



Name: _____

PC
S2

Objective(s):

- I can graph Sine and Cosine Functions by hand by determining its key components including vertical and horizontal shifts.

Warm-up:

1. Determine the amplitude, period, midline and phase shift of the following functions.

A.) $y = \sin\left(x + \frac{\pi}{4}\right) - 1$

B.) $y = \frac{3}{2} \cos\left(4\left(x - \frac{\pi}{6}\right) + \frac{1}{2}\right)$

It's do the wave again (with horizontal and vertical shifts)!

Ex 1: Graph the following functions:

A.) $y = \sin(x) - 2$

Amplitude: _____

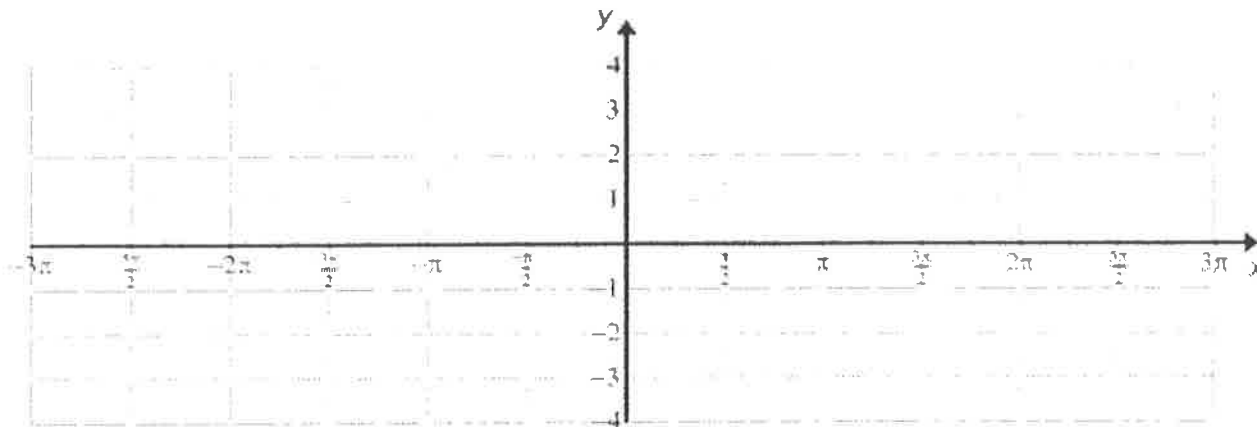
Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____



