

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. Generally, you can best maintain a vessel's steering control under which condition(s)?
- A. The vessel has headway
 - B. The vessel has sternway
 - C. The vessel has no way on, with engines stopped
 - D. The vessel has no way on, with engines full ahead

Correct answer: A

2. Who has the authority to grant an alternate procedure for oil transfer operations?
- A. The nearest Coast Guard office
 - B. The Captain of the Port
 - C. The Area Commander
 - D. The Officer-in-Charge, Marine Inspection

Correct answer: B

3. What is a serving mallet used for?
- A. To aid in covering wire or fiber rope with marline
 - B. Forcing fids into a line by striking the small end
 - C. To aid in the dogging the hatches
 - D. To cut the line clean before splicing the line

Correct answer: A

4. When inspecting ground tackle, where are fractures most frequently found?
- A. The flukes
 - B. The anchor shank
 - C. The swivel
 - D. The end links

Correct answer: D

5. Regulations require that cargo pumprooms handling grades D and/or E liquid cargo only shall be fitted with ducts extended to the weather deck. How many ducts are required?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: B

6. Your vessel is taking on fuel when a small leak develops in the hose. You order the pumping stopped. Before you resume pumping, you should _____.
- A. Place a large drip pan under the leak and plug the scuppers
 - B. Repair the hose with a patch
 - C. Notify the terminal superintendent
 - D. Replace the hose

Correct answer: D

7. What is the name of tackle number 5 as shown in illustration D029DG below?
- A. 3-2 purchase
 - B. Four-fold whip
 - C. Double luff tackle
 - D. Two-fold purchase

Correct answer: C

8. A marine radar system for surface navigation must be fitted on all ocean or coastwise vessels of over which tonnage?
- A. 1,400 GT
 - B. 1,500 GT
 - C. 1,600 GT
 - D. 1,700 GT

Correct answer: C

9. When being relieved of the helm, the new helmsman would find it handy to know which of the following?
- A. Variation in the area
 - B. Amount of helm carried for a steady course
 - C. Leeway
 - D. Deviation on that heading

Correct answer: B

10. At what distance from the water's edge must you employ an accommodation ladder or other equally safe and convenient means for a pilot?
- A. 20 feet
 - B. 30 feet
 - C. 40 feet
 - D. 50 feet

Correct answer: B

11. A cargo of 10,000 barrels of gasoline is loaded at a temperature of 90°F, and a cargo temperature of 55°F, is expected on this voyage. It has a coefficient of expansion of .0006. How many barrels would you expect to discharge at your destination?
- A. 9790
 - B. 9994
 - C. 10210
 - D. 10410

Correct answer: A

12. You are the officer on watch and have taken the final drafts of your vessel prior to getting underway. The vessel takes departure and proceeds outbound in a narrow channel. As the vessel increases speed and gains momentum, what will be the effect on the mean draft?
- A. It will decrease in comparison to the sailing drafts
 - B. It will increase in comparison to the sailing drafts
 - C. It will remain the same as the sailing drafts
 - D. It will increase if you decrease speed

Correct answer: B

13. How does the effect known as "bank suction" act on a single-screw vessel proceeding along a narrow channel?
- A. It pulls the bow toward the bank.
 - B. It heels the vessel toward the bank.
 - C. It pushes the entire vessel away from the bank.
 - D. It pulls the stern toward the bank.

