

U.S.C.G. Merchant Marine Exam

Mate Less than 500-1600 Gross Registered Tons

Q137 Deck Safety

(Sample Examination)

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

1. What is the function of wearing rings found on some centrifugal pumps?
- A. Absorb erosion of high-velocity discharge stream
 - B. Dampen the turbulent discharge flow
 - C. Seal pump shaft against entry of air
 - D. Isolate the outlet side from the inlet side

Correct answer: D

2. Which satellite system promulgated Maritime Safety Information?
- A. SafetyNET
 - B. INMARSAT-M SES
 - C. AMVER
 - D. NAVTEX

Correct answer: A

3. The wind has caused a difference between drafts starboard and port. This difference is known as which of the following?
- A. List
 - B. Trim
 - C. Heel
 - D. Flotation

Correct answer: C

4. To launch a liferaft by hand, you should take which actions?
- A. Detach the operating cord, throw the liferaft over the side and it will then inflate
 - B. Throw the liferaft 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. Cut the casing bands, throw the raft over the side and pull the operating cord

Correct answer: B

5. Where a propeller shaft passes through the hull, which device prevents water from entering the hull?
- A. Sea cock
 - B. Stuffing box
 - C. Propeller boss
 - D. Stop-water

Correct answer: B

6. Which is the primary type of welding employed in shipyards in the construction of cargo vessels?
- A. thermite welding
 - B. pressure welding
 - C. brazing
 - D. electric arc

Correct answer: D

7. If an ill crew member is beginning to show signs of improvement, what code should your message contain?
- A. MPF
 - B. MVP
 - C. MPH
 - D. MSO

Correct answer: A

8. Which is an advantage of a dry chemical over a carbon dioxide fire extinguisher?
- A. Non corrosive
 - B. Cleanliness
 - C. Greater discharge range
 - D. All of the above

Correct answer: C

9. How can you indicate that your vessel is in distress?
- A. Continuously sounding the fog whistle
 - B. Sounding five or more short and rapid blasts on the whistle
 - C. Displaying three black balls in a vertical line
 - D. Displaying a large red flag

Correct answer: A

10. You are tending the lifeline of a man who entered a compartment using a breathing apparatus. How many tugs on the lifeline indicate the man should advance?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: B

11. Portable foam fire-extinguishers are designed for use on which class of fires?
- A. Class A and class C fires
 - B. Class B and class C fires
 - C. Class A and class B fires
 - D. Class A, class B, and class C fires

Correct answer: C

12. When a vessel is stationary and in a hogging condition, the main deck is under which stress?
- A. Tension stress
 - B. Racking stress
 - C. Compression stress
 - D. Shear stress

Correct answer: A

13. What flag signal would you hoist if you wanted to ask a nearby vessel if it had a doctor on board?

- A. AM
- B. MA
- C. AL
- D. AN 1

Correct answer: A

14. Yawing is angular motion of the vessel about what axis?

- A. Vertical
- B. Transverse
- C. Longitudinal
- D. Centerline

Correct answer: A

15. When water is used to fight a fire on board a ship, the effect of the weight of the water must be taken into account. How much sea water will increase the weight displacement by one ton?

- A. 500 liters
- B. 64 cubic feet
- C. 100 gallons
- D. 35 cubic feet

Correct answer: D

16. How should longitude 116°24.3'W be written when preparing an AMVER report?

- A. 11624W
- B. 116°24.3W
- C. 116.4W
- D. 116W

Correct answer: A

17. You have abandoned ship in tropical waters. Which procedure should be used during a prolonged period in a liferaft?

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

Correct answer: D

18. When patching holes in the hull, how can pillows, bedding, and other soft materials be used?

- A. As shores
- B. As wedges
- C. As strongbacks
- D. As gaskets

Correct answer: D

19. You are proceeding to a distress site. The survivors are in liferafts. What will make your ship more visible to the survivors?
- A. Steering a zig-zag course
 - B. Steering a sinuous course
 - C. Turning on all available deck lights at night
 - D. Dumping debris over the side to make a trail to your vessel

