

U.S.C.G. Merchant Marine Exam
Mate of Unlimited Tonnage
Q308 Deck General
(Sample Examination)

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

1. In writing up the logbook at the end of your watch, you make an error in writing an entry. What is the proper means of correcting this error?
- A. Remove this page of the log book, and rewrite all entries on a clean page.
 - B. Cross out the error with a single line, and write the correct entry, then initial it.
 - C. Carefully and neatly erase the entry and rewrite it correctly.
 - D. Blot out the error completely and rewrite the entry correctly.

Correct answer: B

2. Which space(s) is(are) deducted from gross tonnage to derive net tonnage?
- A. Passenger spaces
 - B. Companions and booby hatches
 - C. Boatswain's stores
 - D. All of the above

Correct answer: C

3. Which part of a conventional cargo gear rig provides for vertical control and positioning of a boom?
- A. Spider band
 - B. Topping lift
 - C. Cargo whip
 - D. Gooseneck fitting

Correct answer: B

4. According to the Chemical Data Guide, what does the grade B flammable liquid carbon disulfide produce when burning?
- A. sulfuric acid gas
 - B. carbon tetrachloride
 - C. phosgene gas
 - D. sulfur dioxide gas

Correct answer: D

5. Which is the proper term used to describe a stream of water immediately surrounding a moving vessel's hull, flowing in the same direction as the vessel?
- A. Forward current
 - B. Directional current
 - C. Wake current
 - D. Propeller current

Correct answer: C

6. Your ship has loaded 20,000 barrels of crude oil, departing Valdez, Alaska for San Francisco. When loaded the cargo temperature was 96°F. API was 15°. The volume correction factor (VCF) is .0004. If the cargo temperature is expected to be 56°F at the discharge port, how many barrels will be offloaded?
- A. 19,680
 - B. 19,712
 - C. 20,288
 - D. 20,320

Correct answer: A

7. Which statement is correct concerning the carriage of coal in bulk?
- A. Because of its inherent vice, coal should not be loaded wet.
 - B. Dunnage should be placed against ship's sides and around stanchions.
 - C. Coal should be vented with surface ventilation only.
 - D. Through ventilation, as well as surface ventilation, should be provided whenever possible.

Correct answer: C

8. Regulations concerning the stowage, lashing, and securing of timber deck cargoes aboard general cargo vessels may be found in the _____.
- A. Rules and Regulations for Cargo and Miscellaneous Vessels
 - B. International Cargo Bureau Regulations
 - C. CFR Load Line Regulations
 - D. vessel's classification society rules and regulations

Correct answer: C

9. Once a vessel has loaded packaged hazardous cargo, the cargo spaces shall be inspected. The spaces shall also be inspected at least once in every 24 hours. The only exception to daily inspection is when _____.
- A. the cargo is of a nonflammable type
 - B. the cargo hatches are of steel construction
 - C. there is sufficient fire protection located on the main deck adjacent to the cargo hatch
 - D. a vessel is equipped with an automatic smoke or fire detecting system

Correct answer: D

10. Your vessel is loading Class 1G explosives. Which of the following statements is true concerning bunker operations?

- A. Vessels containing Class 1 explosives may not take on bunkers at any time without approval by the COTP
- B. Vessels handling Class 1 explosives may bunker during daylight only without any approval from the COTP
- C. Vessels may not handle Class 1 explosives while taking on fuel unless approval had been granted by the COTP
- D. Vessels may handle Class 1 explosives while bunkering without any approval as long as the hatches are open

Correct answer: C

11. You are transferring a cargo of ethyl chloride and a small amount spills into the water around your vessel. What does the Chemical Data Guide indicate is the solubility of ethyl chloride in water?

- A. moderate
- B. complete
- C. slight
- D. negligible

Correct answer: C

12. Which of the signals listed is required to be displayed during the day while bunkering?

- A. A red flag
- B. A red and yellow flag
- C. A yellow flag
- D. A red light

Correct answer: A

13. Which term is used to describe the distance a vessel moves at right angles to the original course, when a turn of 180° has been completed?

