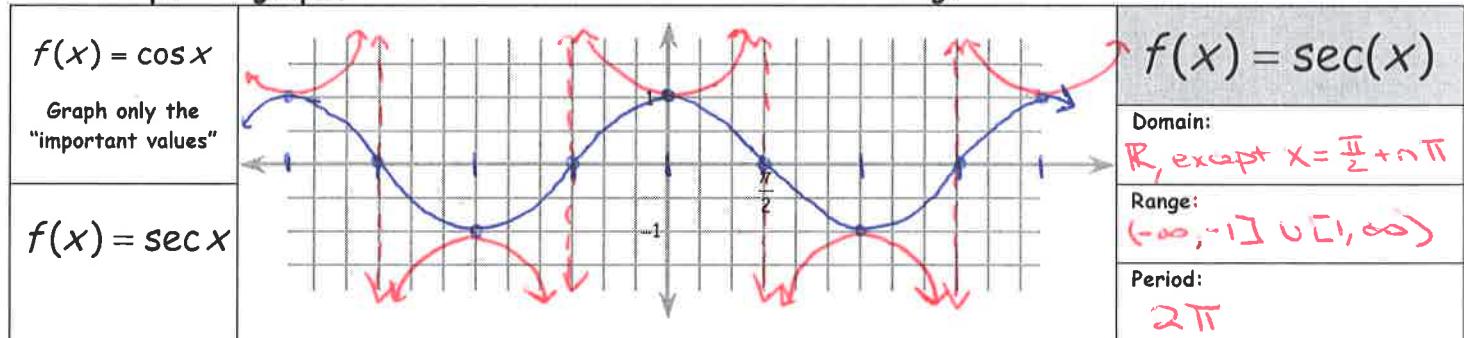


## 4.6 Notes: Graphs of Other Trigonometric Functions- Day 2

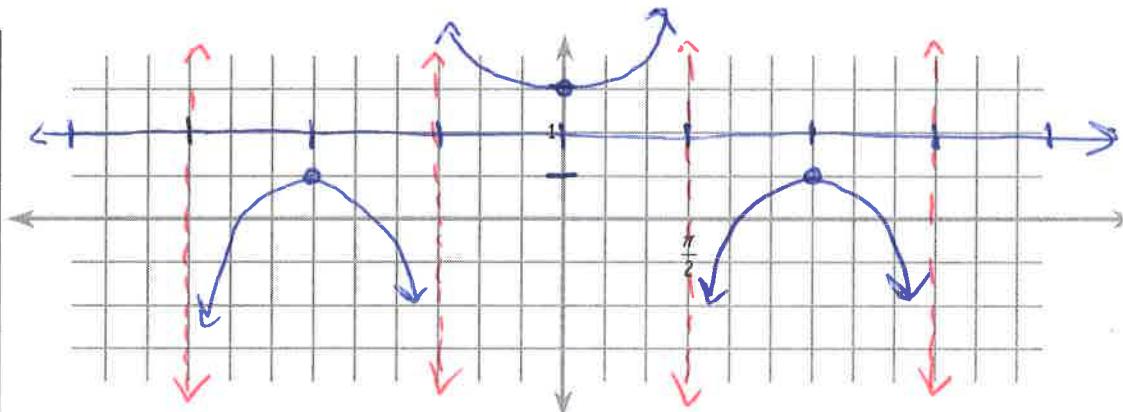
When the sine is equal to zero, the cosecant is undefined and there will be an asymptote on the graph. Likewise, when the cosine is equal to zero, the Secant is undefined and there will be an asymptote on the graph.

Graph the "important values" of the cosine function on the graph below and use these values to build the parent graphs of the secant function. Fill the entire grid.



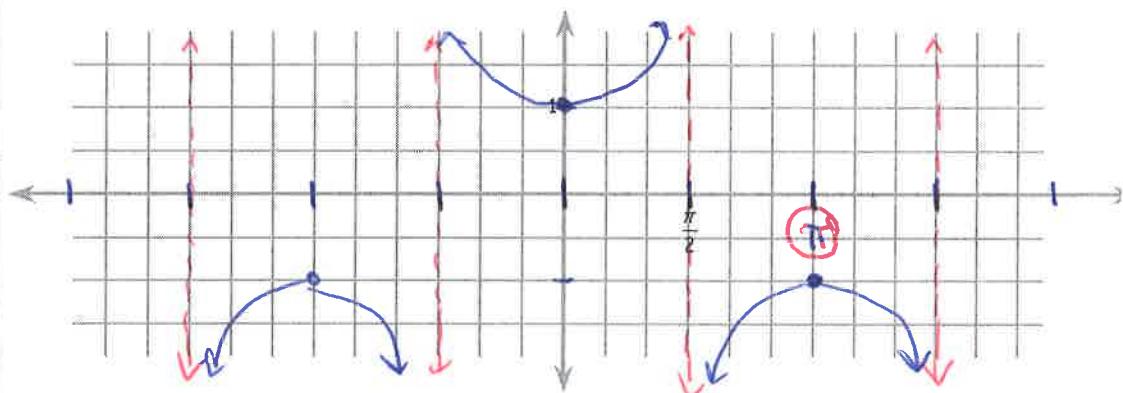
1.  $y = \frac{1}{2}\sec x + 1$

Amplitude: <b>NONE</b> N/A	Reflection? <b>none</b>
Period: <b><math>2\pi</math></b>	Important Values: <b><math>\frac{\pi}{2}</math></b>
Phase Shift: <b>0</b>	Vertical Shift: <b>up 1</b>



