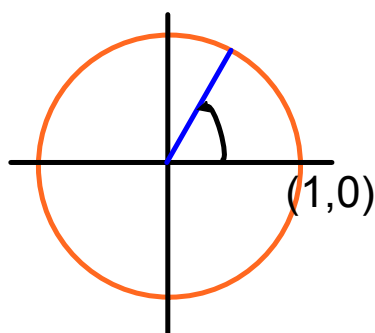


Trig Values of any Angle Measure

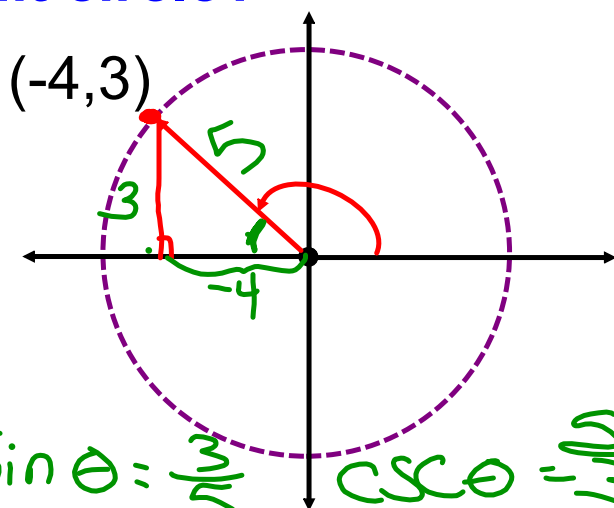
8/11

$$\sin 60^\circ$$



$$\cot 60^\circ$$

What happens when the point is not on the unit circle?



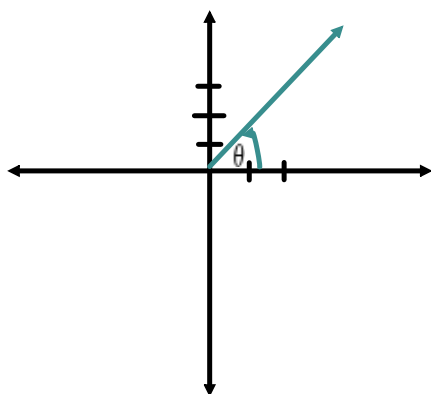
$$\begin{aligned} (-4)^2 + (3)^2 &= r^2 \\ 25 &= r^2 \\ 5 &= r \end{aligned}$$

$$\begin{aligned} \sin \theta &= \frac{y}{r} = \frac{3}{5} & \csc \theta &= \frac{r}{y} = \frac{5}{3} \\ \cos \theta &= \frac{x}{r} = -\frac{4}{5} & \sec \theta &= \frac{r}{x} = -\frac{5}{4} \\ \tan \theta &= \frac{y}{x} = -\frac{3}{4} & \cot \theta &= \frac{x}{y} = -\frac{4}{3} \end{aligned}$$

Off the Unit Circle

sin	
cos	
tan	
csc	
sec	
cot	

Find the 6 trig functions for θ that goes through (2,3)



$$\sin \theta$$

$$\csc \theta$$

$$\cos \theta$$

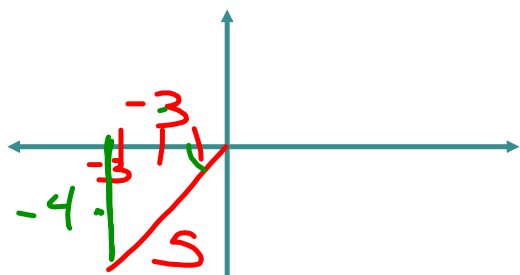
$$\sec \theta$$

$$\tan \theta$$

$$\cot \theta$$

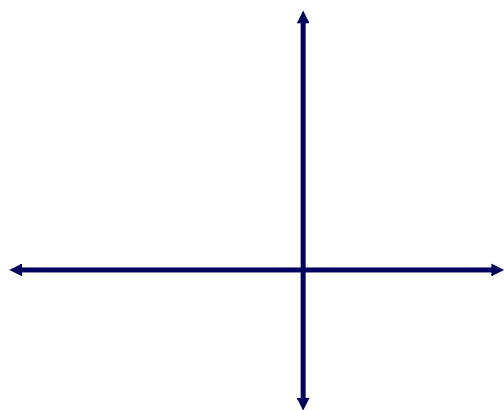
Finding trig values given a trig value

Find $\tan \theta$ if $\cos \theta = \frac{-3}{5}$ and in Q3



$$\tan \theta = \frac{-4}{-3} = \frac{4}{3}$$

Find $\cos \theta$ if $\sin \theta = \frac{5}{13}$ in Q2



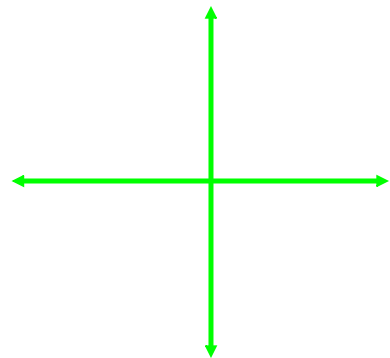
"Range" of trig values

Name the quadrant that θ is in:

$$\sin \theta > 0 \quad \text{and} \quad \cos \theta < 0$$

$$\sin \theta < 0 \quad \text{and} \quad \cos \theta < 0$$

$$\tan \theta < 0 \quad \text{and} \quad \cos \theta < 0$$



page 513 2-6 even

18-22 even

24-28 even