

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. You are having a Coast Guard inspection. All carbon dioxide fire extinguishers aboard will be _____.

- (A) weighed
- (B) sent ashore to an approved service facility
- (C) discharged and recharged
- (D) checked for pressure loss

If choice A is selected set score to 1.

2. What does the single letter G, sent by an icebreaker to an assisted vessel, mean?

- (A) "Longitude follows"
- (B) "I require a pilot"
- (C) "I am going ahead; follow me"
- (D) "Do not follow me"

If choice C is selected set score to 1.

3. The most detrimental effect on initial stability is a result of liquids _____.

- (A) flowing in and out of a holed wing tank
- (B) flowing from fore to aft within a vessel
- (C) pocketing in a slack tank as a vessel heels
- (D) flowing from side to side within the vessel

If choice A is selected set score to 1.

4. Which is TRUE concerning a fuel-air mixture below the lower flammable limit?

- (A) The mixture is too lean to burn
- (B) The mixture is too cool to burn
- (C) The mixture is too dense to burn
- (D) The mixture is too rich to burn

If choice A is selected set score to 1.

5. Which defines the function of a spark arrestor?

- (A) Grounds static electricity reducing chance of explosion
- (B) It keeps sparks from falling into an open tank
- (C) Utilized to secure covers on ullage openings
- (D) Prevents sparks from getting out of an engine's exhaust system

If choice D is selected set score to 1.

6. When a vessel signals her distress by means of a gun or other explosive signal, the firing should be at approximately which time intervals?

- ☐ (A) 1 hour
- ☐ (B) 3 minutes
- ☒ (C) 1 minute
- ☐ (D) 10 minutes

If choice C is selected set score to 1.

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

- ☐ (A) sea cock
- ☐ (B) stop-water
- ☐ (C) propeller boss
- ☒ (D) stuffing box

If choice D is selected set score to 1.

8. If you have to jump in the water when abandoning ship, your legs should be in which position?

- ☐ (A) Your legs should be held as tightly against your chest as possible
- ☒ (B) Your legs should be extended straight down and crossed at the ankles
- ☐ (C) Your legs should be spread apart as far as possible
- ☐ (D) Your legs should be in a kneeling position

If choice B is selected set score to 1.

9. Preventer bars are fitted on lifeboat releasing gear to prevent what from happening?

- ☒ (A) Accidental unhooking when the falls become slack
- ☐ (B) The falls from rehooking after they have been released
- ☐ (C) The falls from unhooking if the releasing gear is operated accidentally
- ☐ (D) The operation of the release lever until the boat is waterborne

If choice A is selected set score to 1.

10. How should the letter "Q" be pronounced when spoken on the radiotelephone?

- ☐ (A) QU UE
- ☐ (B) QUE BACH
- ☐ (C) QWE BEC
- ☒ (D) KEH BECK

If choice D is selected set score to 1.

11. You are on a vessel that has a metacentric height of 1.0 foot and a beam of 40 feet. What can you expect the rolling period of the vessel to be?

- ☐ (A) 17.0 seconds
- ☐ (B) 15.2 seconds
- ☐ (C) 15.9 seconds
- ☒ (D) 17.6 seconds

If choice D is selected set score to 1.

12. What is the function of bottles of compressed air in a lifeboat?

- ☐ (A) Additional flotation for the craft
- ☒ (B) As an air supply for personnel
- ☐ (C) For filling the self-righting bags
- ☐ (D) To prime the sprinkler system

If choice B is selected set score to 1.

13. Which is the normal tendency for a loaded tanker?

- ☐ (A) Have a permanent list
- ☐ (B) Hog
- ☐ (C) To be very tender
- ☒ (D) Sag

If choice D is selected set score to 1.

14. An inflatable liferaft is hand-launched by _____.

- ☐ (A) removing the rubber packing strip
- ☒ (B) throwing the entire container overboard
- ☐ (C) cutting the wire restraining bands
- ☐ (D) pulling a cord

If choice B is selected set score to 1.

