

U.S.C.G. Merchant Marine Exam

OUPV to Master or Mate Oceans or Near Coastal
Less than 200 GRT

Q158 Navigation and Deck General – Safety
(Sample Examination)

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

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

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

Correct answer: D

2. Which statement about damage control is TRUE?

- A. Water flowing into a lower compartment on a ship is more dangerous than water on deck or flowing into an upper compartment.
- B. Water flowing over the fo'c'sle bulwark is more dangerous than a hole in the hull at the waterline.
- C. The amount of water entering a ship through a hole varies inversely to the area of the hole.
- D. A hole in the hull at the waterline is more dangerous than a hole below the inner bottom.

Correct answer: D

3. The releasing lever of a lifeboat shall be red in color with a placard stating which of the following?

- A. "Danger, Do Not Touch"
- B. "Danger, Boat May Drop"
- C. "Danger"
- D. "Danger, Lever Releases Boat"

Correct answer: C

4. When rendering assistance to personnel in the water a SAR helicopter utilizes a rescue sling for most extractions. In which case would the use of a litter be preferred?

- A. When the person is suffering from fatigue
- B. When the person has a pacemaker and static discharge is a concern
- C. When the person is not trained in the use of the rescue sling
- D. When the person is suffering from hypothermia

Correct answer: D

5. A quick and rapid motion of a vessel in a seaway is an indication of a(n) _____.

- A. excessive free surface
- B. large GM
- C. high center of gravity
- D. small GZ

Correct answer: B

6. Under the Carriage of Goods by Sea Act of 1936, a vessel will be liable for damage to cargo when the damage arises out of which situation?
- A. A fire caused by lightning
 - B. Overloading the vessel
 - C. The poor stowage of cargo in a container
 - D. Inherent vice

Correct answer: B

7. A wooden plug fitted tightly in the vent of a damaged tank may prevent which situation?
- A. The tank from collapsing
 - B. The tank filling completely
 - C. Developing free surface moment
 - D. The tank developing free surface

Correct answer: B

8. The galley on your cargo vessel has an area of 2,500 square feet. Which of the following would fulfill the minimum requirements for fire protection?
- A. One A-II extinguisher or post 2017 One 2-A extinguisher
 - B. One B-II extinguisher or post 2017 One 40-B:C extinguisher
 - C. One B-II and One C-II extinguisher or post 2017 One 40-B and One 40-C extinguisher
 - D. One B-V extinguisher or post 2017 One 160-B extinguisher

Correct answer: B

9. Which term is given to the process of separating both blocks of a tackle to prepare it for reuse?
- A. Two-blocking
 - B. Over-hauling
 - C. Chockablocking
 - D. Out-hauling

Correct answer: B

10. On 28 September in DR position LAT 24°12.0'S, LONG 85°25.0'E, you observe an amplitude of the Sun. The Sun's center is on the visible horizon and bears 094°psc. The chronometer reads 11h 29m 42s and is 03m 30s slow. Variation in the area is 4°W. What is the deviation of the magnetic compass?
- A. 1.5°W
 - B. 2.1°W
 - C. 1.8°E
 - D. 2.4°E

Correct answer: D

- 11.** What are the required number and type of hand portable fire extinguishers to be carried, in the vicinity of the radio room exit, on a tank vessel on an international voyage?
- A. One B-I or post 2017 One 10-B:C
 - B. One B-II or post 2017 One 40-B
 - C. One C-I or post 2017 One 10-C
 - D. One C-II or post 2017 One 20-B:C

Correct answer: D

- 12.** What size block shell should be used with a 4-inch manila line?
- A. 8"
 - B. 12"
 - C. 16"
 - D. 24"

Correct answer: B

- 13.** Where is a permanently installed system of gas detection required?
- A. Cargo compressor rooms.
 - B. Cargo pump rooms.
 - C. Air locks.
 - D. All of the above.

