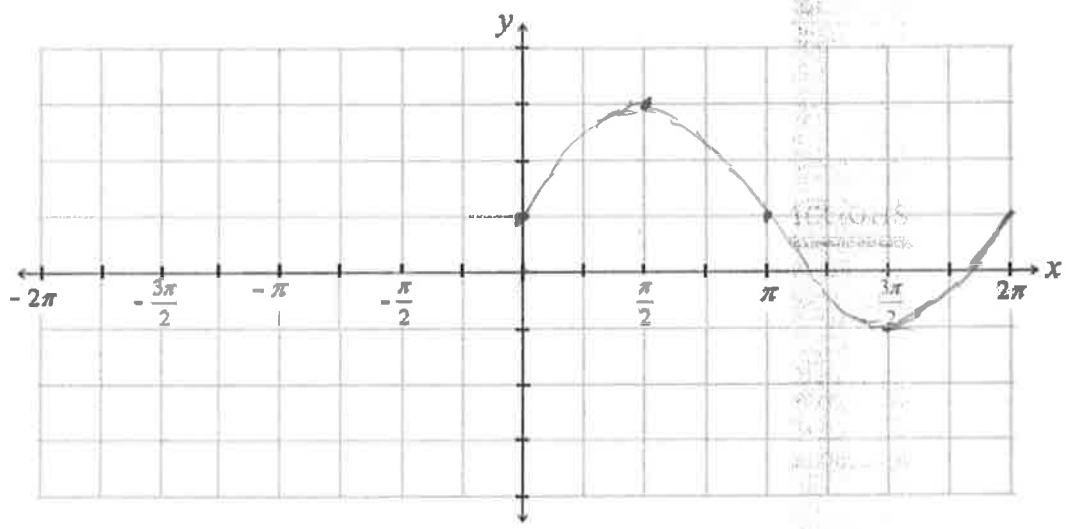
Day 11 HW Graphing Sine Functions

$y = 2\sin(x) + 1$

Amplitude = 2 Period = 2π Phase shift = None Vertical Shift = 1

$x_1 = 0$ $x_2 = \frac{\pi}{2}$ $x_3 = \pi$ $x_4 = \frac{3\pi}{2}$ $x_5 = 2\pi$ $\frac{2\pi}{4} = \frac{\pi}{2}$

$y_1 = 1$ $y_2 = 3$ $y_3 = 1$ $y_4 = -1$ $y_5 = 1$

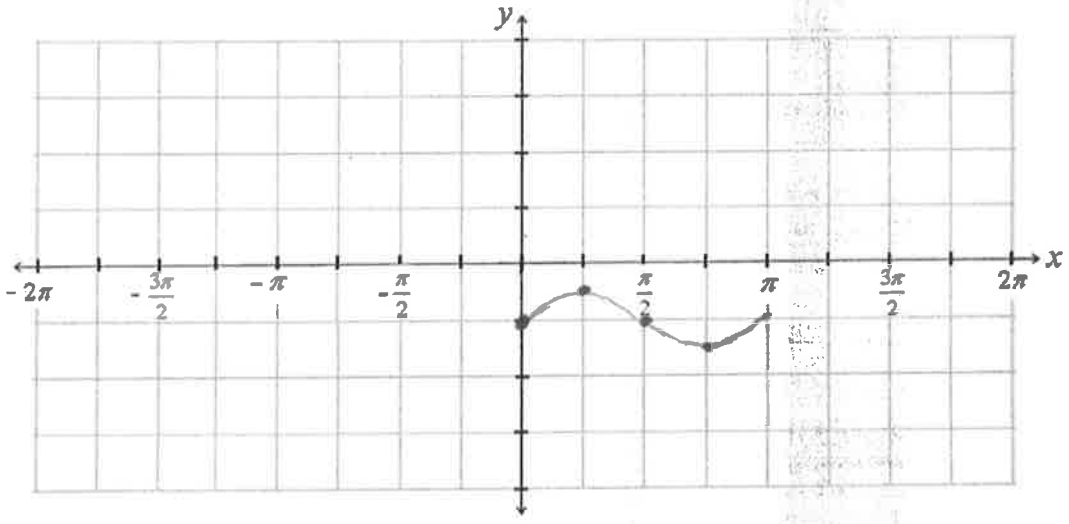


$y = \frac{1}{2}\sin(2x) - 1$

Amplitude = 1/2 Period = $\frac{2\pi}{2} = \pi$ Phase shift = None Vertical Shift = -1