- A. Tactical diameter
- B. Kick
- C. Pivoting point
- D. Advance

Correct answer: A

14. Each hose used for transferring vapors must be which of the following?

- A. have a design burst pressure of at least 25 psig
- B. be electrically continuous with a maximum resistance of 10,000 ohms
- C. be capable of withstanding at least 2.0 psi vacuum without collapsing or constricting
- D. All of the above

Correct answer: D

15. A mariner whose credential has been revoked shall not be issued another credential without which of the following?
- A. Approval of the Commandant
 - B. Approval of the Officer-in-Charge, Marine Inspection
 - C. Taking a new examination
 - D. Approval of an administrative law judge

Correct answer: A

16. What is the mechanical advantage, neglecting friction, of tackle number 4 as shown in illustration D029DG below?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: D

17. When the dew point of the outside air is higher than the dew point of the air in the cargo hold, which action should you take?
- A. Energize the exhaust blowers
 - B. Do not ventilate the cargo holds
 - C. Energize the intake blowers
 - D. Ventilate the cargo holds

Correct answer: B

18. Who issues the certificate of loading required by each vessel carrying grain in bulk?
- A. owner or charterer of the vessel
 - B. National Cargo Bureau
 - C. shipper of the cargo
 - D. American Bureau of Shipping

Correct answer: B

19. You are on a multiple-product chemical tanker and will carry cargoes of butyric acid, propylene oxide, and octyl alcohol. Which statement is true?
- A. Butyric acid is incompatible with octyl alcohol but not propylene oxide.
 - B. Octyl alcohol is incompatible with both butyric acid and propylene oxide.
 - C. Propylene oxide may not be stowed in a tank adjacent to butyric acid.
 - D. All of these cargoes are compatible.

Correct answer: C

20. A tug placed at which location would have MINIMAL effect steering a large vessel?

- A. Placed forward on either bow of the vessel
- B. Attached by a tow line ahead of the vessel
- C. Secured on the vessel's quarter
- D. Placed approximately amidships of the vessel

Correct answer: D

21. How does the effect known as "bank suction" act on a single-screw vessel proceeding along a narrow channel?

- A. It pulls the stern toward the bank.
- B. It pulls the bow toward the bank.
- C. It heels the vessel toward the bank.
- D. It pushes the entire vessel away from the bank.

Correct answer: A

22. What is the period of validity of a Merchant Mariner Credential?

- A. 3 years
- B. 1 year
- C. 2 years
- D. 5 years

Correct answer: D

23. You are on a multiple-product tankship and scheduled to load a cargo classed as an aromatic amine. This cargo is incompatible with cargoes classed as _____.

- A. phenols
- B. ketones
- C. esters
- D. organic anhydrides

Correct answer: D

24. While transiting a channel your vessel's bow swings away from the bank. What is the term for this effect?

- A. Bank suction
- B. Yaw
- C. Bank cushion
- D. Sheer force

Correct answer: C

25. On your vessel, a wire rope for the cargo gear shows signs of excessive wear and must be replaced. In ordering a new wire for this 10-ton boom, what safety factor should you use?

- A. Three
- B. Five
- C. Six
- D. Seven

Correct answer: B

26. On a vessel proceeding from a very cold to a warm climate with a cargo of a nonhygroscopic nature in the holds, which is TRUE?

- A. Danger of heavy ship sweat exists; constant and vigorous ventilation is required.
- B. There is little danger of ship's sweat, slight possibility of cargo sweat; moderate ventilation is needed.
- C. There is danger of heavy cargo sweat if outside air is introduced by ventilation.
- D. The possibility of any sweat problem, either cargo or ship, is remote.

Correct answer: C

27. Which term defines the strainer at the bottom of a bilge suction pipe to prevent clogging?

- A. Rose box
- B. Flange
- C. Bellmouth
- D. Pipe cap

Correct answer: A

28. Which is an example of an anchor which has a stock?

- A. Danforth anchor
- B. Hook anchor
- C. Bruce anchor
- D. Dunn anchor

Correct answer: A

29. Which is a common occurrence when a vessel is running into shallow water?

- A. The wake is less pronounced
- B. The vessel is more responsive to the rudder
- C. "Squat" will cause a decrease in bottom clearance and an increase in draft
- D. All of the above

Correct answer: C

30. The tankship Northland is loaded as shown in table BL-0028 below. Use the salmon-colored pages in the Stability Data Reference Book to determine the sagging numeral.