Correct answer: C

20. In illustration D012SA below, what will be released when pulling on line number 5?
- A. Lifeboat
 - B. Gripes
 - C. Frapping line
 - D. Tricing pendant

Correct answer: D

21. In illustration D039SA below, what is the fire control plan symbol represented by number (64)?
- A. Inert gas installation
 - B. Dry chemical installation
 - C. Inertial gauge
 - D. Infrared gas detector

Correct answer: A

22. Under the "Vessel Bridge-to-Bridge Radiotelephone Act" the frequency for bridge-to-bridge communications is 156.65 MHz or which channel?
- A. 12
 - B. 13
 - C. 14
 - D. 16

Correct answer: B

23. Your vessel displaces 641 tons. The existing deck cargo has a center of gravity of 3.6 feet above the deck and weighs 36 tons. If you load 22 tons of ground tackle with an estimated center of gravity of 2.0 feet above the deck, what is the final height of the CG of the deck cargo?
- A. 2.33 feet
 - B. 2.55 feet
 - C. 2.77 feet
 - D. 2.99 feet

Correct answer: D

24. You are underway in mid-ocean, when you hear a distress message over the VHF radio. The position of the sender is 20 miles away. What action should you take?
- A. Do not acknowledge because you are too far away to take action.
 - B. Defer acknowledgment for a short interval so that a coast station may acknowledge receipt.
 - C. Immediately acknowledge receipt of the distress message.
 - D. Do not acknowledge receipt until other ships nearer to the distress have acknowledged.

Correct answer: C

25. You have just abandoned ship and boarded a raft. After the raft is completely inflated you hear a whistling noise coming from a safety valve. Which action should you take?
- A. Unscrew the deflation plugs
 - B. Plug the safety valve
 - C. Do not become alarmed unless it continues for a long period of time
 - D. Remove the safety valve and replace it with a soft patch

Correct answer: C

26. When picking up a lifeboat at sea with way on the ship, where should the sea painter be secured?
- A. About amidships in the lifeboat
 - B. Only after the falls have been attached
 - C. Well forward in the lifeboat
 - D. Well aft in the lifeboat

Correct answer: C

27. The AMVER system for vessels in the Gulf of America is administered by which organization?
- A. U.S. Coast Guard
 - B. Minerals Management Service
 - C. Department of Energy
 - D. Corps of Engineers

Correct answer: A

28. To ensure receipt of all relevant MSI, a NAVTEX receiver should be turned on at least how many hours prior to departure from port?
- A. 2
 - B. 6
 - C. 4
 - D. 8

Correct answer: C

29. Each distress signal and self-activated smoke signal must be replaced not later than the marked date of expiration, or not more than how many months from the date of manufacture?
- A. 48 months
 - B. 42 months
 - C. 36 months
 - D. 30 months

Correct answer: B

30. When shoring a damaged bulkhead, effort should be taken to spread the pressure over the _____.
- A. nearest longitudinal girder
 - B. minimum possible area
 - C. nearest watertight door
 - D. maximum possible area

Correct answer: D

31. After abandoning ship which action should be taken IMMEDIATELY upon entering a liferaft?

- A. Get clear of the ship.
- B. Open equipment pack.
- C. Dry the liferaft floor and inflate.
- D. Issue anti-seasickness medicine.

Correct answer: A

32. If your vessel has a GM of one foot and a breadth of 50 feet, what is your vessel's estimated rolling period?

- A. 15 seconds
- B. 11 seconds
- C. 22 seconds
- D. 20 seconds

Correct answer: C

33. Line throwing apparatus aboard ship must contain which items?

- A. Two rockets, one of which shall be the buoyant type
- B. Three rockets, one of which shall be the buoyant type
- C. Four rockets, two of which shall be the buoyant type
- D. Five rockets, two of which shall be the buoyant type

Correct answer: C

34. The SS AMERICAN MARINER has drafts of: FWD 16'-10", AFT 19'-04". Use the white pages of the Stability Data Reference Book to determine the drafts if you ballast the forepeak with 73 tons of seawater.

