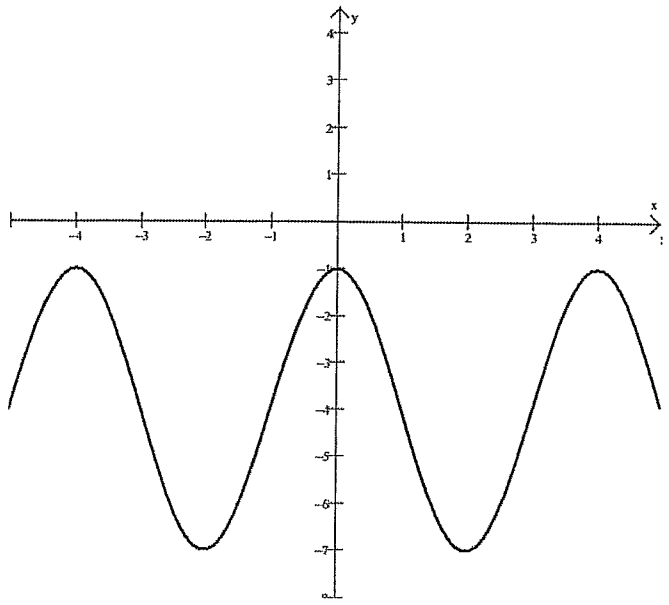
2.07 Additional Review WS #2 (Graphing Sine and Cosine Functions)

State the equations for the following graphs.

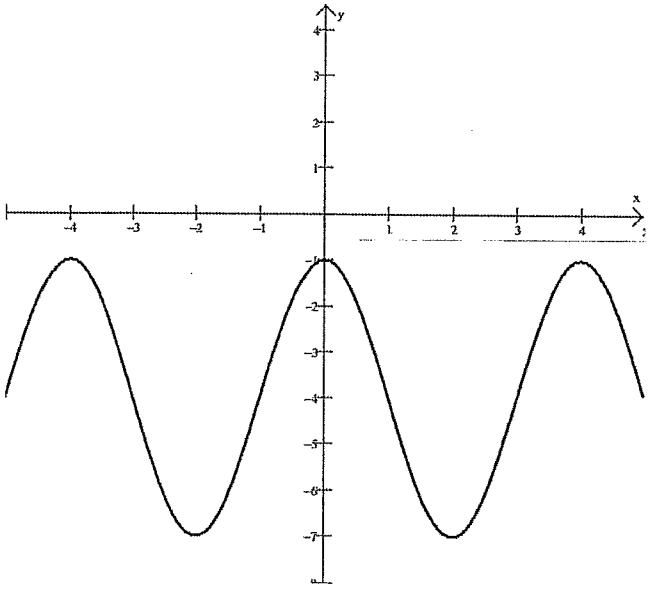
1)



Amplitude = _____ Period = _____ Phase Shift = _____

Using Sine function: _____

2)



Amplitude = _____ Period = _____ Phase Shift = _____

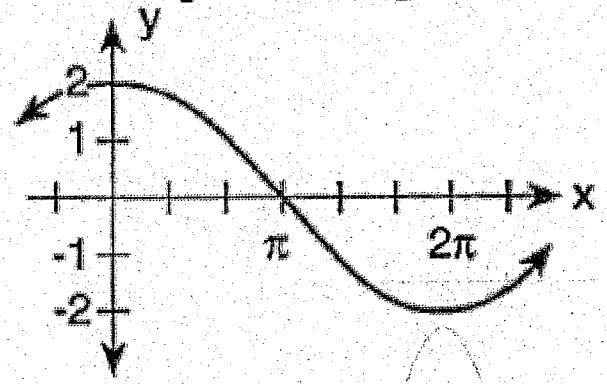
Using Cosine function: _____

3) Write the sine function with period of π with a minimum value of -5 and a maximum value of 1

4) Write a cosine function with a period of 4π whose maximum value is -2

5)

Which equation is represented in the graph below?



