

Your vessel is required to have an impulse-projected line-throwing appliance. The auxiliary line must _____.

Note: Three lines in succession are involved with in the process and firing a line-throwing gun. The "service line" is connected directly to the projectile, such as a quarter-inch (diameter) braided nylon or dacron line. The service line pulls the "auxiliary line," which, in turn is used to pull the wire cable that is being used as the towline. Logically, the "service line" weight must be kept to a minimum as to not hinder the flight of the projectile, but it must be of sufficient strength to pull a considerable length of "auxiliary line." Historically, the auxiliary line would have been a three-inch (circumference) manila line, where today, the "auxiliary line" is typically a synthetic material, with a circumference on the order of two inches.

A. be of a light color

Incorrect: The auxiliary line may be either of manila or synthetic material. If the line is synthetic, it must be of a color to resist deterioration from ultraviolet light. The colors red, orange, and yellow are more susceptible to deterioration from exposure to ultraviolet light; whereas dark colors, such as those toward the violet end of the color spectrum, are less susceptible to deterioration by ultraviolet light. Therefore, where synthetic materials are used in the line throwing system, the line will be formed of a dark in color.

B. be 250 meters in length

Incorrect: The auxiliary line is required to be 450 meters (1,500 feet) in length.

C. have a breaking strength of 9,000 lbs

Correct Answer: The auxiliary line is required to have a breaking strength of 40,000 Newtons (9,000 pounds).

D. be made of synthetic material

Incorrect: It does not have to be made of a synthetic material, as there is no prohibition in using manila.

Your vessel is being towed and back-up wires have been installed. Back-up wires carry the towing load in the event that the _____.

Note: Back-up wires are installed in the event of pad eye failure to maintain hold on the towing bridle legs. Each back-up wire connects the shackle and/or last link of chain in each bridle leg (at the towing bitt or padeye) to a bitt or cleat farther aft on the towed vessel. The slack is removed with a turnbuckle or a "steamboat ratchet." This wire must not be confused with a forward-leading spring line when a barge is being towed "alongside".

A. bridle legs part

Incorrect: The back-up wires take the load only if the pad eye fails or the bitt parts from the deck. If both bridle legs part, the connection to the tow will be lost.

B. towing bitt or pad eye fails

Correct Answer: If the towing bitts or pad eyes fail, the back-up wires are to take the load. The back-up wires, having been passed fore and aft several times to a bitt farther aft, are of sufficient strength to take the strain of the tow.

C. bight ring fails

Incorrect: The back-up wires take the load only when the pad eye fails. If the bight ring or fish plate fails (device used to connect the bridle to the main tow line), the back-up wires will not be capable in preventing the loss of the tow.

D. main towing hawser parts

Incorrect: If the main towing hawser parts, i.e. between the towing vessel and the fish plate, the back-up wires which are not actively involved in this segment of the tow will not prevent this separation.

When may a seaman on a vessel engaged in foreign trade be paid before earning the wages?

A. The seaman may only draw an advance on earned wages.

Correct Answer: A seaman may only draw an advance on wages already earned. The law states that "a person may not pay a seaman wages in advance of the time when the seaman has earned the wages," but a cash advance on the earned wages may be issued.

B. Wages up to fifty percent of the seaman's base wage may be advanced upon proof of serious family illness.

Incorrect: It is unlawful to pay a seaman for wages that he or she has not yet earned and only a maximum of 50% of the earned wages may be advanced, regardless of the personal circumstances, as per Title 46 to the U.S. Code. The seaman may be discharged by mutual agreement with the master. If it is agreed that the seaman must be discharged from the vessel, such as for a serious personal matter, the seaman would be "paid off" in full for the wages earned.

C. Wages equivalent to three days base wage may be advanced upon arrival in a foreign port.

Incorrect: There is no provision in the law for the advancement of wages to be based upon a specific period of time such as three days. However, the seaman may be advanced a "draw" of up to 50% of his or her base wage, whether the period is for three days or three months. This law was passed to prevent ship owners from being burdened with indebted seamen and to protect seamen from squandering their wages.

D. The advance of wages is at the discretion of the Master; however, seaman cannot be in an overpaid status at signoff.

Incorrect: The law does not allow the Master discretion to extend an advance beyond the wages earned.

A latitude line will be obtained by observing a body _____.

Note: As a celestial body crosses an observer's meridian, the line of position (LOP) resulting from a sextant observation is a latitude line. The observer's meridian is also known as the principal vertical circle, which is determined to pass through (1) the north and south celestial poles, (2) north and south points of the horizon, and (3) the zenith and nadir. The principal vertical circle intersects the prime vertical circle (at right angles) at the zenith and nadir.

A. on the prime vertical

Incorrect: The prime vertical circle passes through the east and west points of the horizon and the zenith and nadir. If a body is observed on the prime vertical circle, the resulting LOP is a longitude line.

B. on the celestial horizon

Incorrect: When a body is on the celestial horizon it has a sextant altitude of a fraction of a degree. Therefore, accurate measurement with a sextant would be impossible. If such an observation were to be made, the result would be an (inaccurate) ordinary LOP.

C. at lower transit

Correct Answer: Latitude can be determined from a sextant observation when a celestial body transits the lower (or upper) branch of an observer's celestial meridian. The navigational triangle at this time has become a straight line with the elevated pole, the zenith, and body on the same meridian. Latitude can now be determined with simple addition and subtraction. At lower transit, the observed altitude of the body is subtracted from 90° to obtain the zenith distance, which is then subtracted from $(180^\circ - \text{the declination of the body})$, giving the latitude at time of transit.

D. on the Greenwich meridian

Incorrect: If a navigator observes a body that happens to be on the Greenwich meridian at the moment of observation (Greenwich hour angle equal to 0°), the result would be an ordinary LOP. If the observer were on the Greenwich meridian, only then would the result be a latitude line. The condition as stated in the question is general, and this specific instance does not adequately answer the question as stated.