- A. FWD 17'-05.8", AFT 18'-10.9"
- B. FWD 17'-06.2", AFT 18'-10.4"
- C. FWD 17'-06.8", AFT 18'-09.8"
- D. FWD 17'-07.4", AFT 18'-09.2"

Correct answer: A

35. On the fire control plans, in illustration D039SA below, the CO2 bottle room is designated by which symbol?

- A. 42
- B. 9
- C. 8
- D. 7

Correct answer: A

36. You are on a ship that has broken down and are preparing to be taken in tow. You will use your anchor cable as part of the towline. Which statement is TRUE?
- A. The strain of the tow is taken by the riding pawl, chain stopper, and anchor windlass brake.
 - B. The anchor cable should be veered enough to allow the towline connection to be immediately astern of the towing vessel.
 - C. The anchor cable should be veered enough to allow the towline connection to be just forward of your bow.
 - D. The anchor cable should be led out through a chock, if possible, to avoid a sharp nip at the hawsepipe lip.

Correct answer: A

37. What power source actuates a solenoid valve?
- A. Air pressure
 - B. Electric current
 - C. Mechanical force
 - D. Hydraulic pressure

Correct answer: B

38. Which radiotelephone signal indicates receipt of a distress message?
- A. Received mayday
 - B. Mayday, roger
 - C. SOS acknowledged
 - D. Roger wilco

Correct answer: A

39. Which is TRUE if passengers are on board when an abandon ship drill is carried out?
- A. The passengers should just watch
 - B. The passengers should stay out of the way and do what they want
 - C. The passengers should take part in the drill
 - D. Passengers should go to their quarters during drills

Correct answer: C

40. When fighting a fire in an enclosed space, why should the hose team crouch as low as possible?
- A. To maneuver with the hose more easily
 - B. To obtain the best available air for breathing
 - C. To allow the heat and steam to pass overhead
 - D. None of the above

Correct answer: C

41. The SS AMERICAN MARINER is ready to bunker with drafts of FWD 18'-06", AFT 20'-06". After all bunkers are on board, soundings indicate the tonnages shown in table ST-0099 below. Use the white pages of The Stability Data Reference Book to determine the free surface correction.
- A. 0.72 foot
 - B. 0.68 foot
 - C. 1.10 feet
 - D. 0.91 foot

Correct answer: D

42. Which is TRUE of a combination or all-purpose nozzle?
- A. It can produce a solid stream and foam
 - B. It can produce a solid stream or fog
 - C. It produces a solid stream only
 - D. It produces low-velocity fog only

Correct answer: B

43. The wooden plug inserted in the vent of a damaged tank should be removed if you are going to _____.
- A. fight a fire
 - B. pump from the damaged tank
 - C. abandon ship
 - D. use the crossover system

Correct answer: B

44. The vessel shown in illustration D025DG has broken down and you are going to take her in tow. The wind is coming from her starboard beam. You are making more leeway than she. Where should you position your vessel when you start running lines?
- A. A
 - B. B
 - C. C
 - D. D

Correct answer: A

45. Which is one of the signals, other than a distress signal, that can be used by a rescue boat to attract attention?
- A. Orange smoke signal
 - B. A burning barrel
 - C. A red star shell
 - D. A searchlight

Correct answer: D

46. Which type of weld testing can be used to detect internal flaws?

- A. Ultrasonic
- B. Magnetic particle
- C. Dye penetrant
- D. Chemical reaction

Correct answer: A

47. What will happen if cargo is shifted from the lower hold to the main deck on the vessel?

- A. The GM will increase
- B. The center of buoyancy will move downward
- C. The center of gravity will move upwards
- D. The center of buoyancy will move up

Correct answer: C

48. After having activated the emergency position indicating radio beacon, which is the appropriate action to take?

- A. Turn it off during daylight hours
- B. Turn it off for 5 minutes every half-hour
- C. Turn it off and on at 5 minute intervals
- D. Leave it on continuously

Correct answer: D

49. To lubricate the swivel or remove corrosion from a fire hose coupling, which should be used?

- A. Fresh water and soap
- B. Glycerine
- C. Kerosene
- D. Graphite

Correct answer: A

50. Tensile stress is a result of two forces acting in _____.

- A. the same direction along parallel lines
- B. opposite directions on the same line, tending to compress the object
- C. opposite directions along parallel lines
- D. opposite directions on the same line, tending to pull the material apart

