

Name: _____ Date: _____

1. Determine the quadrant in which the angle lies. (The angle measure is given in radians.)

$$\frac{2\pi}{5}$$

2. Determine the quadrant in which the angle lies.

$$80^\circ$$

3. Rewrite the given angle in radian measure as a multiple of π . (Do not use a calculator.)

$$45^\circ$$

4. Rewrite the given angle in degree measure. (Do not use a calculator.)

$$-\frac{16\pi}{9}$$

5. Convert the given angle measure from degrees to radians. Round to three decimal places.

$$-230.5^\circ$$

6. Convert the given angle measure from radians to degrees. Round to three decimal places.

$$-\frac{3\pi}{7}$$

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

$$\text{radius: } r = 6 \text{ meters} \quad \text{arc length: } s = 20 \text{ meters}$$

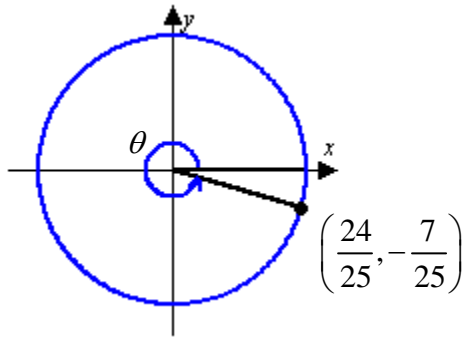
8. Find the length of the arc on a circle of radius r intercepted by a central angle θ .

$$\text{radius: } r = 13 \text{ feet} \quad \text{central arc: } \theta = \frac{2\pi}{15}$$

9. Find the area of the sector of the circle with radius r and central angle θ .

$$\text{radius: } r = 11 \text{ feet} \quad \text{central arc: } \theta = \frac{13\pi}{18}$$

10. Determine the exact value of $\cos \theta$.



11. Find the point (x, y) on the unit circle that corresponds to the real number t .

$$t = \frac{3\pi}{4}$$

12. Evaluate, if possible, the given trigonometric function at the indicated value.

$$\sec t, t = \frac{4\pi}{3}$$

13. Evaluate the trigonometric function using its period as an aid.

$$\cos\left(-\frac{17\pi}{3}\right)$$

14. Use a calculator to evaluate the trigonometric function. Round your answer to four decimal places. (Be sure the calculator is set in the correct angle mode.)

$$\sin \frac{2\pi}{3}$$

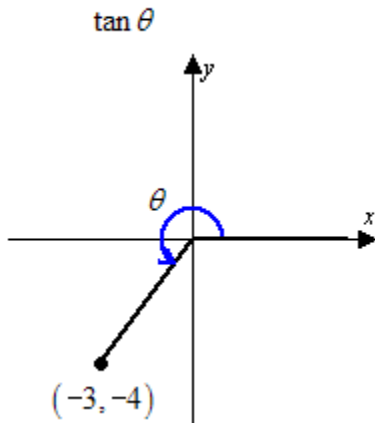
15. Given that $\sin \theta = \frac{2}{3}$, find $\sec \theta$.

[Hint: Sketch a right triangle corresponding to the trigonometric function of the acute angle θ , then use the Pythagorean Theorem to determine the third side.]

16. Use a calculator to evaluate the function. Round your answers to four decimal places. (Be sure the calculator is in the correct angle mode.)

$$\sec 27.3^\circ$$

17. Using the figure below, determine the exact value of the given trigonometric function.



18. Find the reference angle θ' for the given angle θ .

$$\theta = 344^\circ$$

19. The point (13,10) is on the terminal side of an angle in standard position. Determine the exact value of $\sec \theta$.

20. State the quadrant in which θ lies.

$$\sin(\theta) > 0 \text{ and } \cos(\theta) > 0$$

Answer Key

1. I
2. Quadrant I
3. $\frac{\pi}{4}$
4. -320°
5. -4.023
6. -77.143°
7. $\frac{10}{3}$
8. $\frac{26\pi}{15}$ feet
9. $\frac{1573\pi}{36}$ square feet
10. $\frac{24}{25}$
11. $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$
12. -2
13. $\frac{1}{2}$
14. 0.8660
15. $\frac{3}{\sqrt{5}}$
16. 1.1253
17. $\frac{4}{3}$
18. 16°
19. $\frac{\sqrt{269}}{13}$
20. Quadrant I