Correct answer: D

14. Prior to handling Class 1 explosive materials, which signal(s) is/are required to be displayed by the vessel?
- A. the Bravo flag and a flashing red all-round light
 - B. an announcement on VHF channel 16 every hour
 - C. an all-round flashing blue light
 - D. the Bravo flag and signs posted prohibiting smoking

Correct answer: D

15. When loading a high-density, solid bulk cargo, proper distribution of weights is necessary to _____.
- A. prevent negative stability from developing
 - B. prevent excessive longitudinal stresses
 - C. control list
 - D. provide the proper trim

Correct answer: B

16. What effect will bank suction have on a vessel?

- A. The bow swings away from the bank
- B. The stern swings towards the bank
- C. The stern swings away from the bank
- D. The bow swings towards the bank

Correct answer: B

17. Your ship has loaded 6,000 barrels of gasoline, at a cargo temperature of 50°F, departing New Jersey bound for Florida. API gravity is 55°. The volume correction factor (VCF) is .0006. How many barrels would you expect to unload if the cargo temperature is 90°F at the discharge port?

- A. 5,856
- B. 5,982
- C. 6,018
- D. 6,144

Correct answer: D

18. Where is the pivoting point located on a fully loaded vessel with normal trim proceeding ahead at sea speed?

- A. One-third the length of the vessel from the bow
- B. Right at the bow
- C. Two-thirds the length of the vessel from the bow
- D. One-half the length of the vessel from the bow

Correct answer: A

19. Which defines the pitch of a propeller on a merchant vessel?

- A. The positive pressure resulting from the difference of the forces on both sides of the moving propeller in still water without slip
- B. The angle that the propeller makes with a free stream of water
- C. The angle that the propeller makes with the surface of the water
- D. The number of feet per revolution the propeller is designed to advance in still water without slip

Correct answer: D

20. What is the name of tackle number 3 as shown in illustration D029DG below?

- A. Gun tackle
- B. Single luff tackle
- C. 1-2 purchase
- D. Double whip

Correct answer: B

21. Cargo hose carried on tank vessels must be designed to withstand the pressure of the shutoff head of the cargo pump or pump relief valve setting, but in no case should it be less than _____.

- A. 100 psi
- B. 150 psi
- C. 200 psi
- D. 250 psi

Correct answer: B

22. You are mooring to a buoy. How should you make your approach?

- A. Place the current astern and drift to the buoy
- B. The current should be broad on the bow
- C. The current should be dead ahead
- D. The current should be on the beam

Correct answer: C

23. You have determined the maneuvering characteristics of your vessel by taking the radar ranges and bearings of an isolated light while making a turn. The results are shown in illustration D035DG below. What is the transfer for a turn of 60°?

- A. 105 yards
- B. 155 yards
- C. 205 yards
- D. 255 yards

Correct answer: B

24. 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. Carefully and neatly erase the entry and rewrite it correctly.
- B. Cross out the error with a single line, and write the correct entry, then initial it.
- C. Remove this page of the log book, and rewrite all entries on a clean page.
- D. Blot out the error completely and rewrite the entry correctly.

Correct answer: B

25. A change of a documented vessel's name can only be made by which organization?

- A. Treasury Department
- B. Coast Guard
- C. Commissioner of Customs
- D. American Bureau of Shipping

Correct answer: B

26. Which describes how flanking rudders effect a vessel's heading when going astern?

- A. The discharge current being channeled to impinge on the vessel's deadwood
- B. The tunnel effect of the water flow past opposing rudders
- C. The effect of the propeller flow on the rudders
- D. The water flow due to the vessel's movement through the water

Correct answer: C

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

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

Correct answer: D

28. You are taking the bow line from the port bow of a large vessel that is underway when the stern of your tug comes in contact with the vessel. The forward motion of both vessels causes your tug to be turned toward the other vessel and contact the stem thereby being "stemmed". Which action should you take?

- A. Stop engines and the vessel's wake will push you clear of the bow
- B. Go full ahead with the rudder hard over to starboard
- C. Go full ahead with the rudder amidships
- D. Go full astern with rudder amidships

Correct answer: D

29. What does the helm command "meet her" mean?

- A. Use rudder to check the swing
- B. Decrease the rudder angle
- C. Steer more carefully
- D. Note the course and steady on that heading

Correct answer: A

30. In accordance with U.S. regulations which statement is true concerning packages containing Class 1 explosive material?