Correct answer: D

- 14.** On vessels over 100 gross tons, whose responsibility is it to ensure that all able seamen in the vessel's crew have the documents and qualifications required by law and regulation?
- A. Company's personnel director
 - B. USCG Officer in Charge of Marine Inspection
 - C. Master of the vessel
 - D. Owner or operator of the vessel

Correct answer: C

- 15.** Annex V to MARPOL 73/78 contains requirements pertaining to the discharge into the marine environment of which item?
- A. Oil
 - B. Garbage
 - C. Noxious liquid substances
 - D. Air pollutants

Correct answer: B

- 16.** What is the center of flotation of a vessel?
- A. The point at which all the vertical upward forces of buoyancy are considered to be concentrated
 - B. The point at which all the vertical downward forces of weight are considered to be concentrated
 - C. The center of volume of the immersed portion of the vessel
 - D. The center of gravity of the water plane

Correct answer: D

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

Correct answer: B

18. Your vessel is issued a load line certificate dated 27 May 1992. Which is an acceptable date for one of the surveys for endorsements?
- A. 28 November 1993
 - B. 28 September 1993
 - C. 28 February 1993
 - D. 27 December 1992

Correct answer: C

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

Correct answer: D

20. Which is the BEST method of determining if a vessel is dragging anchor?
- A. Observe how much the vessel sheers while at anchor
 - B. Note any change in the tautness of the anchor chain
 - C. Observe the amount of line paid out
 - D. Observe changes in bearings of fixed objects onshore

Correct answer: D

21. A vessel steams 666 miles on course 135°T from LAT 40°24.0'N, LONG 74°30.0'W. What is the latitude and longitude of the point of arrival by Mercator sailing?
- A. LAT 32°30.0'N, LONG 64°41.0'W
 - B. LAT 32°36.0'N, LONG 64°49.0'W
 - C. LAT 32°33.0'N, LONG 64°46.0'W
 - D. LAT 32°39.0'N, LONG 64°53.0'W

Correct answer: C

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

Correct answer: B

23. What is another name for the garboard strake?

- A. A strake
- B. Stringer plate
- C. Side keel plate
- D. Z strake

Correct answer: A

24. The greatest effect on stability occurs from loose liquids flowing _____.

- A. in and out of a vessel that is holed in a peak tank
- B. from side to side in the tanks of the vessel
- C. from fore to aft in the tanks of a vessel
- D. in and out of a vessel that is holed in a wing tank

Correct answer: D

25. The vessel's Emergency Position Indicating Radio beacon (EPIRB) must be tested at which time interval?

- A. Every 3 months
- B. Weekly
- C. Monthly
- D. Every 2 months

Correct answer: C

26. The signal man assisting the crane operator has his arm extended, his fingers closed, and his thumb pointing downward. This is the signal to _____.

- A. hoist the load
- B. lower the load
- C. lower the boom
- D. raise the boom

Correct answer: C

27. What is the gyrocompass error resulting from your vessel's movement in OTHER than an east-west direction?

- A. Speed error
- B. Damping error
- C. Ballistic deflection
- D. Quadrantal error

Correct answer: A

28. What is a wobbling tail shaft an indication of?

- A. A tight tail shaft gland
- B. A worn stern bearing or misalignment
- C. Shallow water
- D. An engine that is misfiring

Correct answer: B

29. On 1 September your 1115 zone time DR position is LAT 25°20.0'N, LONG 28°24.0'W.

At that time, you observe the Sun bearing 160.5°psc.

The chronometer reads 01h 14m 58s, and the chronometer error is 01m 17s fast.

The variation is 13.5°W.

What is the deviation of the standard compass?

- A. 2.1°E
- B. 4.1°E
- C. 11.0°W
- D. 11.0°E

Correct answer: A

30. The two courses of action if the underwater hull is severely damaged are to plug the openings or to take which action?

- A. Secure power to the compartment
- B. Dewater the compartment
- C. Ballast to maintain even keel
- D. Establish and maintain flooding boundaries

Correct answer: D

31. Who must approve the vessel's trim and stability booklet?

- A. Society of Naval Architects and Marine Engineers
- B. National Cargo Bureau
- C. International Maritime Organization
- D. United States Coast Guard

Correct answer: D

32. Which defines the function of a spark arrestor?

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

Correct answer: A

33. What is the usual depth of a beam bracket?

- A. 2 1/2 times the depth of the beam
- B. 5 times the depth of the beam
- C. same depth as the beam
- D. 10 times the depth of the beam