B.) $y = 2\sin(x - \pi)$

Amplitude: _____

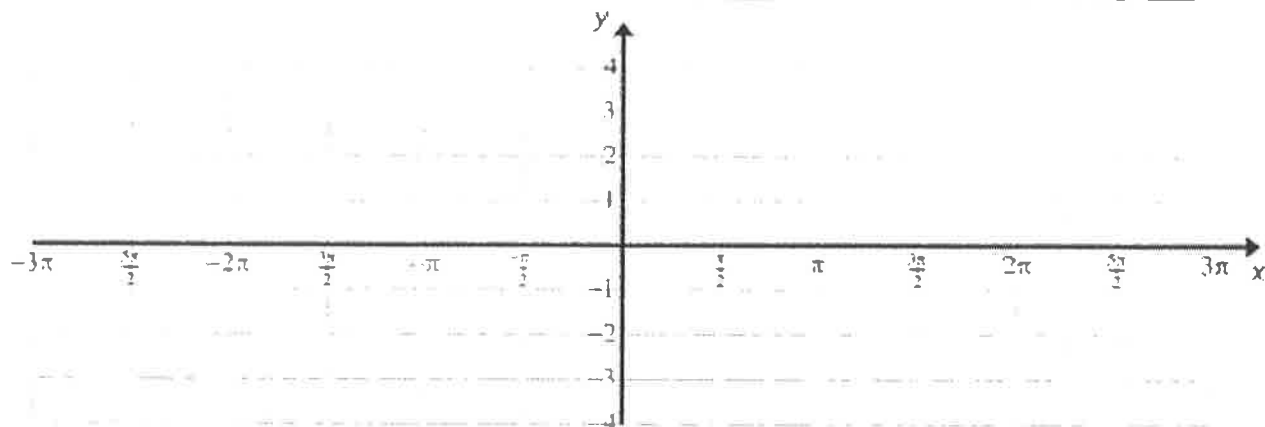
Midline: _____

Domain _____

Period: _____

Phase shift: _____

Range: _____



C.) $y = 3\sin(x + \frac{\pi}{4}) + 1$

Amplitude: _____

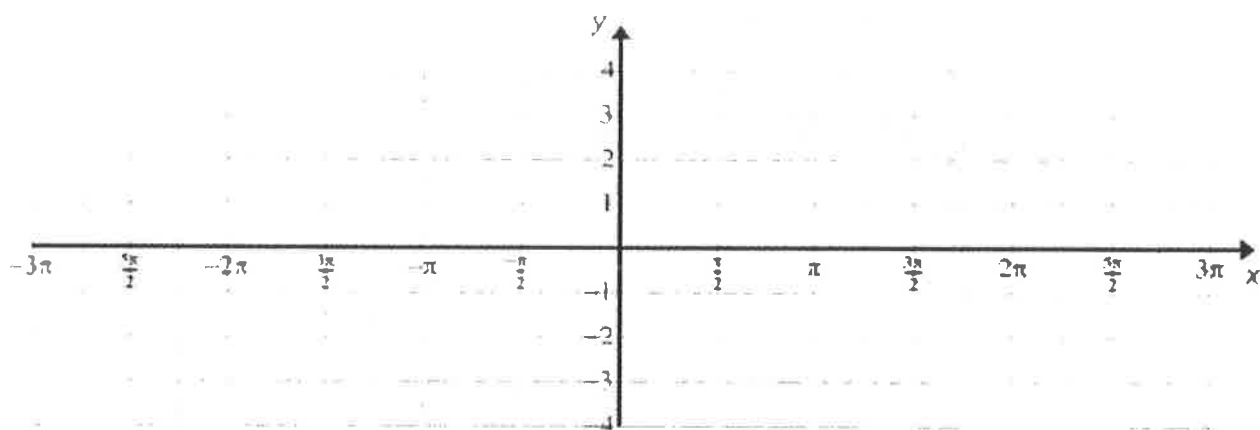
Midline: _____

Domain _____

Period: _____

Phase shift: _____

Range: _____



D.) $y = 2 - 2\sin(4x)$

Amplitude: _____

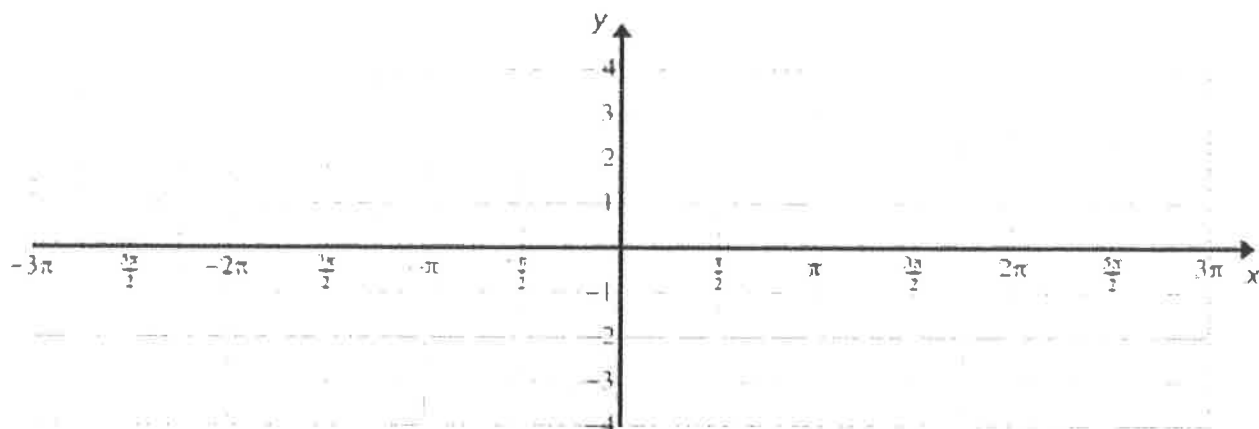
