

U.S.C.G. Merchant Marine Exam

Apprentice Mate Steersman

Q419 Deck Safety

(Sample Examination)

Choose the best answer to the following Multiple-Choice Questions.

1. If the cause of a sudden severe list or trim is negative initial stability, counter-flooding into empty tanks located high on the vessel, may cause which of the following?

- A. Bring the unit to an upright equilibrium position
- B. Cause the unit to flop to a greater angle
- C. An increase in the righting arm
- D. An increase in the righting moment

Correct answer: B

2. What quality of a diesel fuel is most significant for efficient combustion?

- A. Viscosity
- B. Specific heat
- C. Volatility
- D. Flash point

Correct answer: C

3. What are the three most common basic types of diesel engine starters?

- A. Air, water, electric
- B. Air, emergency, hydraulic
- C. Metered, hydraulic, automatic
- D. Air, hydraulic, electric

Correct answer: D

4. Which is the principal danger from ice collecting on a vessel?

- A. The decrease in capabilities of radar
- B. The loss of stability
- C. The decrease in displacement
- D. The adverse effect on trim

Correct answer: B

5. A fire of escaping liquefied flammable gas is best extinguished by which action?

- A. Cutting off the supply of oxygen
- B. Stopping the flow of gas
- C. Interrupting the chain reaction
- D. Cooling the gas below the ignition point

Correct answer: B

6. What is the function of wearing rings found on some centrifugal pumps?

- A. Absorb erosion of high-velocity discharge stream
- B. Seal pump shaft against entry of air
- C. Isolate the outlet side from the inlet side
- D. Dampen the turbulent discharge flow

Correct answer: C

7. An emergency sea anchor may be constructed by using which item(s)?

- A. An oar and canvas weighted down
- B. A boat bucket
- C. An air tank filled with water
- D. All of the above

Correct answer: D

8. A high-velocity fog stream can be used in firefighting situations to drive heat and smoke ahead of the firefighters in a passageway. This technique should only be used when which condition exists?

- A. At least two fog streams can be used
- B. The fire is totally contained by the ship's structure
- C. There is an outlet for the smoke and heat
- D. Using a 2-1/2 inch hose

Correct answer: C

9. A well in the uppermost deck of a shelter deck vessel which has only a temporary means of closing for the purpose of gaining an exemption from tonnage measurement is called a(n) _____.

- A. tonnage deck
- B. exemption space
- C. tonnage opening
- D. cofferdam

Correct answer: C

10. When used to fight fire, which is TRUE concerning carbon dioxide as an extinguishing agent?

- A. Carbon dioxide is effective on an oil fire
- B. It is harmless to cargo and crew
- C. Carbon dioxide is lighter than air
- D. It has a greater cooling effect than water

Correct answer: A

11. Which statement is TRUE concerning life jackets which are severely damaged?

- A. They must be tested for buoyancy before being continued in use.
- B. They can be repaired by a reliable seamstress.
- C. They should be replaced.
- D. They can be used for children.

Correct answer: C

12. Which is the primary type of welding employed in shipyards in the construction of cargo vessels?

- A. electric arc
- B. thermite welding
- C. brazing
- D. pressure welding

Correct answer: A

13. What monitoring device best indicates the load being carried by a diesel engine?

- A. Tachometer
- B. Jacket water temperature gauge
- C. Exhaust pyrometer
- D. Lube oil pressure gauge

Correct answer: C

14. Angular motion about the longitudinal axis of a vessel is known by which term?

- A. Surge
- B. Roll
- C. Sway
- D. Pitch

Correct answer: B

15. If the meter needle of the oxygen indicator cannot be set to zero, what should be done?

- A. Replace the batteries.
- B. Adjust the final reading by the amount the needle is displaced from zero.
- C. Check the sampling tube for blockage.
- D. Replace the platinum filament.