Correct answer: A

- 34.** On a sea going towing vessel of 150 gross tons, there are six (6) seamen in the deck crew. How many certificated able seamen are required if the voyage is over 600 miles?
- A. 1
 - B. 2
 - C. 3
 - D. 4

Correct answer: D

- 35.** What is the thickness of a 30.6-pound plate?
- A. 3/8"
 - B. 1/2"
 - C. 3/4"
 - D. 1"

Correct answer: C

- 36.** What is one effect of running a diesel engine at too cool a temperature?
- A. Severe heat stresses on mechanical parts
 - B. Foaming of the lubricating oil
 - C. Buildup of sludge in the lubricating system
 - D. Excessive fuel consumption

Correct answer: C

- 37.** 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

- 38.** Which may cause above-normal tides near the center of a hurricane?
- A. The jet stream
 - B. Torrential rains
 - C. High barometric pressure
 - D. Storm surge

Correct answer: D

- 39.** Which condition must be met during a stability test on an inspected vessel?
- A. The vessel must be moored snugly
 - B. Each tank must be partially full to show it does not leak
 - C. Water under vessel must be deep enough to prevent grounding
 - D. All dunnage, tools, and extraneous items are secured

Correct answer: C

40. Your vessel is running in a following sea. Which term defines the motion your vessel is experiencing?

- A. Yawing
- B. Heaving to
- C. Pounding
- D. Reduced speed

Correct answer: A

41. Portable fire extinguishers must be provided for the cargo tank area of an unmanned tank barge _____.

- A. only when fully loaded
- B. if one or more tanks are full
- C. when transferring cargo
- D. only when the barge is being towed

Correct answer: C

42. When a small craft's anchor fouls in a rocky bottom, how should the first attempt to clear it be made?

- A. Making the line fast to the bitt and bringing the vessel further forward
- B. Increasing the scope and running slowly in a wide circle with the anchor line taut
- C. Hauling vertically on the line
- D. Reversing the angle and direction of pull, with moderate scope

Correct answer: D

43. Which defines the process of cargoes segregation?

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

Correct answer: D

44. Which is one of the limitations of foam as an extinguishing agent?

- A. Foam conducts electricity
- B. Foam is heavier than oil and sinks below its surface
- C. Foam is corrosive to all steel surfaces and is hazardous to firefighters
- D. Foam cannot be made with salt water

Correct answer: A

45. 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 which amount?

- A. 300 pounds
- B. 400 pounds
- C. 500 pounds
- D. 600 pounds

Correct answer: A

46. 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

47. Aboard a vessel, what does dividing the sum of the longitudinal moments by the total weight yield?

- A. The vessel's LCG
- B. The righting moments
- C. The vertical moments
- D. The inclining moments

Correct answer: A

48. The Brazil Current flows in which general direction?

- A. Northerly
- B. Southwesterly
- C. Northwesterly
- D. Southeasterly

Correct answer: B

49. You are planning to anchor in an area where several anchors have been lost due to fouling. What precaution should you take?

- A. Only anchor using both anchors not set in bottom
- B. Anchor with scope of 8 or more to 1
- C. Fit a crown strap and work wire to the anchor
- D. Use a stern anchor with a scope of 8 or more to 1

Correct answer: C

50. What type of liquid is used in the liquid P/V breaker?

- A. Water-antifreeze mixture
- B. Hydraulic oil
- C. Distilled water
- D. Oil from the cargo

Correct answer: A

51. Your vessel is anchored in an open roadstead with three shots of chain out on the port anchor. The wind freshens considerably, and the anchor begins to drag. Which action should you take FIRST?

- A. Sheer out to starboard using the rudder, then drop the starboard anchor with about four shots of chain.
- B. Put the engines slow ahead to help the anchor.
- C. Drop the starboard anchor short with about one shot of chain.
- D. Veer out more chain on the port anchor.

