

## U.S.C.G. Merchant Marine Exam

Mate Less than 500-1600 Gross Registered Tons

Q136 Deck General

(Sample Examination)

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

1. Which of the following is classified as a flammable liquid?

- A. Bunker C
- B. Butane
- C. Mineral spirits
- D. Methyl alcohol

Correct answer: D

2. You are transporting dangerous cargo on your vessel. Who is required to sign the Dangerous Cargo Manifest acknowledging the correctness of the document?

- A. The Master or his authorized representative
- B. The shipper
- C. Only the Master
- D. A U.S. Coast Guard Marine Inspector

Correct answer: A

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

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

Correct answer: A

4. 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 90°? Illustration D034DG

- A. 820 yards
- B. 870 yards
- C. 930 yards
- D. 975 yards

Correct answer: B

5. Carbon dioxide cylinders which protect machinery spaces, paint lockers and tanks may be located within those spaces when the amount of carbon dioxide does not exceed which amount?

- A. 150 lbs
- B. 300 lbs
- C. 450 lbs
- D. 600 lbs

Correct answer: B

6. When an Official logbook is not required, an unofficial logbook is required to be kept aboard for review by a marine inspector for \_\_\_\_\_.
- A. 12 months
  - B. six months
  - C. one month
  - D. None of the above

Correct answer: A

7. Which is the nomenclature for the metal plates that cover the top of the hawsepipe on a vessel?
- A. The buckler plates
  - B. The footings
  - C. The plugs
  - D. The stop waters

Correct answer: A

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

Correct answer: D

9. 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

10. On a ship's crane, the load chart relates the allowable load to the combination of the boom length and \_\_\_\_\_.
- A. load radius
  - B. winch speed
  - C. boom strength
  - D. cable strength

Correct answer: A

11. Which safety check(s) should be made before letting go the anchor?
- A. See that the anchor is clear of obstructions.
  - B. See that the wildcat is disengaged.
  - C. See that the chain is all clear.
  - D. All of the above

Correct answer: D

**12.** Which statement is TRUE when loading a tanker?

- A. Load only one tank at a time
- B. Close valves by closing them down, reopening one or two turns, and re-closing
- C. Keep the seamen on watch on standby in the messroom
- D. Keep a strain on the loading hoses

Correct answer: B

**13.** Which is the proper procedure when taking a length of new manila rope from the coil?

- A. Mount the coil so it will turn like a spool and unreel from the outside
- B. Roll the coil along the deck and allow the rope to fall off the coil
- C. Lay the coil on end with the inside end up then unwind the rope from the outside of the coil
- D. Lay the coil on end with the inside end down, then pull the inside end up through the middle of the coil

Correct answer: D

**14.** Which document is NOT required by law to be posted aboard a vessel?

- A. Officer's licenses
- B. Muster List
- C. Official Crew List
- D. Certificate of Inspection

Correct answer: C

**15.** Every entry required to be made in the Official Logbook shall be signed. Who is required to sign this logbook?

- A. Purser, one of the Mates, and some other member of the crew
- B. Master and Chief Mate or other member of the crew
- C. Mate on watch
- D. Master only

Correct answer: B

**16.** What is/are the advantage(s) of cranes over conventional cargo booms?

- A. Increased safety because the deck is clear of running and standing rigging
- B. Simplicity of operation of the crane by its operator
- C. Cranes are able to pick up and drop loads over a greater spotting area
- D. All of the above

Correct answer: D

**17.** A vessel to which Annex V to MARPOL 73/78 applies is located 10 nautical miles from the nearest land. Which type of garbage is prohibited from being discharged?

- A. Paper ground to less than 1"
- B. Rags ground to less than 1"
- C. Food waste, not comminuted or ground
- D. All of the above

Correct answer: D

- 18.** If you are operating on the Inland Waters of the United States, which of the following may you discharge overboard?
- A. Bottles
  - B. Metal
  - C. Dunnage
  - D. None of the above

Correct answer: D

- 19.** 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

- 20.** 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

- 21.** When anchoring, good practice requires 5 to 7 fathoms of chain for each fathom of depth. Which is TRUE when anchoring in deep water?
- A. Use less chain for each fathom of depth
  - B. Veer more chain for each fathom of depth
  - C. Use the same ratio
  - D. Use two anchors with the same ratio of chain