- A. Defective package of Class 1 materials may be repaired onboard the vessel
- B. Defective packages of Class 1 materials require a Statement of Fact to be submitted prior to loading
- C. Defective packages of Class 1 materials may not be accepted for shipment
- D. Defective packages of Class 1 materials may be accepted for shipment

Correct answer: C

- 31.** You have orders to load cargoes of carbon disulfide, diisopropylamine and pyridine on your multi-product tankship. Which statement is TRUE?
- A. Pyridine and diisopropylamine may be carried in tanks having a common header vent.
 - B. A tank of carbon disulfide may be used to separate a tank of pyridine from a tank of diisopropylamine.
 - C. Carbon disulfide may be carried in NOS. 1 and 2 center tanks and diisopropylamine in NOS. 1 and 2 wing tanks.
 - D. Diisopropylamine must be separated from carbon disulfide by two barriers (cofferdams, voids, empty tanks, etc.)

Correct answer: D

- 32.** A tankerman who permits or causes oil to go into a navigable waterway may be federally punished with which of the following?
- A. Suspension or revocation of tankerman's document
 - B. Fined in accordance with Title 18 U.S. Code
 - C. Imprisonment not to exceed 5 years
 - D. All of the above

Correct answer: D

- 33.** Ship's officers should check every cargo compartment after it is filled with bulk grain to ensure which of the following?
- A. The correct grade of cargo has been loaded
 - B. All lighting circuits are energized
 - C. The heavier grade is in the lower hold
 - D. All spaces are filled

Correct answer: D

- 34.** Severe exposure to chlorine gas can be fatal. Chlorine gas is primarily a _____.
- A. nerve paralyzing irritant
 - B. skin burning agent
 - C. blood poisoning agent
 - D. respiratory irritant

Correct answer: D

- 35.** Which is an advantage of nylon rope over manila rope?
- A. Can be stored on decks exposed to sunlight
 - B. Can be used in conjunction with wire or spring-lay rope
 - C. Can hold a load even when a considerable amount of the yarns have been abraded
 - D. It gives an audible warning of overstress whereas manila does not

Correct answer: C

- 36.** Which statement is TRUE when using the anchor to steady the bow while approaching a dock?
- A. Steering control is ineffective in trying to turn to the side opposite to that of the anchor being used
 - B. Using an offshore anchor decreases the chances of the anchor holding
 - C. The vessel will tend to take a large sheer towards the side where the anchor is down
 - D. The anchor cable must never lead under the hull

Correct answer: B

- 37.** How long is a credential issued by the U.S. Coast Guard for apprentice mate (steersman) of Towing Vessels valid for?
- A. 2 years and must be renewed
 - B. 3 years and must be renewed
 - C. 5 years and must be renewed
 - D. None of the above

Correct answer: C

- 38.** While proceeding up a narrow waterway you observe a vessel berthed in the river with slack mooring lines. Which is the most prudent action to take FIRST?
- A. Contact the moored vessel
 - B. Call the US Coast Guard
 - C. Give 5 short blasts on the whistle
 - D. Reduce the speed of your vessel

Correct answer: D

- 39.** Which ending is NOT acceptable in a wire rope that is free to rotate when hoisting?
- A. Poured socket
 - B. Liverpool eye splice
 - C. Eye formed by clips
 - D. Eye formed with a pressure clamped sleeve

Correct answer: B

- 40.** Which part of the patent anchor performs the same function as the stock of an old fashioned anchor; that is, forces the flukes to dig in?
- A. Bill or pea
 - B. Shank
 - C. Arm
 - D. Tripping Palm

Correct answer: D

- 41.** Which document will describe lifesaving equipment located aboard your vessel?
- A. Clearance Papers
 - B. Muster List ("Station Bill")
 - C. Forecastle Card
 - D. Certificate of Inspection