Correct answer: D

52. When dry chemical extinguishers are used to put out class B fires, why is there a danger of reflash?

- A. Dry chemical agents do little or no cooling
- B. Dry chemical is not an effective agent on Class B fires
- C. It is rapidly absorbed by the liquid
- D. Dry chemical dissipates quickly

Correct answer: A

53. Regulations require which action to be performed prior to the vessel departing on a voyage more than 48 hours long?

- A. The entire steering gear be tested within 12 hours prior to departure
- B. The emergency generator and lighting system be tested by starting and operating within 12 hours prior to departure
- C. The fire pumps be tested by starting within 12 hours prior to departure
- D. A lifeboat drill be held within 12 hours prior to departure

Correct answer: A

54. If the current and wind are in the same direction, what does the sea surface represent concern the true wind speed?

- A. It appears at the correct speed
- B. It appears higher than actually exists
- C. It appears less than actually exists
- D. The appearance of the sea surface does not change

Correct answer: C

55. Quadrantal error in a gyrocompass has its GREATEST effect on which of the following?

- A. When the vessel is in high latitudes
- B. When the vessel is on intercardinal headings
- C. When the vessel is on north or south headings
- D. When the vessel is near the equator

Correct answer: B

56. During a SAR helicopter evacuation which of the following describes the proper donning of a rescue sling?

- A. The person sits in the sling with their hands clasped across the chest while facing the winch hook
- B. The loop of the sling passes across the chest and under the arms while facing away from the winch hook
- C. The loop of the sling passes behind the back and under the arms while facing the winch hook
- D. The person steps onto the sling grasping the hoist line for support while facing away from the winch hook

Correct answer: C

57. What is the name given to the strake on each side of the keel?

- A. Gatewood strake
- B. Insulation strake
- C. Garboard strake
- D. Sheer strake

Correct answer: C

58. When referring to quantity of barite in a P-tank, ullage is the _____.

- A. percentage of barite in the tank
- B. distance of the barite surface above the tank bottom
- C. total weight of barite in UPC (ullages per centimeter)
- D. distance of the barite surface below the tank cover

Correct answer: D

59. Your vessel is on an extended foreign voyage. Several vacancies have occurred in your unlicensed crew through sickness and repatriation. Which statement is correct?

- A. Seamen to fill vacancies must be flown from U.S. to join the vessel in the foreign port.
- B. Vacancies can only be filled by U.S. citizens with valid Merchant Mariner's Documents.
- C. Qualified aliens may be employed to fill the vacancies.
- D. Aliens may be employed except that all U.S. flag vessels must maintain no less than 90% U.S. citizens in the crew.

Correct answer: C

60. Which action will affect the trim of a vessel?

- A. Adding weight at the tipping center
- B. Moving a weight forward
- C. Moving high weights lower
- D. Removing weight at the tipping center

Correct answer: B

61. What shall be conducted during a fire and boat drill?

- A. Fire pumps shall be started and all exterior outlets opened.
- B. All lifeboat equipment shall be examined.
- C. All watertight doors in the vicinity of the drill shall be operated.
- D. All of the above

Correct answer: C

62. 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

63. A sling is a device used in which operation?

- A. Securing a small boat to a large vessel
- B. Hoisting personnel aboard a vessel
- C. Hoisting the anchor
- D. Hoisting cargo aboard a vessel

Correct answer: D

- 64.** While assigned to a 106 GRT vessel, you are required to sign "foreign" articles on a voyage from San Francisco to which port?
- A. Mazatlan, Mexico (west coast)
 - B. New York, NY
 - C. Vancouver, Canada (west coast)
 - D. Vera Cruz, Mexico (east coast)

Correct answer: B

- 65.** The correction to KG for transverse free surface effects may be found by dividing the vessel's displacement into the _____.
- A. sum of the transverse free surface moments of the vessel
 - B. transverse baseline of the vessel
 - C. sum of the vertical moments of the vessel
 - D. transverse free surface correction for the vessel

Correct answer: A

- 66.** 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

- 67.** Where should muster lists be posted?
- A. In the engine room
 - B. On the navigating bridge
 - C. In crew's accommodation spaces
 - D. All of the above

Correct answer: D

- 68.** When a helicopter is lifting personnel from an enclosed lifeboat, what should the other individuals in the boat do?
- A. Stand on the outside of the boat to assist the person being lifted
 - B. Remove their life preservers to prepare for their transfer to the helicopter
 - C. Enter the water in case the person being lifted slips from the sling
 - D. Remain seated inside to provide body weight for stability

