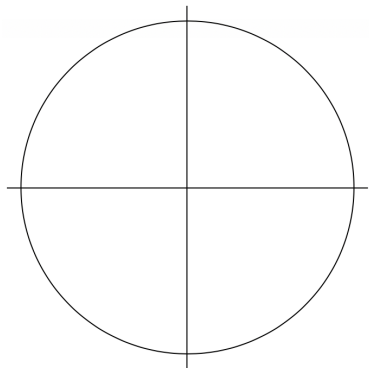Name: _____

Trigonometry Review

1. Sketch each angle listed below in standard position on the unit circle. Then give the exact coordinates of each of the angle.

    (a) $\theta = \pi$; (,   )

    (b) $\theta = \frac{2\pi}{3}$; (,   )

    (c) $\theta = -\frac{\pi}{4}$; (,   )

2. Suppose θ is an angle whose terminal edge intersections the unit circle at the point (x, y). If $x = -\frac{1}{5}$ and (x, y) is in the third quadrant, find each of the following:

    (a) $\cos\theta =$ (c) $\tan\theta =$ (e) $\csc\theta =$
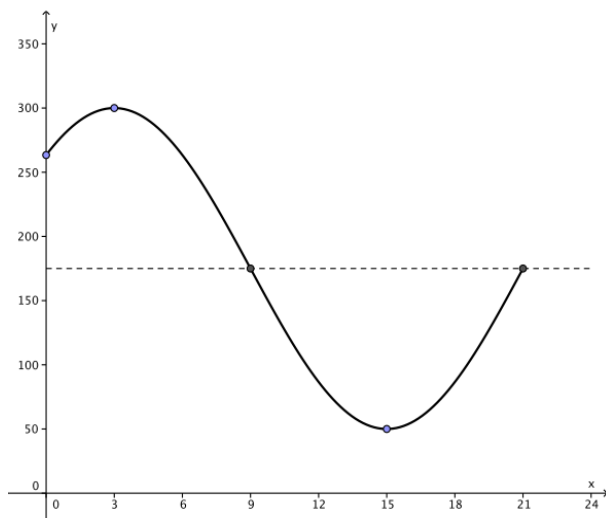
    (b) $\sin\theta =$ (d) $\sec\theta =$ (f) $\cot\theta =$

3. What is the difference between $\sin^2 x$, $\sin x^2$, $(\sin x)^2$, and $\sin(\sin(x))$? Consider using a graphing utility to check your reasoning.

4. Consider the sinusoidal graph below.

(a) Determine an equation of a co-sine function that produces the graph below. You mind find it helpful to determine things like the amplitude, period, and midline of the function. Double-check your answer by graphing it or testing a few points.

(b) Now find a sine function that produces the same graph.

5. Find all values of x in the interval $[0, 2\pi]$ that satisfy the following equations. If you deleted the condition that your answer must lie in the interval $[0, 2\pi]$, would your answer change? If yes, how?

(a) $\sin(x) = \frac{\sqrt{3}}{2}$

(b) $5\tan(x) + 3 = -2$

(c) $\sin(2x) = \cos x$