Correct answer: A

- 22.** You are underway in heavy weather and your bow is into the seas. Which action should you take to prevent pounding?
- A. Secure all loose gear on your vessel
  - B. Put the seas on an 85-degree angle from the bow
  - C. Decrease the speed of the vessel
  - D. Increase the speed of the vessel

Correct answer: C

- 23.** There is a large shipment of case goods available to be loaded on your vessel. You are to load as many tons as possible in a hold which has 32,300 cubic feet left unfilled by cargo. Each case measures 2-feet high by 2-feet wide by 4-feet long and weighs 500 pounds. If you allow a broken stowage allowance of 10% of the 32,300 feet, what is the nearest whole number of tons which may be loaded?
- A. 324 tons
  - B. 360 tons
  - C. 363 tons
  - D. 406 tons

Correct answer: D

- 24.** What is the Vapor pressure of ethylene oxide at 46°C?
- A. 15.2 (psia)
  - B. 10.9 (psia)
  - C. 48.0 (psia)
  - D. 38.5 (psia)

Correct answer: C

- 25.** Which statement about entering into a tank which has been sealed for a long time is TRUE?
- A. The tank should be tested only once to ensure the oxygen content is at least 14% before entry.
  - B. The tank must be tested at frequent intervals to ensure that hazardous gasses have not regenerated.
  - C. If the oxygen content tests at less than 12% you should wear an approved gas mask.
  - D. The tank need not be tested for oxygen content if it is ventilated for more than 24 hours.

Correct answer: B

- 26.** While on watch at sea you must maintain a proper lookout at all times. On a 700-foot cargo vessel being hand-steered during daylight hours in good visibility and clear of any navigational hazards, who may be the lookout?
- A. The helmsman
  - B. The mate on watch
  - C. Either A or B
  - D. Neither A nor B

Correct answer: B

- 27.** Deck foam systems, designed to protect cargo areas on tank vessels built after January 1, 1975, must have a supply of foam-producing material to operate the system at its designed rate of foam production for \_\_\_\_\_.
- A. 15 minutes without recharging
  - B. 20 minutes without recharging
  - C. 25 minutes without recharging
  - D. 30 minutes without recharging

Correct answer: B

**28.** Which is a precaution you should take before bunkering?

- A. Plug the sounding pipes
- B. Close the lids on the vents
- C. Plug the scuppers
- D. Plug the vents

Correct answer: C

**29.** A tank vessel transferring non-flammable hazardous cargo in bulk must display warning signs. These signs must \_\_\_\_\_.

- A. indicate "NO SMOKING"
- B. be visible from both sides and from forward and aft
- C. be displayed only while transferring cargo and fast to a dock
- D. use black lettering on a white background

Correct answer: D

**30.** Your tank barge requires repairs that include welding. Who normally would issue a gas-free certificate?

- A. The ABS marine surveyor
- B. The port engineer
- C. A certified marine chemist
- D. Any Coast Guard marine inspector

Correct answer: C

**31.** What can be done to prevent small oil spills on deck from going overboard?

- A. Driving wooden plugs into the vents
- B. Plugging the drains and scuppers
- C. Closing the lids on the vents
- D. Plugging the sounding pipes

Correct answer: B

**32.** 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

- 33.** When may vessels to which Annex V to MARPOL 73/78 applies discharge garbage containing plastics into the sea?
- A. When the vessel is 5 nautical miles from nearest land
  - B. When the vessel is 12 nautical miles from nearest land
  - C. When the vessel is 25 nautical miles from nearest land
  - D. It is prohibited for a vessel to discharge plastic into the sea

Correct answer: D

- 34.** Which term defines the process of dividing the total volume of the ship in cubic feet (after omission of exempted spaces) by 100?
- A. Light displacement
  - B. Bale cubic
  - C. Gross tonnage
  - D. Net tonnage

Correct answer: C

- 35.** A vessel that has which of the following will ensure that it will keep its draft at or below the load line mark?
- A. Minimal displacement
  - B. Adequate ballast
  - C. Normal rolling periods
  - D. Reserve buoyancy

Correct answer: D

- 36.** Which of the signals listed is required to be displayed during the day while bunkering?
- A. A yellow flag
  - B. A red and yellow flag
  - C. A red flag
  - D. A red light

Correct answer: C

- 37.** The last 1.0 meter (3.3 feet) of vapor piping before the vessel vapor connection must be painted \_\_\_\_\_.
- A. international orange
  - B. yellow/red/yellow
  - C. hi-visibility yellow
  - D. red/yellow/red