BL-0028

LONGITUDINAL BENDING STRESSES (PSI)		
	DESCRIPTION	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	2867
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	3596
7.	#2 CARGO TANK	3996
8.	#3 CARGO TANK	4128
9.	#4 CARGO TANK	4146
10.	BRIDGE CREW	0
11.	BRIDGE STORES	0
12.	BRIDGE F.W.	0
13.	#5 CARGO TANK	0
14.	#6 BALLAST TANK	0
15.	#7 CARGO/BALLAST TANK	1821
16.	#8 CARGO/BALLAST TANK	2328
17.	#9 CARGO/BALLAST TANK	2303
18.	#10 CARGO TANK	4042
19.	#11 CARGO TANK	3798
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	850
22.	AFT SETTLERS	340
23.	DISTILLED WATER	60
24.	AFT STORES	80
25.	AFT CREW	7
26.	F.W. AFT	70
27.	AFT PEAK	0

- A. 22.44 numeral
- B. 28.62 numeral
- C. 89.75 numeral
- D. 40.18 numeral

Correct answer: A

31. Which is the BETTER holding ground, for a conventional anchor?

- A. A mixture of mud and clay
- B. A very soft mud
- C. A rocky bottom
- D. A shale bottom

Correct answer: A

32. You observe a V-shaped ripple with the point of the V pointing upstream in a river. What may this indicate?

- A. A sunken wreck, not dangerous to navigation
- B. A submerged rock, not dangerous to navigation
- C. A towed-under buoy
- D. All of the above

Correct answer: C

33. As a rule, ships of most configurations, when drifting in calm water with negligible current, will lie in which orientation?

- A. The stern will be to the wind
- B. The bow will be to the wind
- C. With the wind on the quarter
- D. The beam will be to the wind

Correct answer: D

34. You are preparing to relieve the mate on watch while underway at sea. Under which situation should the watch NOT be transferred?

- A. During a collision avoidance maneuver
- B. While the Master is on the bridge
- C. During a speed change on load program
- D. All of the above

Correct answer: A

35. If a tug equipped with flanking rudders is to be turned in a confined circle, when going astern, which is the best action to take to make the stern move to port?

- A. The rudder is hard to port and the flanking rudders are hard to port
- B. The rudder is hard to port and the flanking rudders are hard to starboard
- C. All of the rudders are hard to starboard
- D. The rudder is amidships and the flanking rudders are hard to port

Correct answer: A

36. When is a lookout permitted to leave his station?

- A. 15 minutes before the end of the watch
- B. At the end of the watch
- C. Only when properly relieved
- D. At any time

Correct answer: C

37. The most likely time for oil pollution while bunkering is when _____.

- A. final topping off is occurring
- B. hoses are being blown down
- C. first starting to receive fuel
- D. hoses are disconnected and being capped

Correct answer: A

38. When relieving the helm, the new helmsman should know which of the following before assuming the watch?

- A. Variation
- B. Gyro error
- C. Course per magnetic steering compass
- D. Maximum rudder angle previously used

Correct answer: C

39. Which vessel is NOT required to have a Pollution Placard posted on board?

- A. 215-foot naval auxiliary vessel
- B. 75-foot towing vessel
- C. 50-foot cabin cruiser used for pleasure only
- D. 150-foot unmanned tank barge

Correct answer: A

40. You are the Master of a single-screw vessel. You are docking at a port which has no tugs available. You decide to drop the offshore anchor to help in docking. How much chain should you out?

- A. 5 to 7 times the depth of the water
- B. Equal to the depth of the water
- C. NEVER use the anchor to help in docking
- D. 1 1/2 times the depth of the water to the hawsepipe

Correct answer: D

41. You are loading a cargo that includes cylinders of acetylene aboard your break bulk vessel. Which statement is true?

- A. Stowage in the upper-deck is considered to be the equivalent of "on deck" stowage for this cargo.
- B. The cylinders must have a red label for flammability and a green label for compressed gas.
- C. The cylinders may be protected from the radiant heat of the Sun by laying a tarp on them.
- D. The cylinders must be stowed at least 10 horizontal feet from corrosive materials in the same space.

