

## Questions from Homework

⑧ d)  $1 - \sin\theta = 2\sin^2\theta$   $\frac{2}{2} \times \frac{1}{1} = -2$   
 $\frac{2}{2} + \frac{1}{1} = 1$

$$0 = 2\sin^2\theta + \sin\theta - 1$$

$$0 = (2\sin^2\theta + 2\sin\theta)(\sin\theta - 1)$$

$$0 = 2\sin\theta(\sin\theta + 1) - 1(\sin\theta + 1)$$

$$0 = (2\sin\theta - 1)(\sin\theta + 1)$$

$$2\sin\theta - 1 = 0$$

$$2\sin\theta = 1$$

$$\sin\theta = \frac{1}{2} \quad \text{ref} = 30^\circ$$

$$\sin\theta + 1 = 0$$

$$\sin\theta = -1$$

$$\theta = 270^\circ$$

$$\theta = -90^\circ$$

<u>Quad 1</u>	<u>Quad 2</u>
$\theta = 30^\circ$	$\theta = 150^\circ$
$\Leftrightarrow \theta = -330^\circ$	$\theta = -210^\circ$

⑧ e)  $2\sin^2\theta + 5\sin\theta - 3 = 0$   $-\frac{1}{1} \times \frac{6}{6} = -6$   
 $-\frac{1}{1} + \frac{6}{6} = 5$

$$(2\sin^2\theta - \sin\theta)(6\sin\theta - 3) = 0$$

$$\sin\theta(2\sin\theta - 1) + 3(2\sin\theta - 1) = 0$$

$$(2\sin\theta - 1)(\sin\theta + 3) = 0$$

$$2\sin\theta - 1 = 0$$

$$2\sin\theta = 1$$

$$\sin\theta = \frac{1}{2} \quad \text{ref} = 30^\circ$$

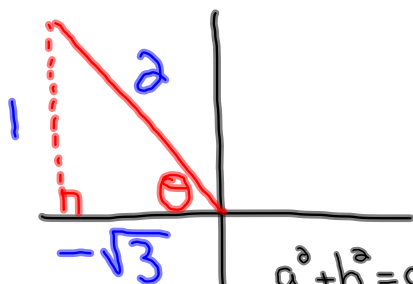
$$\sin\theta + 3 = 0$$

$$\sin\theta = -3$$

Not Possible

<u>Quad 1</u>	<u>Quad 2</u>
$\theta = 30^\circ$	$\theta = 150^\circ$
$\Leftrightarrow \theta = -330^\circ$	$\theta = -210^\circ$

③



•  $\theta$  is in 2<sup>nd</sup> Quad

•  $\tan \theta = -\frac{1}{\sqrt{3}}$  opp  
adj

$$\begin{aligned} a^2 + b^2 &= c^2 \\ (1)^2 + (\sqrt{3})^2 &= c^2 \\ 1 + 3 &= c^2 \\ 4 &= c^2 \\ \boxed{2} &= c \end{aligned}$$

$$\sin \theta = \frac{1}{2}$$

$$\csc \theta = 2$$

$$\cos \theta = -\frac{\sqrt{3}}{2}$$

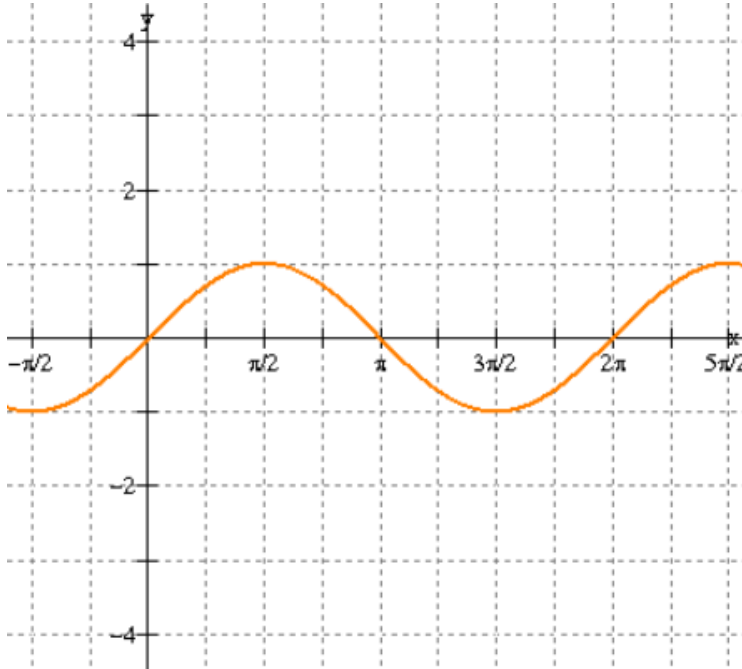
$$\sec \theta = -\frac{2}{\sqrt{3}} = -\frac{2\sqrt{3}}{3}$$

$$\tan \theta = -\frac{1}{\sqrt{3}} = -\frac{\sqrt{3}}{3}$$

$$\cot \theta = -\sqrt{3}$$

# Graphs of Other Trig Functions

$$y = \sin \theta$$



What would the graph of  $\csc \theta$  look like?

