

Quiz 2 (20 pts.)

Name: _____

True or False (1 pt. each)

Answer the following by circling TRUE or FALSE. If the answer is false you must explain why in the space provided for full credit.

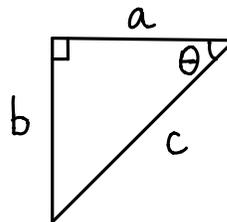
1.) T F _____ An angle measured *upward* from the horizontal is called an angle of depression

2.) T F _____ The angles $\alpha = \frac{\pi}{3}$ and $\beta = \frac{7\pi}{3}$ are coterminal

3.) T F _____ 60° converts to $\frac{\pi}{6}$ rad

4.) T F _____ $\frac{3\pi}{2}$ rad converts to 270°

5.) T F _____ In the triangle below $\csc \theta = \frac{a}{b}$

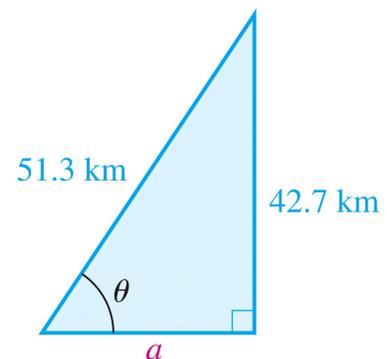


Short Answer

6.) (2 pts.) For the given right triangle find the following.

(a.) Find a

(b.) Find θ



7.) (2 pts.) Sketch the following angles in standard position.

(a.) $\theta = -\frac{\pi}{4}$

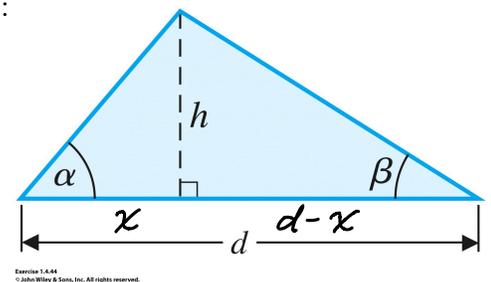
(b.) $\theta = 410^\circ$

8.) (4 pts.) From the top of a lighthouse 21 m high, a sailboat is sighted at an angle of depression of 6° . How far from the base of the lighthouse is the boat? *Round your answer to the nearest meter.*

9.) (4 pts.) Use the figure below to answer the following questions:

(a.) Write an equation for $\cot \alpha$.

(b.) Write a second equation for $\cot \beta$.



(c.) Add the second equation above to the first equation.

(d.) Simplify your equation from (c) and solve for h .

Multiple Choice

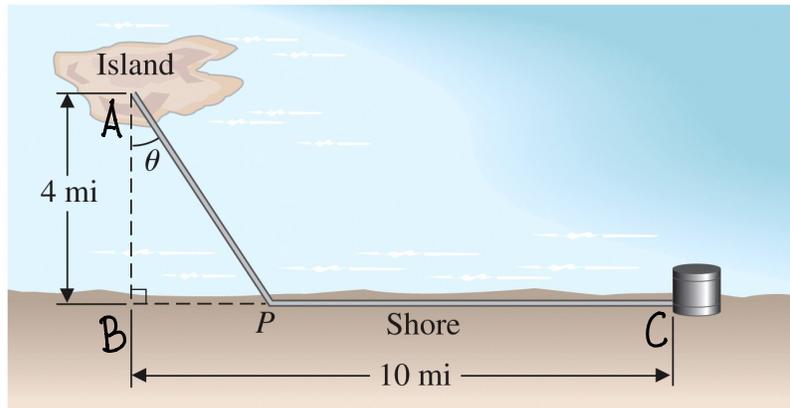
10.) (1 pt.) Given the figure below, which of the following statements is false?

a. $\overline{AP} = \frac{4}{\cos \theta}$

b. $\overline{BP} = 4 \tan \theta$

c. $\left(\frac{\overline{AP}}{\overline{BP}}\right) = \csc \theta$

d. $\overline{PC} = 10 + 4 \tan \theta$



Exercise 1.4.35
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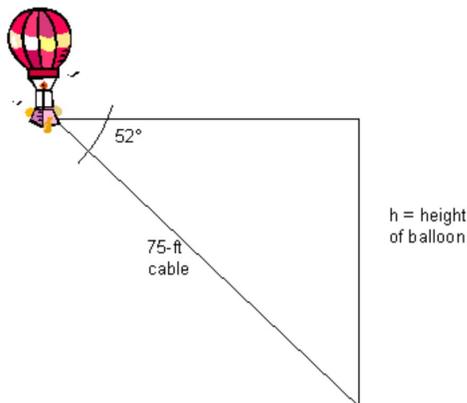
11.) (1 pt.) A hot air balloon is tethered to the ground by a 75-foot cable. As the balloon is inflated, it begins to rise. Due to the wind the angle of depression from the balloon to the ground is 52° when the cable is pulled tight. Which trig function below could be used to find the height h above the ground the instant the cable is released?

a. cosecant

b. secant

c. cotangent

d. none of the above



12.) (1 pt.) The measure of the two nearest angles (one positive and one negative) that are coterminal with 90° are:

(a) $270^\circ, -450^\circ$

(b) $450^\circ, -270^\circ$

(c) $270^\circ, -90^\circ$

(d) none of the above