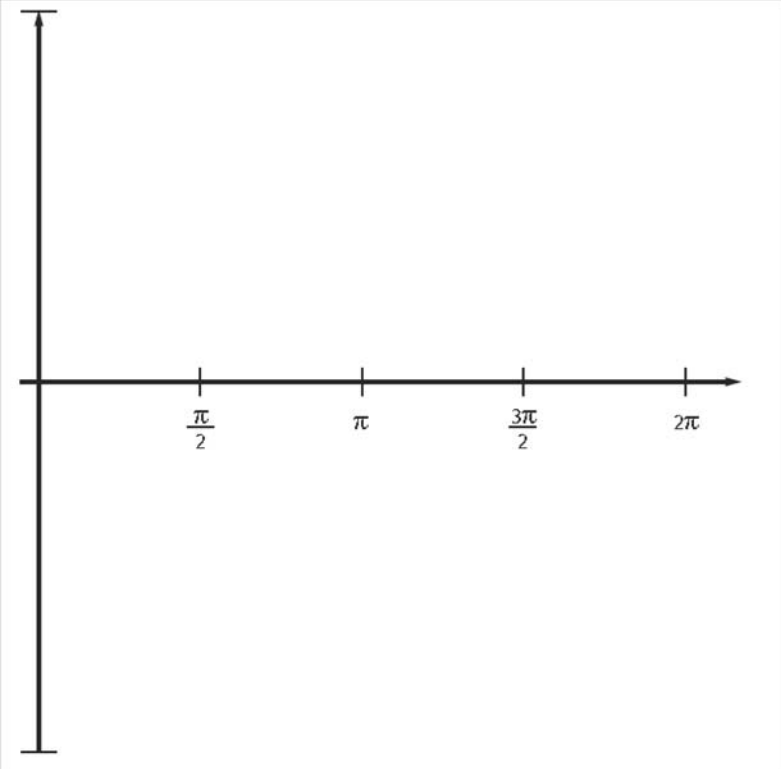
Creating Graphs for Sin and Cos Functions

Place the Unit Circle Graph Generator Template in your communicator.
On the unit circle, label the y coordinate at each of the indicated points.

Graphing the sine function

As you move around the circle note the radian measure for each point. You will associate each radian measure with its y-coordinate. Move to the graph at the right and at each radian value, mark the y-coordinate as the height of the function. For example at $\frac{\pi}{6}$ the y-coordinate would be $\frac{1}{2}$. Therefore at the right graph the point $\left(\frac{\pi}{6}, \frac{1}{2}\right)$. You can visually pick up these values from the unit circle. Complete a graph for all 16 points along the unit circle. When you are done you have graphed the sine graph.

Draw a sketch of this graph below:



Graphing the cosine function

This graph is little harder to graph since the x-coordinate from the unit circle must be graphed as the height of the new point on the graph.

As you move around the circle note the radian measure for each point. You will associate each radian measure with its x-coordinate. Move to the graph at the right and at each radian value, mark the x-coordinate as the height of the function. (But remember that the x- and y-coordinates switch values.)

This means that if you need to graph a height of $\frac{\sqrt{3}}{2}$, all you need to do is find a point of the unit circle that has a y-value of $\frac{\sqrt{3}}{2}$. At $\frac{\pi}{6}$ the x-coordinate would be $\frac{\sqrt{3}}{2}$. Therefore at the right graph the point $\left(\frac{\pi}{6}, \frac{\sqrt{3}}{2}\right)$.

To get the height of $\frac{\sqrt{3}}{2}$ you can use the height at the $\frac{\pi}{3}$ point on the unit circle. You can visually pick up these values from the unit circle. Complete a graph for all 16 points along the unit circle. When you are done you have graphed the cosine graph.