Graph Sine, Cosine

Periodic Functions

This function model has a _____ that _____, resembling a _____ .

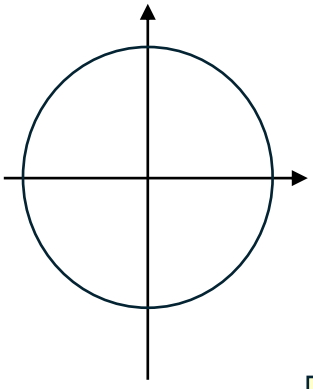
i.e., the _____ repeat in a _____ called a _____

Graphing Sine Function

Use information from _____ to construct _____ on the plane.

One _____ is constructed using _____ ordered pairs.

Pertinent Ordered Pairs for Sine Graph



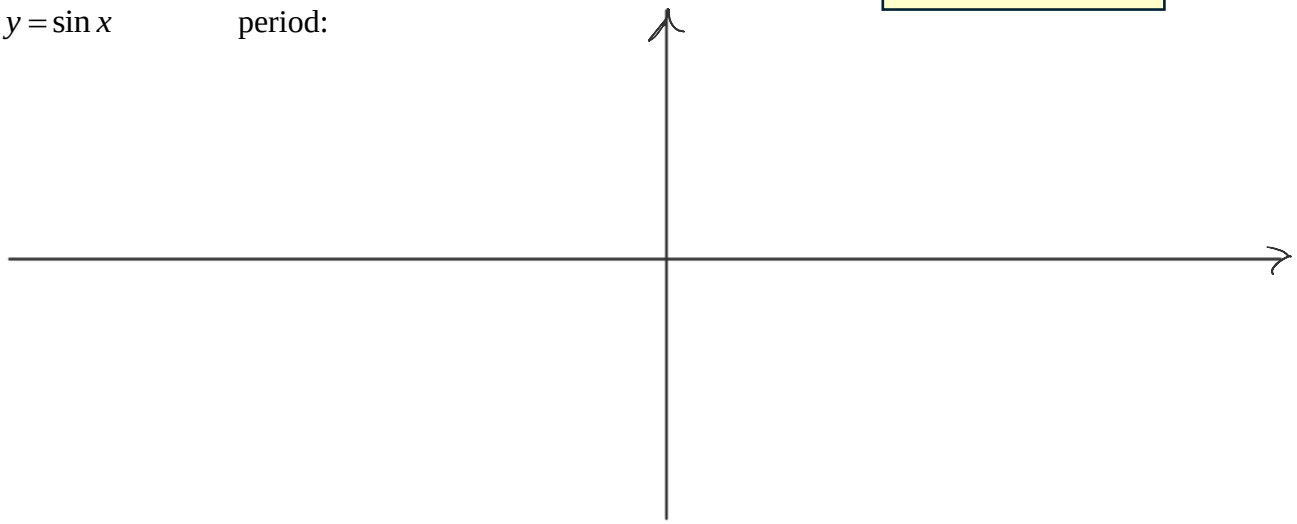
On *xy*-plane: *x*-axis:

y-axis:

$y = \sin x$ period:

domain:

range:

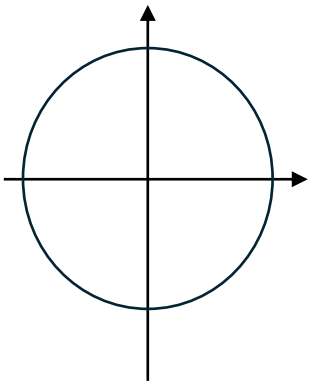


Graphing Cosine Function

Use information from _____ to construct _____ on the plane.

One _____ is constructed using _____ ordered pairs.

