Ch. 23 - Board Problems

① How many real solutions?

$x^2 + 468 = 0$

② In a linear relationship, every increase in x of 1 results in an increase by 4. When the value of x is 2 the value of y is 25.

Find the equation.

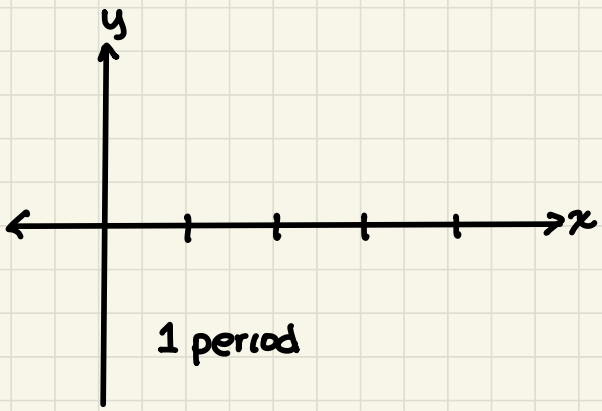
③ Circle A is given by:

$(x+3)^2 + y^2 = 16$

If the circle is translated up 3 units and the radius is doubled, what is the new equation?

PRE-CALC Chapter 23 - GRAPHING SINE & COSINE FUNCTIONS

SINE (SIN) FUNCTION



PERIOD: _____

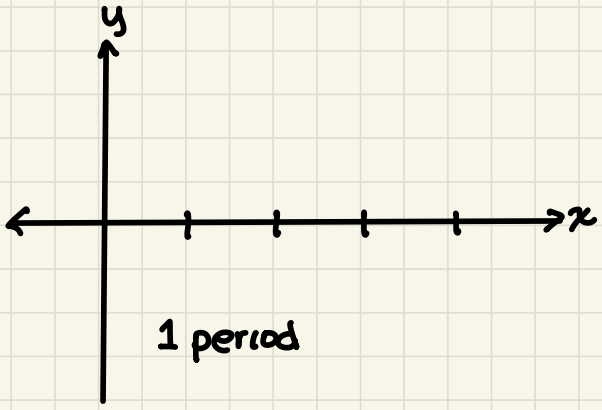
RANGE: _____

DOMAIN: _____

MEMORIZE

SIN STARTS AT: _____

COSINE (COS) FUNCTION



PERIOD: _____

RANGE: _____

DOMAIN: _____

MEMORIZE

SIN STARTS AT: _____

Cos is a phase shift of _____ to the sin function

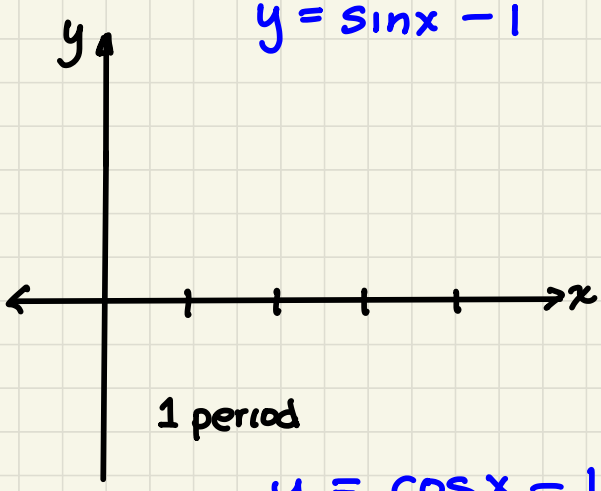
TRANSLATION (↑ or ↓) OF SIN AND COS.

$y = \sin x + 2$

$y = \sin x - 1$

1. DRAW PARENT FUNCTION $y = \sin x$
2. MOVE EACH POINT

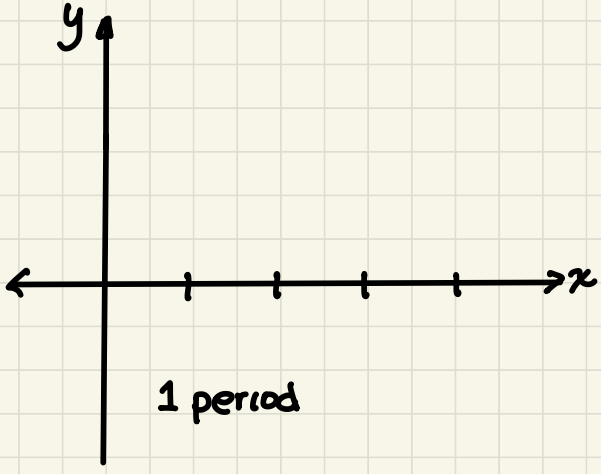
OR



X	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
$y = \sin x$				
$\sin x + 2$				
$\sin x - 1$				

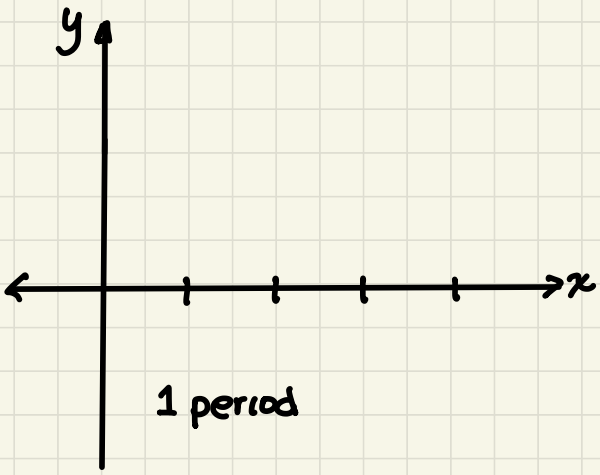
$y = \cos x - 1$

$y = \cos x + 3$



X	$\frac{\pi}{2}$	π	$\frac{3\pi}{2}$	2π
$y = \cos x$				
$\cos x + 3$				
$\cos x - 1$				