cosine function: _____

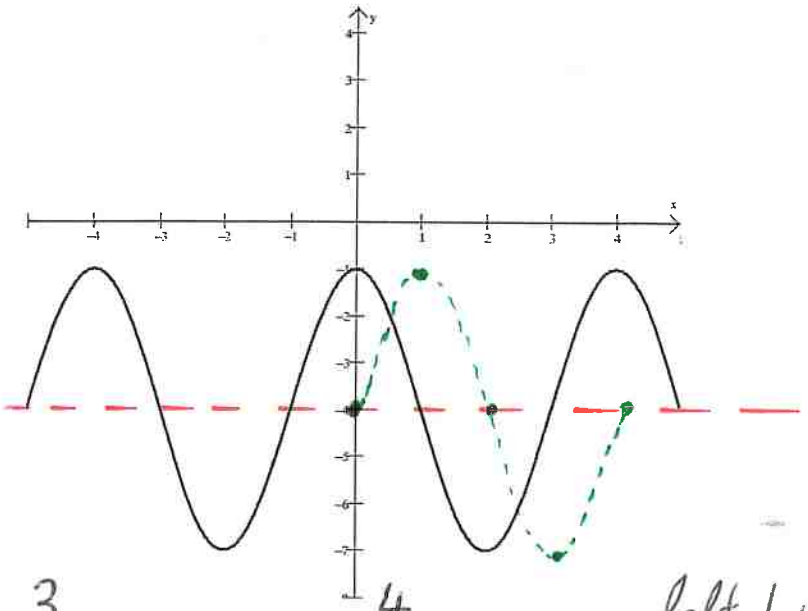
sine function: _____

Key

2.07 Additional Review WS #2 (Graphing Sine and Cosine Functions)

State the equations for the following graphs.

1)



period $= \frac{2\pi}{b}$

$\frac{4}{1} = \frac{2\pi}{b}$

$4b = 2\pi$

$b = \frac{\pi}{2}$

$a = 3$

$b = \pi/2$

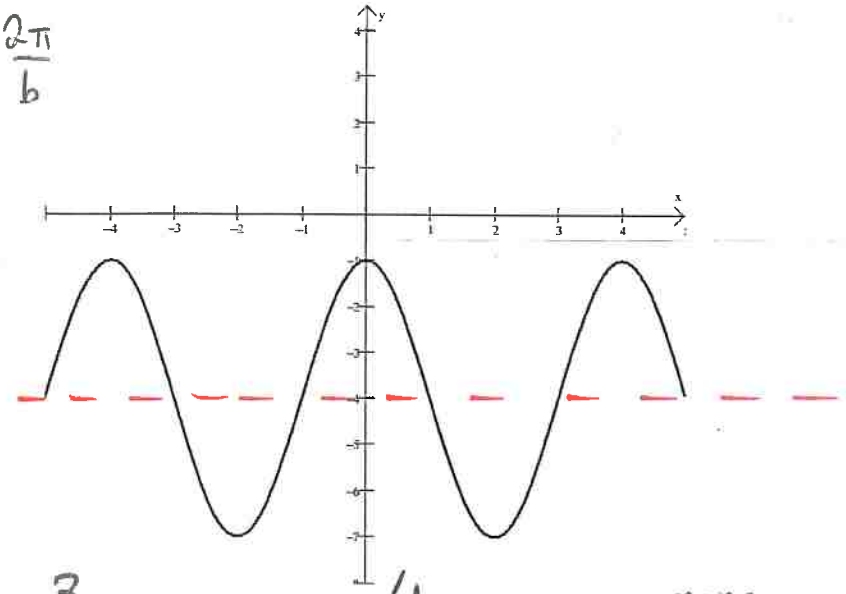
$c = -1$

$d = -4$

Amplitude = 3 Period = 4 Phase Shift = left 1 unit

Using Sine function: $y = 4\sin\left[\frac{\pi}{2}(\theta + 1)\right] - 4$

2)



period $= \frac{2\pi}{b}$

$\frac{4}{1} = \frac{2\pi}{b}$

$4b = 2\pi$

$b = \frac{2\pi}{4}$

$b = \frac{\pi}{2}$

Amplitude = 3 Period = 4 Phase Shift = none

Using Cosine function: $y = 4\cos\left[\frac{\pi}{2}(\theta)\right] - 4$

$a = 3$ $d = -4$

$b = \pi/2$

$c = 0$

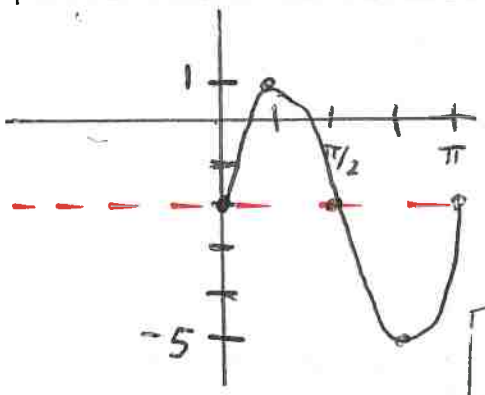
3) Write the sine function with period of π with a minimum value of -5 and a maximum value of 1