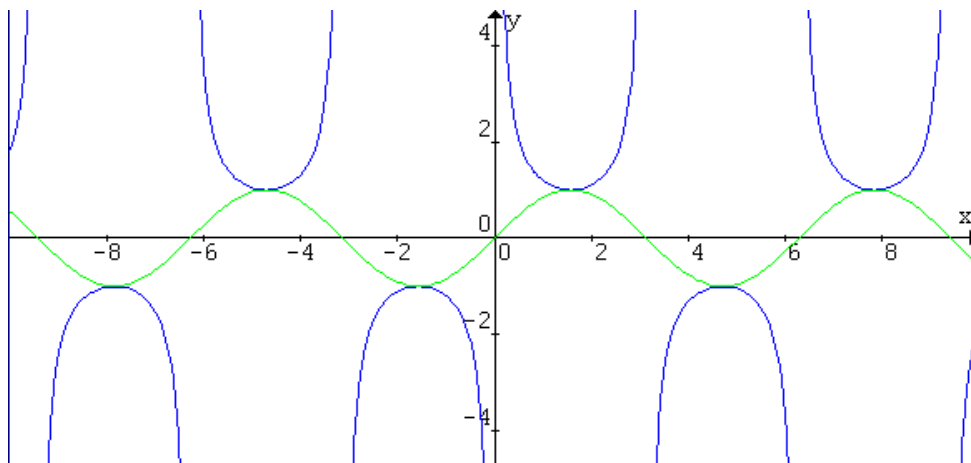
**REMEMBER:**

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

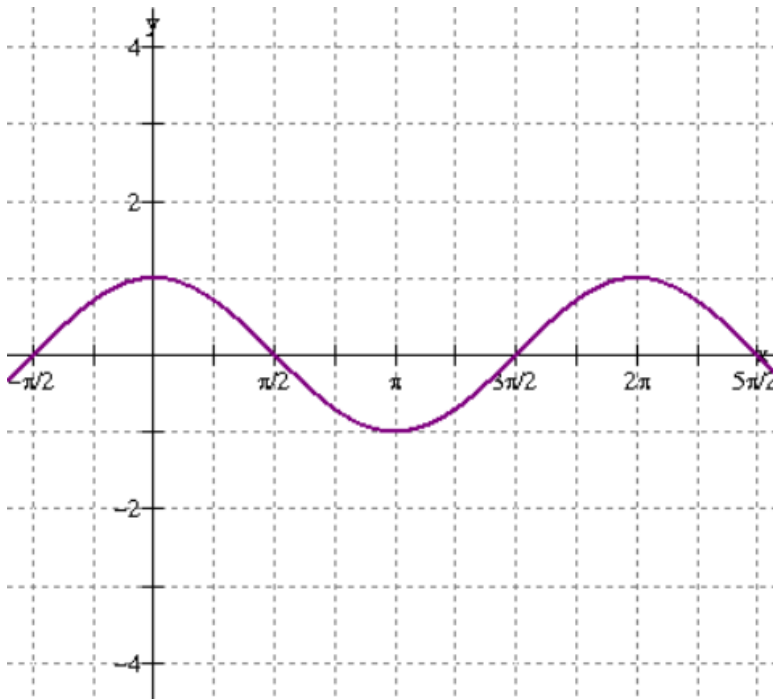
where  $\sin x = 0$ ,  
 $\csc x$  is undefined

$$y = \sin x$$

$$y = \csc x$$



$$y = \cos \theta$$



What would the graph of  $\sec \theta$  look like?