Correct answer: D

51. If the metacentric height is small, which is TRUE of the vessel?

- A. The vessel will have a quick and rapid motion
- B. The vessel will be stiff
- C. The vessel will have large angles of roll
- D. The vessel will be tender

Correct answer: D

52. When possible, what is the FIRST step in fighting an engine fuel-pump fire which results from a broken fuel line?
- A. Secure all engine room doors, hatches, and vents.
 - B. Cast the barge off the wharf.
 - C. Close the fuel line valve.
 - D. Check the spread of the fire with foam.

Correct answer: C

53. For a vessel inclined by the wind, multiplying the buoyant force by the horizontal distance between the lines of action of the buoyant and gravity forces gives which information?
- A. The righting moment
 - B. The transverse moment
 - C. The vertical moment
 - D. The longitudinal moment

Correct answer: A

54. How often are inflatable liferafts required to be overhauled and inspected at a U. S. Coast Guard approved service facility?
- A. Every six months
 - B. Every eighteen months
 - C. Every twelve months
 - D. Every twenty-four months

Correct answer: C

55. What is a ceiling on a vessel?
- A. The overhead in berthing compartments
 - B. A wooden protection placed over the tank top
 - C. The material driven into seams or cracks to prevent leaking
 - D. None of the above are correct

Correct answer: B

56. You are approaching a ship that is broken down and are preparing to take her in tow. BEFORE positioning your vessel to pass the towline, which action should you take?
- A. Have traveling lizards rigged to guide the towline while it is paid-out
 - B. Install chafing gear on the towline
 - C. Secure the bitter end of the towing hawser to prevent loss if the tow is slipped
 - D. Compare the rate of drift between the ships

Correct answer: D

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

Correct answer: A

58. What is the minimum number of people required to safely handle a 1-1/2 inch fire hose?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: B

59. If a lifeboat is stowed 40 feet above the light water draft and 200 feet from the bow, how long must the sea painter be?
- A. One third the length from the bow to where the lifeboat is stowed
 - B. Sufficiently long enough to reach the water when the vessel has an adverse list of 15°
 - C. 160 feet
 - D. 80 feet

Correct answer: D

60. When using the rainwater collection tubes on a liferaft, what should be done with the first collection?
- A. It should be used to boil food
 - B. It should be saved to be used at a later time
 - C. Poured overboard because of salt washed off the canopy
 - D. Passed around so all can drink their fill

Correct answer: C

61. Which defines the flash point of a liquid?
- A. The temperature at which a liquid will burn steadily
 - B. The temperature at which a liquid will explode
 - C. The temperature at which a liquid will give off flammable vapors
 - D. The temperature that a liquid must reach before it will flow readily

Correct answer: C

62. Steering a motor lifeboat broadside to the sea could cause it to _____.
- A. sink
 - B. run faster
 - C. capsize
 - D. run smoother

Correct answer: C

63. Pitching is angular motion of the vessel about what axis?

- A. Transverse
- B. Centerline
- C. Vertical
- D. Longitudinal

Correct answer: A

64. Which term represents the weight (measured in tons) required to cause a change in mean draft of one inch?

- A. MT1 inch
- B. ML1 inch
- C. MH1 inch
- D. TPI

Correct answer: D

65. You are reading the draft marks as shown in illustration D032DG. The water level forward leaves about 4 inches of the 11 visible, and the water level aft is at the top of the 10. What is the mean draft?