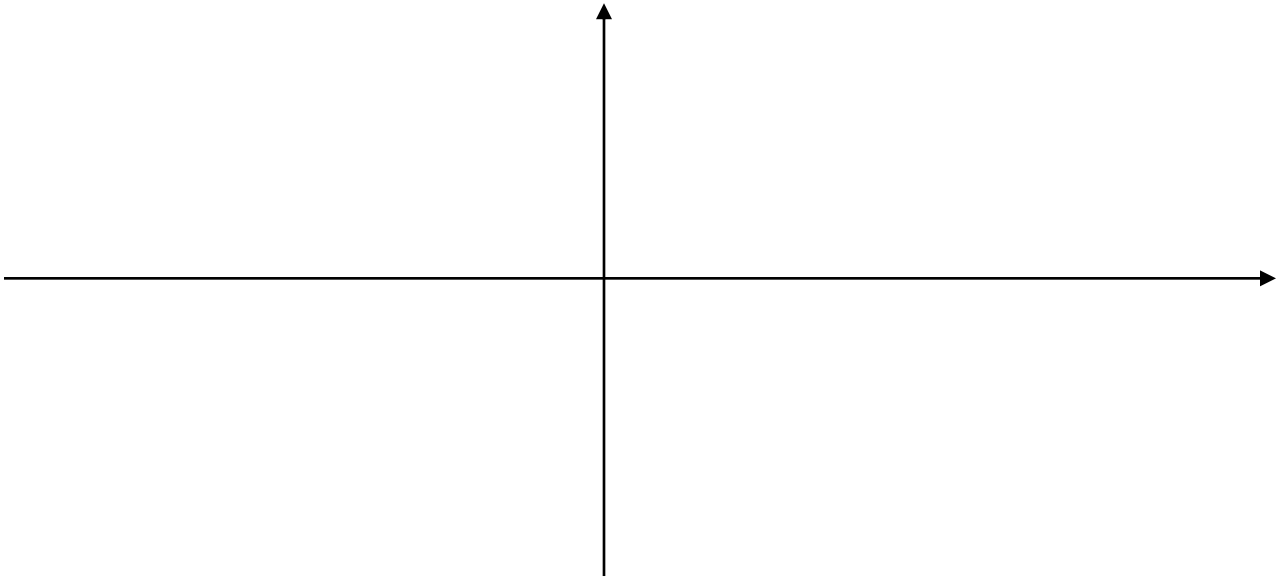
Pertinent Ordered Pairs for Cosine Graph



On *xy*-plane: *x*-axis: domain:

y-axis: range:

$y = \cos x$ period:



Typically, you'll be asked to sketch only _____ of a _____ function.

Transformations of Trigonometric Functions

Vertical Stretch/Shrink

_____ is _____ between _____ and _____.

"default" amplitude is ____ [see graphs above]

amplitude _____ is the function's _____

_____ marks the "middle" _____

Sketch one period of the following:

range:

range:

amplitude:

Do: Sketch one period of _____.

Identify _____ ordered pairs.

Include the _____, expressing it as an _____.

Label _____ s.t. _____ obvious.

Express _____ and _____ of the _____ in _____.

domain:

range:

Horizontal Stretch/Shrink

occurs when the _____ is something other than _____

determine period from _____

ex. sketch one period of _____

ex. sketch one period of _____

ex. sketch one period of _____

Do: Sketch one period of _____.

Identify _____ ordered pairs, making _____ and _____ obvious.

Express the _____ as an _____.

State the amplitude: State the period:

Vertical Shift

ex. sketch one period of _____ note the new _____ location

Horizontal or Phase Shift

determine phase shift using

Do: sketch one period of _____

ex. sketch one period of _____

phase shift:

Five *x*-values:

pre-shift	after shift
$x_1 =$	$x_1 =$
$x_2 =$	$x_2 =$
$x_3 =$	$x_3 =$
$x_4 =$	$x_4 =$
$x_5 =$	$x_5 =$

domain of period:

Do: sketch one period of _____

ex. sketch one period of _____

phase shift:

Five *x*-values:

pre-shift after shift

$x_1 =$ $x_1 =$

$x_2 =$ $x_2 =$

$x_3 =$ $x_3 =$

$x_4 =$ $x_4 =$

$x_5 =$ $x_5 =$

domain of period:

Alternate Notation

You may see _____ in _____ form:

ex. _____ may be written as _____