Angle Measure, Special Triangles, Radians, the Coordinate Plane - Worksheet

1. Find the coterminal angle whose measure is between $-180°$ and $180°$.

   (a) $\theta = 495°$

   (b) $\theta = 645°$

2. Given a 45-45-90 triangle with the stated measure(s), find the length of the unknown side(s) in exact form.

   (a) The hypotenuse measures $7\sqrt{2}$ inches.

   (b) The legs measure $3\sqrt{2}$ inches.

3. Given a 30-60-90 triangle with the stated measure(s), find the length of the unknown side(s) in exact form.

   (a) The hypotenuse measures 5 inches.

   (b) The hypotenuse measures 9 miles.

4. Convert the following degree measures to radians in exact form without using a calculator.

   (a) $\theta = 30°$

   (b) $\theta = -120°$

5. Convert each radian measure to degrees, without the use of a calculator.

   (a) $\theta = \dfrac{2\pi}{3}$

   (b) $\theta = \dfrac{5\pi}{6}$

6. Find the value of the six trigonometric functions given $P(x, y)$ is on the terminal side of angle θ, with θ in standard position.

   (a) $(-7, 24)$

   (b) $(-3, -1)$

7. For the information given, find the values of x, y and r. Clearly indicate the quadrant of the terminal side of θ, then state the values of the six trig functions of θ.

   (a) $tan\theta = -\dfrac{12}{5}$ and $cos\theta > 0$

   (b) $sin\theta = -\dfrac{20}{29}$ and $tan\theta < 0$