- A. 10'-06"
- B. 10'-08"
- C. 10'-10"
- D. 11'-02"

Correct answer: C

66. Which defines the "flammable limits" of an atmosphere?

- A. The upper and lower percentage of vapor concentrations in an atmosphere which will burn if an ignition source is present
- B. The two temperatures between which an atmosphere will burn if an ignition source is present
- C. The upper and lower pressures between which an atmosphere will not burn
- D. The two temperatures between which an atmosphere will self-ignite

Correct answer: A

67. Which extinguishing agent is/are suitable to combat a class B fire in an engine compartment?

- A. Foam
- B. Dry chemical
- C. Carbon dioxide
- D. All of the above

Correct answer: D

68. Which is the best action to take when plugging holes below the waterline for the safety of the vessel?

- A. Only plug holes in machinery or other vital spaces
- B. Plug the largest holes first
- C. Eliminate all water entering the hole
- D. Reduce the entry of water as much as possible

Correct answer: D

69. When will the float-free emergency position indicating radio beacon be activated after abandoning ship?

- A. Immediately after floating free
- B. After about one hour when the salt water activates the battery
- C. Only when keyed by the radar of another vessel
- D. Only when daylight activates the photovoltaic cell

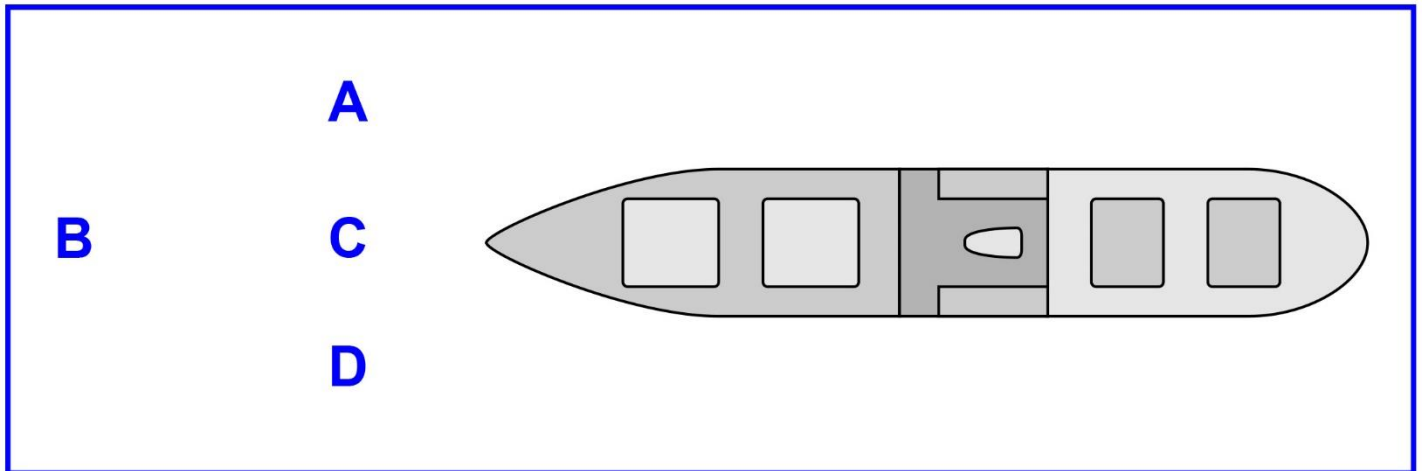
Correct answer: A

70. Which system is most likely to be subject to fading or static interference?

- A. INMARSAT
- B. HF SITOR
- C. VHF ARQ
- D. Digital Selective Calling on channel 70