AMPLITUDE = _____



$y = \sin x$

$y = 2\sin x$

$y = -2\sin x$

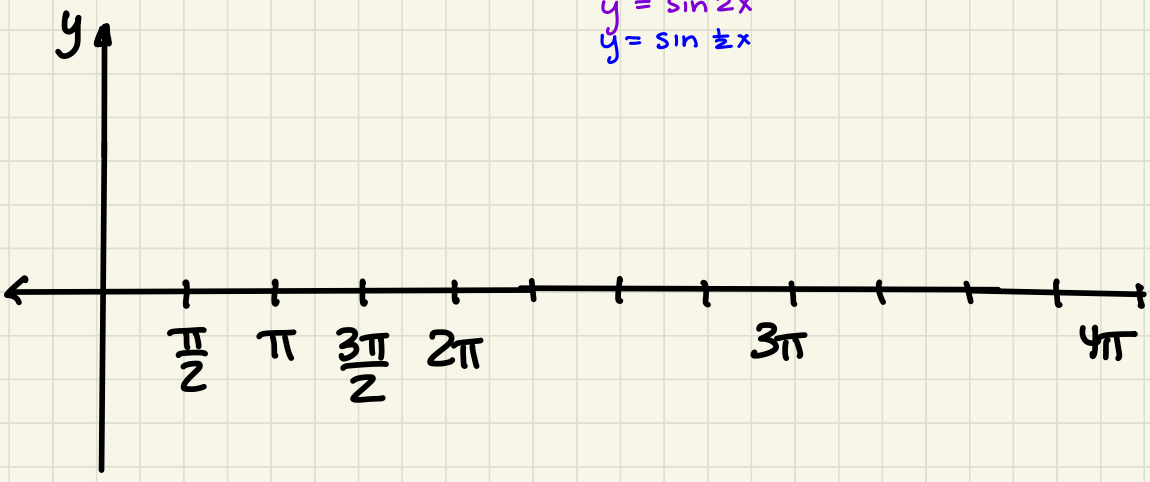
$y = \frac{1}{2}\sin x$

PERIOD: _____

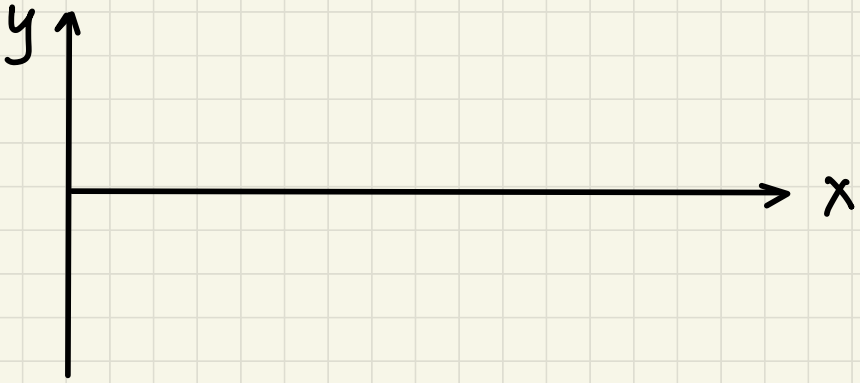
$y = \sin\_ x$ $\quad P = \_\_\_$

$y = \sin 2x$

$y = \sin \frac{1}{2}x$



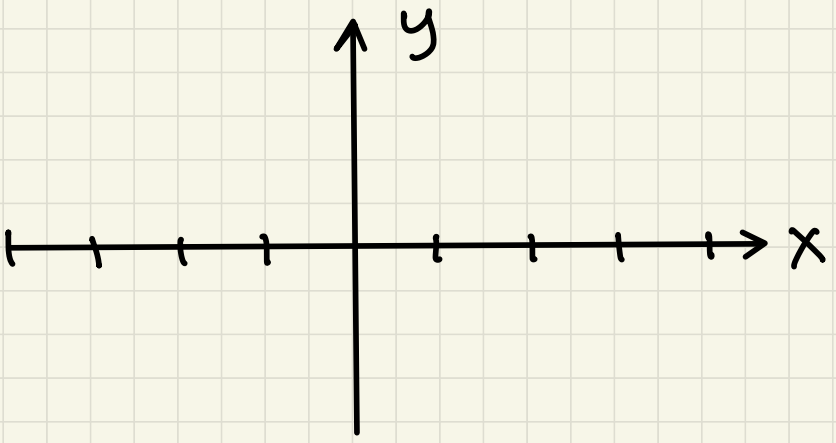
$y = 2\cos\frac{1}{2}x$



PHASE SHIFT

Function SHIFTED _____ OR _____

$\sin(x - \frac{\pi}{2})$ $\cos(x + \pi)$



GRAND SUMMATION

A	P(B)	(x - S)	T
$A > 1$	$B > 1$	$S -$	$T > 0$
$A < 1$	$B < 1$	$S +$	$T < 0$
$0 < A < 1$			

WHAT IS HAPPENING TO THIS FUNCTION?

$$y = -3 \sin \tfrac{1}{2}\left(x - \tfrac{\pi}{2}\right) + 4$$