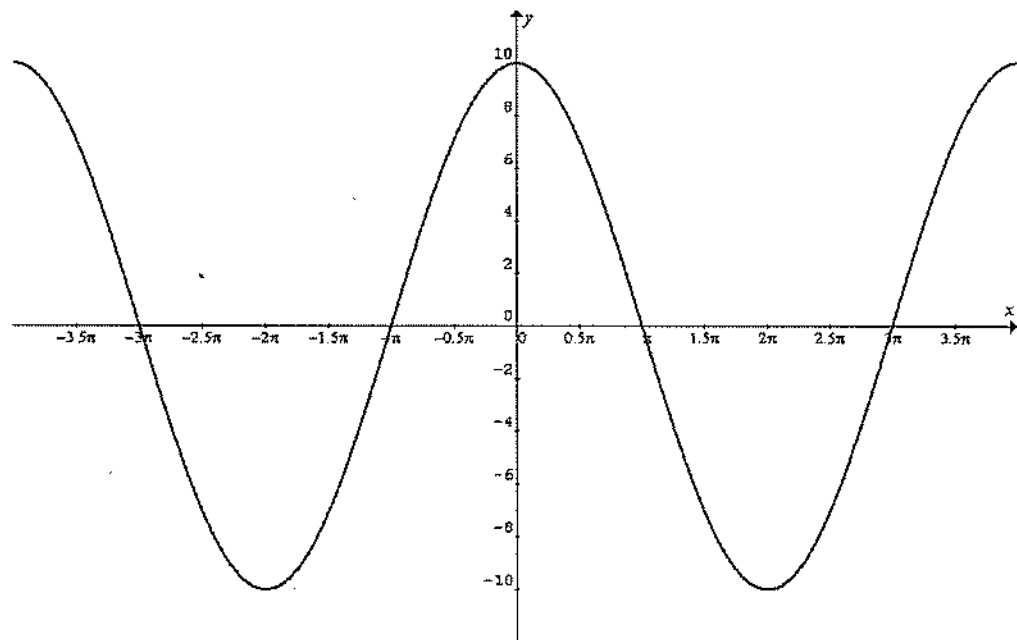Name: _____Anne Suckey_____ Date: _____

## Unit 4-2  Trig Graphs Worksheet

State the equations for the following graphs.
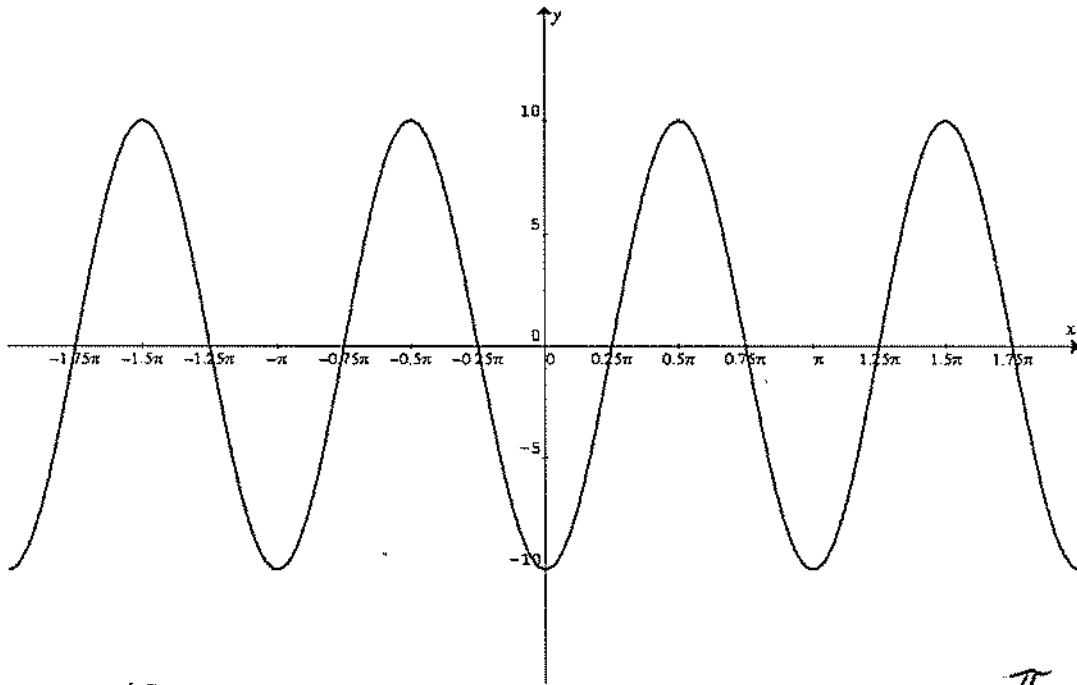


Amplitude = ___10___          Period = ___$4\pi$___          Phase Shift = ___$0$___

Equation (1) = ___$y = 10\cos\frac{1}{2}x$___ (in terms of the **cosine** function)



Amplitude = ___$2$___          Period = ___$2\pi$___          Phase Shift = ___$\frac{\pi}{4}$___

Equation (2) = ___$2\sin\left(x - \frac{\pi}{4}\right)$___ (in terms of the **sine** function)

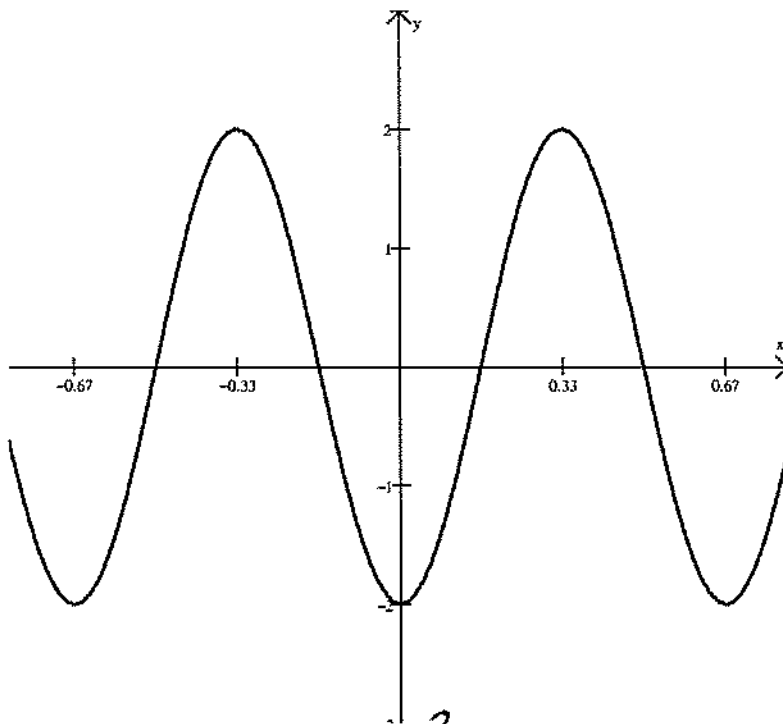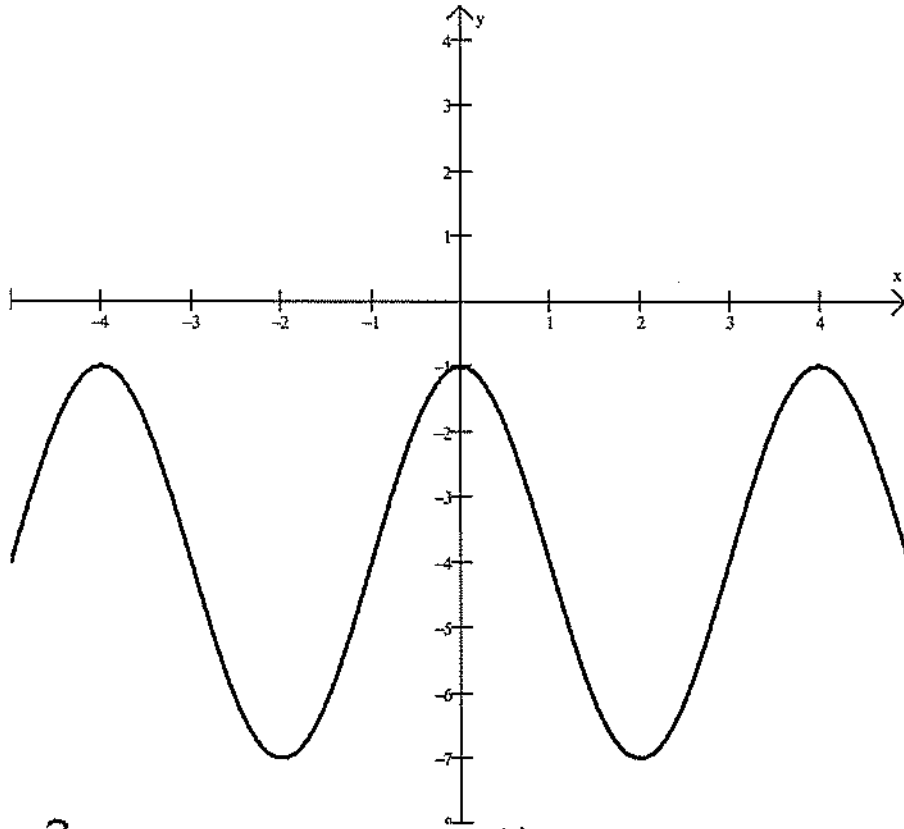Amplitude = $10$    Period = $\pi$    Phase Shift = $\dfrac{\pi}{4}$

Equation (3) = $y = 10 \sin 2\left(x - \dfrac{\pi}{4}\right)$ (in terms of the **sine** function)
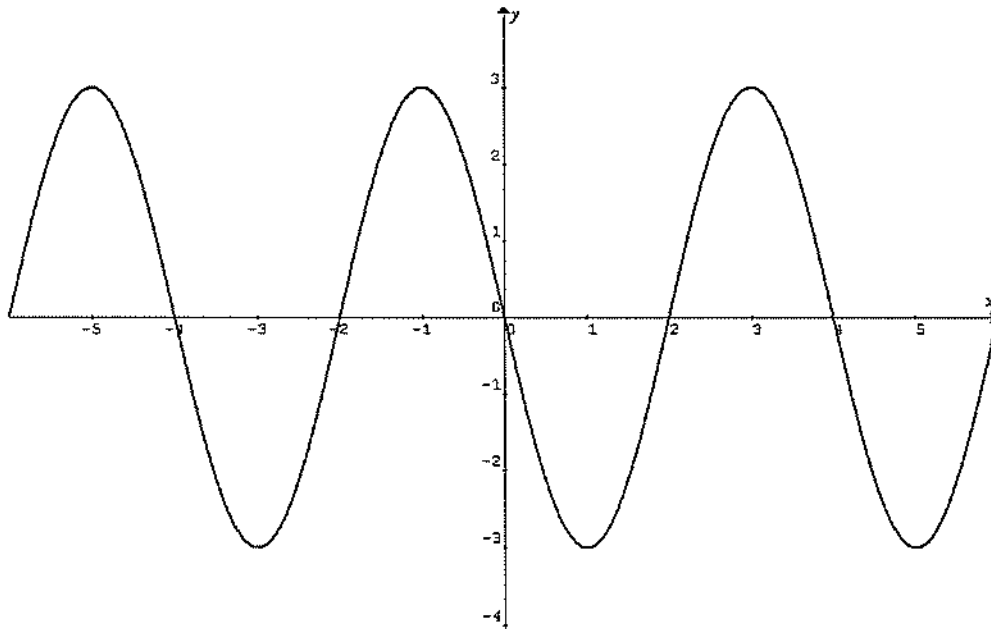


Amplitude = $2$    Period = $\dfrac{2}{3}$    Phase Shift = $\dfrac{1}{3}$

Equation (4) = $y = 2 \cos 3\pi\left(x - \dfrac{1}{3}\right)$ (in terms of the **cosine** function)

Amplitude = __3__          Period = __4__          Phase Shift = __0__

Equation (5) = __$y = 3\cos\left(\frac{\pi}{2}x\right) - 4$__ (in terms of the **cosine** function)



Amplitude = __3__          Period = __4__          Phase Shift = __-2__

Equation (6) = __$y = 3\sin\frac{\pi}{2}(x+2)$__ (in terms of the **sine** function)

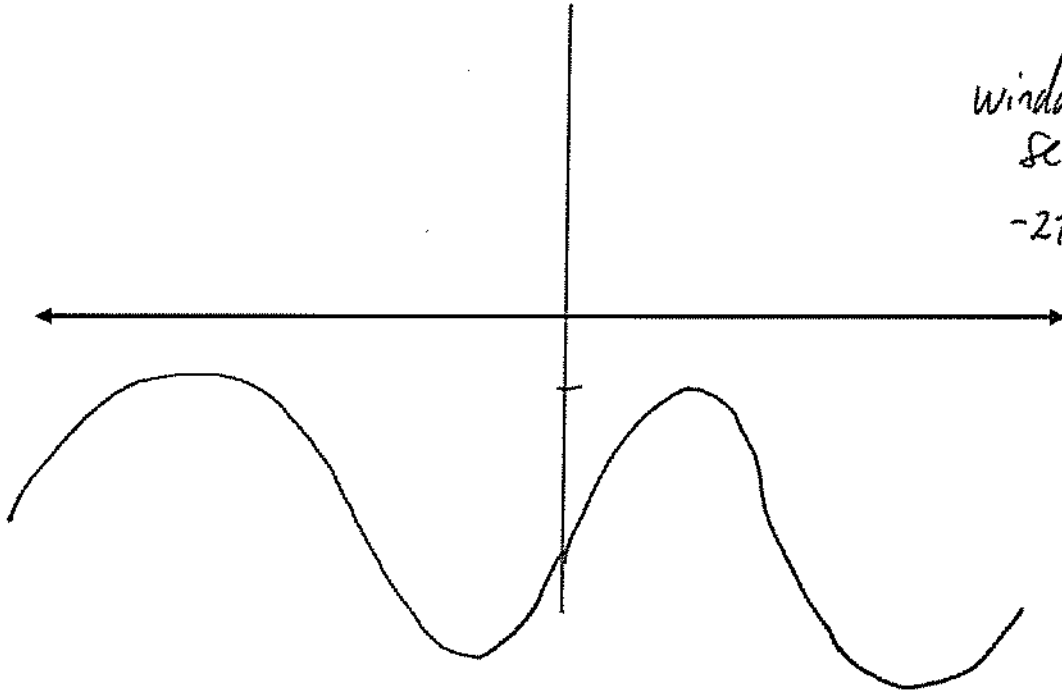Graph one complete period of the given sine or cosine curve. (Check your answer with your graphing calculator!)

$f(x) = -2 + \sin x$ → $y = \sin x - 2$

Amplitude = ___1___        Period = ___$2\pi$___        Phase Shift = ___0___
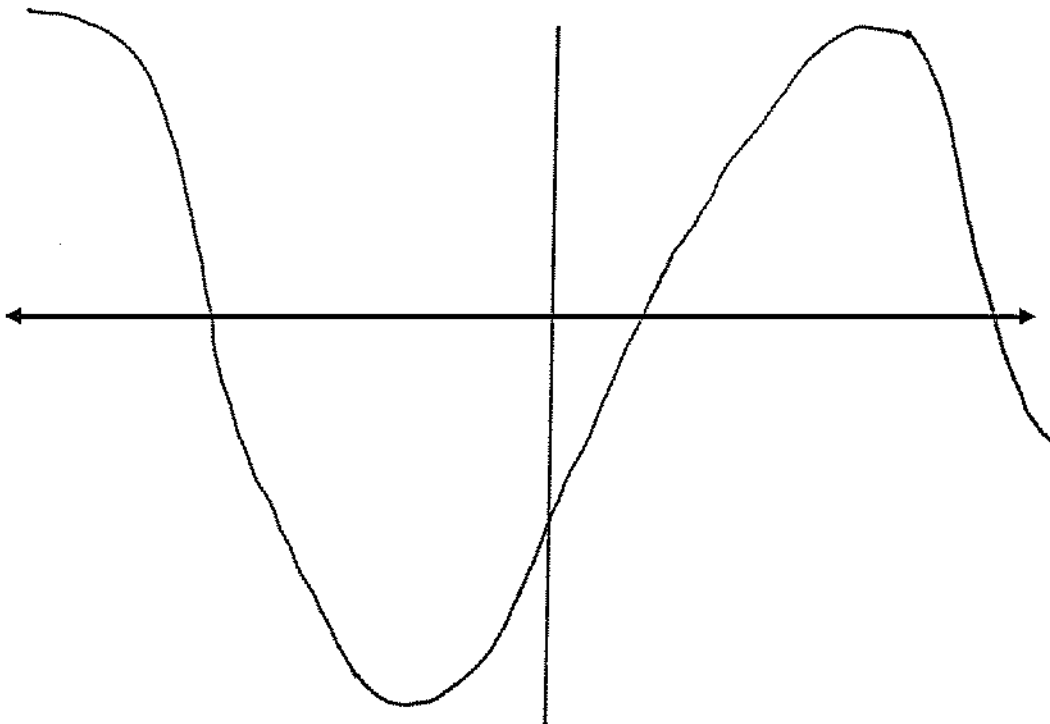
window settings

$-2\pi \leq x \leq 2\pi$



$f(x) = 2\sin\left(\dfrac{2}{3}x - \dfrac{\pi}{6}\right)$ → $y = 2\sin\dfrac{2}{3}\left(x - \dfrac{\pi}{4}\right)$

Amplitude = ___2___        Period = ___$3\pi$___        Phase Shift = ___$\dfrac{\pi}{4}$___
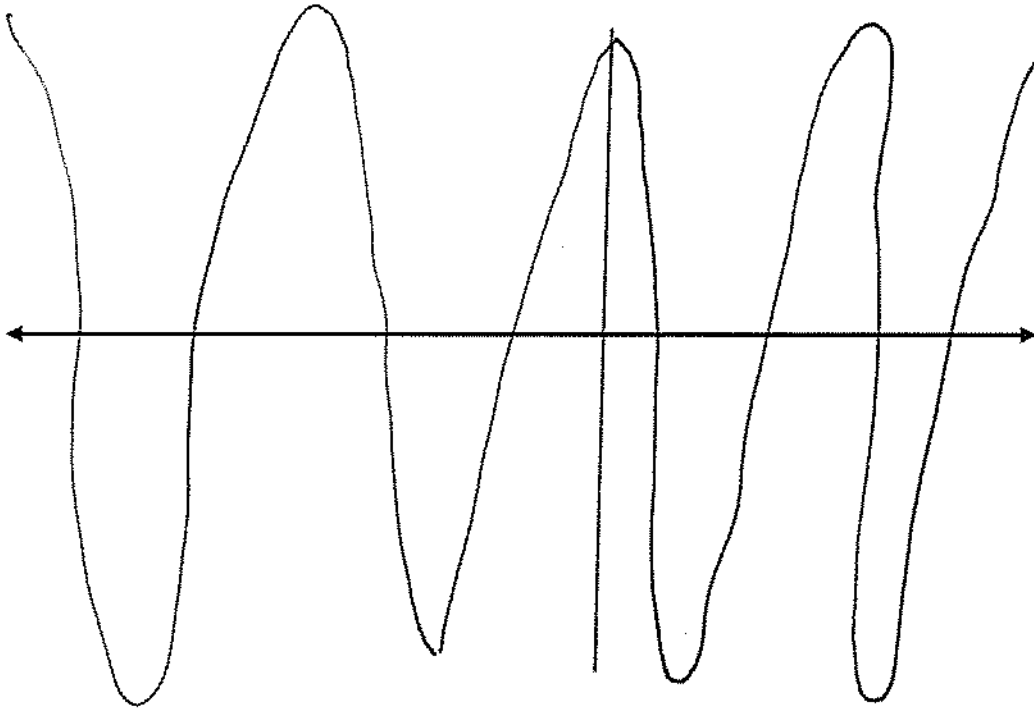
$$f(x) = 5\sin\left(2\pi x + \frac{\pi}{2}\right) \longrightarrow y = 5\sin 2\pi\left(x + \frac{1}{4}\right)$$

Amplitude = $5$  Period = $1$  Phase Shift = $-\frac{1}{4}$

* window *
$-2 \le x \le 2$
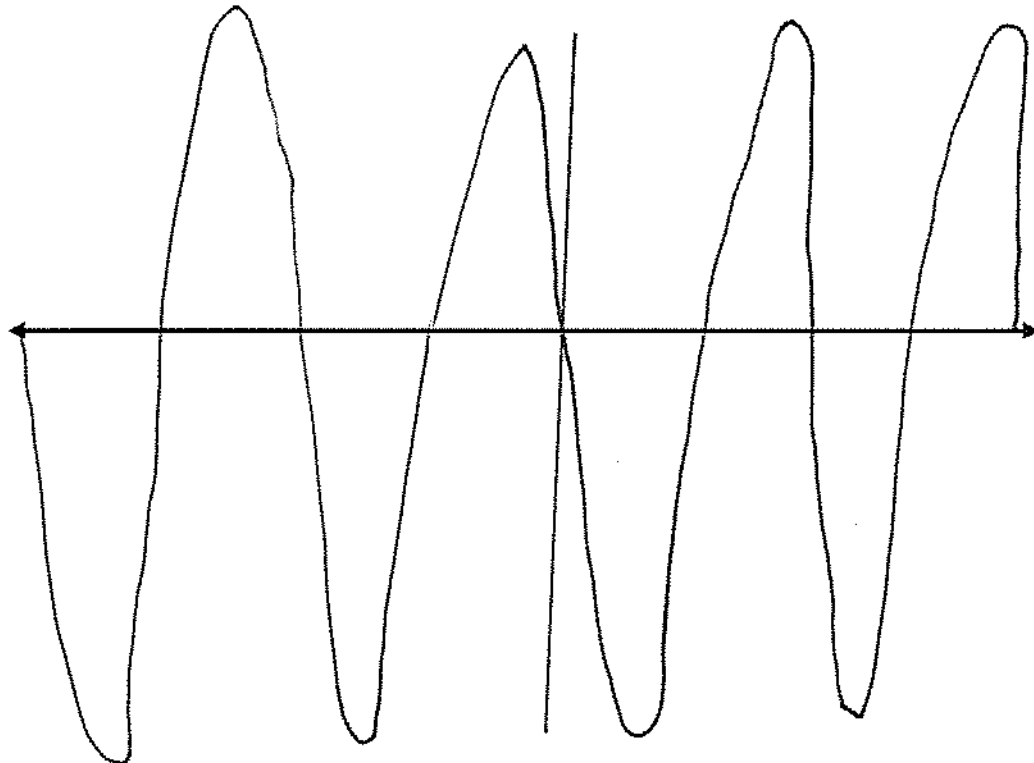
Sorry! your drawing is probably way nicer than mine!



$$f(x) = \frac{1}{10}\cos 2\left(x + \frac{\pi}{4}\right)$$

Amplitude = $\frac{1}{10}$  Period = $\pi$  Phase Shift = $-\frac{\pi}{4}$

$-2\pi \le x \le 2\pi$

$-0.1 \le y \le 0.1$