Correct answer: D

- 38.** In a following sea, a wave has overtaken your vessel and thrown the stern to starboard. To continue along your original course, which action should you take?
- A. Increase speed
  - B. Use more left rudder
  - C. Use more right rudder
  - D. Decrease speed

Correct answer: C

**39.** Which agency both assigns load lines, and issues Load Line Certificates?

- A. The Secretary of Commerce
- B. The U.S. Coast Guard
- C. The American Bureau of Shipping
- D. The U.S. Customs

Correct answer: C

**40.** According to Coast Guard Regulations (46 CFR), when loading, or discharging oil in bulk at a dock, which of the following signals must be displayed?

- A. A red flag (day), red light (night)
- B. A signal is not required for discharging oil, only gasoline
- C. A yellow flag (day), red light (night)
- D. A green flag (day), green light (night)

Correct answer: A

**41.** What is the name of the mark indicated by the letter C in illustration D003DG below?

- A. Tropical water line
- B. Fresh water line
- C. Summer water line
- D. Winter North Atlantic water line

Correct answer: B

**42.** A flammable liquid having a Reid vapor pressure of  $8\frac{1}{2}$  P.S.I.A. or less and a flash point of 80°F or below is grade \_\_\_\_\_.

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

Correct answer: C

**43.** To determine the number of able seamen required on an inspected vessel, you should check which document?

- A. Load Line Certificate
- B. Certificate of Inspection
- C. Operations manual
- D. Safety of Life at Sea Certificate

Correct answer: B

**44.** When the period of beam seas equals the natural rolling period of a vessel, what will most likely occur?

- A. Excessive rolling
- B. Excessive pitching
- C. Excessive yawing
- D. No change should be evident

Correct answer: A

**45.** When oily ballast has been pumped overboard, an entry must be made in which log?

- A. Oil Record Book
- B. Official Logbook
- C. Deck rough log
- D. Engine rough log

Correct answer: A

**46.** Which of the following is the strongest of the natural fibers?

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

Correct answer: A

**47.** Which statement defines the term "gross tonnage"?

- A. The weight of a vessel with all tanks full
- B. The vessel's approximate volume less certain exempt spaces
- C. The weight of the vessel measured in long tons
- D. The weight of a grossly overloaded vessel

Correct answer: B

**48.** How should cargo tank hatches be protected when the ullage opening is open and the tank NOT gas free?

- A. With gooseneck vents
- B. With warning signs
- C. With flame screens
- D. With pressure-vacuum relief valves

Correct answer: C

**49.** Which action should be taken prior to assuming the Deck Watch while the vessel is in port?

- A. Make a security call on VHF channel 16
- B. Ensure that the vessel's moorings are adequate
- C. Ensure that all crew members are onboard
- D. Visually inspect and test operation of the blue mooring light

Correct answer: B

**50.** Unless extremely flexible wire rope is used, the sheave diameter should always be as large as possible. Which is the Coast Guard rule for correct sheave diameter?

- A. 10 times the wire rope diameter
- B. 2 times the wire rope diameter
- C. Match the rope diameter
- D. 20 times the wire rope diameter

Correct answer: D

**51.** What is the mechanical advantage of tackle number 6 as shown in illustration D029DG below?

- A. 6.0
- B. 5.5
- C. 5.0
- D. 3.0

Correct answer: A

**52.** A U.S. Coast Guard icebreaker, while escorting ships in ice, has sounded four short and one long blasts on the whistle. What does this indicate?

- A. The vessel has its engines full astern, stay clear
- B. The vessel is increasing the distance between vessels
- C. The vessel is increasing speed; watch for broken ice
- D. The vessel has become icebound, Stop

Correct answer: D

**53.** In handling break bulk hazardous materials, it is forbidden to use \_\_\_\_\_.

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

Correct answer: C

**54.** An icebreaker assisting a vessel through an ice field would display a visual signal consisting of the code letter "E" (Echo). What does this signal indicate?

- A. I am altering my course to starboard
- B. I am altering my course to port
- C. My vessel is stopped and making no way through the water
- D. I am operating astern propulsion

Correct answer: A

**55.** If you observe any situation which presents a safety or pollution hazard during fuel transfer operations, what action should you take FIRST?