Correct answer: B

D025DG



D032DG

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**AFT DRAFT
MARKS**

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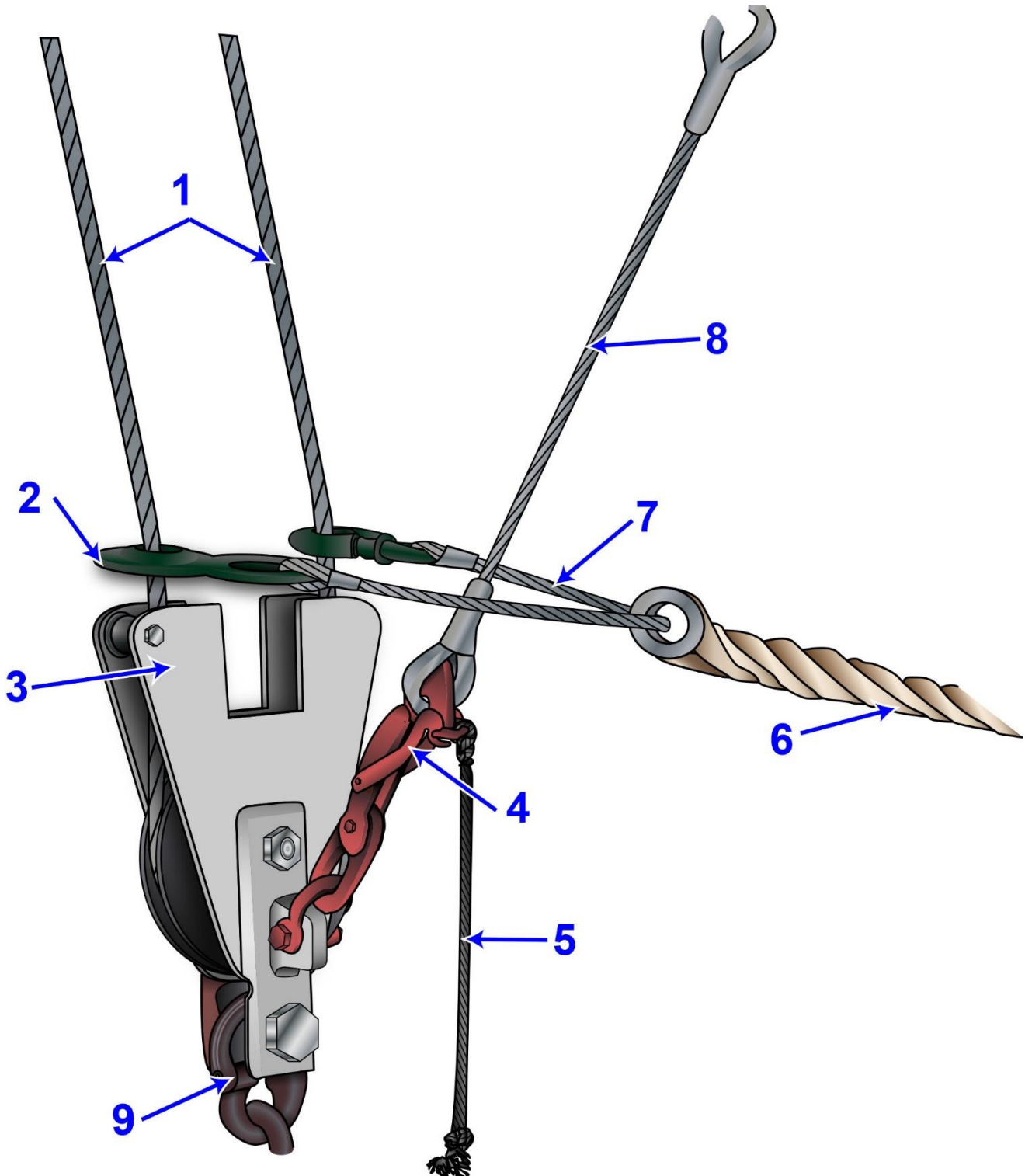
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**FWD DRAFT
MARKS**