Correct answer: D

42. The moisture equilibrium chart can be used to determine which item?

- A. Enthalpy of the air surrounding a hygroscopic cargo which is in moisture equilibrium with the cargo
- B. Temperature at which moisture equilibrium will occur in a cargo hold containing a hygroscopic cargo
- C. Absolute moisture content of the air surrounding a hygroscopic cargo when moisture equilibrium exists
- D. Dew point temperature that the air surrounding a hygroscopic commodity will have when in moisture equilibrium with that commodity

Correct answer: D

43. Your containership has a container displaying a hazardous cargo placard. The placard has the number 2206 on it. This indicates that it is carrying what cargo?

- A. Propadiene, inhibited
- B. Hexanols
- C. Isocyanates, n.o.s.
- D. Xylenol

Correct answer: C

44. What is the minimum number of bolts required in a permanently connected flange oil hose coupling?

- A. A bolt must be used in every hole.
- B. 6
- C. 4
- D. 3

Correct answer: A

45. In order to carry a cargo of triethanolamine, what hull type is required?

- A. I
- B. II
- C. III
- D. IV

Correct answer: C

46. When steering a vessel, which of the following will an effective helmsman do?

- A. Apply rudder to move the compass card towards the lubber's line when off course
- B. Repeat back to the watch officer any rudder commands before executing them
- C. Keep the rudder amidships except when changing course
- D. Use as much rudder as possible to keep the vessel on course

Correct answer: B

47. Who issues the certificate of loading required by each vessel carrying grain in bulk?

- A. American Bureau of Shipping
- B. National Cargo Bureau
- C. shipper of the cargo
- D. owner or charterer of the vessel

Correct answer: B

48. When computing gross under keel clearance (UKC), what factor should NOT be considered?

- A. Squat allowance
- B. Heel allowance
- C. Tidal residual allowance
- D. Wind residual allowance

Correct answer: D

49. 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

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

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

Correct answer: D

51. A vessel reduces speed without backing. Which item is the primary factor that determines the rate that her speed through the water decreases?

- A. The number of propellers
- B. The sea state
- C. The vessel's displacement
- D. The vessel's horsepower

Correct answer: C

52. On an inspected vessel, which abbreviation refers to the horizontal distance between perpendiculars taken at the forward-most and the after-most points on the waterline at her deepest operating draft?

- A. LLL
- B. LBP
- C. LOA
- D. LWL

Correct answer: B

53. If a hydraulic pump on a winch accidentally stops while hoisting, the load will stay suspended because _____.

- A. the control lever will move to the stop position
- B. a check valve will close and prevent reverse circulation
- C. the electric pump motor will cut out
- D. a centrifugal counterweight counteracts the force of gravity

Correct answer: B

54. In order to reduce the accumulation of static electricity while loading petroleum products, you should _____.

- A. increase the air flow into the tank
- B. start to load slowly
- C. use the overall method of loading only
- D. start to load at maximum pressure

Correct answer: B

55. Which term describes Cargoes that might leak from containers?

- A. Dirty cargoes
- B. Bulk cargoes
- C. Caustic cargoes
- D. Wet cargoes

Correct answer: D

56. When bunkering is complete, which is the correct procedure concerning the bunker hoses?

- A. The hose must be drained, blanked off, and stored securely
- B. The hose should be washed out with hot soapy water
- C. The hose must be cleaned internally with a degreaser
- D. The hose must be stowed vertically and allowed to drain

Correct answer: A

57. You are on a single-screw vessel with a right-handed propeller, and you are making headway. What occurs when you enter shallow water?

