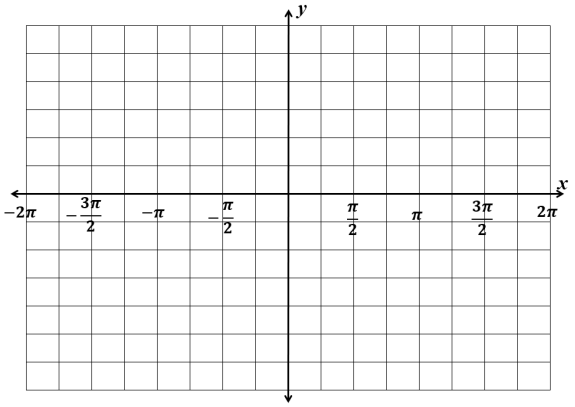
3.6B Sinusoidal Functions Transformations

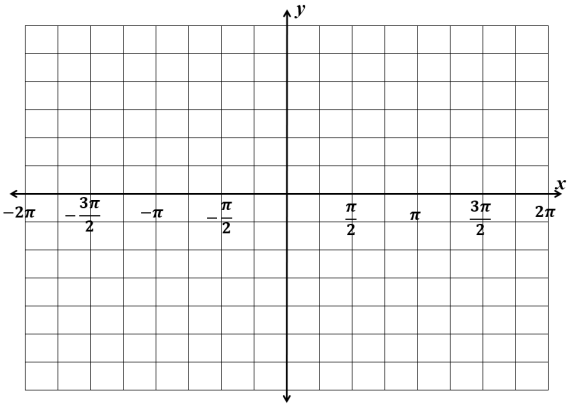
AP Precalculus Name: _____ **CA #2**

Graph the trig function.

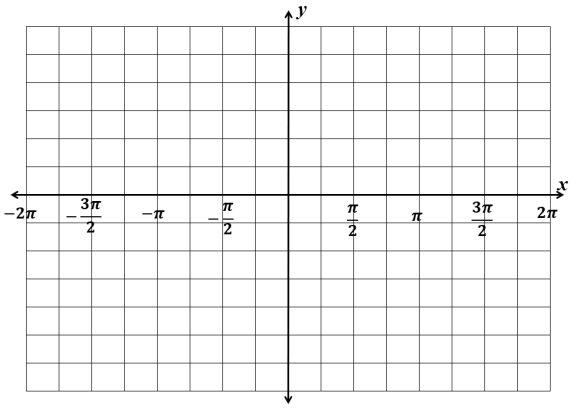
1. $y = 3\cos\left(x - \frac{\pi}{2}\right)$



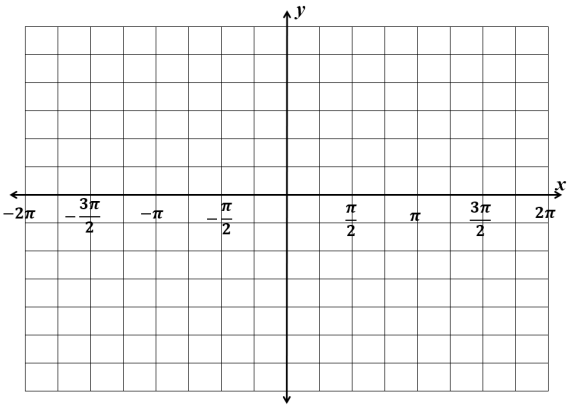
2. $y = 2\cos(4(x - \pi)) - 1$



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



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



Create a sine function that has the following attributes.

5.

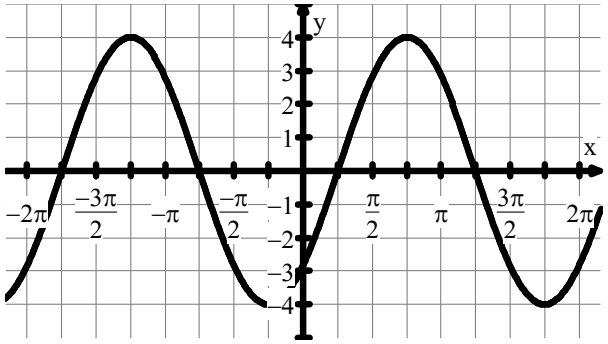
Amplitude: 2
Period: $\frac{2\pi}{3}$
Phase Shift: right $\frac{\pi}{12}$
Vertical Shift: up 3

6.

Amplitude: 7
Period: $\frac{4\pi}{5}$
Phase Shift: left $\frac{\pi}{10}$
Vertical Shift: down 6

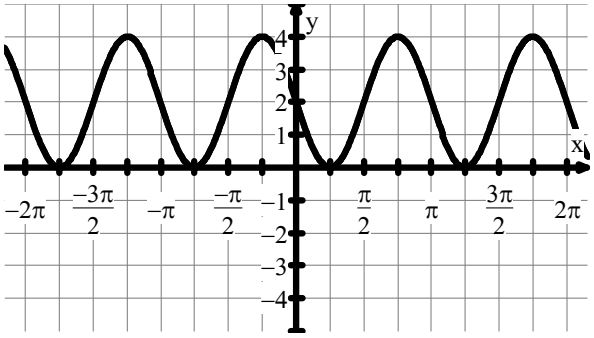
Write the equation of the following *sine* curves. Use a phase shift and not a negative leading coefficient.

7.



$y =$ _____

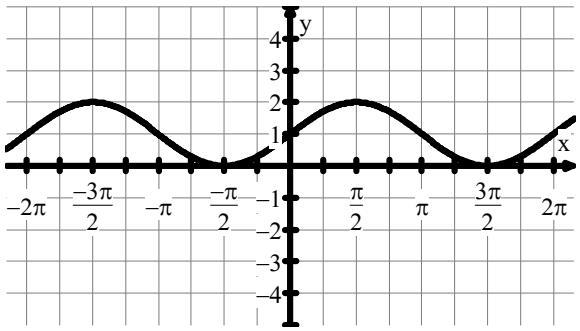
8.



$y =$ _____

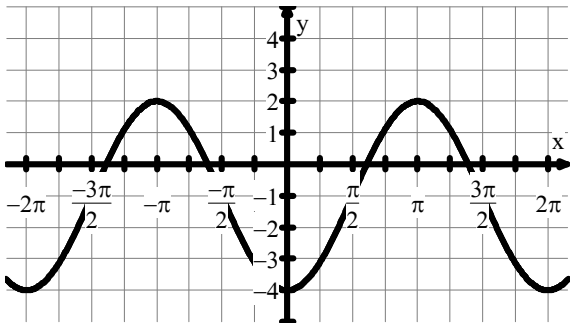
Write the equation of the following *cosine* curves.

9.



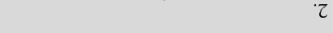
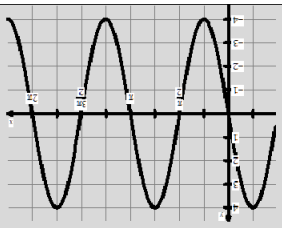
$y =$ _____

10.



$y =$ _____

Answers to 3.6B CA #2

1. 	2. 	3.
4. 	5. $y = 2\sin\left(3x - \frac{\pi}{4}\right) + 3$	6. $y = 7\sin\left(\frac{5}{2}x - \frac{\pi}{4}\right) - 6$
	7. $y = 4\sin\left(x - \frac{\pi}{4}\right)$	8. $y = 2\sin(2x - \pi) + 2$
	9. $y = \cos\left(x - \frac{\pi}{2}\right) + 1$	10. $y = 3\cos(x - \pi) - 1$