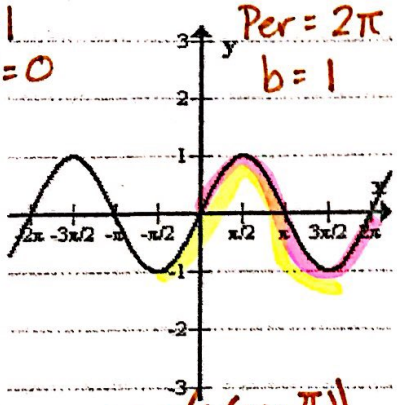
Transformations of Sine and Cosine

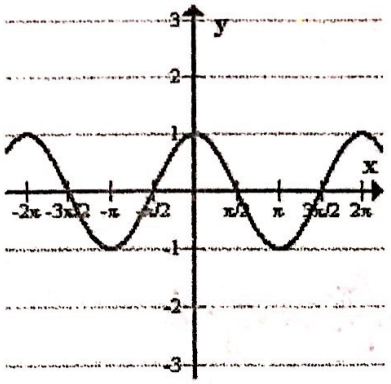
Find two equations for each graph. Use SINE for the 1st equation, then use COSINE for the 2nd equation.

A = 1
V.S = 0
Per = 2π
b = 1



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

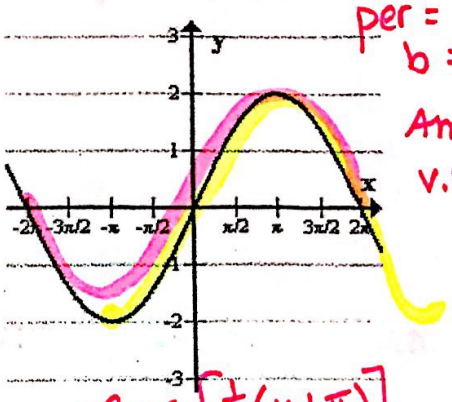
$y = \sin x$



$y =$

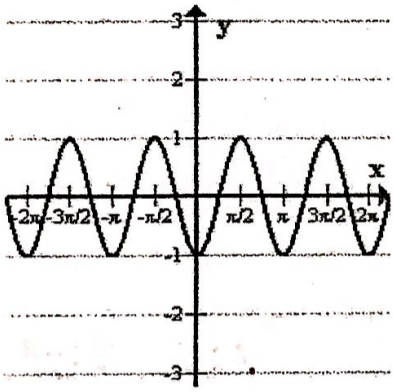
$y =$

per = 4π
b = 1/2
Amp = 2
V.S = 0



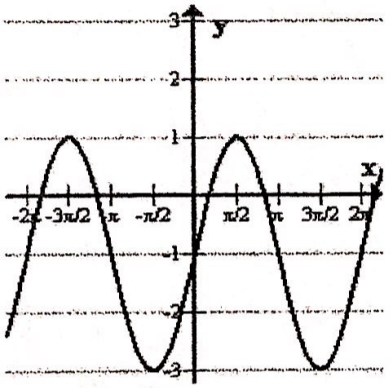
$y = -2\cos\left[\frac{1}{2}(x+\pi)\right]$

