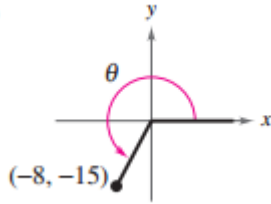


## Precalculus Unit 5: 5.4 Homework

### Trigonometric Functions of Any Angle

1. Determine the exact value of the six trig functions for the angle  $\theta$ .



$$\sin \theta = \qquad \qquad \qquad \csc \theta =$$

$$\cos \theta = \qquad \qquad \qquad \sec \theta =$$

$$\tan \theta = \qquad \qquad \qquad \cot \theta =$$

2. The point  $(5, -6)$  is on the terminal side of  $\theta$ . Determine the exact value of the six trig functions for  $\theta$ .

$$\sin \theta = \qquad \qquad \qquad \csc \theta =$$

$$\cos \theta = \qquad \qquad \qquad \sec \theta =$$

$$\tan \theta = \qquad \qquad \qquad \cot \theta =$$

3. Determine the quadrant in which  $\theta$  lies.

a.)  $\sin \theta < 0$  and  $\cos \theta < 0$

c.)  $\cot \theta > 0$  and  $\cos \theta > 0$

b.)  $\sec \theta > 0$  and  $\cot \theta < 0$

d.)  $\tan \theta > 0$  and  $\csc \theta < 0$

4. Find the values of the six trig functions for the angle  $\theta$  if  $\cos \theta = \frac{-4}{5}$  and  $\theta$  is in quadrant III.

$$\sin \theta = \qquad \qquad \qquad \csc \theta =$$

$$\cos \theta = \qquad \qquad \qquad \sec \theta =$$

$$\tan \theta = \qquad \qquad \qquad \cot \theta =$$

5. Find the values of the six trig functions for the angle  $\theta$  if  $\csc \theta = 4$  and  $\cot \theta < 0$ .

$$\sin \theta = \qquad \qquad \csc \theta =$$

$$\cos \theta = \qquad \qquad \sec \theta =$$

$$\tan \theta = \qquad \qquad \cot \theta =$$

6. Use your calculator to estimate the following values. Make sure to check which mode your calculator is in.

a.)  $\cos(5.2)$       b.)  $\tan(-415^\circ)$       c.)  $\csc\left(\frac{3\pi}{8}\right)$       d.)  $\cot(-2.4)$       e.)  $\sec(123^\circ)$