Correct answer: D

42. When discharging clean ballast prior to entering a loading port, what must you do if it is determined the ballast exceeds 15 parts per million of oil?
- A. The deballasting must be completely discharged in order to load
 - B. The deballasting must be completed only after "load on top" has been completed
 - C. The deballasting must be terminated automatically
 - D. The deballasting must be stopped until the oil can settle out, then resumed at a slower discharge rate

Correct answer: C

43. You are conducting trials to determine the maneuvering characteristics of your vessel. While making a turn, you take ranges and bearings of an isolated light with the results as shown. Based on this information, what is the advance for a turn of 45°? Illustration D034DG
- A. 590 yards
 - B. 635 yards
 - C. 690 yards
 - D. 740 yards

Correct answer: C

44. What is the total number of approved low-velocity water spray ("water-fog") applicators required aboard a tankship?
- A. 4
 - B. 7
 - C. 10
 - D. 11

Correct answer: B

45. Which document is NOT required by law to be posted aboard a vessel?
- A. Muster List
 - B. Certificate of Inspection
 - C. Officer's licenses
 - D. Official Crew List

Correct answer: D

46. What are the required number and type of hand portable fire extinguishers for a galley having an area of 3,500 square feet?
- A. One B-II extinguisher or post 2017 One 40-B extinguisher
 - B. One C-II extinguisher or post 2017 One 40-B:C extinguisher
 - C. Two B-II or C-II extinguishers or post 2017 Two 40-B:C extinguishers
 - D. Two A-II or B-II extinguishers or post 2017 regulation equivalent of Two 2-A or 40-B extinguishers

Correct answer: C

47. When picking up your mooring at the buoy, which is the correct method?

- A. Stop upwind and up current and drift down on the buoy
- B. Approach the buoy with the wind and current astern
- C. Approach the buoy with the wind and current ahead
- D. Approach the buoy with wind and sea abeam

Correct answer: C

48. What is a wet cargo?

- A. A cargo that contains hygroscopic moisture
- B. A liquid cargo carried in the deep tanks
- C. A cargo particularly susceptible to damage by moisture
- D. A canned or bottled liquid such as beer

Correct answer: D

49. Which type of rudder may lose its effectiveness at angles of 10 or more degrees?

- A. Flat plate
- B. Balanced spade
- C. Contra-guide
- D. Unbalanced

Correct answer: B

50. You are operating a 1,000 GT non-oceangoing tankship. It must be equipped with or capable of which of the following?

- A. A means on the weather deck to stop each pump used to discharge oily waste overboard
- B. Must maintain two pumps for discharging oily bilge slops
- C. Shall have a fixed piping system for bilge slops with one outlet on each side of the weather deck
- D. Be capable of retaining all oily mixtures onboard in the ship's bilges or sludge tank

Correct answer: D

51. Which of the following would be a good extinguishing agent for a grade B product of 1,3-Pentadiene?

- A. Foam
- B. Water
- C. Low Velocity Fog
- D. High Velocity Fog

Correct answer: A

52. You are docking a vessel. When are the wind and current most favorable in this situation?

- A. When they are crossing your course, both in the same direction
- B. When they are both parallel to the pier from ahead
- C. When they are both setting you on the pier
- D. When they are crossing your course, in opposite directions to the other

Correct answer: B

53. Generally, you can best maintain a vessel's steering control under which condition(s)?

- A. The vessel has sternway
- B. The vessel has no way on, with engines full ahead
- C. The vessel has headway
- D. The vessel has no way on, with engines stopped

Correct answer: C

54. You are arriving in port and are assigned to anchor in anchorage circle B-4. It has a diameter of 600 yards and your vessel's LOA is 525 feet. If you anchor in 10 fathoms at the center of the circle, what is the maximum number of shots of chain you can use and still remain in the circle?

