

GPS PreCalculus

Guided Notes – Graphing sec/csc

Reciprocal Identities

$$\sec x = \frac{1}{\cos x}$$

If $\cos x = 0$, then $\sec x$ is undefined (VA)

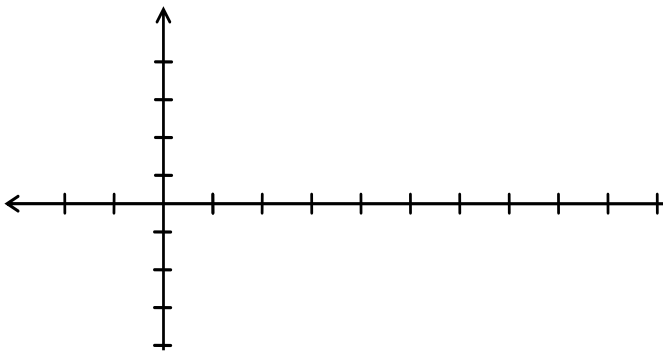
$$\csc x = \frac{1}{\sin x}$$

If $\sin x = 0$, then $\csc x$ is undefined (VA)

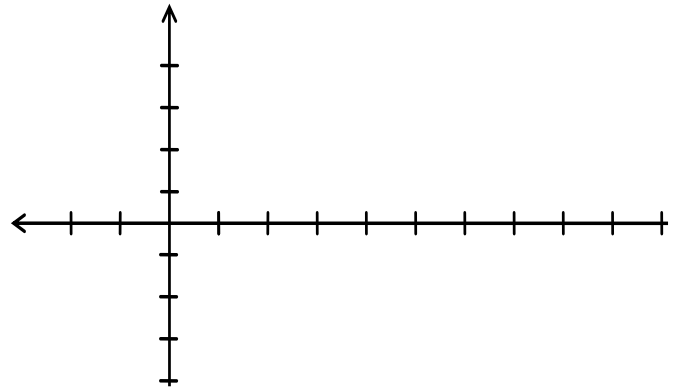
To graph $\csc x$ / $\sec x$:

1. Graph $y = \sin x$ for $\csc x$ and $y = \cos x$ for $\sec x$
2. Locate the vertical asymptotes –

Example 1: Graph $y = \csc x$



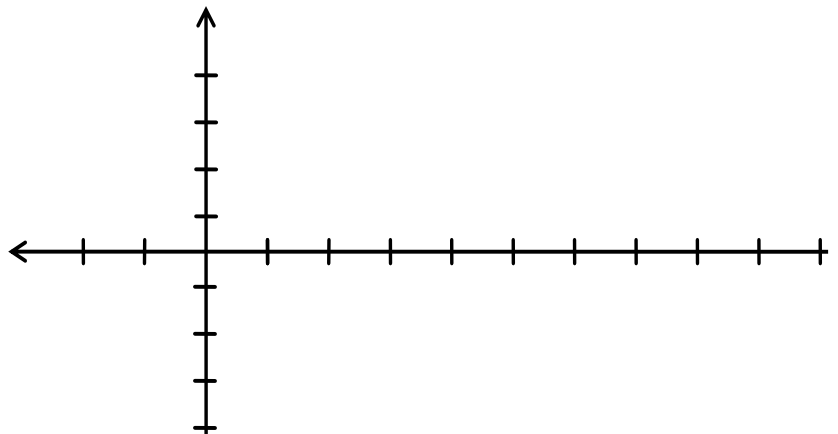
Example 2: Graph $y = \sec x$



Example 3: Graph $y = -3\sec(2x) - 1$

$$y = -3\cos(2x) - 1$$

- Amplitude: _____
Period: _____
Vertical Shift: _____
Horizontal Shift _____
Start: _____
End: _____
Increments: _____



Example 4: Graph $y = -2\csc\left(\frac{x}{2} - \frac{\pi}{2}\right) + 3$

- Amplitude: _____
Period: _____
Vertical Shift: _____
Horizontal Shift _____
Start: _____
End: _____
Increments: _____

