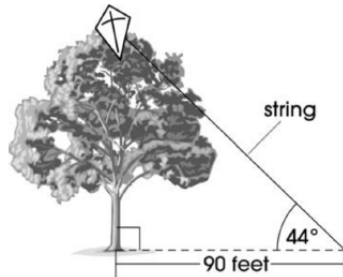


Homework 5.3 due Mon 2/25 *5 problems require work*

13 Questions

1.



WORK REQUIRED Susan is flying a kite, which gets caught in the top of a tree. Use the diagram to estimate the height of the tree.

a) 63 ft

b) 65 ft

c) 74 ft

d) 87 ft

2.



WORK REQUIRED A ramp is being built next to a 4-inch high sidewalk. The ramp's angle of inclination is 10 degrees. Estimate the length of the ramp to the nearest inch.

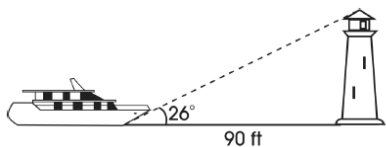
a) 4 inches

b) 8 inches

c) 23 inches

d) 0.7 inches

3.



WORK REQUIRED A yacht is anchored 90 feet offshore from the base of a lighthouse. The angle of elevation from the boat to the top of the lighthouse is 26 degrees. What is the distance from the yacht to the top of the lighthouse?

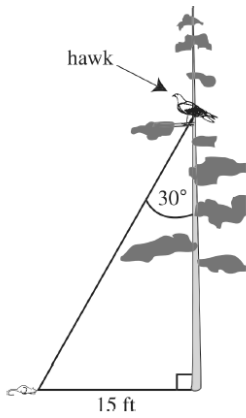
a) 81 feet

b) 100 feet

c) 44 feet

d) 135 feet

4.



A hawk sitting on a tree branch spots a mouse on the ground 15 feet from the base of the tree. The hawk swoops down toward the mouse at an angle of 30 degrees. What is the distance from the hawk to the mouse?

a) 7.5 ft

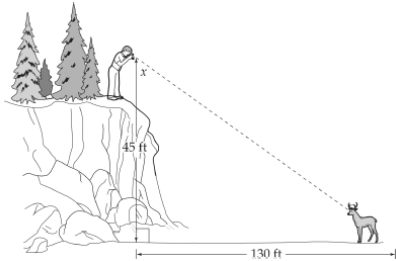
b)

$15\sqrt{3}$ ft

c) 26 ft

d) 30 ft

5.



WORK REQUIRED A tourist views a deer from a height of 45 feet. The horizontal distance between the tourist and the deer is 130 feet. At what angle (x) should the tourist hold his camera to photograph the deer?

a) 19 degrees

b) 60 degrees

c) 71 degrees

d) 42 degrees

6. You need a ladder that will reach up a 25 foot tall house when placed 10 feet away from the house. How long does the ladder need to be?

a) 25 feet

b) 20 feet

c) 27 feet

d) 23 feet

7. A piece of paper that Brittany has is 11 inches tall and 8 inches wide. She draws a straight line diagonally across the paper. How long is the line she drew?

a) 7.5 in

b) 12.4 in

c) 13.6 in

d) 14.3 in

8. If the sun casts a shadow on a tree and you want to know the angle of elevation from the ground to the top of the tree, which function could you use if you know the tree and shadow measurements?

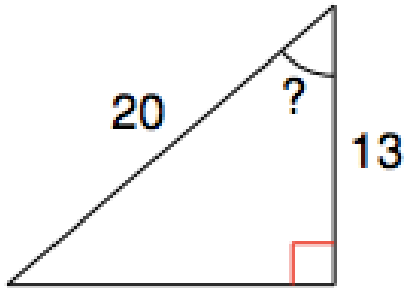
a) Cos^{-1}

b) Sin^{-1}

c) Tan

d) Tan^{-1}

9.



WORK REQUIRED Find the measure of the missing angle.

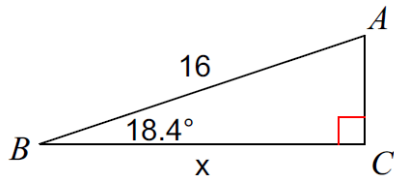
a) 49°

b) 45°

c) 41°

d) 33°

10.



What would be the correct set-up to solve for x?

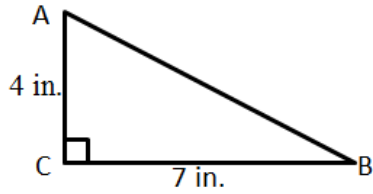
a) $\text{Tan}18.4 = \frac{x}{16}$

b) $\text{Cos}18.4 = \frac{x}{16}$

c) $\text{Sin}18.4 = \frac{x}{16}$

d) $18.4^2 + x^2 = 16^2$

11.



Which is the correct set-up to solve for Angle A?

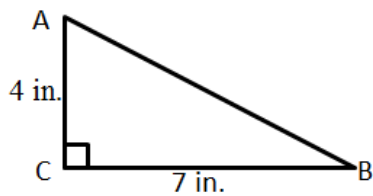
a) $4^2 + 7^2 = A^2$

b) $\text{Sin}^{-1} \left(\frac{7}{4} \right)$

c) $\text{Cos}^{-1} \left(\frac{7}{4} \right)$

d) $\text{Tan}^{-1} \left(\frac{7}{4} \right)$

12.



Which is the correct set-up to solve for Angle B?

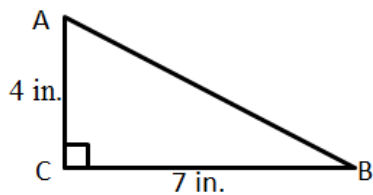
a) $4^2 + 7^2 = B^2$

b) $\text{Sin}^{-1} \left(\frac{4}{7} \right)$

c) $\text{Tan}^{-1} \left(\frac{4}{7} \right)$

d) $\text{Tan}^{-1} \left(\frac{7}{4} \right)$

13.



Which is the correct set-up to solve for the length of AB?

a) $4^2 + 7^2 = C^2$

b) $4^2 + b^2 = 7^2$

c) Special Triangle Pattern