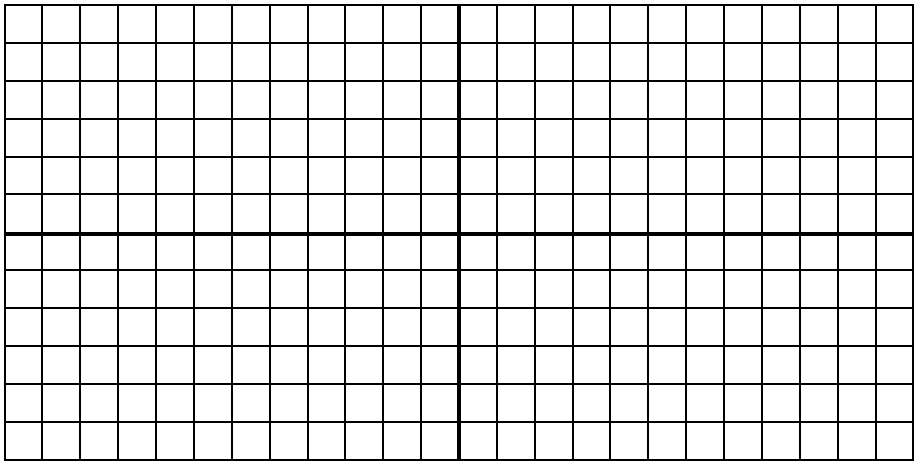
# $y = \sin x$

1. Complete the table of values for $y = \sin x$. Round answers to 2 places if necessary. Then graph the points accurately on the grid provided. Use increments of $\pi/6$ on the $x$-axis and 0.2 on the $y$-axis. Do not connect the points yet.



| $x$ | $y$ |
|---|---|
| 0 | |
| $\pi/6$ | |
| $\pi/3$ | |
| $\pi/2$ | |
| $2\pi/3$ | |
| $5\pi/6$ | |
| $\pi$ | |
| $7\pi/6$ | |
| $4\pi/3$ | |
| $3\pi/2$ | |
| $5\pi/3$ | |
| $11\pi/6$ | |
| $2\pi$ | |

2. Use your calculator to graph $y = \sin x$ using **radian** mode and the following window:

$x_{min} = -2\pi$

$x_{max} = 2\pi$

$x_{scl} = \pi/6$

$y_{min} = -1$

$y_{max} = 1$

$y_{scl} = 0.2$

*Use the graph on your calculator to help you complete the graph you started in part 1 above. Now connect the points.*

$y = \sin x$ is a **periodic** and **sinusoidal** function whose graph continues indefinitely in both directions. We will be studying this function and transformations during this unit.

3. Complete the following based on the graph of $y = \sin x$:

Amplitude: _____ Domain: _____

Period: _____ Range: _____

Max: _____ x-int(s): _____

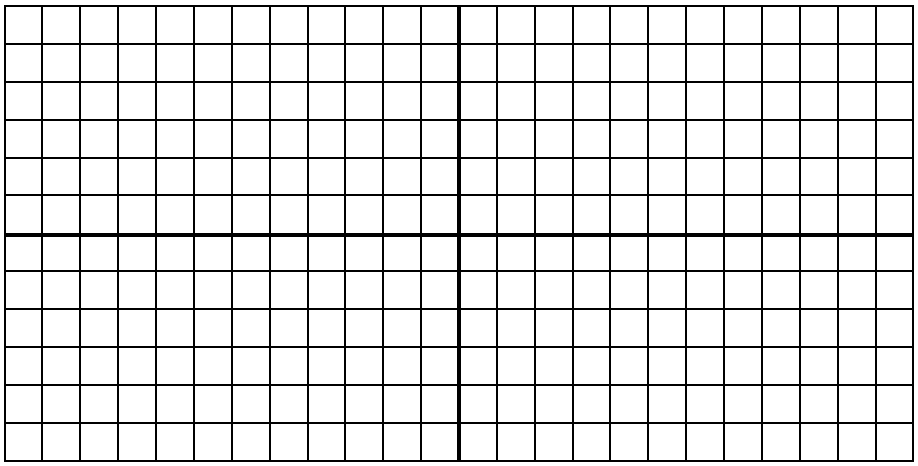
Min: _____ y-int(s): _____

Sin. Axis: _____ "Starting Point": _____

Now graph $y = \sin x$ in **degree** mode on your calculator. What would be an appropriate window?

# $y = \cos x$

1. Complete the table of values for $y = \cos x$. Round answers to 2 places if necessary. Then graph the points accurately on the grid provided. Use increments of $\pi/6$ on the *x*-axis and 0.2 on the *y*-axis. Do not connect the points yet.



| *x* | *y* |
|---|---|
| 0 | |
| $\pi/6$ | |
| $\pi/3$ | |
| $\pi/2$ | |
| $2\pi/3$ | |
| $5\pi/6$ | |
| $\pi$ | |
| $7\pi/6$ | |
| $4\pi/3$ | |
| $3\pi/2$ | |
| $5\pi/3$ | |
| $11\pi/6$ | |
| $2\pi$ | |

2. Use your calculator to graph $y = \cos x$ using **radian** mode and the following window:

$x_{min} = -2\pi$

$x_{max} = 2\pi$

$x_{scl} = \pi/6$

$y_{min} = -1$

$y_{max} = 1$

$y_{scl} = 0.2$

*Use the graph on your calculator to help you complete the graph you started in part 1 above. Now connect the points.*

$y = \cos x$ is a **periodic** and **sinusoidal** function whose graph continues indefinitely in both directions. We will be studying this function and transformations during this unit.

3. Complete the following based on the graph of $y = \cos x$:

Amplitude: _____

Period: _____

Max: _____

Min: _____

Sin. Axis: _____

Domain: _____

Range: _____

x-int(s): _____

y-int(s): _____

"Starting Point": _____

Now graph $y = \cos x$ in **degree** mode on your calculator. What would be an appropriate window?