$x_1 = 0$ $x_2 = \frac{\pi}{4}$ $x_3 = \frac{\pi}{2}$ $x_4 = \frac{3\pi}{4}$ $x_5 = \pi$ $\frac{\pi}{4}$

$y_1 = -1$ $y_2 = -\frac{1}{2}$ $y_3 = -1$ $y_4 = -3/2$ $y_5 = -1$



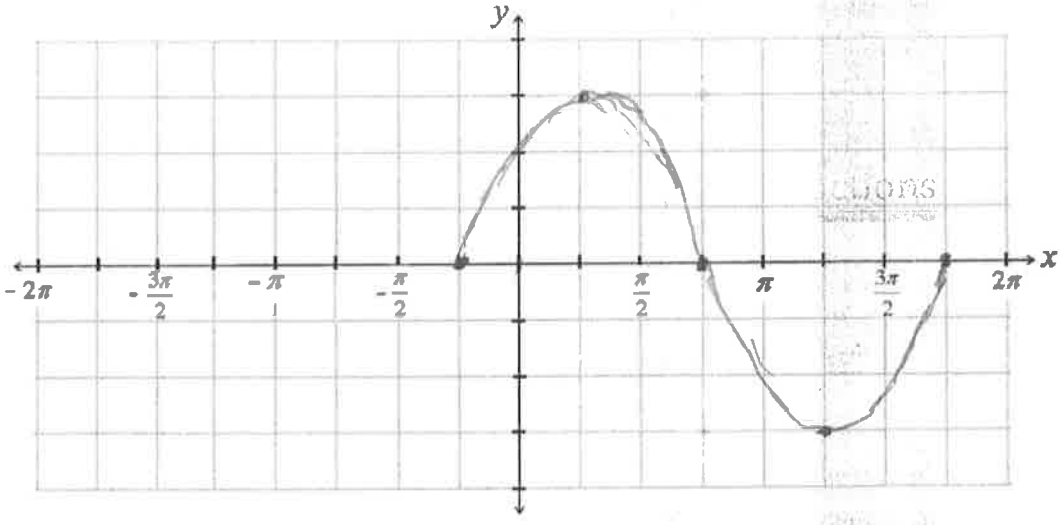
Day 11 HW Graphing Sine Functions

$y = 3\sin\left(x + \frac{\pi}{4}\right)$

Amplitude = 3 Period = 2π Phase shift = $-\frac{\pi}{4}$ Vertical Shift = None

$x_1 = -\frac{\pi}{4}$ $x_2 = \frac{\pi}{4}$ $x_3 = \frac{3\pi}{4}$ $x_4 = \frac{5\pi}{4}$ $x_5 = \frac{7\pi}{4}$ $\frac{2\pi}{4} = \frac{\pi}{2}$