Correct answer: A

16. Which vessel is NOT required to have a radiotelephone?

- A. A vessel of 100 GT carrying 50 passengers for hire
- B. A dredge operating in a channel
- C. A 12-meter private yacht
- D. A 34-foot vessel engaged in towing

Correct answer: C

17. When is firefighting foam most effective?

- A. When it completely covers the top of the burning liquid
- B. If it penetrates to the bottom of the fire
- C. When it is kept saturated with low-velocity water fog
- D. As it mixes with the burning fuel oil

Correct answer: A

18. How does good housekeeping prevent fires on a vessel?

- A. Allowing better access in an emergency
- B. Eliminating potential fuel sources
- C. Eliminating trip hazards
- D. Improving personnel qualifications

Correct answer: B

19. A quick and rapid motion of a vessel in a seaway is an indication of a(n) _____.

- A. large GM
- B. excessive free surface
- C. small GZ
- D. high center of gravity

Correct answer: A

20. Oil fires are best extinguished by _____.

- A. cooling below the ignition temperature
- B. cutting off the supply of oxygen
- C. spraying with water
- D. removing the fuel

Correct answer: B

21. Which causes spontaneous combustion?

- A. The conduction of heat through a wall of material to the substance
- B. A chemical action within a substance
- C. An outside heat source heating a substance until it ignites
- D. All of the above

Correct answer: B

22. You suspect that a crewmember has fallen overboard during the night and immediately execute a Williamson turn. What is the primary advantage of this maneuver under these circumstances?

- A. You will be on a reciprocal course and nearly on the track-line run during the night.
- B. The turn provides the maximum coverage of the area to be searched.
- C. You have extra time to maneuver in attempting to close in on the man for rescue.
- D. The turn enables you to reverse course in the shortest possible time.

Correct answer: A

23. For the purpose of training and drills, if reasonable and practicable, how frequently should rescue boats be launched with their assigned crew?

- A. Once a week
- B. Once a month
- C. Once a year
- D. Twice a year

Correct answer: B

24. Where a propeller shaft passes through the hull, which device prevents water from entering the hull?

- A. Stop-water
- B. Sea cock
- C. Propeller boss
- D. Stuffing box

Correct answer: D

25. An inflatable liferaft can be launched by _____.

- A. the float-free method ONLY
- B. throwing the entire container overboard and then pulling on the operating cord to inflate the raft
- C. breaking the weak link on the painter
- D. removing the securing straps

Correct answer: B

26. Which is the abandon ship signal?

- A. A continuous ringing of general alarm bells for at least 10 seconds
- B. More than 6 short blasts and 1 long blast of the ship's whistle and the same signal on the general alarm bells
- C. A continuous ringing of the general alarm, and sounding of the ship's whistle
- D. A continuous sounding of the ship's whistle

Correct answer: B

27. A vessel's "quarter" is that section which is _____.

- A. abeam
- B. on either side of the stern
- C. just aft of the bow
- D. dead astern

Correct answer: B

28. Which item(s) is/are a 2,000 GT tankship required to carry?

- A. Two canister type gas masks if such vessel is authorized to carry grade A, B, C or D liquids
- B. Two self-contained breathing apparatus
- C. Emergency outfits only on an international voyage
- D. One oxygen breathing apparatus with enough lifeline to reach from the open deck to any part of the tanks

Correct answer: B

29. A fire in a transformer terminal would be classified as class _____.

- A. A
- B. B
- C. C
- D. D

Correct answer: C

30. You are at sea and have received a General Emergency message announcing the outbreak of war in Europe. You are directed to comply with the instructions in NGA (NIMA) PUB 117, Chapter Eight. Which statement is TRUE?

- A. If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port
- B. You should only enter a port in the danger zone during hours of darkness
- C. When over 200 miles from a port in the danger zone, you should not darken ship
- D. You should attempt to coordinate with the Shipping Control Team

Correct answer: D

31. No outlet on a fire hydrant may point above the horizontal in order to _____.

- A. avoid kinking the hose
- B. make connecting easier
- C. prevent spray on electrical equipment
- D. avoid personal injury during connection

Correct answer: A

32. Your vessel has grounded on a bar. What should you do?

- A. Switch to the high suction for condenser circulating water, if it is submerged.
- B. If you cannot get clear immediately, lighten the ship by pumping all ballast overboard.
- C. Run the engine full astern to keep from being set further onto the bar.
- D. All of the above

Correct answer: A

33. What precaution should be taken when testing a line throwing gun?

- A. Never remove the line from the rocket.
- B. Wear asbestos gloves.
- C. Fire it at an angle of approximately 90 degrees to the horizon.
- D. Always fire the rocket into the wind.