15. Which system may be useful for messages, such as local storm warnings or a shore-to-ship distress alert, for which it is inappropriate to alert all ships in the satellite coverage area?

- ☐ (A) AMVER
- ☒ (B) EGC
- ☐ (C) DSC
- ☐ (D) NAVTEX

If choice B is selected set score to 1.

16. Which category of NAVTEX messages may be rejected in some receivers, BUT SHOULD NOT?

- ☐ (A) SAR and distress alert information
- ☒ (B) Category L navigational warnings
- ☐ (C) Category A navigational warnings
- ☐ (D) Weather warnings

If choice B is selected set score to 1.

17. Which is TRUE concerning drinking salt water?

- ☒ (A) Consuming saltwater will dehydrate you
- ☐ (B) Saltwater prevents seasickness
- ☐ (C) It is safe to drink if mixed with fresh water
- ☐ (D) Saltwater protects against heat cramps

If choice A is selected set score to 1.

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

If choice C is selected set score to 1.

19. The initial action of a Williamson turn is to put the rudder over full until which of the following?

- ☐ (A) Vessel is on a reciprocal course
- ☐ (B) Emergency turn signal sounds
- ☒ (C) Vessel has turned 60° from her original course
- ☐ (D) Vessel has turned 90° from her original course

If choice C is selected set score to 1.

20. The SS AMERICAN MARINER has drafts of: FWD 22'-03", AFT 24'-00". Use the white pages of the Stability Data Reference Book to determine the drafts if you ballast the forepeak with 100.7 tons of seawater.

- ☐ (A) FWD 22'-10.3", AFT 23'-06.0"
- ☐ (B) FWD 23'-00.3", AFT 23'-05.0"
- ☐ (C) FWD 22'-11.3", AFT 23'-04.0"
- ☒ (D) FWD 23'-01.0", AFT 23'-05.7"

If choice D is selected set score to 1.

21. When approaching a fire from windward, you should shield firefighters from the fire by using which method?

- ☐ (A) High-velocity fog
- ☒ (B) Low-velocity fog
- ☐ (C) A straight stream of water
- ☐ (D) Foam spray

If choice B is selected set score to 1.

22. The carbon dioxide cylinders of a fixed fire extinguishing system may be located inside the protected space, if the quantity of CO₂ required to protect that space is not more than _____.

- ☒ (A) 300 pounds
- ☐ (B) 400 pounds
- ☐ (C) 500 pounds
- ☐ (D) 600 pounds

If choice A is selected set score to 1.

23. You are the officer in charge of a navigational watch, what signal would indicate your 3 cm radar has interrogated a SART unit?

- ☐ (A) A visual alarm through the automatic identification system
- ☒ (B) A line of consecutive dots on the radar screen indicating the bearing of the unit
- ☐ (C) A flashing target on the radar screen with a bearing line perpendicular to the unit
- ☐ (D) An audible signal through your GMDSS console

If choice B is selected set score to 1.

24. Which term defines the horizontal fore-and-aft movement of a vessel?

- ☐ (A) Sway
- ☒ (B) Surge
- ☐ (C) Heave
- ☐ (D) Yaw

If choice B is selected set score to 1.

25. What is the result of multiplying a weight by a distance?

- ☐ (A) Force
- ☒ (B) Moment
- ☐ (C) Couple
- ☐ (D) Center of gravity location

If choice B is selected set score to 1.

26. With no environmental forces, the center of gravity of an inclined vessel is vertically aligned directly above the _____.

- (A) center of buoyancy
- (B) longitudinal centerline
- (C) original vertical centerline
- (D) center of flotation

If choice A is selected set score to 1.

27. You are attempting to take a dead ship in tow. All lines have been passed and secured. How should you get underway?

- (A) If the towline is properly adjusted and weighted you can order slow or dead slow and the towline will act as a spring to absorb the initial shock.
- (B) Order minimum turns until the towing hawser is taut and then continue at that speed until towing speed is attained.
- (C) Gradually apply power until catenary almost breaks the water, but keep the catenary in the water.
- (D) Order minimum turns until the towing hawser is just clear of the water, then reduce speed to that necessary to keep the line clear of the water.

