

1. Sketch the angle in standard position, find one positive and one negative coterminal angle.

a) -139°

b) $\frac{7\pi}{9}$

c) $-\frac{21\pi}{8}$

2. Find the complement and supplement of each.

a) 24°

b) $\frac{2\pi}{7}$

c) $\frac{13\pi}{21}$

3. Find the reference angle and an angle that is coterminal to each.

a) -227°

b) $-\frac{23\pi}{5}$

c) 2

4. Convert the radians to degrees and the degrees to radians.

a) 140°

b) $\frac{8\pi}{15}$

c) -3

5. Given the following find the value of the remaining 5 trig functions.

a) $\sin \theta = \frac{3}{5}, \frac{\pi}{2} < \theta < \pi$

b) $\sec \theta = -\frac{\sqrt{65}}{7}, \tan \theta > 0$

6. Find the six trig functions of an angle whose terminal side passes through the point.

a) $(-9, 2)$

b) $\left(-\frac{5}{7}, \frac{2}{7}\right)$

7. Find the six trig functions of an angle whose terminal side can be represented as the following.

a) $y = \frac{2}{3}x$ in Quad. III

b) $x + 5y = 0$ in Quad. II

8. Find θ in radians ($0 \leq \theta < 2\pi$), if there is more than one answer list all.

a) $\sin \theta = -\frac{1}{2}$

b) $\tan \theta = 0$

9. Evaluate the following.

a) $\sin\left(\frac{7\pi}{4}\right)$

b) $\sec\left(-\frac{5\pi}{6}\right)$

10. Given that $\sin \theta = \frac{2}{5}$, find.

a) $\sin(-\theta)$

b) $\sin(\theta + \pi)$

11. Use the unit circle on page 369 to find the following.

a) $\sin(4.25)$

b) $\cos(2.75)$

12. Use trigonometric identities to transform the left side of the equation into the right side.

a) $\cot \theta \csc \theta \cos \theta = \cot^2 \theta$

b) $\cos^4 \theta - \sin^4 \theta = \cos^2 \theta - \sin^2 \theta$

13. The ceiling fan in Suzy's room rotates at 300 rpm. Each blade is 12 in long. What is the linear velocity of a piece of tape attached to the end of one of the blades?

14. Suzy is riding her bike at 13 mph. Her wheels have diameter of 27 in. Find the rpm of her wheel.

15. Suzy's bike has a pedal sprocket which has a radius of 2 in. It has a sprocket on the back wheel with a diameter of 7 in. The back wheel has a diameter of 26 in. How fast is Suzy traveling if she is pedaling her bike at 100 rpm?