

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

Mate Less than 500-1600 Gross Registered Tons

Q327 Deck General

(Sample Examination)

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

**1.** What speed do most bow thrusters generally become ineffective?

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

Correct answer: B

**2.** 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 listed in illustration D035DG. Based on this data what is the advance for a turn of 30°? Illustration D035DG

- A. 380 yards
- B. 420 yards
- C. 470 yards
- D. 525 yards

Correct answer: C

**3.** Which spaces are required to be segregated from cargo tanks carrying grades A, B, C, or D cargoes?

- A. Navigation spaces
- B. Cofferdams
- C. Pump rooms
- D. Enclosed deck spaces

Correct answer: A

**4.** What is acceptable flame screening?

- A. A fitted single brass screen of 10 x 10 mesh
- B. A fitted single stainless-steel screen of 15 x 15 mesh
- C. A fitted stainless-steel screen of 30 x 30 mesh
- D. Two fitted brass screens of 10 x 15 mesh spaced 1/2 inch apart

Correct answer: C

5. The tankship Northland is loaded as shown in table BL-0026 below. Use the salmon-colored pages in the Stability Data Reference Book to determine the sagging numeral.

**BL-0026**

<b>LONGITUDINAL BENDING STRESSES (PSI)</b>		
	<b>DESCRIPTION</b>	
1.	FORE PEAK	0
2.	DEEP TANK P/S	0
3.	FWD STORES	6
4.	FWD BUNKERS	1600
5.	FWD COFFERDAM	0
6.	#1 CARGO TANK	4759
7.	#2 CARGO TANK	5288
8.	#3 CARGO TANK	5463
9.	#4 CARGO TANK	0
10.	BRIDGE CREW	3
11.	BRIDGE STORES	10
12.	BRIDGE F.W.	10
13.	#5 CARGO TANK	5486
14.	#6 BALLAST TANK	2408
15.	#7 CARGO/BALLAST TANK	5446
16.	#8 CARGO/BALLAST TANK	2410
17.	#9 CARGO/BALLAST TANK	5454
18.	#10 CARGO TANK	5349
19.	#11 CARGO TANK	5026
20.	AFT COFFERDAM	0
21.	AFT BUNKERS	800
22.	AFT SETTLERS	360
23.	DISTILLED WATER	50
24.	AFT STORES	75
25.	AFT CREW	7
26.	F.W. AFT	65
27.	AFT PEAK	0

- A. 72.42 numeral
- B. 78.98 numeral
- C. 83.46 numeral
- D. 91.48 numeral

Correct answer: B

6. 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. The results are shown in illustration D034DG below. What is the transfer for a turn of 180°?
- A. 875 yards
  - B. 910 yards
  - C. 975 yards
  - D. 1015 yards

Correct answer: B

7. 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. Propylene oxide may not be stowed in a tank adjacent to butyric acid.
  - C. Octyl alcohol is incompatible with both butyric acid and propylene oxide.
  - D. All of these cargoes are compatible.

Correct answer: B

8. Given a dry bulb temperature of 78°F and wet bulb temperature of 66.5°F, what is the dew point?
- A. 47.0°F
  - B. 51.5°F
  - C. 59.0°F
  - D. 70.0°F

Correct answer: C

9. According to regulations when, if ever, may cargo hatches on Great Lakes vessels, with more than 6 feet of freeboard, be left uncovered or open while the vessel is being navigated?
- A. At the discretion of the Master, for reasonable purposes
  - B. If a Mate deems it necessary for ship's maintenance
  - C. On the authority of the Bosun
  - D. The hatch may never be uncovered

Correct answer: A

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

Correct answer: A

11. Flammable liquids should have what kind of label?
- A. Green
  - B. Red
  - C. Yellow
  - D. Skull and crossbones

Correct answer: B

12. When is a vessel tide rode?
- A. When the vessel is being forced off of a pier by the hydraulic effect of the current
  - B. When the vessel is at anchor and stemming the current
  - C. When the vessel is carrying extra rudder to compensate for the current
  - D. When it is necessary to adjust the course steered to allow for the current

Correct answer: B

**13.** You are in charge of a towing vessel that operates exclusively on inland waters. You regularly tow barges that provide services (cargo lighters, fuel barges, etc.) to foreign flag vessels in port. What will be accepted as proper credentials for you and your crew?