$y_1 = 0$ $y_2 = 3$ $y_3 = 0$ $y_4 = -3$ $y_5 = 0$

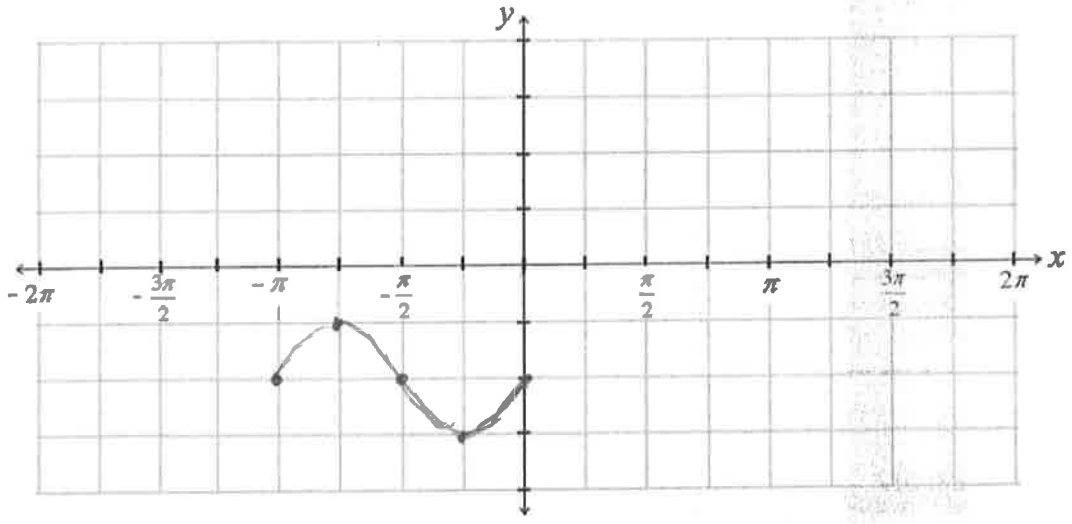


$y = \sin 2(x + \pi) - 2$

Amplitude = 1 Period = $\frac{2\pi}{2} = \pi$ Phase shift = $-\pi$ Vertical Shift = -2

$x_1 = -\pi$ $x_2 = -\frac{3\pi}{4}$ $x_3 = -\frac{\pi}{2}$ $x_4 = -\frac{\pi}{4}$ $x_5 = 0$ $\frac{\pi}{4}$

$y_1 = -2$ $y_2 = -1$ $y_3 = -2$ $y_4 = -3$ $y_5 = -2$



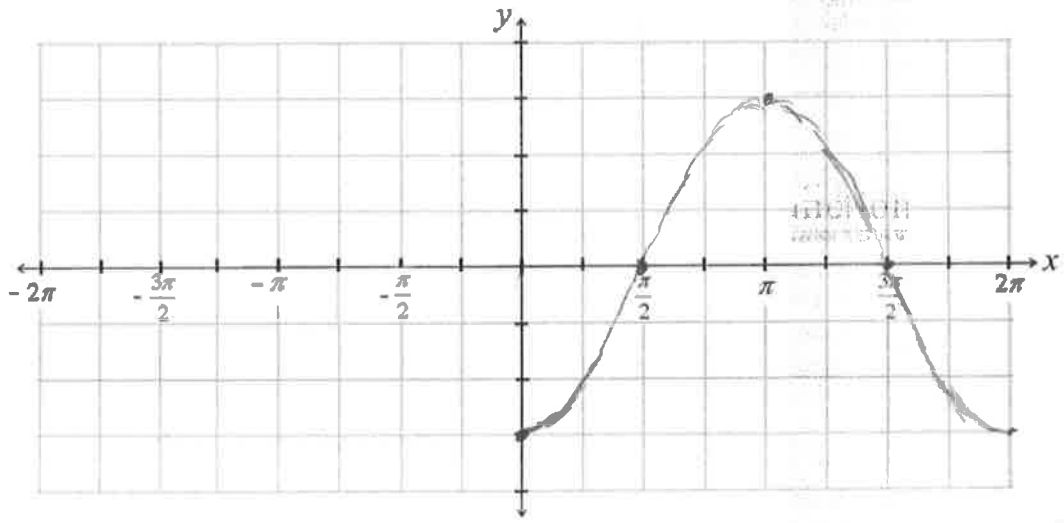
Day 12 HW Graphing Cosine Functions

$y = -3\cos(x)$

Amplitude = 3 Period = 2π Phase shift = None Vertical Shift = None

$x_1 = 0$ $x_2 = \frac{\pi}{2}$ $x_3 = \pi$ $x_4 = \frac{3\pi}{2}$ $x_5 = 2\pi$ $\frac{2\pi}{4} = \frac{\pi}{2}$