- A. Close the valves at the transfer manifold
- B. Notify the person in charge of the shore facility
- C. Sound the fire alarm
- D. Shut down the transfer operation

Correct answer: D

- 56.** Close link chain of not less the 3/4" (or the wire rope equivalent) is required for lashing deck cargoes of timber. What size flexible wire rope would provide the strength equivalent to 3/4" chain, using a safety factor of 5?
- A. 9/16"
  - B. 1"
  - C. 1 1/4"
  - D. 1 3/8"

Correct answer: B

- 57.** As a ship moves through the water, it causes a wake, which is also moving forward relative to the sea. In addition to a fore and aft motion, which direction will the wake flow?
- A. Upward and outward flow
  - B. Upward and inward flow
  - C. Downward and inward flow
  - D. Downward and outward flow

Correct answer: B

- 58.** What is the FIRST action to take if you detect oil around your tank vessel while discharging petroleum products?
- A. Shut down operations
  - B. Have the pumpman check the discharge piping
  - C. Try to find out where the oil is coming from
  - D. Call the Master

Correct answer: A

- 59.** Which international body is responsible for drafting the MARPOL convention prohibiting marine pollution?
- A. The Maritime Advisory Council
  - B. The International Association of Shipping
  - C. The Association of Seafaring Nations
  - D. The International Maritime Organization

Correct answer: D

- 60.** How many months after its expiration date may a Coast Guard credential be renewed without retaking the complete exam?
- A. 1 month
  - B. 6 months
  - C. 12 months
  - D. 24 months

Correct answer: C

**61.** Which ending is NOT acceptable in a wire rope that is free to rotate when hoisting?

- A. Liverpool eye splice
- B. Eye formed by clips
- C. Eye formed with a pressure clamped sleeve
- D. Poured socket

Correct answer: A

**62.** You are loading 465,000 barrels of cargo oil. At 0900 you find that you have loaded 207,000 barrels. At 1030 you find that you have loaded 223,000 barrels. If you continue loading at the same rate, you will finish at approximately \_\_\_\_\_.

- A. 2100 that night
- B. 0730 the next day
- C. 0910 the next day
- D. 1215 the next day

Correct answer: C

**63.** Your vessel is being assisted through an ice field in Thunder Bay by the Canadian Coast Guard icebreaker Alexander Henry. The starboard lookout reports that the icebreaker has run up the code flag "N" (November). Which action should you take?

- A. Reduce speed
- B. Stop your vessel instantly
- C. Reverse your engines
- D. Stop your engines

Correct answer: D

**64.** Coast Guard Regulations permit which of the following systems to be used for fire prevention and the simultaneous inerting of cargo tanks on tank vessels?

- A. An inert gas system
- B. The fire main system
- C. A fixed water spray system
- D. The deck foam system

Correct answer: A

**65.** Which is TRUE concerning the vapor pressure of a substance?

- A. The pressure is not affected by temperature
- B. The pressure increases with the temperature
- C. The pressure may increase or decrease as the temperature rises
- D. The pressure decreases as temperature increases

Correct answer: B

- 66.** 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. Notify the terminal superintendent
  - B. Place a large drip pan under the leak and plug the scuppers
  - C. Replace the hose
  - D. Repair the hose with a patch

Correct answer: C

- 67.** You are a watchstanding mate and have come to the bridge to relieve the watch while underway at sea. Which event(s) will require the transfer of command to be detained until completed?
- A. During an engine speed change as per night orders
  - B. Any time the helm is in the "hand" mode
  - C. During a navigational course change
  - D. All of the above

Correct answer: C

- 68.** Which spaces are required to be segregated from cargo tanks carrying grades A, B, C, or D cargoes?
- A. Pump rooms
  - B. Enclosed deck spaces
  - C. Navigation spaces
  - D. Cofferdams

Correct answer: C

- 69.** Which is the correct procedure for anchoring a small to medium size vessel in deep water?
- A. Back the anchor slowly out of the hawsepipe a few feet, and then let it fall in the normal fashion.
  - B. Let the anchor fall off the brake right from the hawsepipe, but keep a slight strain on the brake.
  - C. Let the anchor fall free from the hawsepipe, but apply the brake at intervals to check the rate of fall.
  - D. Under power, back the anchor out until it is near, but clear, of the bottom before letting it fall.