- A. State driver's license with photo ID
- B. Social Security card
- C. No credentials are required since you operate on inland waters only
- D. Merchant Mariner Credential

Correct answer: D

**14.** Where can the deepest water when rounding a bend in a river be located?

- A. Toward the center of the river just before the bend, then change course for the river's center after the bend
- B. Toward the inside of the bend
- C. In the center of the river
- D. Toward the outside of the bend

Correct answer: D

**15.** Which term describes the process of lowering a boom to a horizontal position and onto its deck support?

- A. Cradling a boom
- B. Collaring a boom
- C. Toppling a boom
- D. Spotting a boom

Correct answer: A

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

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

Correct answer: D

**17.** The person in charge on the vessel and the person in charge at the facility must hold a meeting before starting the transfer of oil. Who must decide to start the transfer?

- A. The person in charge at the facility
- B. Both persons in charge
- C. The person in charge of either place that is doing the pumping
- D. The person in charge on the vessel

Correct answer: B

**18.** What describes a tandem crane lift?

- A. Single crane hoisting 30 tons
- B. Two cranes on a single pedestal hoisting 60 tons
- C. Two sets of twin cranes hoisting 120 tons
- D. All of the above

Correct answer: C

**19.** Which is TRUE concerning the official number of a documented vessel?

- A. It is not required to be marked anywhere on the vessel
- B. It is required to be permanently marked on the vessel's structure
- C. It is required to be painted on the vessel's stern
- D. It is required to be painted on the vessel's bow

Correct answer: B

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

Correct answer: D

**21.** 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. Blot out the error completely and rewrite the entry correctly.
- 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. Remove this page of the logbook, and rewrite all entries on a clean page.

Correct answer: B

**22.** If you are operating on the Inland Waters of the United States, which of the following may you discharge overboard?

- A. Bottles
- B. Dunnage
- C. Metal
- D. None of the above

Correct answer: D

**23.** If your asphalt barge has operated more than 12 months in saltwater in the 24-month period since it was last dry-docked, when is it required to be hauled out again?

- A. 12 months since last dry-docking
- B. 18 months since last dry-docking
- C. 24 months since last dry-docking
- D. 36 months since last dry-docking

Correct answer: D

**24.** Which is an explosion hazard when exposed to flame?

- A. Tallow
- B. Toluene
- C. Nitrous oxide
- D. Formic acid

Correct answer: B

**25.** Cargo tanks on barges fitted with goose neck vents and flame screens are limited to carrying which grade of cargo?

- A. A and below
- B. B and below
- C. C and below
- D. D and E only

Correct answer: D

**26.** You will load class 1.2 commercial explosives and need to construct a portable magazine. Which is a requirement of the magazine?

- A. It must be elevated with skids 10cm (3.9 inches) above the deck
- B. It must be constructed of metal
- C. The unit shall be fastened with nails or screws
- D. The construction must include a hinged cover

Correct answer: A

**27.** Your ship is in shallow water and the bow rides up on its bow wave while the stern sinks into a depression of its transverse wave system. What is this called?

- A. Squatting
- B. Fish tailing
- C. Parallel sinkage
- D. Broaching

Correct answer: A

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

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

Correct answer: C

**29.** In special cases, the Commandant of the Coast Guard may permit cargo piping to pass through machinery spaces, what are the type(s) of cargo permitted to be carried through such piping?

- A. grades D or E
- B. LFG
- C. grade E
- D. grades A or B

Correct answer: C

**30.** You discharge food waste overboard at sea. You have recorded your vessel's position as required, what other items must be included in the report?

- A. The vessel's latitude, longitude, date and time of the discharge
- B. The vessel's latitude, longitude, course, speed, and a copy of that days noon position slip
- C. The vessel's latitude, longitude and approximate depth of water
- D. The vessel's latitude and longitude is all that is required

Correct answer: A

**31.** What should look-outs report?

- A. Floating objects
- B. Discolored water
- C. Shoals
- D. All of the above

Correct answer: D

**32.** According to Pollution Prevention Regulations (33CFR), who is required to sign each completed page in the Oil Record Book?

- A. Coast Guard representative designated by COTP
- B. An oil terminal representative
- C. The master
- D. The person(s) in charge of the operation

Correct answer: C



- 33.** Which is a requirement of a vessel in ocean service that does not have an approved means of processing oily bilge slops or oily ballast?
- A. The vessel must have a fixed piping system to discharge the oily ballast to a reception facility
  - B. The vessel shall have one portable adapter for a shore connection to the ballast line
  - C. The vessel must have a discharge outlet for the ballast system on each side of the weather deck
  - D. All of the above

Correct answer: A

- 34.** Which term describes the force exerted by a propeller which tends to throw the stern right or left?
- A. Slip
  - B. Sidewise force
  - C. Thrust
  - D. Rotational force

Correct answer: B

- 35.** 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 gallons would you expect to unload if the cargo temperature is 90°F at the discharge port?
- A. 337,920
  - B. 322,080
  - C. 295,952
  - D. 258,048

Correct answer: D

- 36.** You are preparing to load a heavy cargo with abnormal physical dimensions onboard your vessel. Which of the following is of primary importance when planning the load?
- A. Comparing how much cargo can be loaded on top of the abnormal units
  - B. Comparing the broken stowage factor of the unit to other cargo in the hold
  - C. Ensuring the proper customs forms and labels are on the units
  - D. Ensuring the maintenance of adequate stability throughout the voyage

Correct answer: D

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

Correct answer: D

**38.** What is NOT an indication that pack ice may be nearby?

- A. Ice blink
- B. The presence of icebergs
- C. Absence of wave motion
- D. Sighting a walrus in the Arctic

Correct answer: B

**39.** As a general guide, under which condition should hygroscopic cargoes be ventilated?

- A. When the dew point of the outside air is greater than the dew point of the air in the hold
- B. When the outside dew point is 60°F (16°C) and the cargo temperature is 54°F (12°C)
- C. When going from a warm to a cold climate
- D. When the dew point of the air in the hold is very low

Correct answer: C

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

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

Correct answer: D

**41.** For any given pedestal crane, when the boom is lengthened, the lifting capacity is \_\_\_\_\_.

- A. increased
- B. eliminated
- C. unchanged
- D. decreased

Correct answer: D

**42.** You are on an ice-reinforced vessel about to enter pack ice. Which action should you take?

- A. Look for areas of rotten ice and enter perpendicular to the ice edge
- B. Trim to an even keel or slightly down by the bow to take maximum benefit of the ice reinforcement
- C. Enter the pack on the windward side where there is a well-defined ice edge
- D. Take maximum advantage of coastal leads caused by offshore winds

Correct answer: A

**43.** An icebreaker assisting a vessel through an ice field would display a visual signal consisting of the code letter "I" (India) to signify that "\_\_\_\_\_".

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

Correct answer: B

**44.** What effect will bank suction have on a vessel?

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

Correct answer: D

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

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

Correct answer: D

**46.** In reference to accidental oil pollution, the most critical time during bunkering is when \_\_\_\_\_.

- A. Final topping off is occurring
- B. Hoses are being disconnected
- C. You first start to receive fuel
- D. Hoses are being blown down

Correct answer: A

**47.** 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

**48.** Which statement is correct concerning the carriage of coal in bulk?

- A. Dunnage should be placed against ship's sides and around stanchions.
- B. Coal should be vented with surface ventilation only.
- C. Through ventilation, as well as surface ventilation, should be provided whenever possible.
- D. Because of its inherent vice, coal should not be loaded wet.

Correct answer: B

**49.** 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 towed-under buoy
- C. A submerged rock, not dangerous to navigation
- D. All of the above

Correct answer: B

**50.** 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

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

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

Correct answer: D

**52.** When piloting a vessel, how are visual references used to establish a constant rate of turn?

- A. Visual references cannot be used to maintain a constant rate of turn.
- B. Begin the turn when the fixed object is on the beam.
- C. Fixed objects that stay on the same relative bearing when the ship is turning indicate a constant rate of turn.
- D. Keep the fixed object's relative bearing opening, for a constant rate of turn.

Correct answer: C

**53.** When the gyro-pilot is used for steering, what control is adjusted to compensate for varying sea conditions?

- A. Sea control
- B. Weather adjustment
- C. Rudder control
- D. Lost motion adjustment

Correct answer: B

**54.** Which condition must be met during a stability test on an inspected vessel?

- A. Each tank must be partially full to show it does not leak
- B. All dunnage, tools, and extraneous items are secured
- C. The vessel must be moored snugly
- D. Water under vessel must be deep enough to prevent grounding

Correct answer: D

**55.** You have determined that a cargo space on a freight vessel is 45 feet by 36 feet by 62 feet. How many pounds of carbon dioxide is required for this space?

