

Convert the angle to degrees, minutes, and seconds.

1) 197.41°

1) $197^\circ 24' 36''$

2) 254.31°

2) $254^\circ 18' 36''$

Use the arc length formula and the given information to find the indicated quantity.

3) $s = 15$ cm, $\theta = 62^\circ$; find r

3) $\frac{60}{\pi}$ cm

4) $s = 9$ m, $r = 3$ m; find θ

4) $\frac{2}{3}$ rad

Assume that θ is an acute angle in a right triangle satisfying the given conditions. Evaluate the indicated trigonometric function.

5) $\sin \theta = \frac{8}{9}$; $\cot \theta$

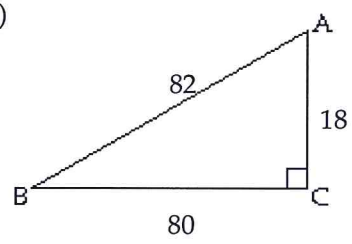
5) $\frac{\sqrt{17}}{8}$

6) $\tan \theta = \frac{1}{5}$; $\csc \theta$

6) $\sqrt{26}$

Find the exact values of the indicated trigonometric functions. Write fractions in lowest terms.

7)



Find $\cos B$ and $\cot B$.

7) $\cos B = \frac{40}{41}$
 $\cot B = \frac{40}{9}$

Assume that θ is an acute angle in a right triangle satisfying the given conditions. Evaluate the indicated trigonometric function.

8) $\sin \theta = \frac{6}{7}$; $\cos \theta$

8) $\frac{\sqrt{13}}{7}$

9) $\sin \theta = \frac{2}{3}$; $\cot \theta$

9) $\frac{\sqrt{5}}{2}$

10) $\csc \theta = \frac{9}{2}$; $\cot \theta$

10) $\frac{\sqrt{77}}{2}$

11) $\cot \theta = \frac{5}{12}$; $\csc \theta$

11) $\frac{13}{12}$

Solve the equation.

12) Solve $\sin \theta = \frac{\sqrt{3}}{2}$ for θ , where $0 \leq \theta \leq \frac{\pi}{2}$.

12) $\frac{\pi}{3}$

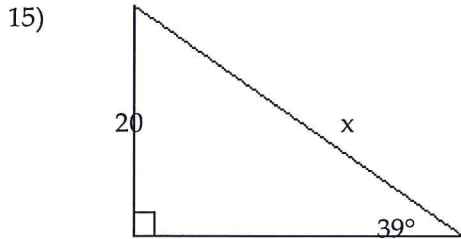
13) Solve $\tan \theta = \frac{1}{\sqrt{3}}$ for θ , where $0 \leq \theta \leq \frac{\pi}{2}$.

13) $\frac{\pi}{6}$

14) Solve $\sec \theta = \sqrt{2}$ for θ , where $0^\circ \leq \theta \leq 90^\circ$

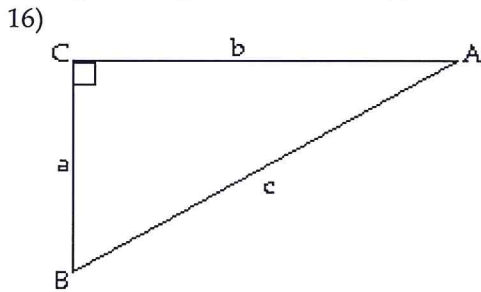
14) 45°

Solve for x. Round your answer to 2 decimal places.



15) 31.78

Solve the right triangle for all missing sides and angles to the nearest tenth.

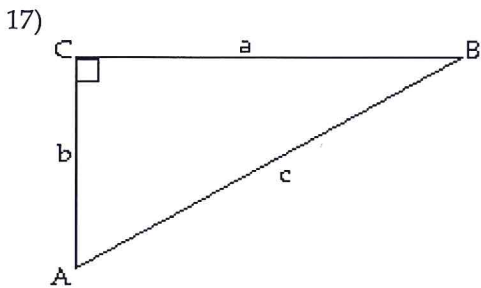


$c = 10$
 $B = 59^\circ$

$A = 31^\circ$
 $B = 59^\circ$
 $C = 90^\circ$

16) _____

$a = 5.2$
 $b = 8.6$
 $c = 10$



$c = 17$
 $A = 55^\circ$

$A = 55^\circ$
 $B = 35^\circ$
 $C = 90^\circ$

17) _____

$a = 13.9$
 $b = 9.8$
 $c = 17$

Solve the problem.

18) A kite is currently flying at an altitude of 17 meters above the ground. If the angle of elevation from the ground to the kite is 30° , find the length of the kite string to the nearest meter.

18) 34 m

19) From a distance of 43 feet from the base of a building, the angle of elevation to the top of the building is 63° . Estimate the height of the building to the nearest foot.

19) 84 ft

Write an equation for a sine curve that has the given amplitude and period, and which passes through the given point.

20) Amplitude 5, period $\frac{\pi}{2}$, point (0, 0)

20) $y = 5 \sin 4x$

Find the specified quantity.

21) Find the amplitude of $y = 5 \cos\left(3x + \frac{\pi}{2}\right)$.

21) 5

22) Find the period of $y = -2 \sin\left(8x + \frac{\pi}{2}\right)$.

22) $\frac{\pi}{4}$

23) Find the period of $y = 3 \sin\left(\frac{1}{2}x - \frac{\pi}{2}\right)$.

23) 4π