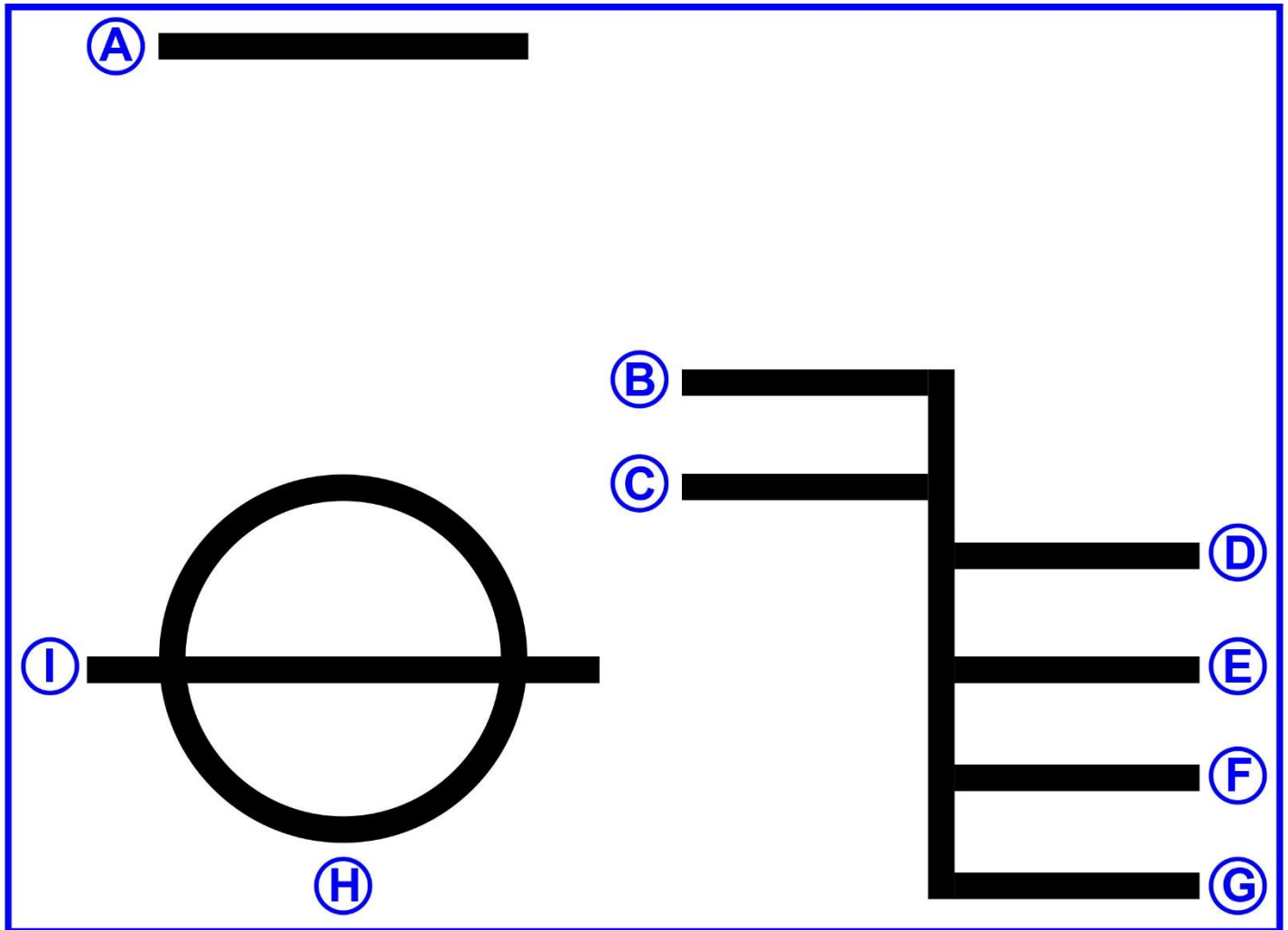
Correct answer: D

- 70.** To what chemical family does ethylene oxide belong?
- A. Alkylene oxides
  - B. Esters
  - C. Alcohols
  - D. Glycol ethers

