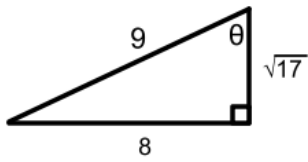


1. Find the six trigonometry ratios for the following triangle.

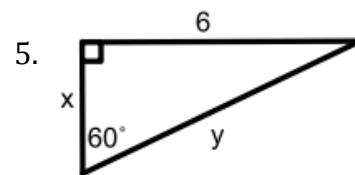
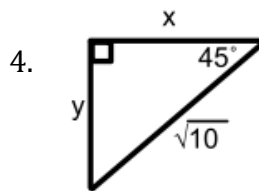
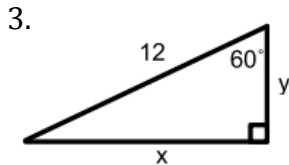


$\sin \theta = \underline{\hspace{2cm}}$ $\cos \theta = \underline{\hspace{2cm}}$ $\tan \theta = \underline{\hspace{2cm}}$

$\csc \theta = \underline{\hspace{2cm}}$ $\sec \theta = \underline{\hspace{2cm}}$ $\cot \theta = \underline{\hspace{2cm}}$

2. If $\cos \theta = \frac{3}{5}$ then find $\cot \theta$.

Find the exact values of x and y.



6. A 24 ft ladder is leaning against a house with an angle of elevation of 73° . Can this ladder be used to reach a window that is 22 ft high?

7. Standing on a 22 ft cliff overlooking the sea, you spot a sailboat at an angle of depression of 31° . How far is the sailboat from the base of the cliff?

Draw the triangle and solve.

8. $m\angle B = 35^\circ$, $b = 7$, $m\angle C = 40^\circ$. Find c .

9. $b = 120$, $m\angle B = 105^\circ$, $m\angle C = 25^\circ$. Find a .

10. $a = 25$, $m\angle B = 121^\circ$, $c = 16$. Find b .

11. $a = 8$, $b = 9$, $c = 15$. Find $m\angle C$.

12. Two angles of a triangle are 25° and 60° and the longest side is 45 m. Find the length of the shortest side of the triangle.

13. How long is the base of an isosceles triangle if each leg is 35 cm. long and each base angle measures 18° ?

14. Two planes leave an airport at the same time, one flying due east at 600 km/hr and the other flying due northwest at 400 km/hr. How far apart are they after 2 hours?

15. A baseball diamond is square 90 ft on a side. If the pitcher's mound is 60.5 feet from home plate and 63.75 feet from 1st base, through what angle would the pitcher have to turn to throw the ball to first base if he is facing home plate?

16. $m\angle A = 41^\circ$, $c = 11$, $b = 16$. Find the area.

17. $a = 7$, $b = 9$, $c = 14$. Find the area.

18. Find the area of the figure.

