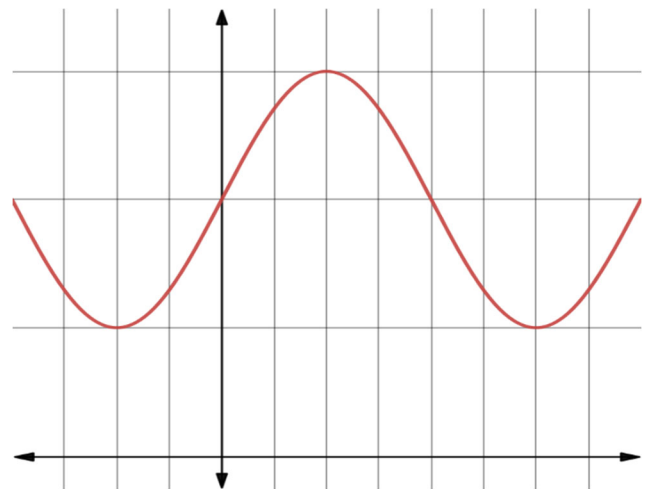


Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 5.1**Graphing primary trigonometric functions, including  
transformations and characteristics**Periodic Functions****Period**

	Period	Max	Min	Domain	Range	$x$ – int	$y$ – int
$y = \sin \theta$							
$y = \cos \theta$							

**Amplitude:**

**Example** Referring to the previous graphs of the functions  $y = \sin x$  and  $y = \cos x$ ,

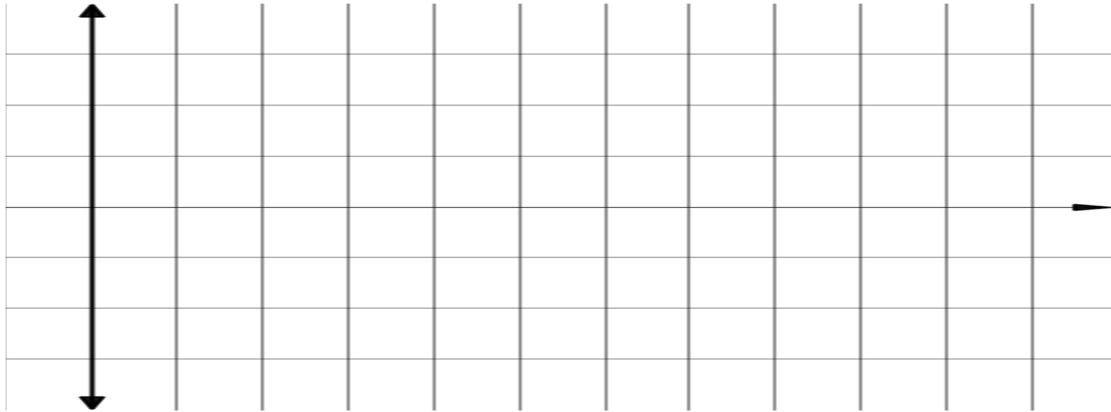
- How do the two functions appear to be related?
- What are the exact values of the coordinates of the points of intersection

**Example** Graph (with the use of technology) the functions

- $y = \sin x$ ,
- $y = 3 \sin x$  and
- $y = \frac{1}{2} \sin x$

on the same axis for  $0 \leq x \leq 2\pi$  and complete the table.  
What do you observe?

	Amplitude	Period
$y = \sin x$		
$y = 3 \sin x$		
$y = \frac{1}{2} \sin x$		

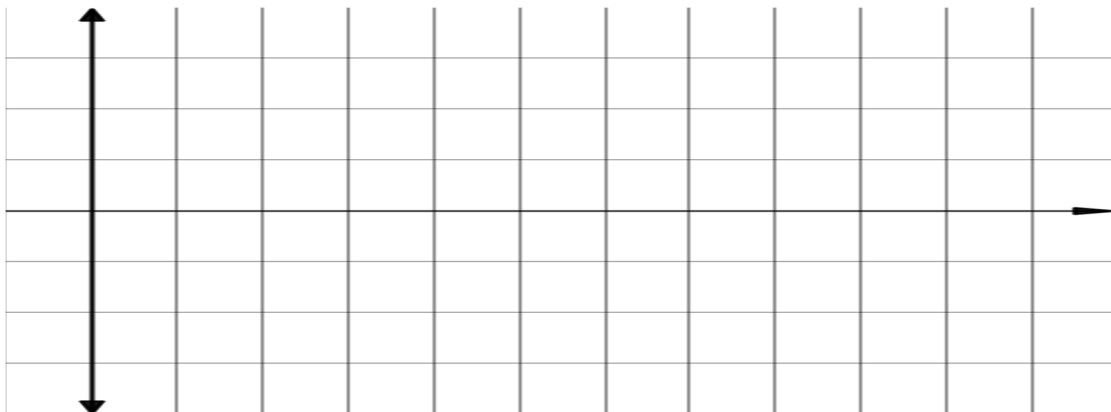


**Example** Graph (with the use of technology) the functions

- $y = \cos x$ ,
- $y = \cos 2x$  and
- $y = \cos\left(\frac{1}{2}x\right)$

on the same axis for  $0 \leq x \leq 2\pi$  and complete the table.  
What do you observe?

	Amplitude	Period
$y = \cos x$		
$y = \cos 2x$		
$y = \cos\left(\frac{1}{2}x\right)$		



**Summary** For the functions of the forms  $y = a \sin(b\theta)$  and  $y = a \cos(b\theta)$ , where  $a, b \neq 0$ ,