If choice C is selected set score to 1.

28. Which is an advantage of using watertight longitudinal divisions in double bottom tanks?

- (A) Lowers the center of buoyancy without decreasing GM
- (B) Cuts down free surface effect
- (C) Increases the rolling period
- (D) Decreases weight because extra stiffeners are unneeded

If choice B is selected set score to 1.

29. You are on watch at sea on course 090°T. A man falls overboard on your starboard side. You immediately start a Williamson Turn. Which action is NOT a part of a Williamson Turn?

- (A) Come right full rudder until the vessel heads 150°T.
- (B) Shift the helm to left full rudder.
- (C) Stop the engines until clear of the man.
- (D) Continue with left rudder until on course 270°T.

If choice C is selected set score to 1.

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

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

If choice A is selected set score to 1.

31. What is the difference between the starboard and port drafts due to the wind or seas called?

- (A) Trim
- (B) List
- (C) Flotation
- (D) Heel

If choice D is selected set score to 1.

32. The term "strake" is used in reference to which item(s)?

- (A) Anchor gear
- (B) Rudder mountings
- (C) Hull plating
- (D) Vessel framing

If choice C is selected set score to 1.

33. You hear the general alarm and ship's whistle sound for over 10 seconds. What does this signal mean?

- (A) Dismissal from fire and emergency stations
- (B) Man overboard
- (C) Fire and emergency
- (D) Abandon ship

If choice C is selected set score to 1.

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

- (A) Flash point
- (B) Specific heat
- (C) Viscosity
- (D) Volatility

If choice D is selected set score to 1.

35. Weight is considered during the periodic required inspection and servicing of which extinguisher(s)?

- (A) CO2 (carbon dioxide) fire extinguishers
- (B) Water (stored pressure) fire extinguishers
- (C) Foam fire extinguishers
- (D) All of the above

If choice A is selected set score to 1.

36. Your vessel displaces 560 tons. The existing deck cargo has a center of gravity of 4.5 feet above the deck and weighs 34 tons. If you load 10 tons of ground tackle with an estimated center of gravity of 2.8 feet above the deck, what is the final height of the CG of the deck cargo?

- (A) 4.11 feet
- (B) 4.36 feet
- (C) 4.57 feet
- (D) 4.78 feet

If choice A is selected set score to 1.

37. 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 only enter a port in the danger zone during hours of darkness.
- (B) When over 200 miles from a port in the danger zone, you should not darken ship.
- (C) You should attempt to submit an AMVER report to NSA.
- (D) If on a coastwise voyage along the east coast of the U.S., you should put into the nearest port.

If choice C is selected set score to 1.

38. 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) Passenger should go to their quarters during drills

If choice C is selected set score to 1.

39. After you activate your emergency position indicating radio beacon, which action should you take?

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

If choice C is selected set score to 1.

40. After receiving your distress call, the U.S.C.G. may ask you to switch to which SSB frequency?

- ☐ (A) 2570
- ☒ (B) 2670
- ☐ (C) 2770
- ☐ (D) 2870

If choice B is selected set score to 1.

41. If, for any reason, it is necessary to abandon ship while far out at sea, it is important that the crew members should _____.

- ☐ (A) get away from the area because sharks will be attracted to the vessel
- ☐ (B) immediately head for the nearest land
- ☐ (C) separate from each other as this will increase the chances of being rescued
- ☒ (D) remain together in the area because rescuers will start searching at the vessel's last known position

If choice D is selected set score to 1.

42. How can you indicate that your vessel is in distress?

- ☒ (A) Continuously sounding the fog whistle
- ☐ (B) Displaying a large red flag
- ☐ (C) Sounding five or more short and rapid blasts on the whistle
- ☐ (D) Displaying three black balls in a vertical line

If choice A is selected set score to 1.