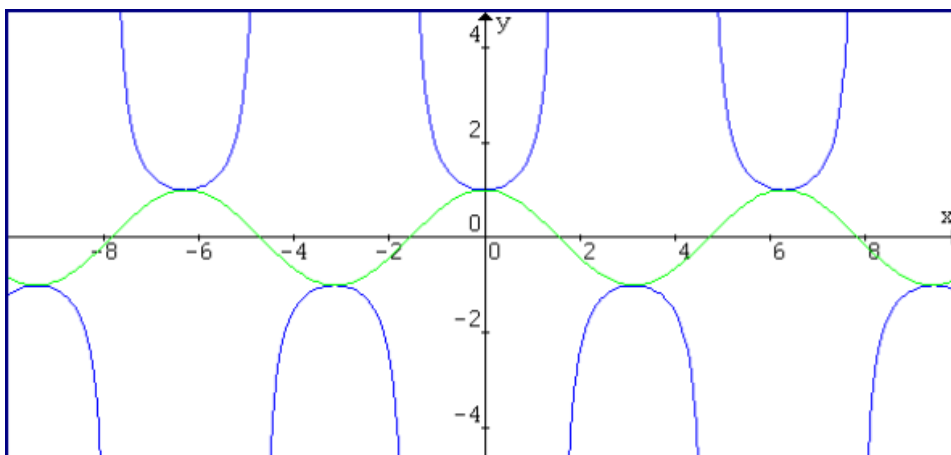
**REMEMBER:**

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

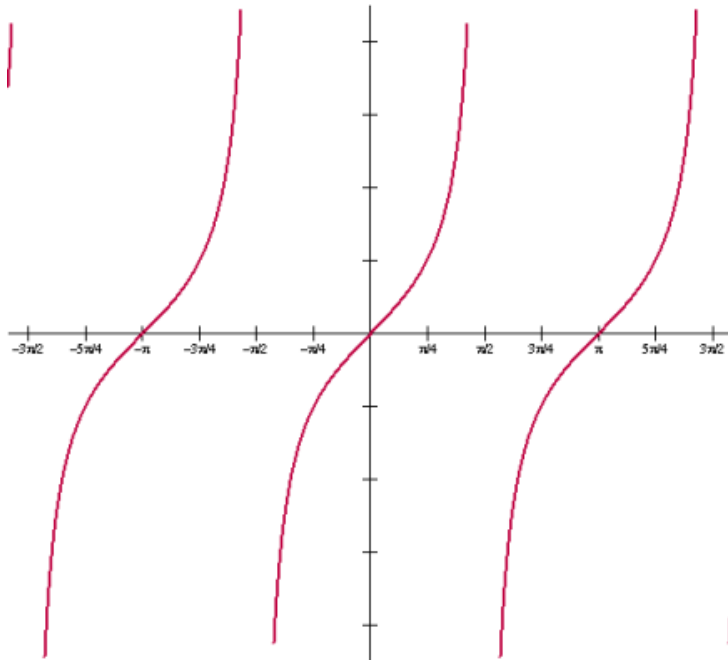
where  $\cos x = 0$ ,  
 $\sec x$  is undefined

$$y = \cos x$$

$$y = \sec x$$



$$y = \tan \theta$$



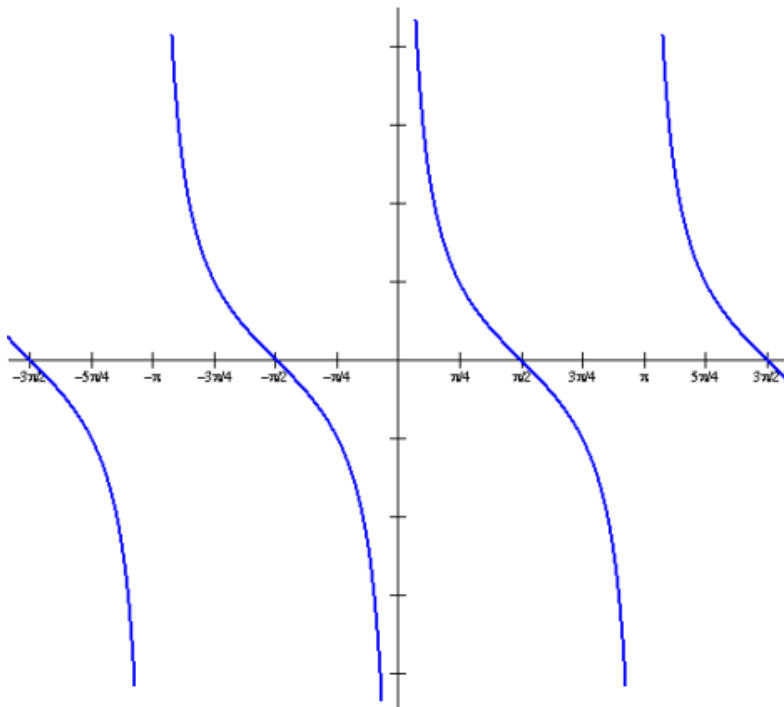
What would the graph of  $\cot \theta$  look like?

**REMEMBER:**

$$\tan x = \frac{1}{\cot x}$$

where  $\tan x = 0$ ,  
 $\cot x$  is undefined

$$y = \cot \theta$$



# Homework