Midline: _____

Domain _____

Period: _____

Phase shift: _____

Range: _____



E.) $y = 4\cos\left(2\left(x - \frac{\pi}{2}\right)\right)$

Amplitude: _____

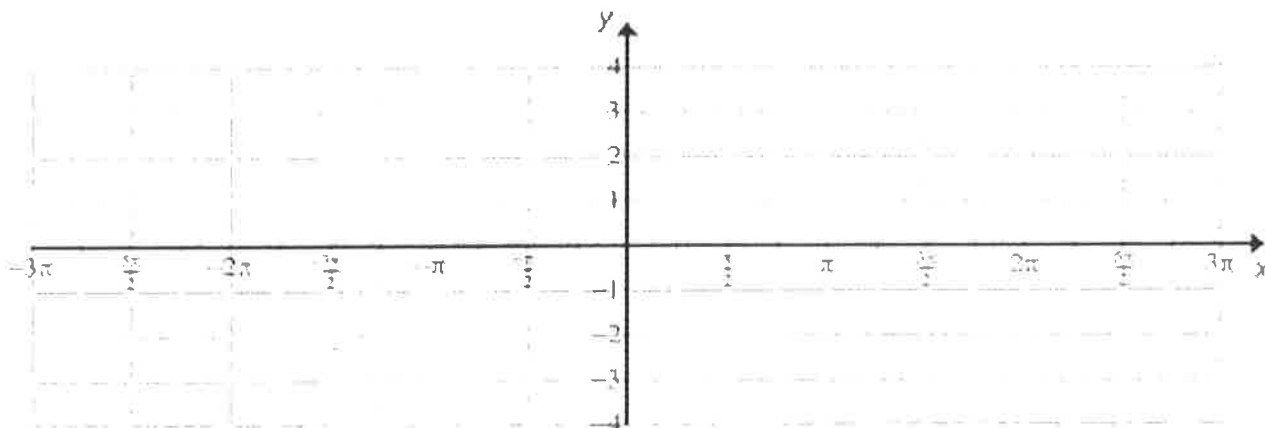
Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____



F.) $y = -\cos\left(\frac{1}{2}(x + 2\pi)\right) + 3$

Amplitude: _____

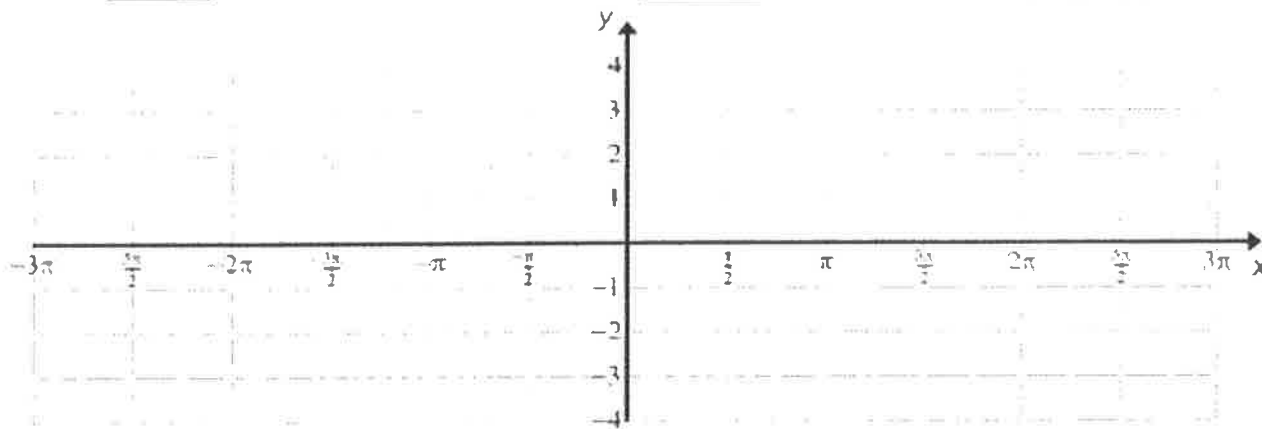
Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____