2.  $y = -\sec(x - \pi)$

Amplitude: <b>None</b> N/A	Reflection? <b>Yes</b>
Period: <b><math>2\pi</math></b>	Important Values: <b><math>\frac{\pi}{2}</math></b>
Phase Shift: <b><math>\pi</math></b>	Vertical Shift: <b>0</b>

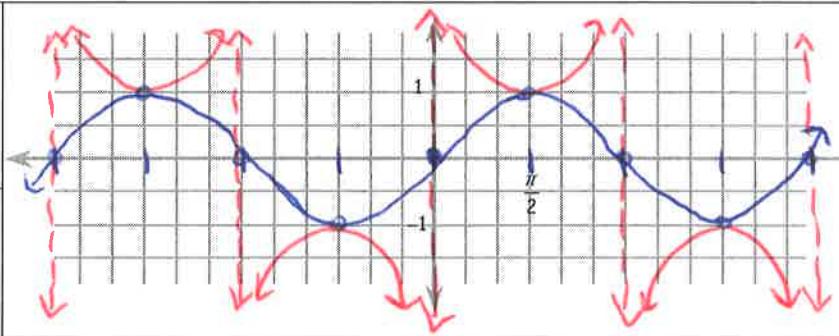


\* Same graph as the parent function

$$f(x) = \sin x$$

Graph only the "important values"

$$f(x) = \csc x$$



$$f(x) = \csc(x)$$

Domain:

$\mathbb{R}$ , except  $x = \pi n$

Range:

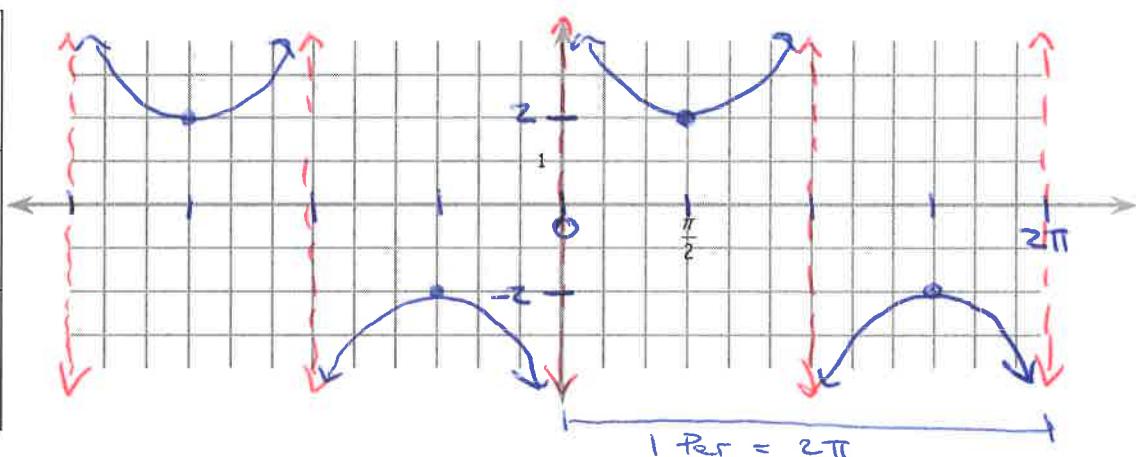
$(-\infty, -1] \cup [1, \infty)$

Period:

$2\pi$

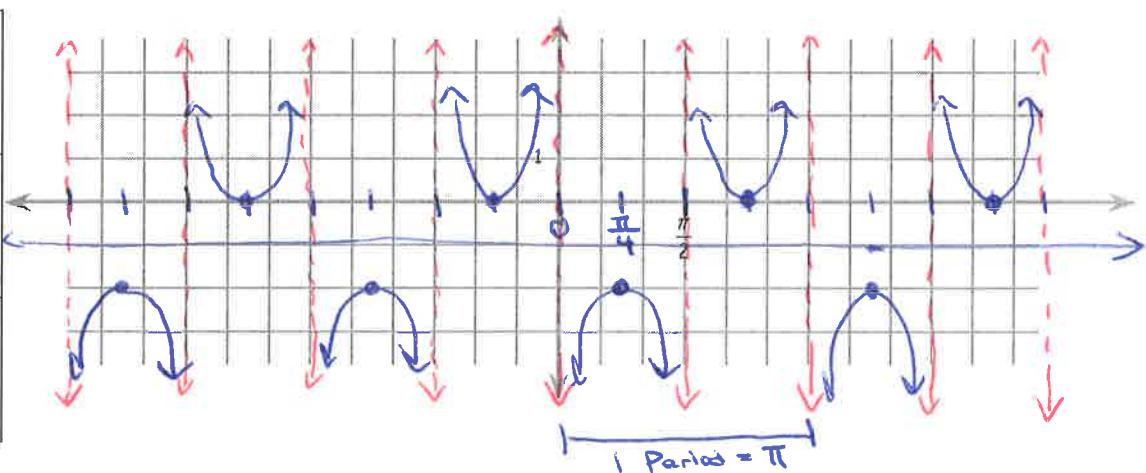
$$3. \quad y = 2 \csc x$$

Amplitude:	Reflection?
NONE N/A	none
Period:	Important Values:
$2\pi$	$\frac{\pi}{2}$



$$4. \quad y = -\csc 2x - 1$$

Amplitude:	Reflection?
None/ N/A	yes
Period:	Important Values:
$\pi$	$\frac{\pi}{4}$



$$5. \quad y = \csc\left(x + \frac{\pi}{2}\right)$$

Amplitude:	Reflection?
None/ N/A	none
Period:	Important Values:
$2\pi$	$\frac{\pi}{2}$

