

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

The given angle is in standard position. Determine the quadrant in which the angle lies.

1) -226°

1) _____

Find the radian measure of the central angle of a circle of radius r that intercepts an arc of length s .

2) $r = \frac{1}{5}$ feet, $s = 4$ feet

2) _____

Convert the angle in degrees to radians. Express answer as a multiple of π .

3) 144°

3) _____

Convert the angle in radians to degrees.

4) $\frac{5}{4}\pi$

4) _____

Find a positive angle less than 360° or 2π that is coterminal with the given angle.

5) 558°

5) _____

6) $\frac{21\pi}{10}$

6) _____

The point $P(x, y)$ on the unit circle that corresponds to a real number t is given. Find the value of the indicated trigonometric function at t .

7) $\left(\frac{5}{8}, \frac{\sqrt{39}}{8}\right)$ Find $\tan t$.

7) _____

Solve the problem.

8) What is the domain of the sine function?

8) _____

Find the exact value of the trigonometric function. Do not use a calculator.

9) $\sec \frac{\pi}{4}$

9) _____

10) $\csc \frac{3\pi}{4}$

10) _____

11) $\tan \frac{9\pi}{4}$

11) _____

$\sin t$ and $\cos t$ are given. Use identities to find the indicated value. Where necessary, rationalize denominators.

12) $\sin t = \frac{\sqrt{7}}{4}$, $\cos t = \frac{3}{4}$. Find $\sec t$.

12) _____

Find the exact value of the indicated trigonometric function of θ .

13) $\csc \theta = -\frac{7}{4}$, θ in quadrant III Find $\cot \theta$.

13) _____

14) $\sin \theta = -\frac{2}{3}$, $\tan \theta > 0$ Find $\sec \theta$.

14) _____

15) $\cos \theta = \frac{20}{29}$, $\frac{3\pi}{2} < \theta < 2\pi$ Find $\cot \theta$.

15) _____

$0 \leq t < \frac{\pi}{2}$ and $\sin t$ is given. Use the Pythagorean identity $\sin^2 t + \cos^2 t = 1$ to find $\cos t$.

16) $\sin t = \frac{\sqrt{5}}{3}$

16) _____

Use periodic properties of the trigonometric functions to find the exact value of the expression.

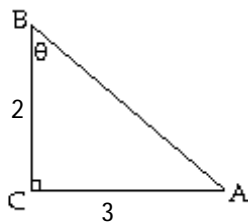
17) $\cos \frac{10\pi}{3}$

17) _____

Use the Pythagorean Theorem to find the length of the missing side. Then find the indicated trigonometric function of the given angle. Give an exact answer with a rational denominator.

18) Find $\sec \theta$.

18) _____



Evaluate the expressions.

19) $\sec \frac{\pi}{3} - \cos \frac{\pi}{6}$

19) _____

20) $\cos \frac{\pi}{6}$

20) _____

21) $\cos \frac{\pi}{3} \sec \frac{\pi}{3} - \cot \frac{\pi}{6}$

21) _____

Find a cofunction with the same value as the given expression.

22) $\cos 62^\circ$

22) _____

23) $\tan \frac{\pi}{14}$

23) _____

A point on the terminal side of angle θ is given. Find the exact value of the indicated trigonometric function of θ .

24) (3, 4) Find $\cos \theta$.

24) _____

25) (2, -3) Find $\sin \theta$.

25) _____

Find the reference angle for the given angle.

26) 107°

26) _____

27) $\frac{7\pi}{8}$

27) _____

Find a cofunction with the same value as the given expression.

28) $\csc 52^\circ$

28) _____

Find the reference angle for the given angle.

29) $-\frac{2\pi}{3}$

29) _____

Use reference angles to find the exact value of the expression. Do not use a calculator.

30) $\cot \frac{-5\pi}{6}$

30) _____

31) $\tan \frac{-7\pi}{4}$

31) _____

32) $\csc \frac{4\pi}{3}$

32) _____

Solve the problem.

33) A car wheel has a 14-inch radius. Through what angle (to the nearest tenth of a degree) does the wheel turn when the car rolls forward 2 ft?

33) _____

34) A building 290 feet tall casts a 30 foot long shadow. If a person stands at the end of the shadow and looks up to the top of the building, what is the angle of the person's eyes to the top of the building (to the nearest hundredth of a degree)? (Assume the person's eyes are 4 feet above ground level.)

34) _____