G.) $y = -2\cos(4x - 2\pi)$

Amplitude: _____

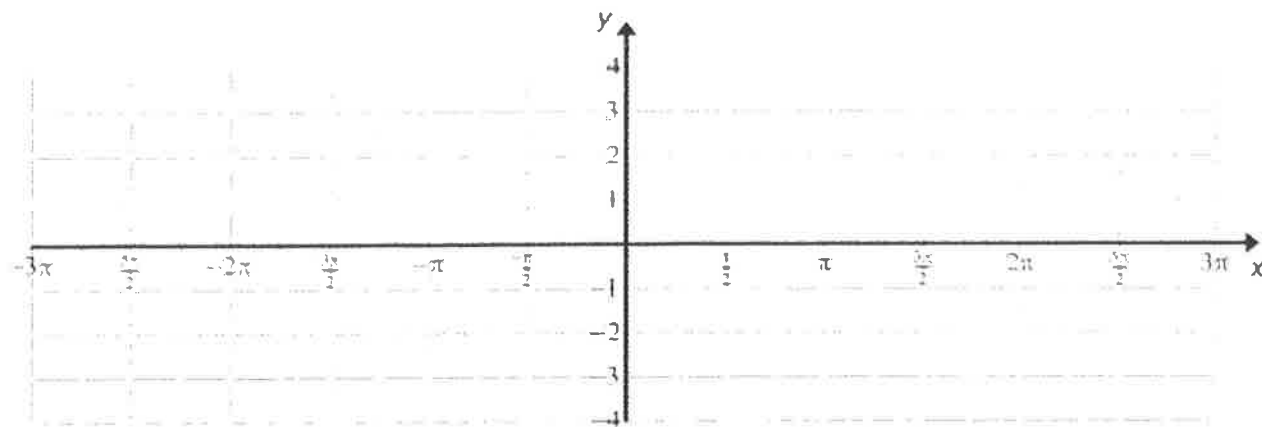
Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____



H.) $y = -4 \cos\left(\frac{2}{3}\left(x + \frac{\pi}{2}\right)\right)$

Amplitude: _____

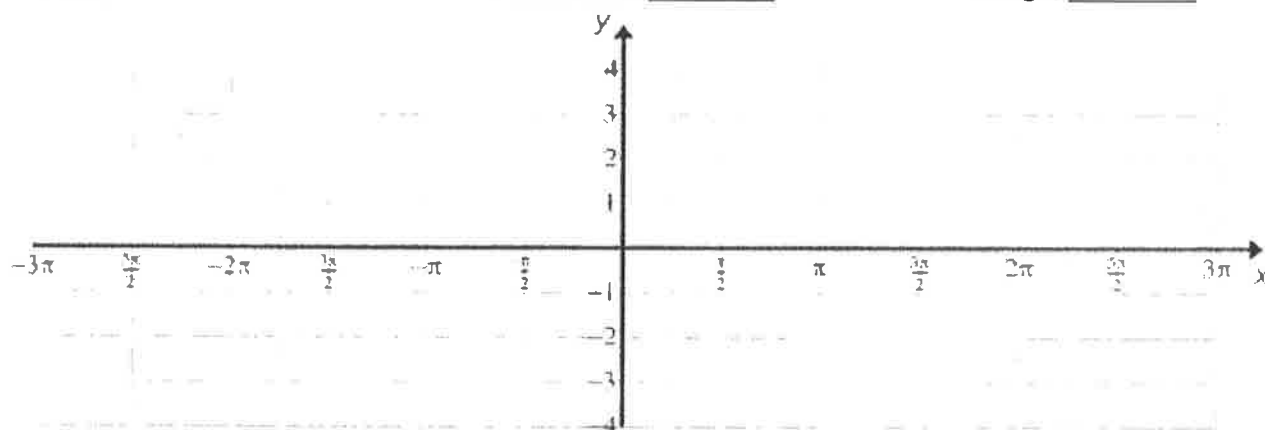
Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____



CHECK FOR UNDERSTANDING:

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

Amplitude: _____

Midline: _____

Domain: _____

Period: _____

Phase shift: _____

Range: _____