Correct answer: D

69. In which months will the North Equatorial Countercurrent be strongest?

- A. October and November
- B. January and February
- C. April and May
- D. July and August

Correct answer: D

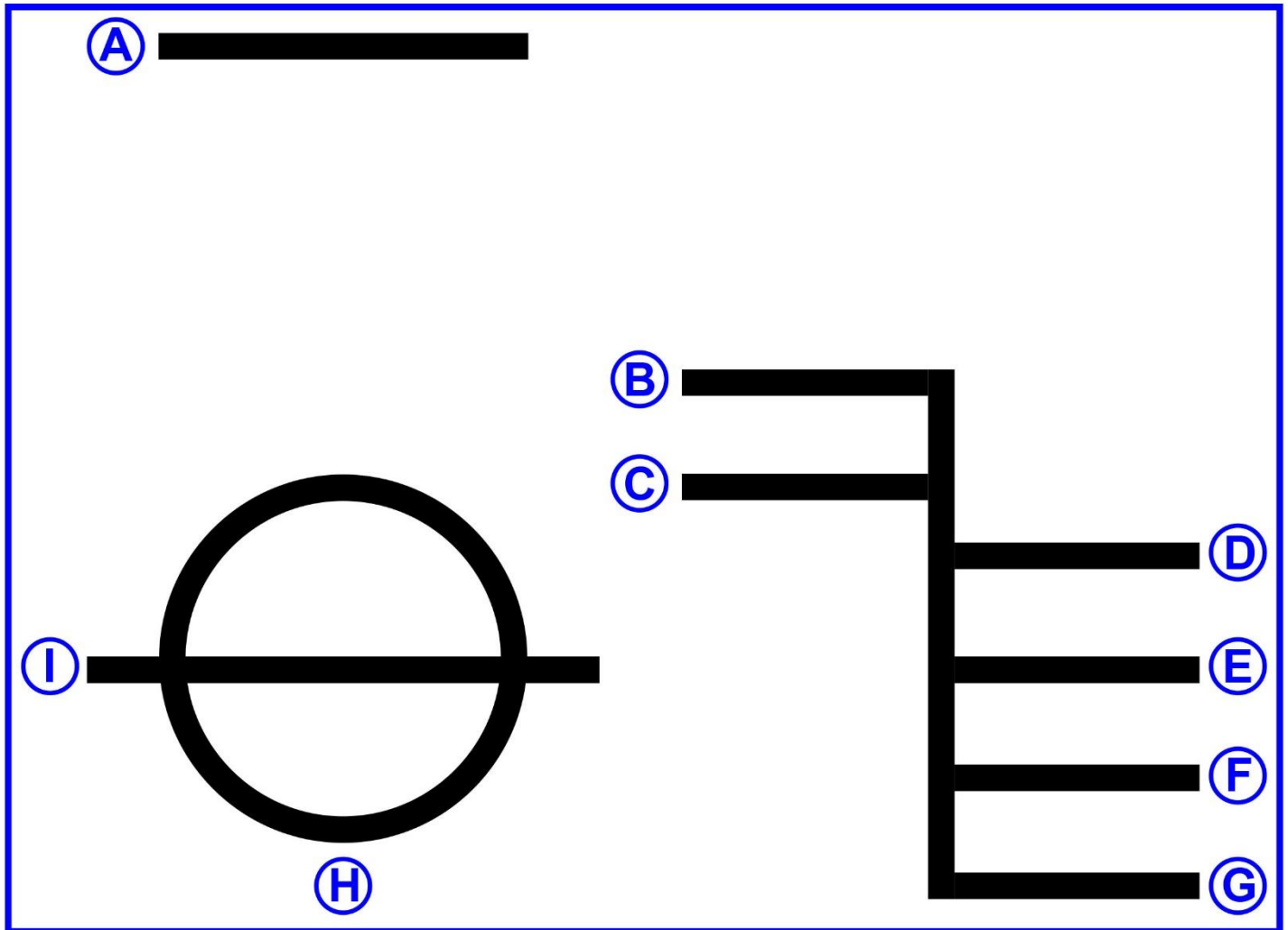
70. If your propeller is racing in rough weather, which action should you take?