Correct answer: A

34. Lifesaving regulations in Subchapter W require that a fire drill include which of the following?

- A. Checking arrangements for abandon ship
- B. Checking the operation of watertight doors
- C. Starting the fire pumps
- D. All of the above

Correct answer: D

35. What is the Ring life buoy requirement on your small passenger vessel that has a length of 28 feet?

- A. A minimum of one life buoy not less than 24 inches in diameter
- B. A minimum of one life buoy less than 20 inches in diameter
- C. A minimum of two life buoys less than 20 inches in diameter
- D. A minimum of two life buoys not less than 24 inches in diameter

Correct answer: A

36. One method of controlling rats on vessels is by rat-proofing. Rat-proofing is accomplished by _____.

- A. eliminating possible living spaces for rats when the ship is constructed
- B. trapping and/or poisoning the rats
- C. keeping foods protected and avoiding the accumulation of garbage
- D. installing rat guards on the mooring lines when in port

Correct answer: A

37. A person who observes an individual fall overboard should do which of the following?

- A. Immediately jump into the water to assist the individual
- B. Call for help and keep the individual in sight
- C. Go to the control room for the distress flares
- D. Run to the radio room to send an emergency message

Correct answer: B

38. What happens when the handle of an all-purpose nozzle is pushed into the forward position?

- A. The nozzle will shut off the water
- B. The nozzle will produce high-velocity fog
- C. The nozzle will produce low-velocity fog
- D. The nozzle will produce a straight stream

Correct answer: A

39. The vessel shown in illustration D025DG has broken down and you are going to take her in tow. The wind is on her starboard beam. Both vessels are making the same amount of leeway. Where should you position your vessel when you start running lines?

- A. A
- B. B
- C. C
- D. D

Correct answer: C

40. You have abandoned ship in tropical waters. Which procedure(s) should be used during a prolonged period in a raft?

- A. Keep the entrance curtains open.
- B. Get plenty of rest.
- C. Wet clothes during the day to decrease perspiration.
- D. All of the above

Correct answer: D

41. Water pockets on the underside of an inflatable liferaft are for _____.

- A. stability
- B. catching rainwater
- C. easy drainage
- D. maneuverability

Correct answer: A

42. Your vessel has an injured crew member onboard that will require evacuation. Which of the following publications should you review for the procedures in conducting rescue/medivac helicopter operations?

- A. Merchant Marine Officers Handbook
- B. International Maritime Organization Life-Saving Appliance Code Manual
- C. International Aeronautical and Maritime Search and Rescue Manual
- D. Pub 117 Radio Aids to Navigation

Correct answer: C

43. To launch a liferaft by hand, you should take which actions?

- A. Throw the liferaft over the side and pull the operating cord
- B. Cut the casing bands, throw the raft over the side and pull the operating cord
- C. Cut the casing bands, throw the raft over the side and it will inflate by itself
- D. Detach the operating cord, throw the liferaft over the side and it will then inflate

Correct answer: A

44. When electrical equipment is involved in a fire, where should the stream of dry chemicals be directed?

- A. Used to shield against electrical shock
- B. Aimed at the source of the flames
- C. Fogged above the equipment
- D. Shot off a flat surface onto the flames

Correct answer: B

45. How is the external flotation bladder of an immersion suit inflated?

- A. It is inflated by blowing through an inflation tube.
- B. It inflates by seawater bleeding into the inflation bladder and reacting with a chemical.
- C. It is inflated by a small CO2 bottle that is manually tripped.
- D. It is inflated by a small CO2 bottle that is automatically tripped when the front zipper is at the top of the zipper track.