period $= \pi$

$\frac{\pi}{1} = \frac{2\pi}{b}$

$b\pi = 2\pi$

$b = 2$



$a = 3$

$b = 2$

$c = 0$

$d = -2$

$y = 3\sin[2(\theta)] - 2$

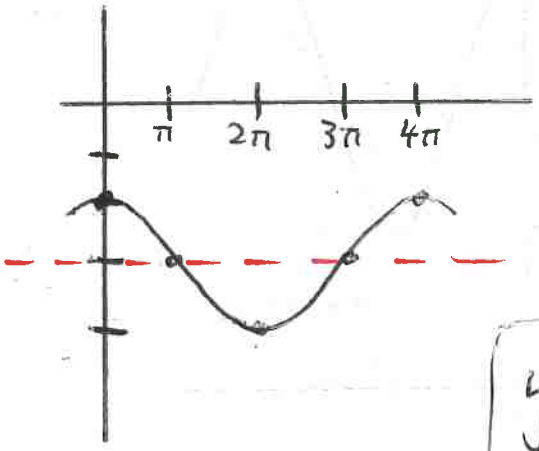
4) Write a cosine function with a period of 4π whose maximum value is -2

period $= 4\pi$

$\frac{4\pi}{1} = \frac{2\pi}{b}$

$4\pi b = 2\pi$

$b = \frac{2\pi}{4\pi} = \frac{1}{2}$



$a = 1$

$b = \frac{1}{2}$

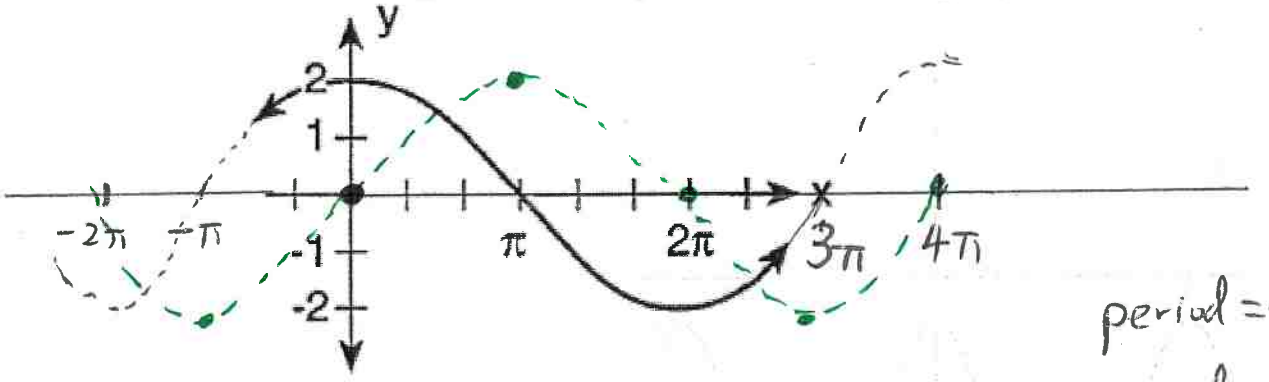
$c = 0$

$d = -3$

$y = 1\cos[\frac{1}{2}(\theta)] - 3$

5)

Which equation is represented in the graph below?



period $= 4\pi$

period $= \frac{2\pi}{b}$

$\frac{4\pi}{1} = \frac{2\pi}{b}$

$4\pi b = 2\pi$

$b = \frac{2\pi}{4\pi} = \frac{1}{2}$

$a = 2$

$b = \frac{1}{2}$

$c = 0$

$d = 0$

cosine function: $y = 2\cos\left(\frac{1}{2}\theta\right)$

sine function: $y = 2\sin\left[\frac{1}{2}(\theta + \pi)\right]$

$a = 2$ $\quad$ $c = +\pi$ left

$b = \frac{1}{2}$ $\quad$ $d = 0$