

§4.6: Graphs of Secant, Cosecant, and Cotangent  
“I WILL...  
...graph reciprocal trigonometric functions.”

I. Quadrantals

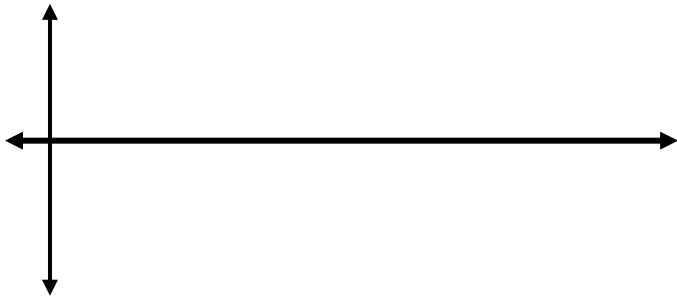
A. From the Unit Circle, there are five points to graph.

1. Secant and Cosecant graph points are at \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

2. Cotangent graph points are at \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_

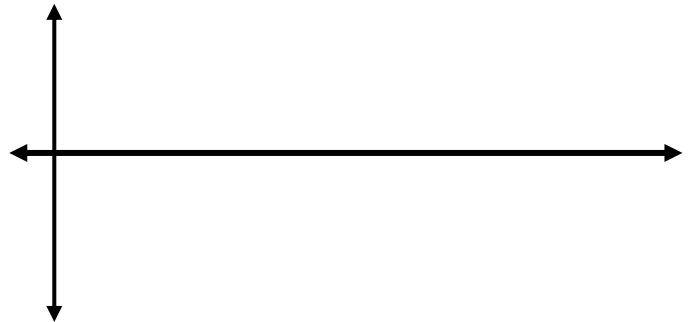
B. Cosecant graph is the reciprocal of the \_\_\_\_\_ function, Secant graph is the reciprocal function of the \_\_\_\_\_ function, and Cotangent graph is the reciprocal of the \_\_\_\_\_ function

Ex 1: Graph  $y = \csc(x)$  from  $[0, 2\pi]$



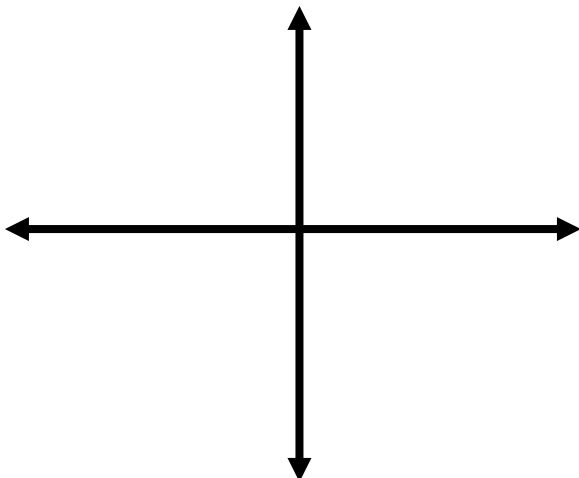
$x$	0	$\frac{\pi}{2}$	$\pi$	$\frac{3\pi}{2}$	$2\pi$
$f(x)$					
Period:			Decreasing:		
Domain:			Zeroes:		
Range:			Odd/Even:		
Increasing:					

Ex 2: Graph  $y = \sec(x)$  from  $[0, 2\pi]$



$x$	0	$\frac{\pi}{2}$	$\pi$	$\frac{3\pi}{2}$	$2\pi$
$f(x)$					
Period:			Decreasing:		
Domain:			Zeroes:		
Range:			Odd/Even:		
Increasing:					

Ex 3: Graph  $y = \cot(x)$  from  $[0, \pi]$



$x$	0	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{3\pi}{4}$	$\pi$
$f(x)$					

Period:	Decreasing:
Domain:	Zeroes:
Range:	Odd/Even:

Ex 4: Identify the period and amplitude of  $y =$

$$2 \csc 2x$$

Ex 5: Identify the period and amplitude of  $y =$

$$\frac{1}{4} \cot 3(x - \pi) + 2$$

Your Turn: Identify the period and amplitude of  $y = \frac{1}{2} \csc 3x + 1$