Correct answer: A

46. Why is the height of a VHF radio antenna more important than the power output wattage of the radio?

- A. Salt water is a poor conductor of sound
- B. The air is more dense the higher you go
- C. Sea water absorbs the radiated energy
- D. VHF communications are basically "line of sight"

Correct answer: D

47. You are fighting a fire in a cargo hold on your vessel. Which action is most important concerning the stability of the vessel?

- A. Shutting off electricity to damaged cables
- B. Draining firefighting water and pumping it overboard
- C. Removing burned debris from the cargo hold
- D. Maneuvering the vessel so the fire is on the lee side

Correct answer: B

48. What is the effect of heated intake air on a diesel engine that is at normal operating temperature?

- A. Increases engine life
- B. Reduces engine horsepower
- C. Increases efficiency
- D. Increases engine horsepower

Correct answer: B

49. In a water-tube marine type boiler, after the steam leaves the generating tubes, in what part of the boiler is temperature of the steam increased?

- A. Economizer
- B. Superheater
- C. Firebox
- D. Mud drum

Correct answer: B

50. Which action will affect the trim of a vessel?

- A. Moving a weight forward
- B. Moving high weights lower
- C. Adding weight at the tipping center
- D. Removing weight at the tipping center

Correct answer: A

51. For small angles of inclination, if the KG were equal to the KM, which is TRUE concerning the vessel?

- A. The vessel possesses neutral stability
- B. The vessel possesses maximum stability
- C. The vessel possesses positive stability
- D. The vessel possesses negative stability

Correct answer: A

52. You are involved in an emergency landing of a helicopter on the water. When should you inflate your life jacket?

- A. After exiting clear of the helicopter
- B. After reaching the water, but prior to exiting the helicopter
- C. Prior to reaching the water
- D. Upon entering the helicopter

Correct answer: A

53. When water pressure of 100 psi is used in conjunction with an inline proportioner for the production of the mechanical foam, how long will a 5-gallon can of liquid foam last?

- A. 1-1/2 minutes
- B. 2-1/2 minutes
- C. 5 minutes
- D. 15 minutes

Correct answer: A

54. A galley grease fire on the stove may be extinguished using _____.

- A. fire dampers
- B. water
- C. the range hood extinguishing system
- D. foam

Correct answer: C

55. The spread of fire is NOT prevented by _____.

- A. shutting off the oxygen supply
- B. removing smoke and toxic gases by ensuring adequate ventilation
- C. cooling surfaces adjacent to the fire
- D. removing combustibles from the endangered area

Correct answer: B

56. In illustration D014SA below, which item is the righting strap?

- A. 8
- B. 9
- C. 12
- D. 16

Correct answer: B

57. What is the purpose of a striking plate?

- A. Absorbs machinery vibration
- B. Provides landing surface for the sounding bob
- C. Prevents valve stem over-travel
- D. Provides surface for applying force on machinery

Correct answer: B

58. When should you use distress flares and rockets?

- A. At half-hour intervals
- B. Immediately upon abandoning the vessel
- C. Only when there is a chance of their being seen by rescue vessels
- D. At one-hour intervals

Correct answer: C

59. If the situation arose where it became necessary to tow a disabled vessel, which statement is TRUE concerning the towing line?

- A. The towing line should be taut at all times between the vessels.
- B. There should be a catenary so the line dips into the water.
- C. The towing line between the two vessels should be clear of the water.
- D. None of the above.

Correct answer: B

60. A fire starting by spontaneous combustion can be expected in which condition?

- A. Oily rags are stowed in a metal pail.
- B. Paints, varnish, or other liquid flammables are stowed in a dry stores locker.
- C. Clean mattresses are stored in contact with an electric light bulb.
- D. Inert cargoes such as pig iron are loaded in a wet condition.

Correct answer: A

61. The two courses of action if the underwater hull is severely damaged are to plug the openings or to take which action?