- A. Ignore it, this is acceptable in rough weather
- B. Increase your engine speed
- C. Stop your engine until the rough weather passes
- D. Decrease your engine speed

Correct answer: D

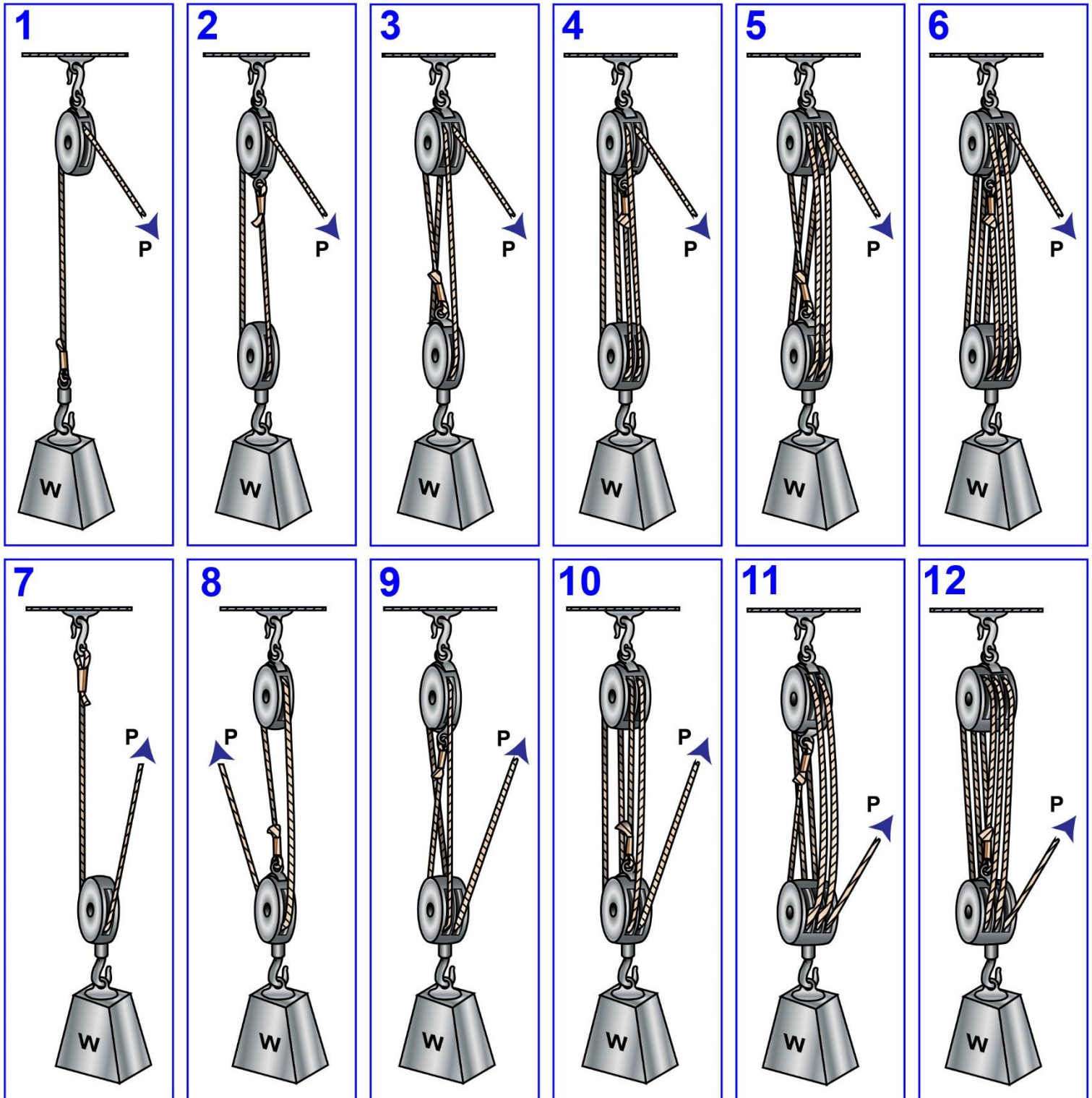


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