43. How should the number "1" be pronounced when spoken on the radiotelephone?

- ☐ (A) OO-NO
- ☒ (B) OO-NAH-WUN
- ☐ (C) NEW-MAL-WON
- ☐ (D) NUM-EV-WUN

If choice B is selected set score to 1.

44. Which statement is TRUE concerning carbon dioxide?

- ☐ (A) It is heavier than air.
- ☐ (B) It is non-conductive.
- ☐ (C) It is used on class B and C fires.
- ☒ (D) All of the above are true.

If choice D is selected set score to 1.

45. On every vessel, where must distress signals be stowed?

- ☐ (A) Above the freeboard deck away from heat
- ☐ (B) In an enclosed space below the freeboard deck away from heat
- ☒ (C) On or near the navigating bridge
- ☐ (D) On the flying bridge not closer than 15 feet to any bulkhead

If choice C is selected set score to 1.

46. What is the space above the engine room called?

- ☐ (A) Noble
- ☐ (B) Gold locker
- ☒ (C) Fidley
- ☐ (D) Middle hatch

If choice C is selected set score to 1.

47. Which is TRUE in order for the automatic lifeboat drain to operate properly?

- ☐ (A) The small lever to release the rubber ball float must be turned counterclockwise
- ☐ (B) The cap should be removed to drain the boat when it is waterborne
- ☒ (C) The cage must be free of rubbish or the ball may not seat properly
- ☐ (D) The automatic ball check located in a siphon tube must be free to move

If choice C is selected set score to 1.

48. Which is the primary method by which water spray puts out fires?

- ☐ (A) By removing the oxygen
- ☐ (B) By removing combustible material
- ☐ (C) Diluting combustible vapors
- ☒ (D) Cooling the fire below the ignition temperature

If choice D is selected set score to 1.

49. Angular motion about the vertical axis of a vessel refers to which term?

- ☐ (A) Surge
- ☐ (B) Sway
- ☐ (C) Roll
- ☒ (D) Yaw

If choice D is selected set score to 1.

50. 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 self-ignite
- (C) The upper and lower pressures between which an atmosphere will not burn
- (D) The two temperatures between which an atmosphere will burn if an ignition source is present

If choice A is selected set score to 1.

51. Which type of hull damage should be repaired FIRST?

- (A) Damage in way of machinery rooms
- (B) Damage at or just above the waterline
- (C) Damage to interior watertight boundaries
- (D) Damage below the waterline

If choice B is selected set score to 1.

52. What is the spoken emergency signal for a distress signal over a VHF radio?

- (A) Red Alert
- (B) Mayday
- (C) Pan
- (D) Security

If choice B is selected set score to 1.

53. In illustration D039SA below, which Fire Control Plan symbol represents a heat detector?

- (A) 18
- (B) 31
- (C) 49
- (D) 63

If choice C is selected set score to 1.

54. Which type of portable fire extinguisher is best suited for putting out a Class D fire?

- (A) CO2
- (B) Foam
- (C) Dry chemical
- (D) Dry powder

If choice D is selected set score to 1.

- 55.** The SS AMERICAN MARINER is ready to bunker with drafts of FWD 14'-04", AFT 18'-08". After all bunkers are on board, soundings indicate the tonnages shown in table ST-0176 below. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

DB 1 CL	48.2	DB 7 P	94.6
DB 1A CL	81.9	DB 7 S	94.6
DB 2 P	71.2	DT 1 CL	125.3
DB 2 S	71.2	DT 1A CL	235.6
DB 3 CL	227.6	DT 3 P	86.1
DB 3 P	55.6	DT 3 S	86.1
DB 3 S	55.6	DT 6 P	201.2
DB 4 CL	208.6	DT 6 S	201.2
DB 4 P	128.1	DT 7 P	128.8
DB 4 S	128.1	DT 7 S	128.8
DB 5 CL	170.4		
DB 6 CL	212.0		

- ☐ (A) 1.05 feet
- ☐ (B) 1.15 feet
- ☒ (C) 1.25 feet
- ☐ (D) 1.31 feet

If choice C is selected set score to 1.