- A. 4 shots
- B. 5 shots
- C. 6 shots
- D. 7 shots

Correct answer: A

55. Which shallow water effect will increase dramatically if you increase your ship's speed past its "critical speed"?

- A. Bank cushion
- B. Squatting
- C. Smelling the bottom
- D. Sinkage

Correct answer: B

56. Prior to being able to sail, each vessel that carries grain in bulk must have a certificate of loading. Which organization issues this certificate?

- A. National Cargo Bureau
- B. U.S. Salvage
- C. Lloyds of London
- D. American Bureau of Shipping

Correct answer: A

57. An IOPP Certificate on an inspected vessel is valid for what period of time?

- A. 6 months
- B. 12 months
- C. 18 months
- D. 5 years

Correct answer: D

58. What is a sheave?

- A. A seaman's knife
- B. A grooved wheel in a block
- C. A line to hold a lifeboat next to the embarkation deck
- D. A partial load of grain

Correct answer: B

59. Which of the following is considered "discharge" as it applies to the pollution regulations?

- A. pumping
- B. spilling
- C. leaking
- D. All of the above

Correct answer: D

60. Using a scope of 6, determine how many feet of anchor cable you should put out to anchor in 12 feet (3.7 meters) of water.

- A. 2 feet (0.6 meters)
- B. 18 feet (5.5 meters)
- C. 48 feet (14.6 meters)
- D. 72 feet (21.9 meters)

Correct answer: D

61. What speed do most bow thrusters generally become ineffective?

- A. Over 1 knot sternway
- B. Over 3 knots headway
- C. At any speed ahead
- D. At any speed astern

Correct answer: B

62. In accordance with U.S regulations, your cargo vessel must have which of the following?

- A. Separate toilet facilities for engineers where their number exceeds six
- B. Sufficient facilities for the crew to wash their clothes
- C. A wash basin in each room
- D. All of the above

Correct answer: B

63. If Annex V to MARPOL 73/78 applies to your vessel, which of the following cannot be discharged anywhere at sea?

- A. Glass
- B. Metal
- C. Plastic
- D. All of the above

Correct answer: D

64. What is the breaking strain of steel wire rope with a 5/8" diameter?

- A. 1.0 tons
- B. 6.6 tons
- C. 9.6 tons
- D. 15.6 tons

Correct answer: C

65. What is the main advantage and chief characteristic of a Steulchen boom?

- A. It can be operated by one winchman
- B. It is collared to the mast
- C. It can be swung from one hatch to the adjacent hatch
- D. It is cradled on deck when secured for sea

Correct answer: C

66. When planning the loading or discharging of a VLCC (100,000 DWT+) what is the most important consideration?

- A. Rate of loading
- B. Rate of discharging
- C. Draft and trim
- D. Limits of the bending moments