$y_1 = -3$ $y_2 = 0$ $y_3 = 3$ $y_4 = 0$ $y_5 = -3$

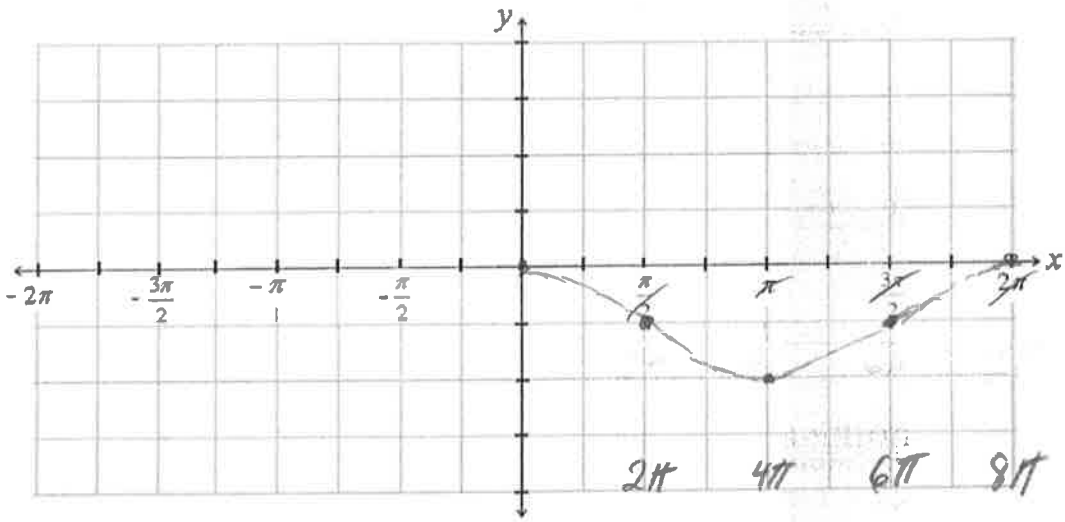


$y = \cos(\frac{1}{4}x) - 1$

Amplitude = 1 Period = $\frac{2\pi}{1/4} = 8\pi$ Phase shift = None Vertical Shift = -1

$x_1 = 0$ $x_2 = 2\pi$ $x_3 = 4\pi$ $x_4 = 6\pi$ $x_5 = 8\pi$ $\frac{8\pi}{4} = 2\pi$

$y_1 = 0$ $y_2 = -1$ $y_3 = -2$ $y_4 = -1$ $y_5 = 0$



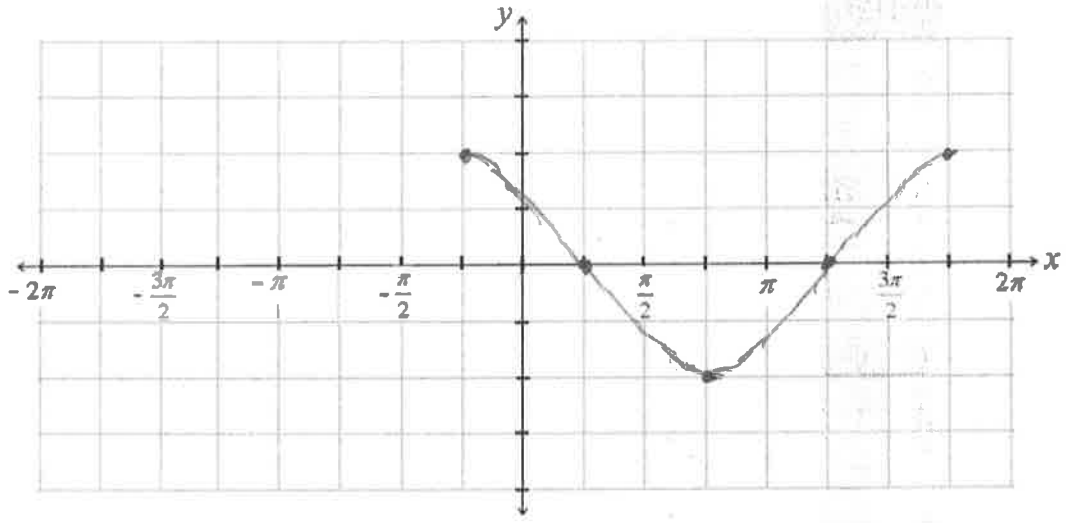
Day 12 HW Graphing Cosine Functions

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

Amplitude = 2 Period = 2π Phase shift = $-\pi/4$ Vertical Shift = None

$x_1 = -\frac{\pi}{4}$ $x_2 = \frac{\pi}{4}$ $x_3 = \frac{3\pi}{4}$ $x_4 = \frac{5\pi}{4}$ $x_5 = \frac{7\pi}{4}$ $\frac{2\pi}{4} = \frac{\pi}{2}$

$y_1 = 2$ $y_2 = 0$ $y_3 = -2$ $y_4 = 0$ $y_5 = 2$



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

Amplitude = 4 Period = 2π Phase shift = $-\pi$ Vertical Shift = -2

$x_1 = -\pi$ $x_2 = -\frac{\pi}{2}$ $x_3 = 0$ $x_4 = \frac{\pi}{2}$ $x_5 = \pi$ $\frac{2\pi}{4} = \frac{\pi}{2}$

$y_1 = -6$ $y_2 = -2$ $y_3 = 2$ $y_4 = -2$ $y_5 = -6$