- 56.** The order of importance in addressing damage control is _____.

- ☐ (A) control fire, restore vital services, control flooding
- ☒ (B) control fire, control flooding, repair structural damage
- ☐ (C) control flooding, control fire, repair structural damage
- ☐ (D) restore vital services, control fire, control flooding

If choice B is selected set score to 1.

- 57.** You are reading the draft marks as shown in illustration D032DG. The water level is at the bottom of number 11. What is the draft?

- ☐ (A) 11'-06"
- ☒ (B) 11'-00"
- ☐ (C) 10'-06"
- ☐ (D) 10'-09"

If choice B is selected set score to 1.

58. 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) 80 feet
- (B) 160 feet
- (C) Sufficiently long enough to reach the water when the vessel has an adverse list of 15°
- (D) One third the length from the bow to where the lifeboat is stowed

If choice A is selected set score to 1.

59. Which is the MOST important consideration for a tank vessel?

- (A) The stress on the hull
- (B) The longitudinal center of gravity
- (C) GM
- (D) The vertical center of gravity

If choice A is selected set score to 1.

60. What is the function of the bypass valve on the self-contained breathing apparatus?

- (A) To control the pressure of the oxygen as it enters the body
- (B) To allow the wearer to manually give himself oxygen
- (C) To release excess heat which would otherwise cause the bottle to explode
- (D) To allow exhaled gases to pass outside the bottle

If choice B is selected set score to 1.

61. Topside icing that blocks freeing ports and scuppers _____.

- (A) may decrease stability by increasing free surface effect due to water on deck
- (B) is usually below the center of gravity and has little effect on stability
- (C) increases the effective freeboard and increases the wind-heel affect
- (D) will cause water on deck to pocket and increase stability

If choice A is selected set score to 1.

62. Where must immersion suits be stowed?

- (A) Only in the pilothouse
- (B) Where they are readily accessible
- (C) On top of lockers
- (D) On open deck areas

If choice B is selected set score to 1.

63. On the vessel's fire control plan, as seen in illustration D039SA below, which symbol represents a fire damper?

- (A) 32
- (B) 33
- (C) 34
- (D) 53

If choice A is selected set score to 1.

64. How should latitude 54°18.9'N be written when preparing an AMVER report?

- (A) 54.3N
- (B) 5419N
- (C) 54°N
- (D) 0543N

If choice B is selected set score to 1.

65. A situation has occurred in which your vessel must be towed. When the towing vessel passes the towing line to you, where should you secure the line?

- (A) At the stern
- (B) To the base of the foremast
- (C) To the forwardmost bitts
- (D) To the forward part of the deckhouse

If choice C is selected set score to 1.

66. The moment created by a force of 12,000 tons and a moment arm of 0.25 foot is _____.

- (A) 48,000 ft-tons
- (B) 0 ft-tons
- (C) 3,000 ft-tons
- (D) 6,000 ft-tons

If choice C is selected set score to 1.

67. In plugging submerged holes; why are rags, wedges, and other materials used in conjunction with plugs?

- (A) To reduce the water leaking around the plugs
- (B) To reduce the possibility of stress fractures
- (C) To reduce the water pressure on the hull
- (D) To prevent progressive flooding

If choice A is selected set score to 1.

68. Which signal should be used to send the group "Distance 750 nautical miles"?

- (A) R750
- (B) D750N
- (C) D750
- (D) R750N

If choice A is selected set score to 1.

69. In illustration D014SA below, which item number correctly identifies the external recognition light, which can be seen up to two miles?

- (A) 3
- (B) 5
- (C) 8
- (D) 23

If choice A is selected set score to 1.

70. The regulations require that inspected vessels on an international voyage, other than small passenger vessels, must carry which of the following distress signals on or near the navigating bridge?

- (A) 12 rocket parachute flares
- (B) 12 hand combination flares and orange smoke signals
- (C) 12 hand red flares
- (D) 6 hand red flares, and 6 hand orange smoke signals

If choice A is selected set score to 1.