- A. Your vessel will tend to ride higher
- B. Your speed will increase without a change in your throttle
- C. Your rudder response will become sluggish
- D. Your vessel will have better rudder response

Correct answer: C

58. Which statement(s) is/are TRUE concerning crane cargo operations?

- A. Lifting points on all equipment must be safely checked prior to commencing a lift.
- B. Cargo loaded into vehicles and/or containers prior to lifting needs to be properly secured so as to prevent shifting during transport.
- C. Never exceed crane manufacturer's limits concerning the safe working loads of cargo jibs.
- D. All the above

Correct answer: D

59. On an inspected vessel, when may a stability test be dispensed with?

- A. Coast Guard has the approved stability test results of a sister vessel
- B. Coast Guard does not have a qualified inspector available
- C. The vessel is of a proven design
- D. The projected cost is unreasonable

Correct answer: A

60. Which factor is MOST important in preventing sweat damage within a cargo hold?

- A. Temperature of the cargo
- B. Outside air temperature
- C. Dew point of the cargo hold
- D. Dew point of the outside atmosphere

Correct answer: C

61. Which defines the process of cargoes segregation?

- A. The separating of cargoes by final destination and block stowing to avoid overcarriage
- B. The separating of cargoes so that the inherent characteristics of one cannot damage the other
- C. To classifying cargoes according to their toxicity
- D. Listing the cargoes in order of their flammability

Correct answer: B

62. Which part of an anchor actually digs into the bottom?

- A. Stock
- B. Crown
- C. Fluke
- D. Shank

Correct answer: C

63. A flame screen _____.

- A. prevents inert gas from leaving a tank
- B. permits vapors to exit but not enter a tank
- C. permits the passage of vapor but not of flame
- D. prevents the passage of flammable vapors

Correct answer: C

64. Which statement about tunnel bow thrusters fitted to large vessels is TRUE?

- A. They are effective on most vessels at speeds up to 10 knots.
- B. When going astern at slow speed, they provide effective steering control.
- C. They are fully effective at all drafts.
- D. Because of their location, most modern installations have as much power as a tug.

Correct answer: B

65. In accordance with regulations, ethylene oxide shall be loaded below what temperature?

- A. 70°F
- B. its flash point
- C. 51°F
- D. 90°F

Correct answer: A

66. What is a grade B flammable liquid?

- A. Allyl alcohol
- B. Paraldehyde
- C. Chlorallylene
- D. Ethylene oxide

Correct answer: C

67. Which product(s) is(are) compatible with the product ethylene cyanohydrin?

- A. Sulfuric acid
- B. Isocyanates
- C. Nitric acid
- D. Ammonia

Correct answer: D

68. You are operating an ocean-going vessel of 322 gross tons. If your vessel does NOT have an oily-water separator then she must have a fixed piping system to discharge oily ballast to a shore facility. This system must include which item(s)?

- A. A containment capacity for at least 5 gallons at the tank vents
- B. A means to stop each pump near the discharge outlet
- C. At least two pumps that may be put in line
- D. At least two outlets accessible from the weather deck