Correct answer: D

67. Which of the following is the strongest of the natural fibers?

- A. Manila
- B. Hemp
- C. Sisal
- D. Cotton

Correct answer: A

68. In handling break bulk hazardous materials, it is forbidden to use _____.

- A. metal bale hooks
- B. cargo nets
- C. slings
- D. pallets

Correct answer: A

69. The Master must maintain the Oil Record Book on board for which duration?

- A. 1 month
- B. 12 months
- C. 24 months
- D. 36 months

Correct answer: D

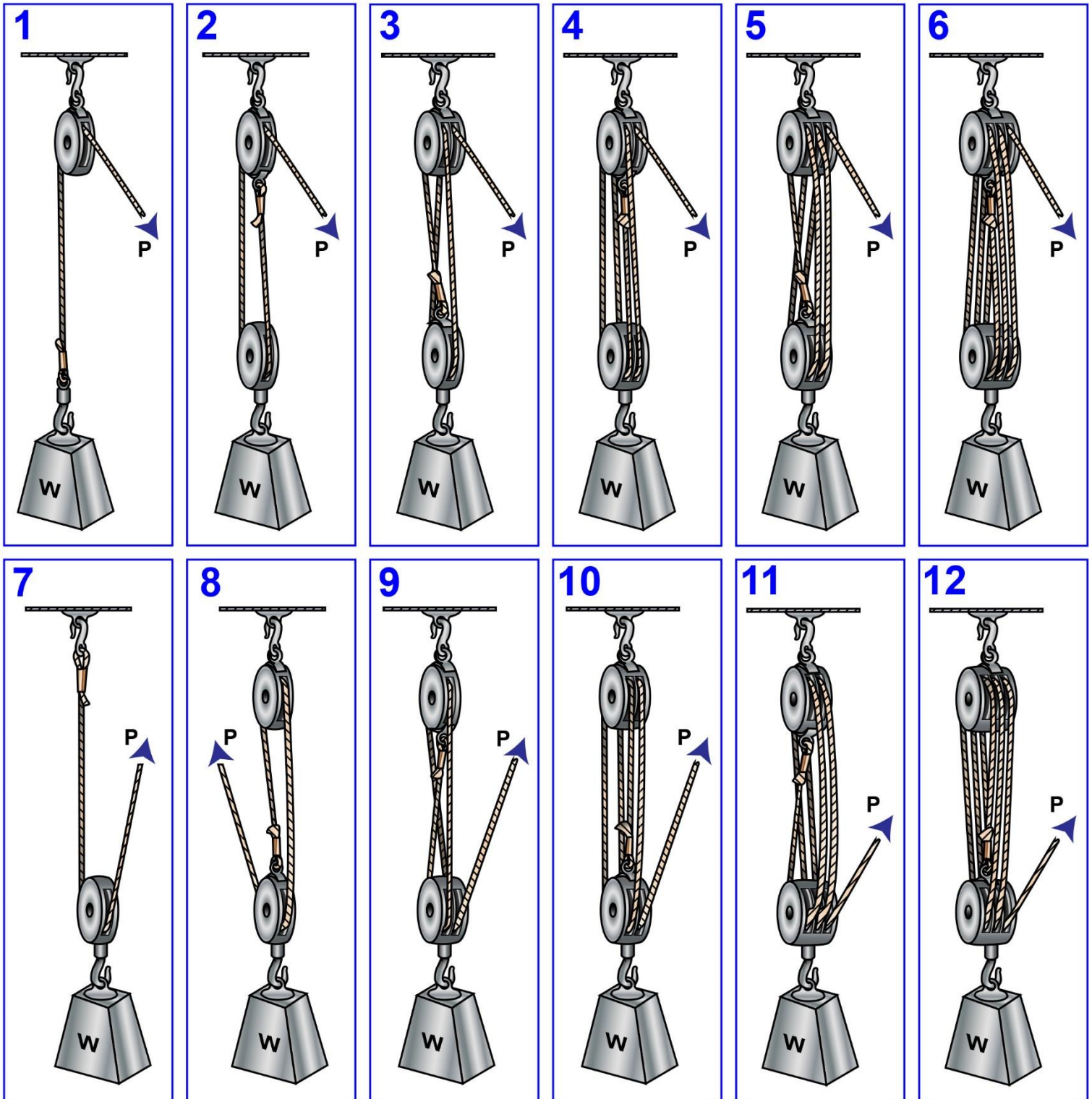
Q308 Deck General
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Illustrations: 2

70. Which agency must approve the safety equipment on board inspected vessels?

- A. The U.S. Coast Guard
- B. The Occupational Safety and Health Administration (OSHA)
- C. The Safety Standards Bureau
- D. The National Safety Council

Correct answer: A

D029DG



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D034DG

HEADING (TRUE)	BEARING (TRUE)	RANGE (YDS)	REMARKS
228°			INITIAL HEADING
228°	232°	2260	ON INITIAL COURSE
228°	234°	1700	RIGHT FULL RUDDER ORDERED
230°	236°	1490	
252°	235°	1275	
275°	231°	1000	
316°	214°	850	
352°	198°	975	
022°	194°	1210	
053°	197°	1430	
087°	202°	1600	
115°	209°	1690	
151°	217°	1700	
183°	225°	1600	
218°	232°	1350	RUDDER AMIDSHIPS
228°	235°	1125	STEADY ON 228°