D032DG

12

11

10

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7

**AFT DRAFT
MARKS**

12

11

10

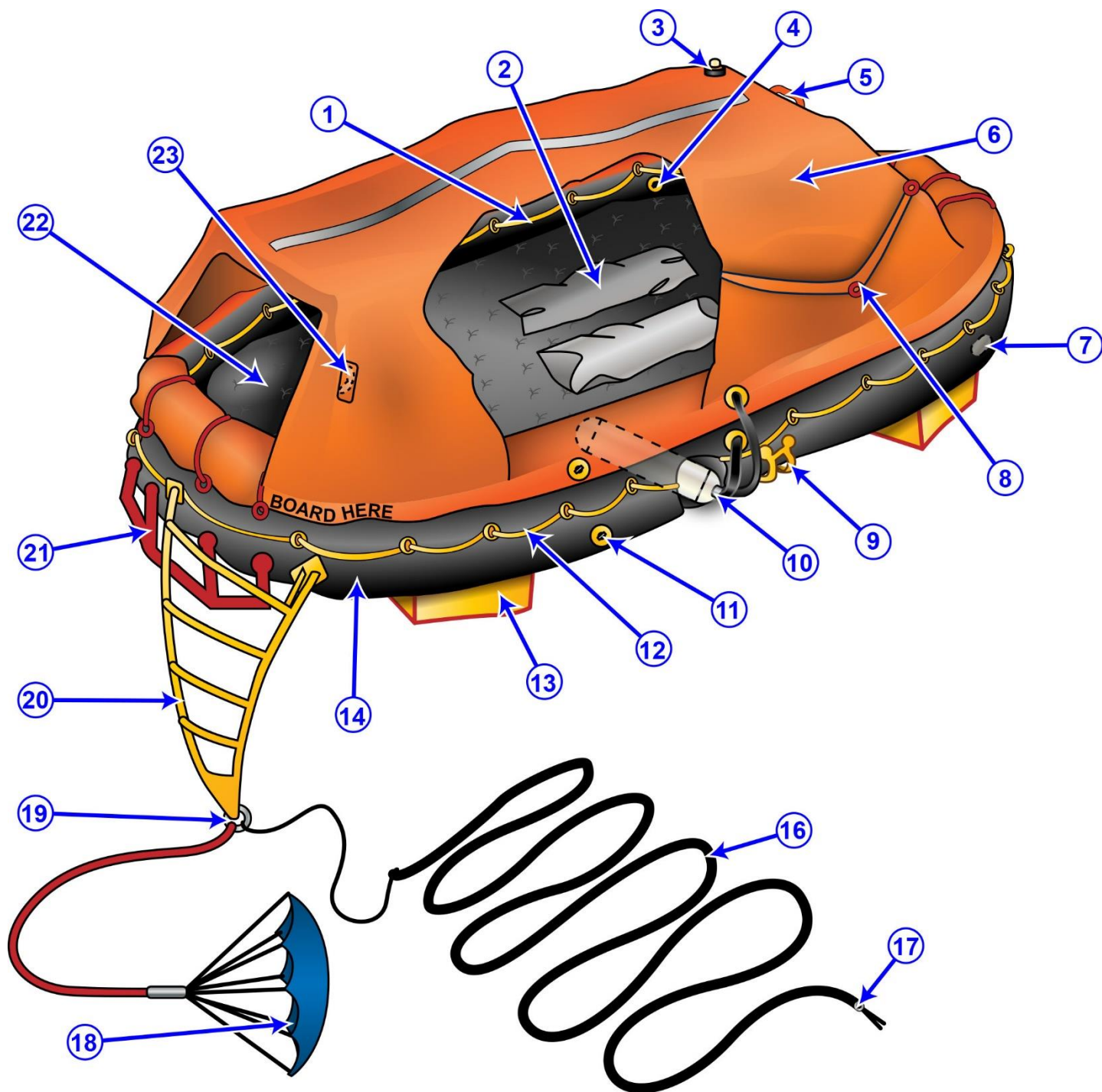