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



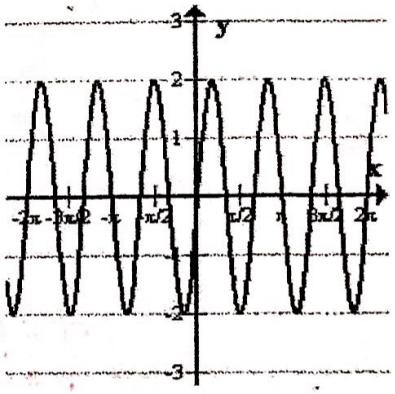
$y =$

$y =$



$y =$

$y =$

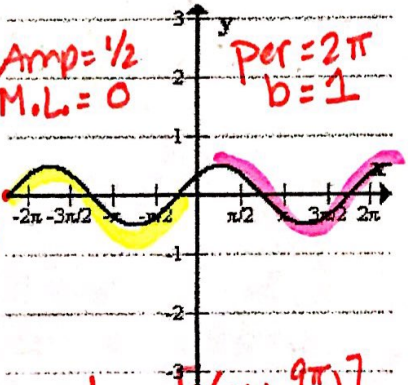


$y =$

$y =$

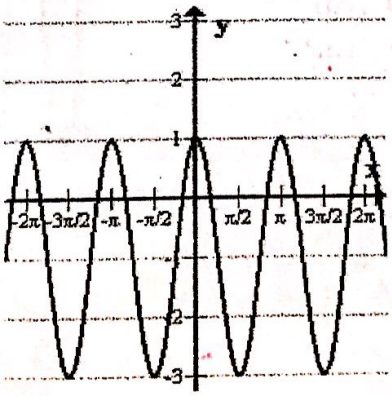
Amp = 1/2
M.L. = 0
Per = 2π
b = 1

$-\frac{9\pi}{4}$



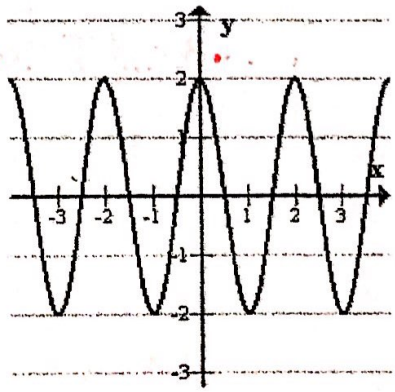
$y = \frac{1}{2}\sin\left[1\left(x+\frac{9\pi}{4}\right)\right]$

$y = \frac{1}{2}\cos\left[1\left(x-\frac{\pi}{4}\right)\right]$



$y =$

$y =$



$y =$

$y =$

$\frac{4}{4}, -2\pi - \frac{\pi}{4}$

$-\frac{8\pi}{4} - \frac{\pi}{4} = -\frac{9\pi}{4}$

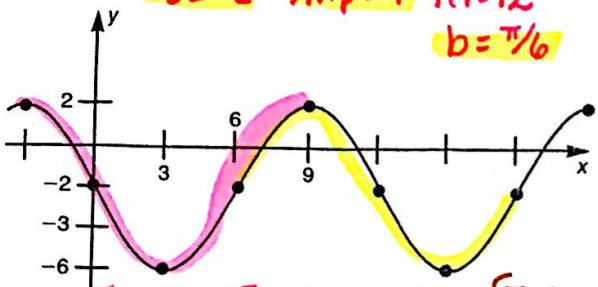
NAME _____

Equations of Sinusoids from their Graphs

DATE _____

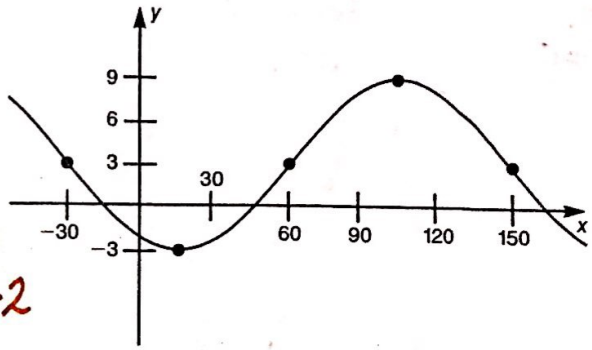
Write the particular equation of the sinusoid graphed.

1. V.S = −2 Amp = 4 Per = 12 b = π/6

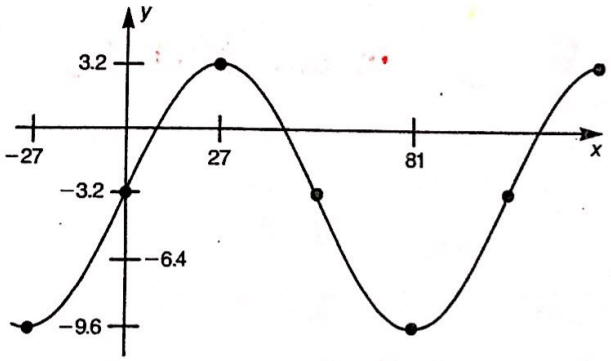


$y = 4\cos\left[\frac{\pi}{6}(x+3)\right]-2$ $y = 4\sin\left[\frac{\pi}{6}(x-6)\right]-2$

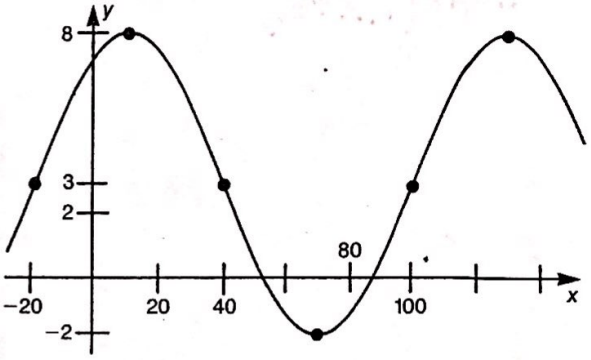
2.