Correct answer: B

69. Using a scope of five, determine how many shots of chain you should put out to anchor in 5 fathoms of water?

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

Correct answer: B

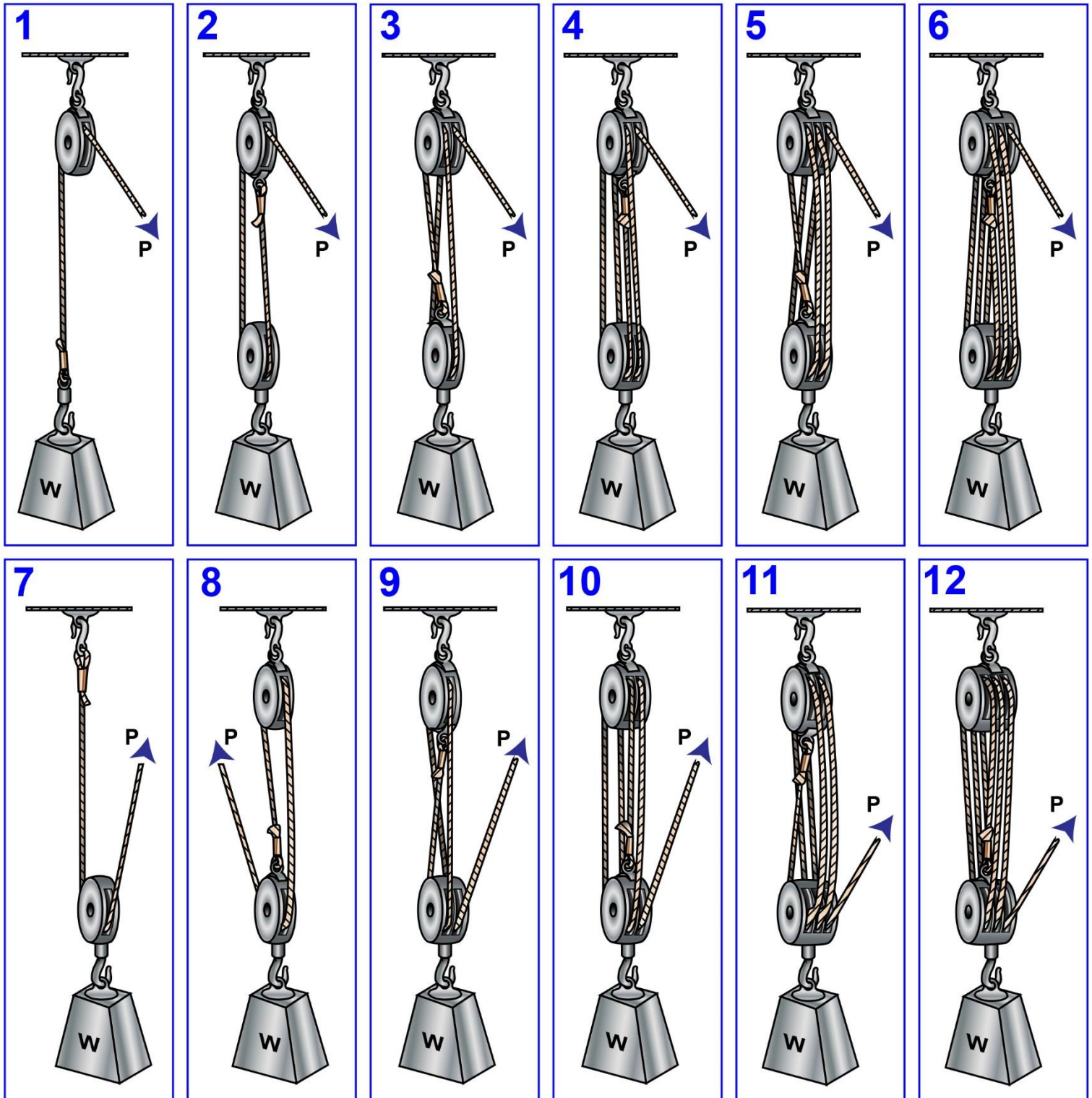
70. A nylon line is rated at 15,000 lbs. breaking strain. Using a safety factor of 5, what is the safe working load (SWL)?

- A. 3,000 lbs.
- B. 5,000 lbs.
- C. 15,000 lbs.
- D. 65,000 lbs.

Correct answer: A



D029DG



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United States Coast Guard National Maritime Center



D035DG

HEADING (TRUE)	BEARING (TRUE)	RANGE (YDS)	REMARKS
333°			INITIAL HEADING
333°	315°	2125	ON INITIAL COURSE
333°	310°	1650	LEFT FULL RUDDER ORDERED
327°	307°	1475	
310°	303°	1250	
278°	302°	1050	
268°	305°	900	
236°	318°	750	
196°	337°	800	
157°	344°	1100	
113°	340°	1350	
079°	332°	1525	
050°	324°	1575	
022°	318°	1550	
343°	308°	1400	RUDDER AMIDSHIPS
333°	302°	1175	STEADY ON 333°

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