to try to heel her over with the wind and sail off.
- Start the engine and run it hard in forward to try to drive over and off the bar.
- Take soundings visually, by sounding pole, or lead line all around the vessel to locate the deepest water.
- **Strike the sails. Then run a kedge anchor out to one side, hook the main halyard to it, and heave the boat down onto one side.**

Note:

A grounded vessel with a deep keel should be refloated by heeling and using a kedge anchor to reduce draft and apply controlled force, as opposed to attempting to power off or sail free, which risks further grounding and damage, or delaying action with soundings when time is critical due to a falling tide.

2. Your 80-ton schooner is hove to on the starboard tack under storm trysail and fore-staysail in 45 knots of wind. Your heading is averaging about 000° true and the wind is from the northeast. There is a dangerous shoal bearing 270° true, range 5 miles. Which action would be appropriate?

- **You should tack or jibe to the port tack and make all possible headway to the south.**
- You need only stay alert for changes, as your present drift will carry you away from the danger.
- You should strike all sails and get underway under bare poles, making as much way as possible to the north.
- You should set a reefed foresail and strike the jib.

Note:

To avoid a shoal bearing west, change tacks and steer south to create distance and prevent being set toward the danger.

3. Which action will NOT reduce heeling of a vessel when sailing on a tack?

- **Changing to larger sails**
- Easing sheets
- Reefing sails
- Heading up until your sails begin to luff

Note:

Increasing sail area with larger sails increases wind force on the rig, which increases heeling, unlike reefing, easing sheets, or heading up to luff.

4. Which BEST describes the term "reaching"?

- The wind comes directly over the bow of your sailboat while underway
- **The wind comes from broad on the bow to the quarter while underway**
- The wind has no effect on the vessel while underway
- The wind comes directly over the stern of your sailboat while underway

Note:

Reaching describes sailing with the wind originating from the side of the vessel, specifically between a position slightly forward of the beam and a position slightly aft of the beam. This excludes sailing directly into the wind or with the wind directly behind the boat.

5. Dacron sails, when not in use, may be damaged under which condition?

- If washed with soap
- When folded frequently
- **If left in the sunlight**
- When stowed wet

Note:

Prolonged exposure to sunlight damages Dacron sails due to ultraviolet radiation breaking down the synthetic fibers.

6. What does a deep keel on a sailing vessel increase?

- **Resistance to lateral movement**
- Height of the center of gravity above the hull resulting in a more stable vessel
- Length-depth ratio resulting in a faster hull design
- Mast height to compensate for increased lateral resistance

Note:

A deep keel increases a sailing vessel's resistance to lateral movement by presenting a larger underwater area that opposes sideways motion.

7. Which describes a sailing vessel with the wind coming from 290° relative?

- **On a close reach on a port tack**
- On a beam reach on a starboard tack
- Close hauled on a starboard tack
- On a broad reach on a port tack

Note:

A relative wind direction of 290 indicates a close reach on a port tack, as the wind is 70 off the port bow.

8. Every different type of sailing rig can be dangerous in certain circumstances. Which situation would most likely be dangerous?

- A square rig, such as a ship rig, is dangerous to jibe.
- **A gaff rig is dangerous in a calm wind and large swell.**
- A tall, Marconi, sloop rig is dangerous to tack.
- A gaff rig is dangerous in a calm wind and sea.

Note:

A gaff rig is most susceptible to dangerous rolling when encountering a large swell in calm winds due to the rig's weight and lack of sail-generated stability.

9. Which fitting is used to connect the boom to the mast?

- Gunter-lug
- **Gooseneck**
- Transom
- Clevis pin

Note:

The gooseneck is the fitting that connects the boom to the mast, allowing for necessary vertical and horizontal movement. Other options refer to a sail configuration, the stern of a hull, or a general fastener, respectively.

10. You are at the helm of a schooner-rigged sailing vessel under sail on the port tack, on a beam reach, with all appropriate sails set and properly trimmed. You are instructed to "bear off quickly". Which action will utilize your sails to assist with the turn?

- **Slacken the main sheet**
- Slacken the fore-staysail sheet
- Slacken the jib sheet
- Slacken the foresail sheet

Note:

Slacking the main sheet reduces aft driving force, allowing the forward sails to pull the bow away from the wind and initiate a turn.