- A. 1674
- B. 2511
- C. 3348
- D. 5022

Correct answer: C

**56.** What is a grapnel?

- A. A type of clam bucket used for discharging bulk cargo
- B. A hook to prevent the anchor cable from slipping
- C. A device used to drag for a submerged cable or line
- D. A device for securing a chain topping lift

Correct answer: C

**57.** In general, an un-reinforced vessel can safely navigate in ice provided the concentration does not exceed how many tenths?

- A. 9 - 10 tenths
- B. 6 - 8 tenths
- C. 4 - 6 tenths
- D. 1 - 3 tenths

Correct answer: D

**58.** After an IOPP Certificate is issued to an inspected vessel, how many other surveys of the vessel's pollution prevention equipment are conducted during the period of validity of the certificate?

- A. None
- B. One
- C. Two
- D. Three

Correct answer: D

**59.** What is required of the access to a cargo pumproom on a tank vessel carrying grades A, B, C or D liquid cargoes?

- A. isolated from any part of the vessel which normally contains sources of vapor ignition
- B. at least 13.1 feet away from the galleys, living quarters or navigation spaces
- C. from the open deck
- D. only from areas equipped with power ventilation systems

Correct answer: C

**60.** You are using tackle number 7 in illustration D029DG below to lift a weight of 100 lbs. If you include 10 percent of the weight for each sheave for friction, what is the pull on the hauling part required to lift the weight?

- A. 150 lbs.
- B. 55 lbs.
- C. 110 lbs.
- D. 200 lbs.

Correct answer: B

**61.** Which term is given to the placing a lashing across a hook to prevent a fitting from slipping out of the hook?

- A. Mousing
- B. Worming
- C. Faking
- D. Flemishing down

Correct answer: A

**62.** You are on a multiple-product chemical tanker and will carry cargoes of ethanolamine, methyl acrylate, and glycerine. Which statement is true?

- A. Methyl acrylate and ethanolamine are compatible, but both must be segregated from glycerine.
- B. Glycerine may be stowed adjacent to methyl acrylate but must be segregated from ethanolamine.
- C. Glycerine is compatible with both of the other cargoes.
- D. All of these cargoes are mutually incompatible.

Correct answer: C

**63.** Battens are fitted in cargo holds across the frames of the vessel from the turn of the bilge upward. What is the main purpose of these cargo battens?

- A. To support the dunnage floors which are laid down between tiers of cargo
- B. Used for securing a snatch block when snaking cargo into the wings of the hold when loading
- C. To provide fittings to which cargo lashings may be secured
- D. To prevent cargo from coming in contact with the vessel's frames or shell plating and to aid in air circulation

Correct answer: D

**64.** Which action should you take FIRST when preparing to hoist the anchor?

- A. Raise riding pawl off of the chain
- B. Take off the chain stopper
- C. Put the brake in the off position
- D. Lock in the wildcat

Correct answer: D

**65.** Asphyxia is generally limited to enclosed spaces, and the deficiency of breathable air in an enclosed space can occur with any of the following conditions. Indicate the condition that will NOT cause asphyxia.

- A. Where rusting of internal tank surfaces has taken place.
- B. Where large quantities of inert gas is present.
- C. When 21% of oxygen is present.
- D. When large quantities of cargo vapor is present

Correct answer: C

**66.** 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. 2 times the wire rope diameter
- B. Match the rope diameter
- C. 20 times the wire rope diameter
- D. 10 times the wire rope diameter

Correct answer: C

**67.** When passing a moored vessel in a narrow channel which actions will help minimize wake damage?

- A. Reduce speed and make a notation in the bell book
- B. Stay on outside of channel and make a notation in the logbook
- C. Go half astern when abeam of the moored vessel
- D. Check the rudder several times while passing the vessel

Correct answer: A

**68.** Which mooring line checks forward motion of a vessel at a pier?

- A. The bow line
- B. The stern breast line
- C. The forward bow line
- D. The stern line

Correct answer: D

**69.** When shall an Operator of an Uninspected Passenger Vessel be required to produce his/her MMC?

- A. Immediately, when requested by a USCG boarding officer
- B. Only when the vessel has at least 6 passengers for hire and requested by a USCG boarding officer
- C. Only when the vessel is involved in a marine accident
- D. An Operator of an Uninspected Passenger Vessel is not required to carry his/her MMC