Correct answer: A

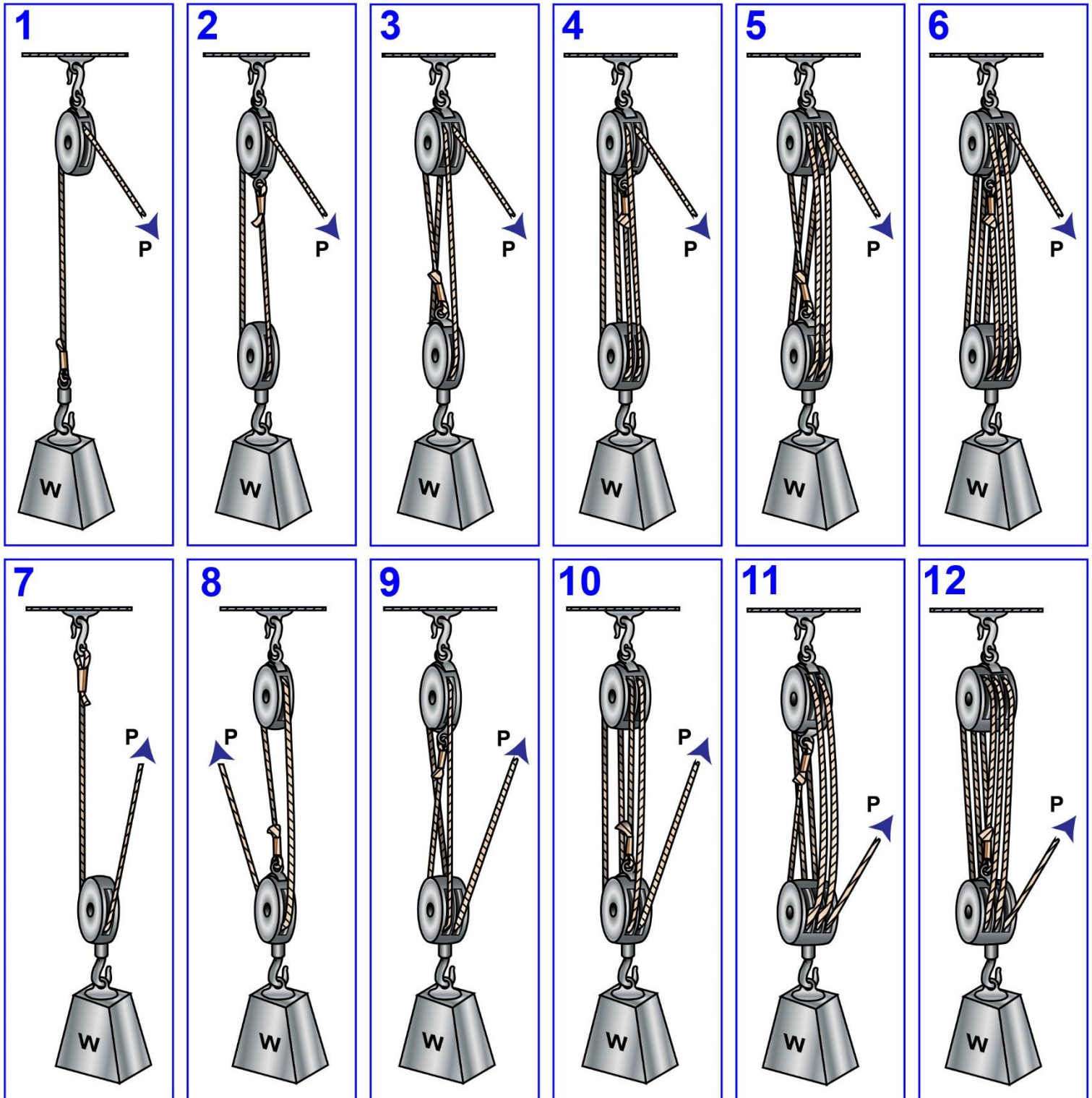


D003DG





## D029DG



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**D034DG**

| <b>HEADING<br/>(TRUE)</b> | <b>BEARING<br/>(TRUE)</b> | <b>RANGE<br/>(YDS)</b> | <b>REMARKS</b>               |
|---------------------------|---------------------------|------------------------|------------------------------|
| 228°                      |                           |                        | INITIAL HEADING              |
| 228°                      | 232°                      | 2260                   | ON INITIAL COURSE            |
| 228°                      | 234°                      | 1700                   | RIGHT FULL RUDDER<br>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°               |

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## D035DG

| HEADING<br>(TRUE) | BEARING<br>(TRUE) | RANGE<br>(YDS) | REMARKS                     |
|-------------------|-------------------|----------------|-----------------------------|
| 333°              |                   |                | INITIAL HEADING             |
| 333°              | 315°              | 2125           | ON INITIAL COURSE           |
| 333°              | 310°              | 1650           | LEFT FULL RUDDER<br>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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