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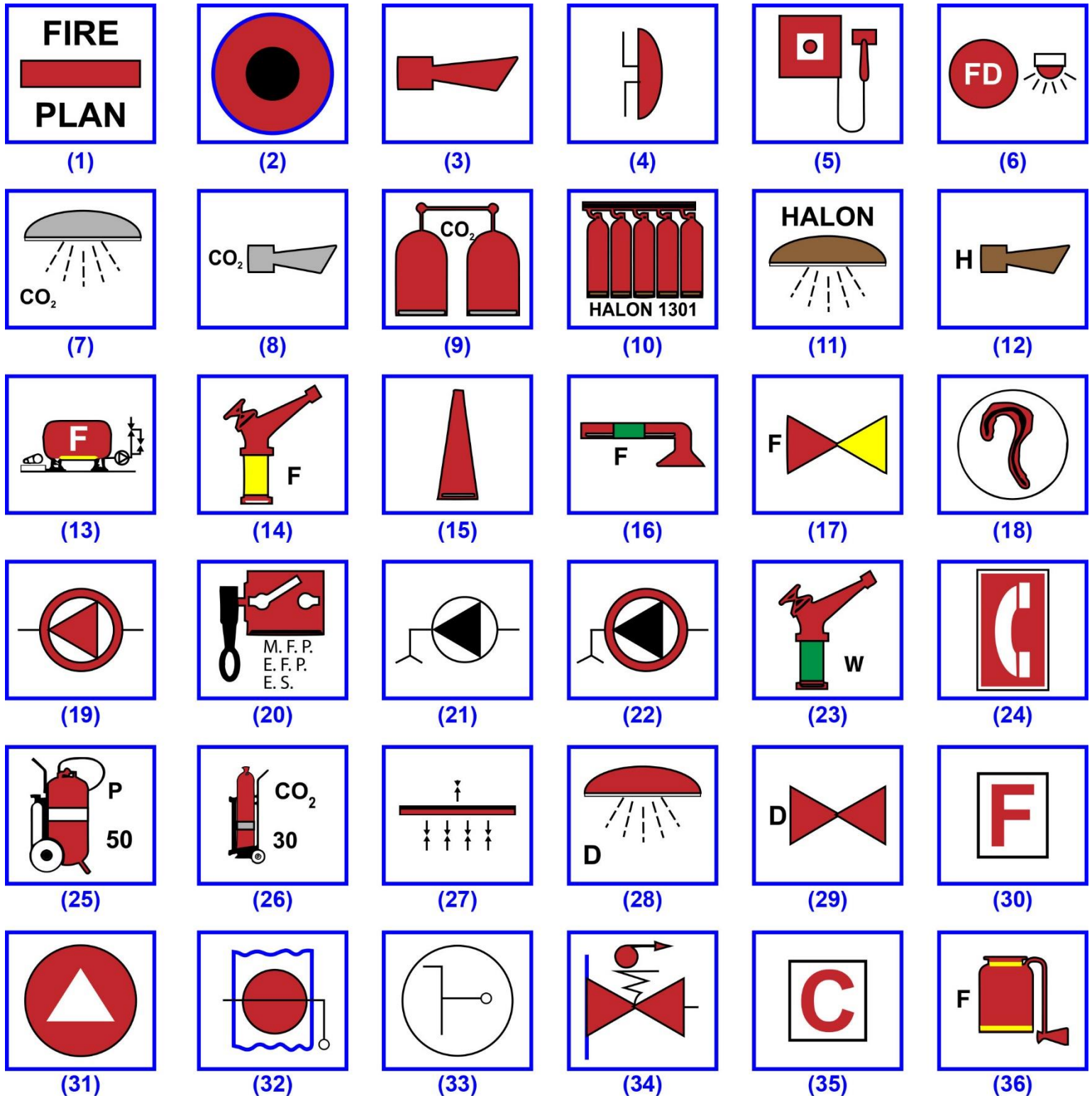
**FWD DRAFT
MARKS**