D012SA

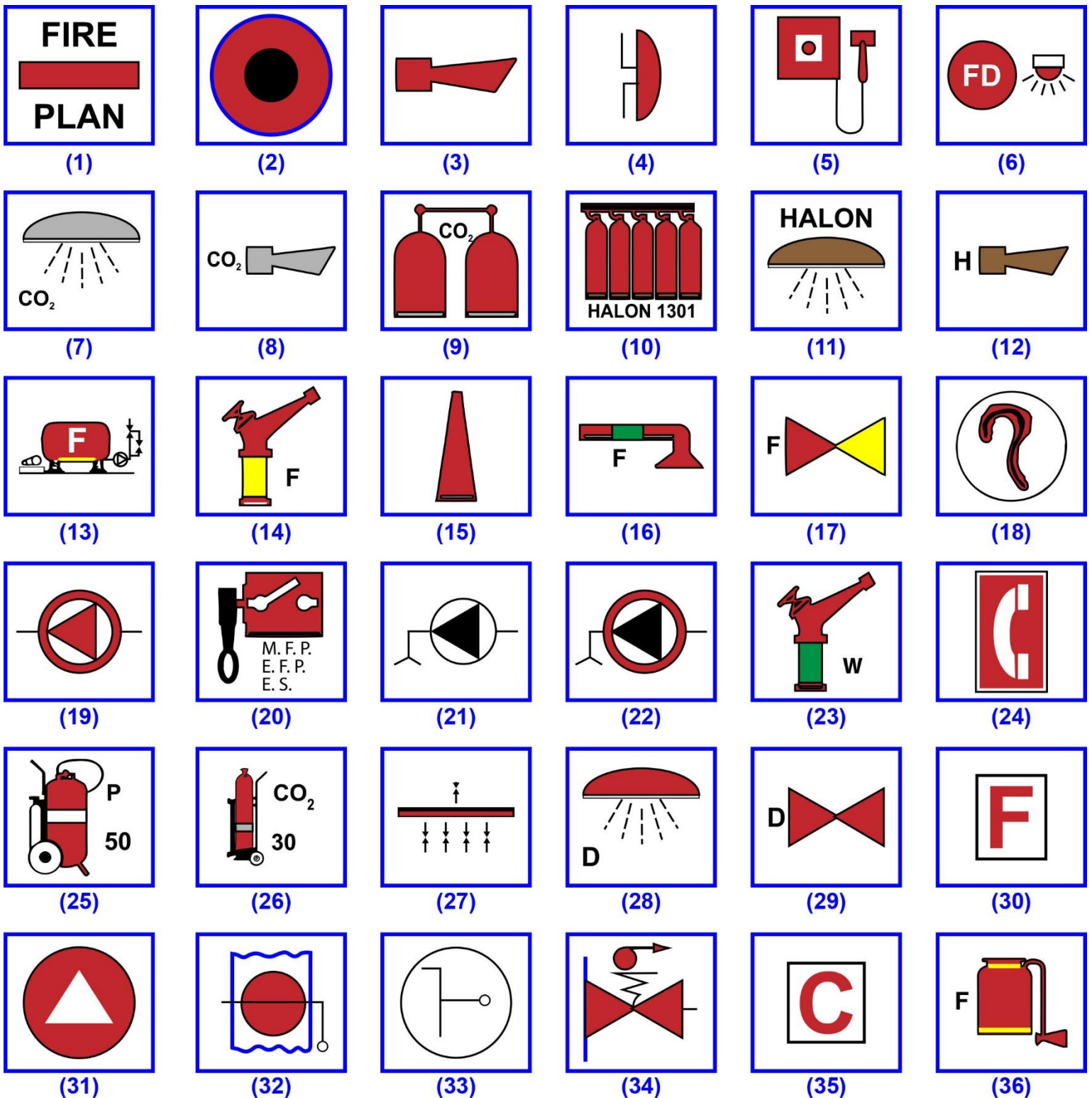


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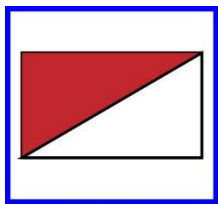
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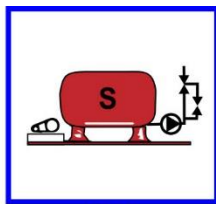