- A. Secure power to the compartment
- B. Dewater the compartment
- C. Establish and maintain flooding boundaries
- D. Ballast to maintain even keel

Correct answer: C

62. You have sent a visual signal to an aircraft. The aircraft then flies over your position on a straight course and level altitude. What should you do?

- A. Repeat your signal
- B. Prepare for a helicopter pickup
- C. Change course to follow the airplane
- D. Send more signals

Correct answer: A

63. A situation has occurred where it becomes necessary for you to be towed. What action should be taken to prevent your vessel from yawing?
- A. Shift weight to the stern
 - B. Throw excess weight overboard
 - C. Shift weight to the center of the boat
 - D. Shift weight to the bow

Correct answer: A

64. Provided every effort is used to produce, as well as preserve body moisture content by avoiding perspiration, how long is it normally possible to survive without stored quantities of water?
- A. Up to 3 days
 - B. 8 to 14 days
 - C. 15 to 20 days
 - D. 25 to 30 days

Correct answer: B

65. Ultrasonic testing is used to determine the thickness of a vessel's shell plating and which other testing?
- A. To test the links of the anchor cables while being ranged
 - B. To check the wear of the rudder carrier bearing
 - C. To provide tail shaft clearances
 - D. To test welds for subsurface defects

Correct answer: D

66. All of the following are part of the fire triangle EXCEPT _____.
- A. oxygen
 - B. fuel
 - C. heat
 - D. electricity

Correct answer: D

67. Which term describes the time required to incline the vessel from port to starboard and back to port again?
- A. Initial stability
 - B. Inclining moment
 - C. Range of stability
 - D. Rolling period

Correct answer: D

68. What would be used to call all stations in your vicinity by radiotelephone?

- A. Calling all stations
- B. Kilo
- C. Charlie Quebec
- D. Alpha Alpha

Correct answer: C

69. In illustration D014SA below, which item number correctly identifies the external lifelines?

- A. 1
- B. 8
- C. 12
- D. 16

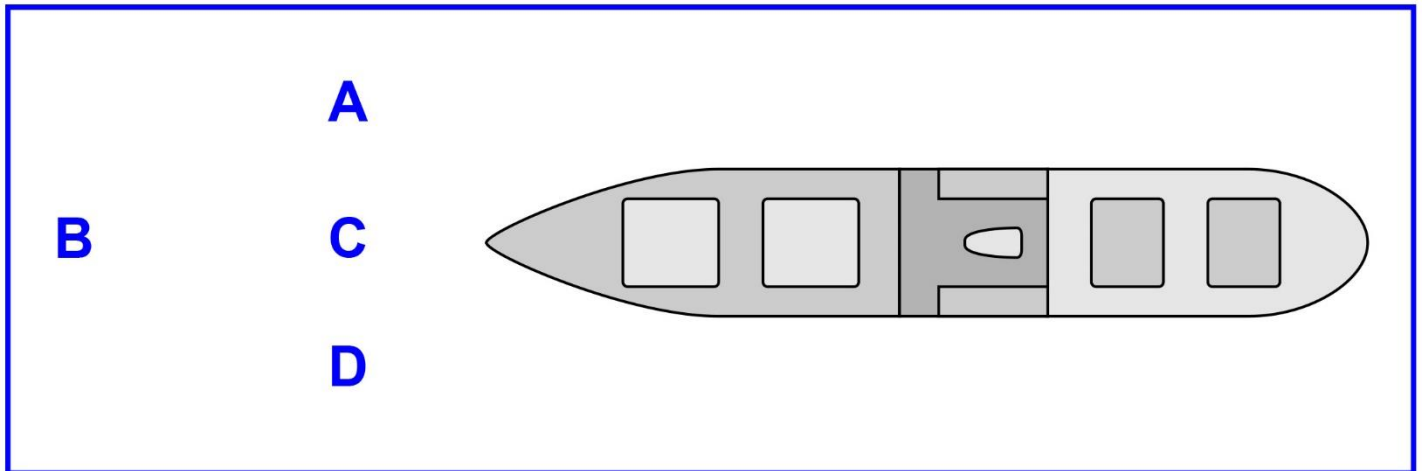
Correct answer: C

70. Your vessel is on a voyage from Ogdensburg, NY, to Chicago, IL, via the Great Lakes. The date is October 3 of the current year. If your vessel is subject to the load line requirements, using illustration D031DG below, to which of her marks should she be loaded?