D014SA



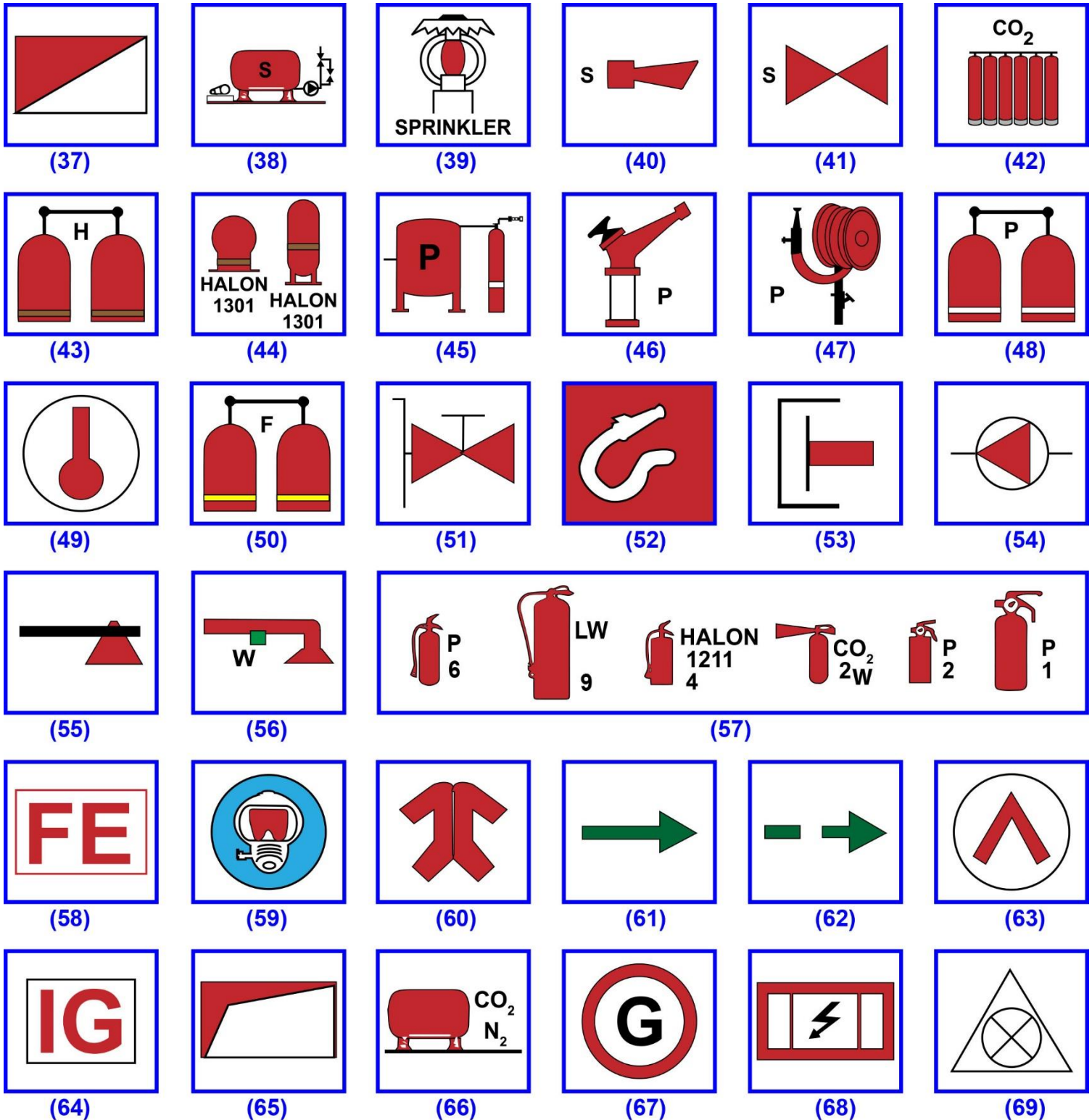
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