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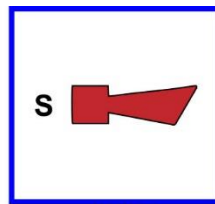
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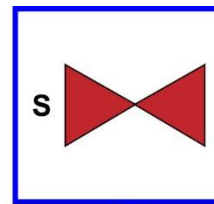
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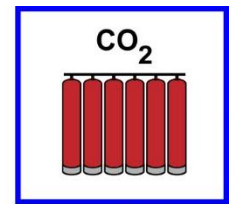
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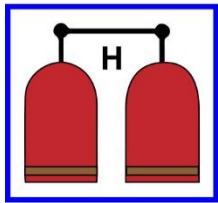
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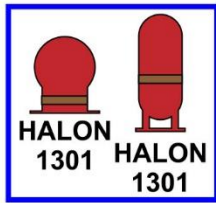
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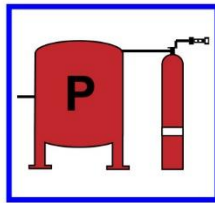
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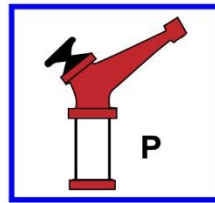
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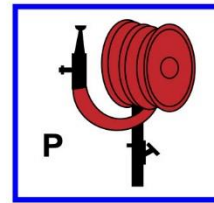
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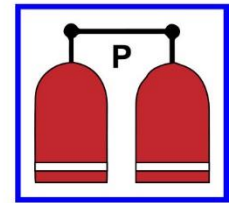
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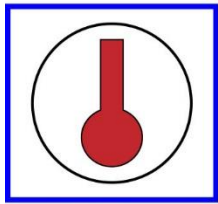
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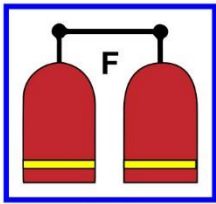
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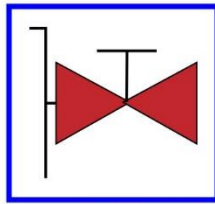
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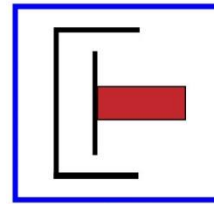
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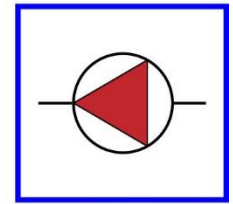
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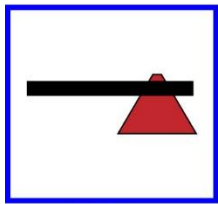
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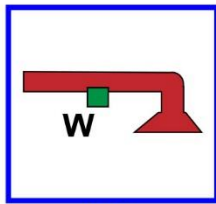
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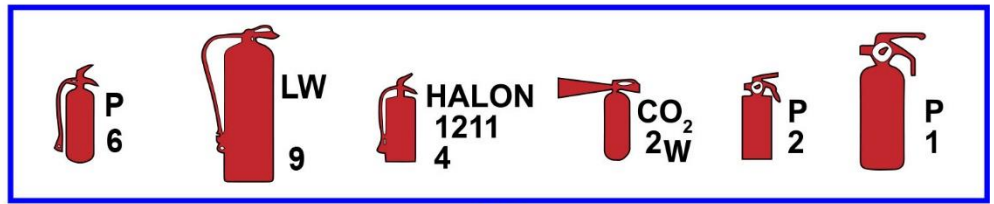
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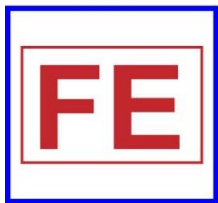
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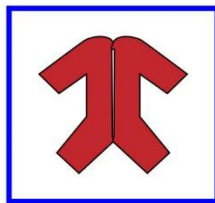
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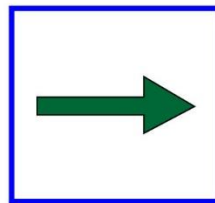
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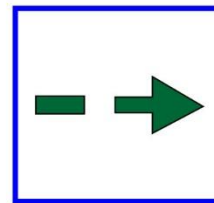
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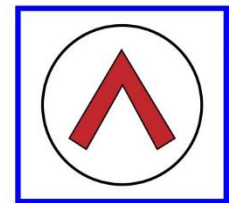
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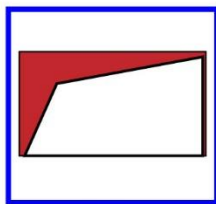
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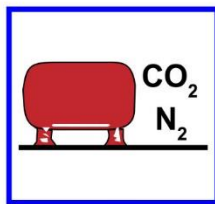
(63)



(64)



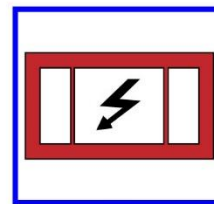
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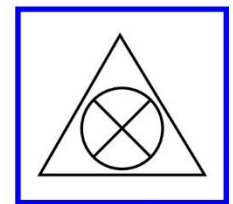
(66)



(67)



(68)



(69)

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