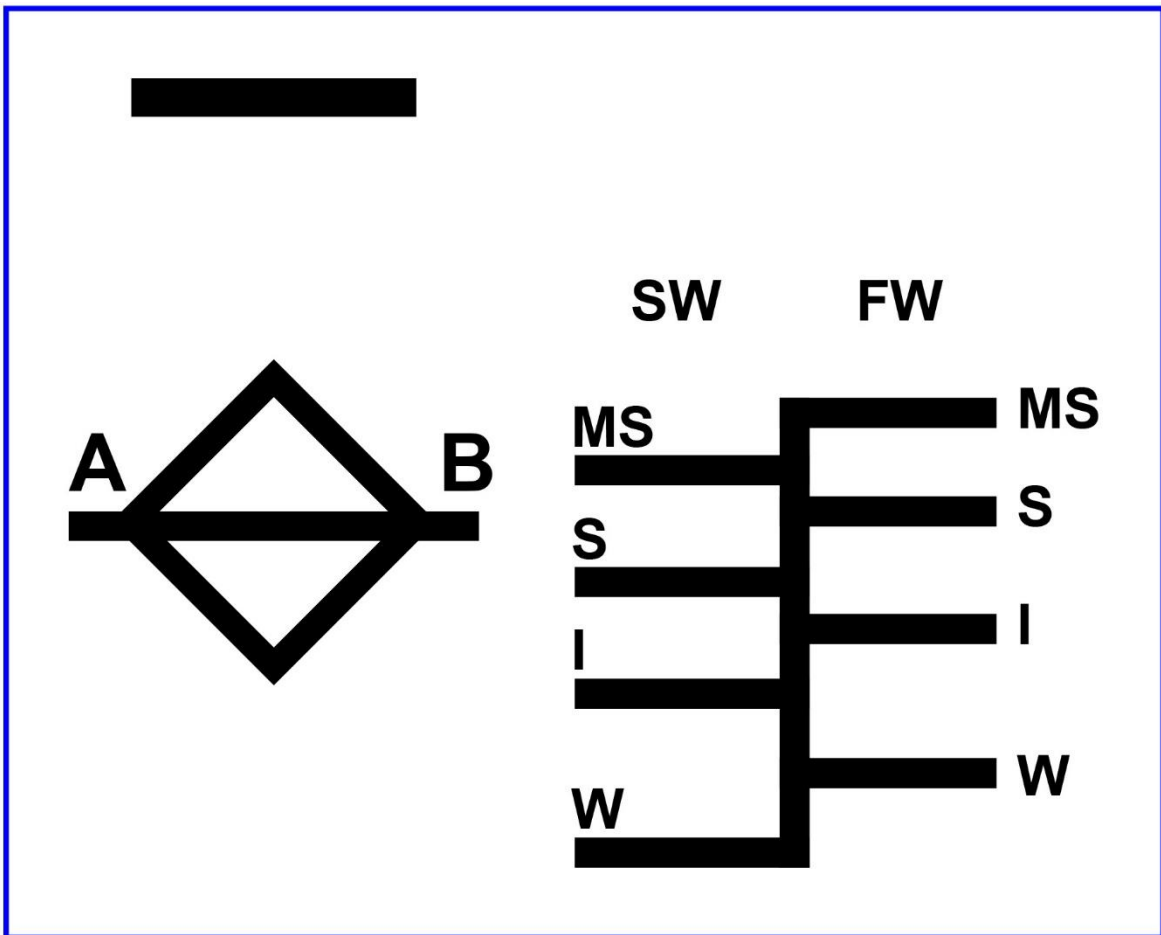
- A. Fresh water - Intermediate
- B. Salt water - Winter
- C. Salt water - Intermediate
- D. Fresh water – Winter

