

Name: _____

1. Determine which quadrant the angle lies on. Sketch the given angle and also find the reference angle

a. $\theta = 5$

b. $\theta = 3355^\circ$

2. Convert the following angle to degree measure. Round to nearest degree. Show works

a. 2.14

b. $\frac{5\pi}{17}$

c. $\frac{\pi}{6}$

d. $\frac{3\pi}{4}$

3. Convert the following to radian measure. show works. Leave the answer in 4 decimal places

a. 125°

b. 330°

4. Determine the sign of the following trigonometric function value. Circle correct answer

- a. $\sin x$ where x in $QIII$ Negative / Positive
b. $\cos x$ where x in QIV Negative / Positive
c. $\sec x$ where x in QII Negative / Positive

5. You purchased an 18in large pizza, and you want to cut the pizza into pieces so that the arc length of each piece is 3.8in.
- What is the measure of central angle in degree?
 - How many pieces you can cut equally? (Think about whole pizza is 360 degree)

6. Given $\sin(t) = -\frac{1}{5}$

a. $\sin(-t) = \underline{\hspace{2cm}}$. Why?

b. $\cos(90^\circ - t) = \underline{\hspace{2cm}}$. Why?

c. $\csc(t) = \underline{\hspace{2cm}}$ Why?

d. What quadrant(s) will the angle t lies on? circle the correct answers.

I. II. III. IV.

e. Find $\cos(t)$, $\sec(t)$ and $\tan(t)$ if t is in $QIII$. Keep answer in exact

7. Find all the necessary information and describe the transformation then sketch the graph in two cycles

$$y = \frac{1}{2} \tan\left(\frac{1}{2}x - 2\pi\right) + 2$$

x	Y

8. Find all the necessary information and describe the transformation then sketch the graph in one cycle

$$y = -3 \sin\left(3x - \frac{\pi}{2}\right) - 1$$

x	Y

9. Find all the necessary information and describe the transformation then sketch the graph

$$y = \sec(2x - \pi) + 1$$

x	Y

10. Prove the identity

a. $\sec^2 x \cot^2 x - 1 = \cot^2 x$

b. $\frac{\csc x \cos x}{\tan x + \cot x} = \cos^2 x$

11. Sketch the reference angle and use it to evaluate the following. Keep exact value. Show all the works
 $\sin(750^\circ)$

$\cos(120^\circ)$

12. you want to measure how high the tree is. You walk exactly 84 feet from the base of the tree and looks up. An angle elevation is 35° is formed by the ground to the top of the tree. Find the height of a tree.