Correct answer: A

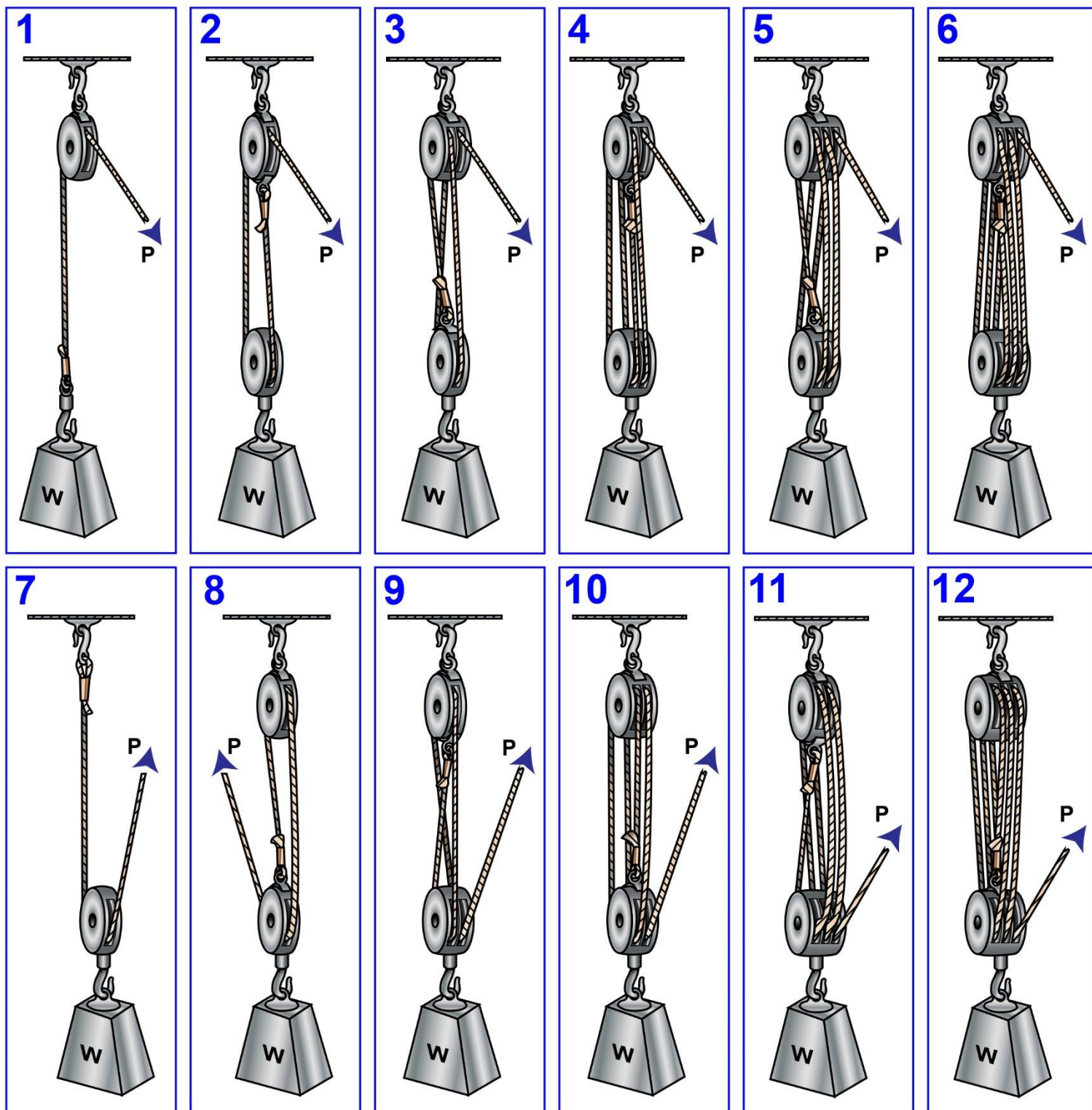
**70.** What effect does lifting the shank of a Stockless anchor that is set on the bottom have?

- A. The probability of fouling the chain decreases
- B. The flukes will break free of the bottom
- C. The probability of fouling the chain increases
- D. The flukes will dig deeper increasing the holding power

Correct answer: B



**D029DG**



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# United States Coast Guard National Maritime Center



**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°

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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°