Correct answer: A

D025DG

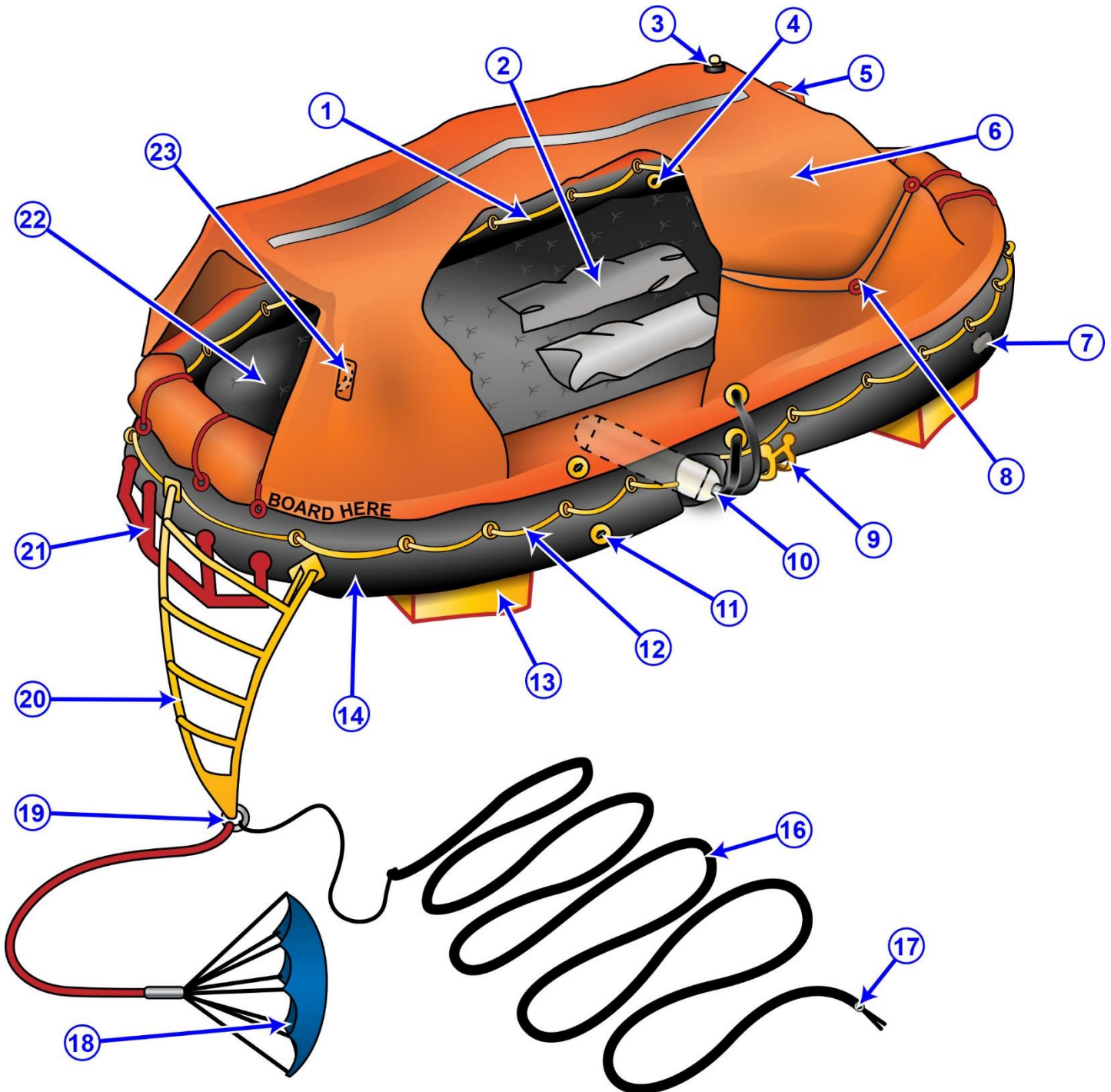


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