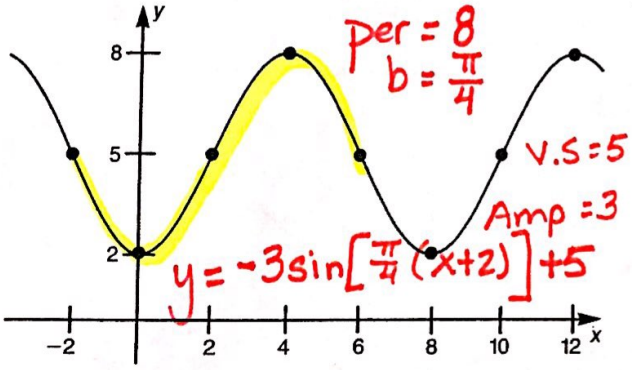
3.



4.

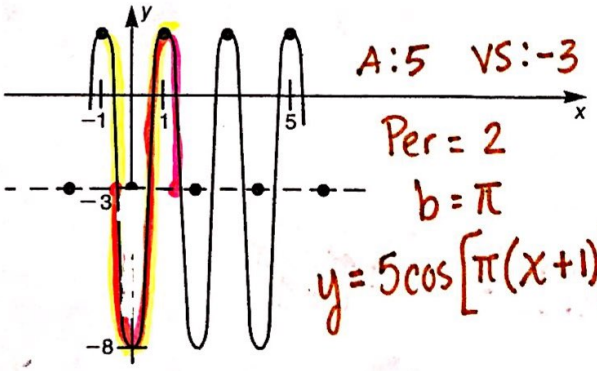


5. Per = 8 $b = \frac{\pi}{4}$ V.S = 5 Amp = 3



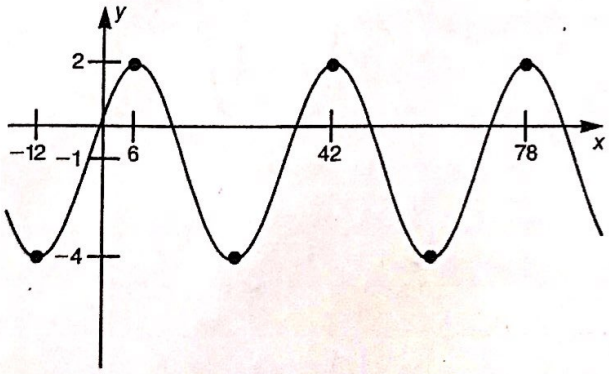
$y = -3\sin\left[\frac{\pi}{4}(x+2)\right]+5$

6. A: 5 VS: −3 Per = 2 $b = \pi$

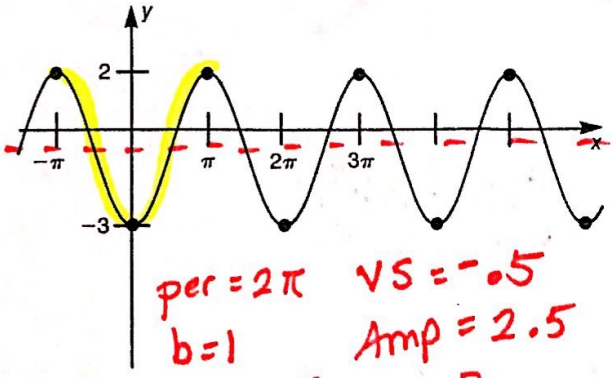


$y = 5\cos\left[\pi(x+1)\right]-3$

7.



8.



per = 2π VS = −.5 b = 1 Amp = 2.5

$y = 2.5\cos\left[1(x+\pi)\right]-.5$