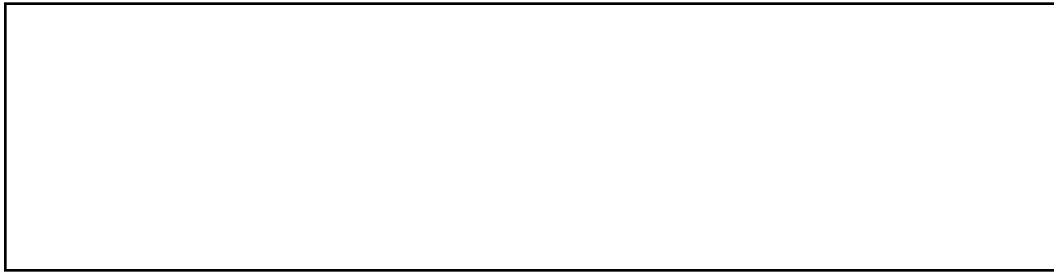


UNIT 4: TRIGONOMETRY (CONTINUED)
DAY1: TRANSFORMING TRIG. FUNCTIONS



$|a|$ is the amplitude (height) of the wave length.

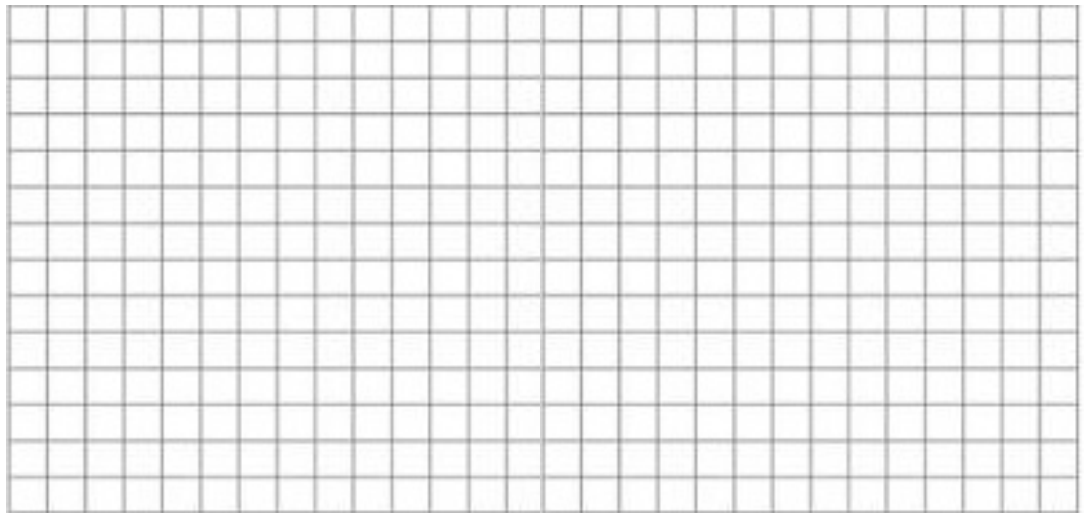
Recall:

Everything outside the brackets affects “y” (i.e. A and D)

Everything inside the brackets affects “x” by its opposite (i.e. B opposite is $1/b$, c opposite is $-c$)

The same properties are true for Trig. Functions.

Consider $y = \sin x$

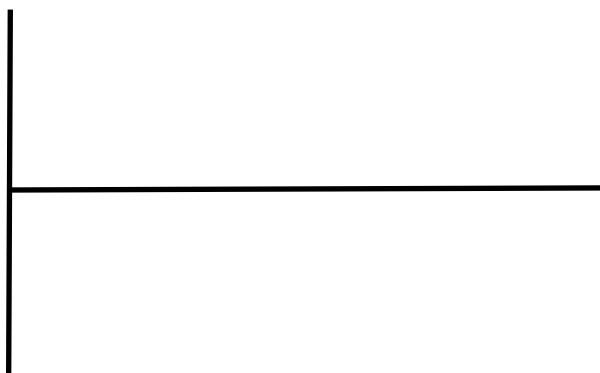


Now graph the following using mapping:

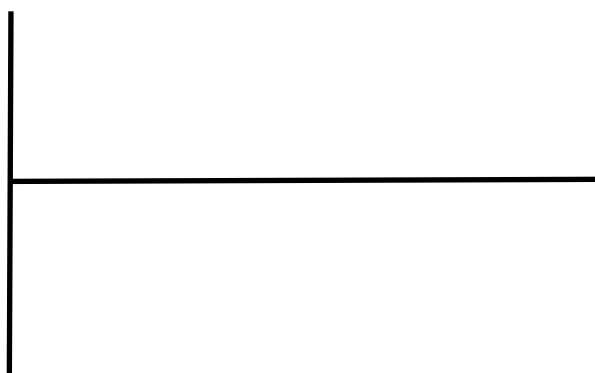
$y = 2\sin x$ D =
 R =

$y = -3\sin x$ D =
 R =

Period: Length of 1 wavelength (5 points).

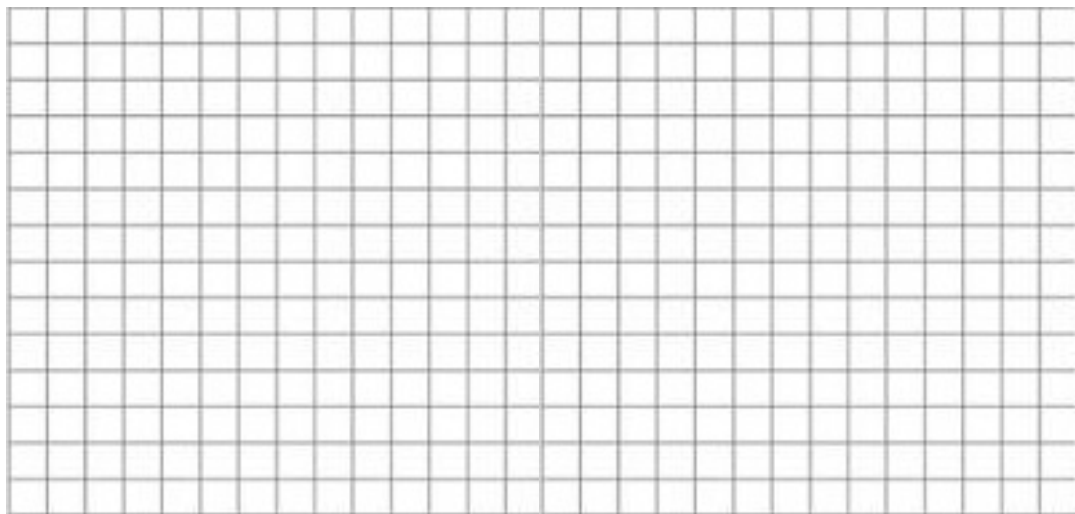


Period =



Period =

Consider $y = \sin x$



Now graph the following using mapping:

$y = \sin 2x$ D =
 R =

K = PRD =

$y = 3\sin 2x$ D =
 R =

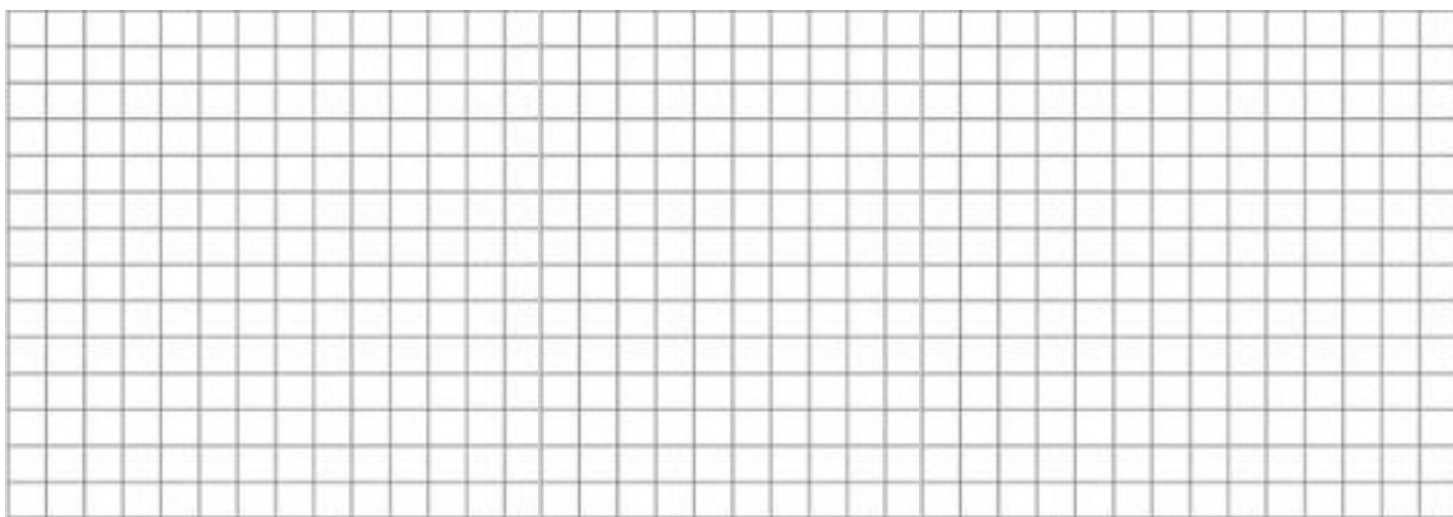
k = PRD =

Now graph:

A) $y = \cos 1/3x$

b) $y = \sin 1/2x,$

c) $y = 3\cos 2x,$



Ex. 1) Find the period in degrees and radians.

A) $y = \sin 8x$

b) $y = \cos 3/2x$

Ex. 2) Write the equation for each of the following for the sine function.

A) amplitude 5, period 180°

B) amplitude 0.8, period 4π

C) amplitude -2, period 240°

UNIT 4: TRIGONOMETRY
DAY 2: TRANSFORMING TRIG FUNCTIONS (CONTINUED)

Recall:

“d” moves the curve up and down

+ d = up

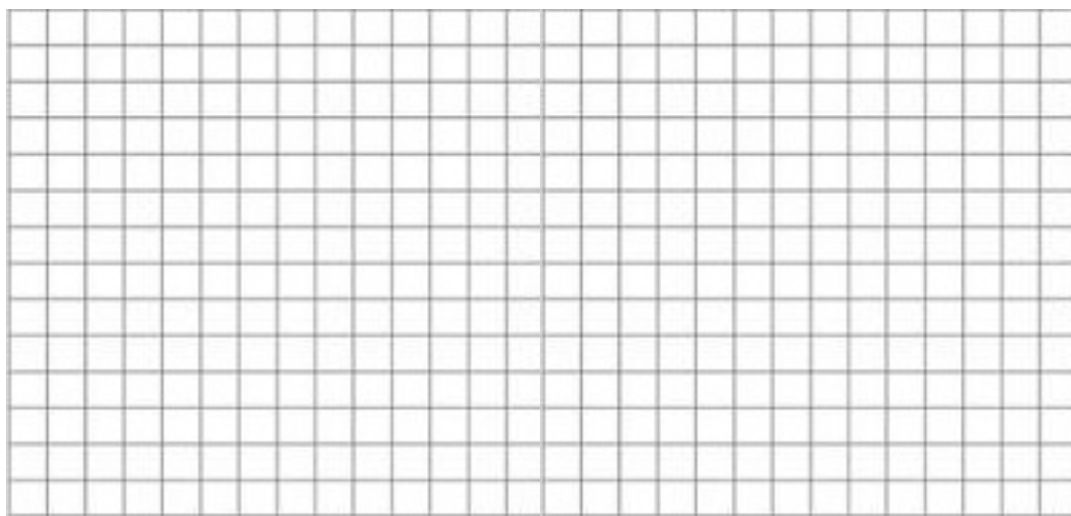
- d = down

“c” moves the curve right and left

+ c = left

- c = right

Consider $y = \sin x$



Now graph the following using mapping:

$$y = \sin x + 3$$

$$y = \sin x - 4$$

Consider $y = \sin x$



Now graph using mapping:

$$y = \sin(x + \pi / 2)$$

$$y = \sin(x - \pi / 4)$$

IN GENERAL: