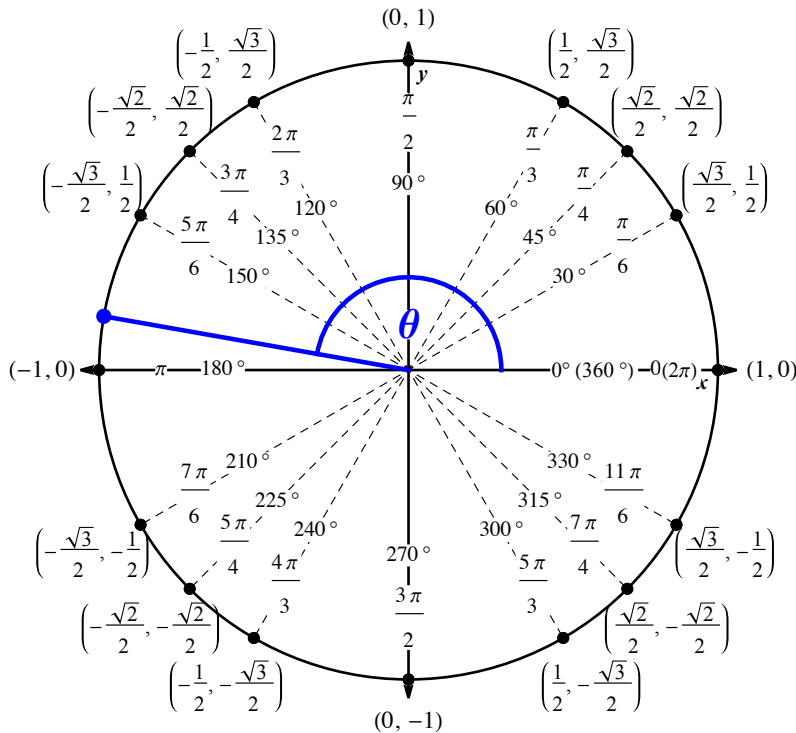
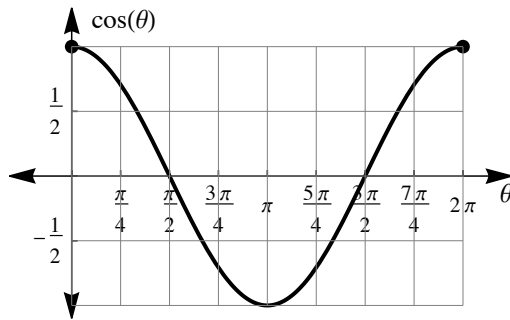


## Trigonometry 18: The Graph of $\cos(\theta)$

Imagine going for a counterclockwise walk around the Unit Circle, with the angle  $\theta$  being the angle of the radial from the origin to where you are on the circle. If you start at  $(1, 0)$  where  $\theta = 0$ , think about what is happening to the values of  $\cos \theta$  (your  $x$ -coordinate values). What would sketch of  $f(\theta) = \cos(\theta)$  look like if we graphed it?



For one complete walk around the circle (one revolution), here is a graph of the cosine values:



Of course we could keep walking in the counterclockwise direction and  $\theta$  would continue to grow. And if we started at  $(1, 0)$  where  $\theta = 0$  and walked clockwise (backwards), the  $\theta$  values would be negative. In other words, the angle  $\theta$  can be any real number and the full graph of  $f(\theta) = \cos(\theta)$  looks like:

