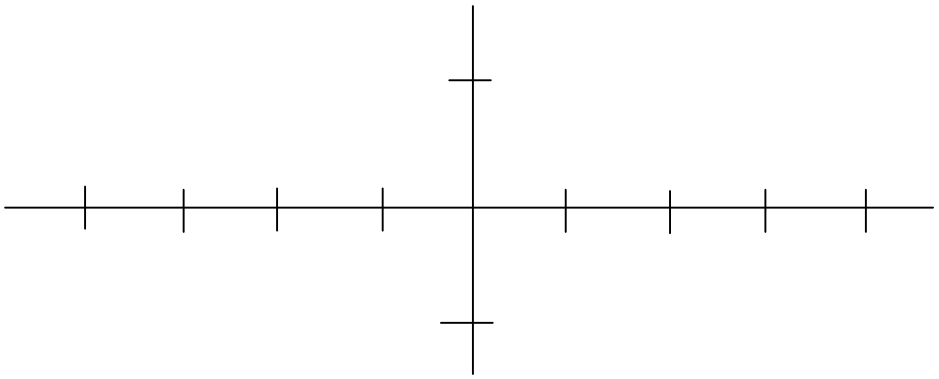
Math 3H 7-4b Graphing Sine and Cosine Name: _____

1. Sketch two full periods of the function $y = \sin x$

x	$\sin x$
0	
$\frac{\pi}{6}$	
$\frac{\pi}{3}$	
$\frac{\pi}{2}$	
$\frac{2\pi}{3}$	
π	
$\frac{3\pi}{2}$	
2π	

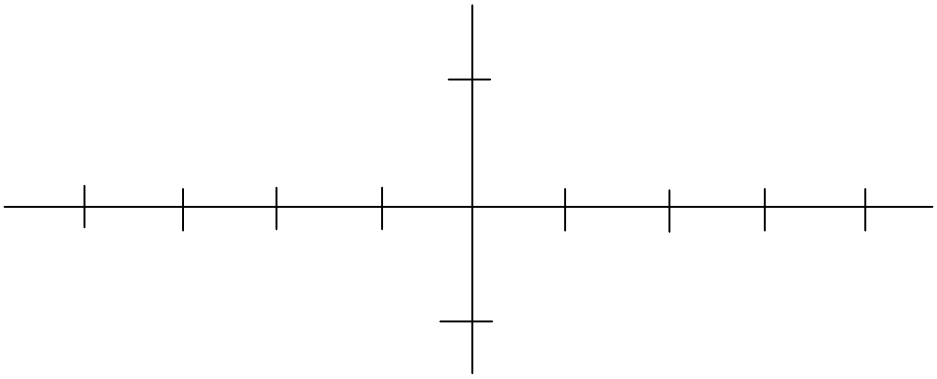


Domain: Range:

Period=

2. Sketch two full periods of the function $y = \cos x$

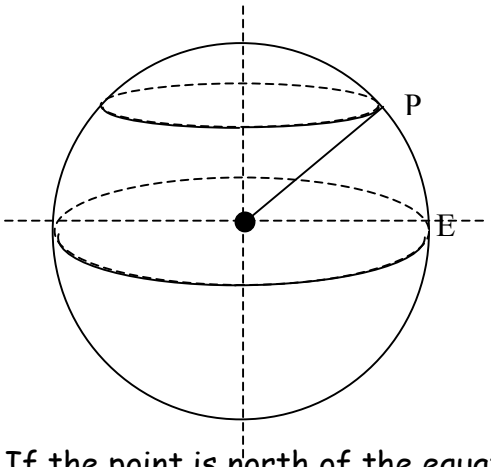
x	$\cos x$
0	
$\frac{\pi}{6}$	
$\frac{\pi}{3}$	
$\frac{\pi}{2}$	
$\frac{2\pi}{3}$	
π	
$\frac{3\pi}{2}$	
2π	



Domain: Range:

Period=

The **latitude** of a point on Earth = degree measure of the arc from that point to the equator. For example, the latitude of point P in the diagram equals the degree measure of arc PE.



If the point is north of the equator, its latitude is written as □°N.
If the point is south of the equator, its latitude is written as □°S.

3. What is the latitude of a point on the equator?

4. Assuming the Earth's radius is 3963 miles, how far is Boston (latitude is 42°N) from the North Pole (90°N)?

5. a) On a single set of axes, graph y=cos x and y=0.3x. Do Zoom Standard. How many solutions do you think the equation cosx=.3x has?

b) Trace over to the part that is hard to tell and Zoom In. Zoom In again if you need to. Now how many solutions do you think the equation has?

c) Using the Intersect function on your calculator find the smallest positive solution of the equation to the nearest tenth using your graphing calculator.