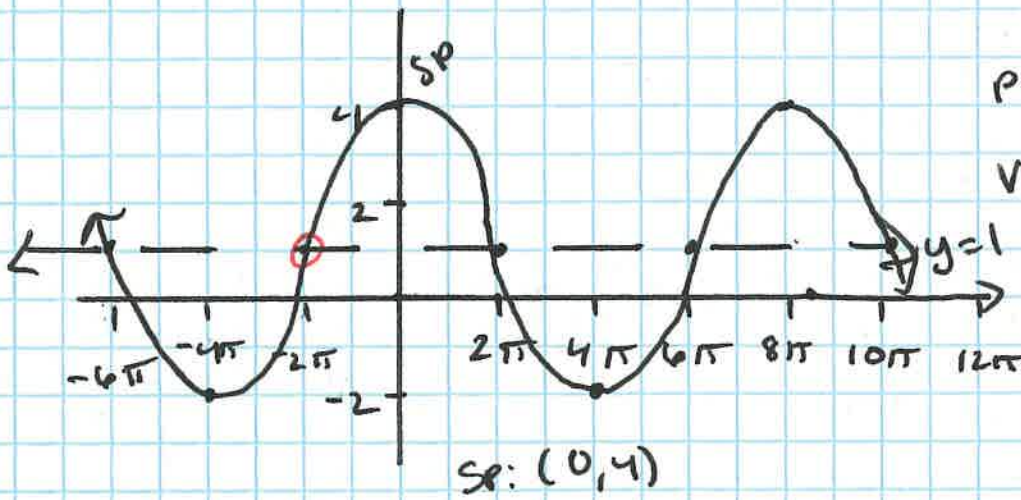


Classwork

1)  $y = 3 \cos(\frac{1}{4}x) + 1$

Amp: 3  
 per:  $\frac{2\pi}{\frac{1}{4}} = 8\pi$   
 P.S. none  
 VS: up 1  
 CPS =  $\frac{8\pi}{4} = 2\pi$



• Sine 1

$y = 3 \sin(\frac{1}{4}x + \frac{\pi}{2}) + 1$

$\frac{1}{4}(-2\pi) = \left(\frac{-c}{\frac{1}{4}}\right) \frac{1}{4}$

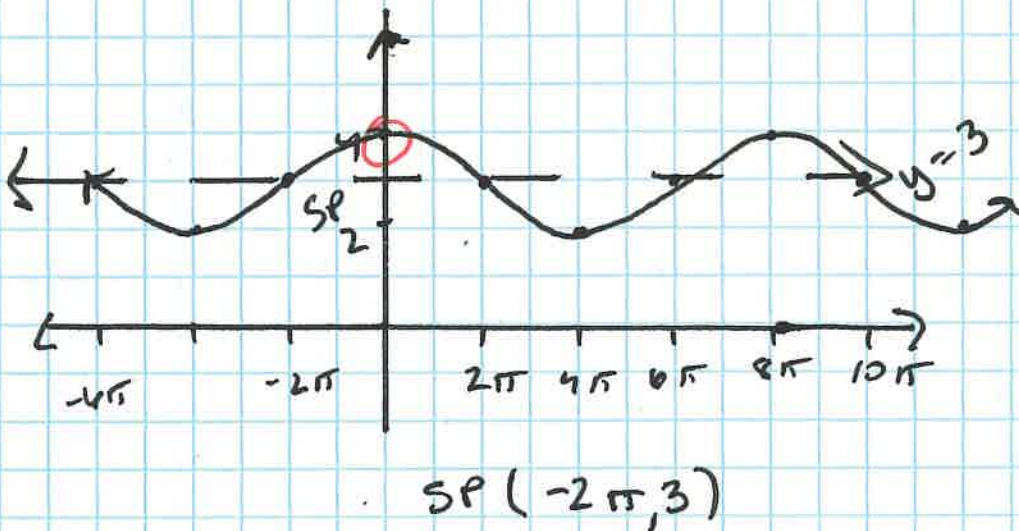
$-\frac{\pi}{2} = -c$

$\frac{\pi}{2} = c$

$\frac{-c}{\frac{1}{4}} = \frac{1}{1}$

3)  $y = \sin(\frac{1}{4}x + \frac{\pi}{2}) + 3$

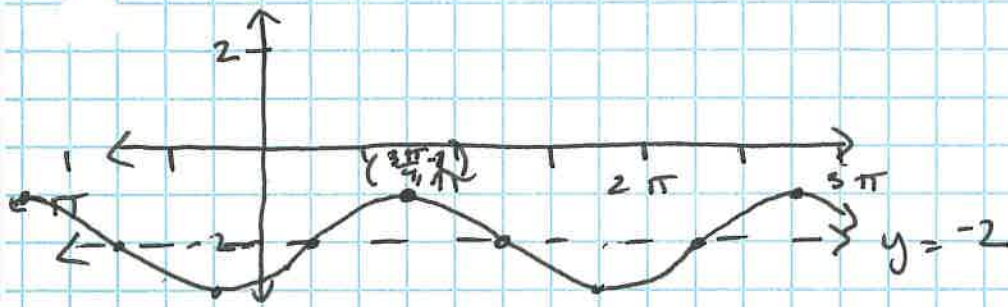
Amp: 1  
 per =  $\frac{2\pi}{\frac{1}{4}} = 8\pi$   
 PS =  $\frac{-\frac{\pi}{2}}{\frac{1}{4}} = \frac{-4\pi}{2} = -2\pi$   
 left + 2π  
 VS: up 3  
 CPS = 2π



cosine:  $y = \cos(\frac{1}{4}x) + 3$

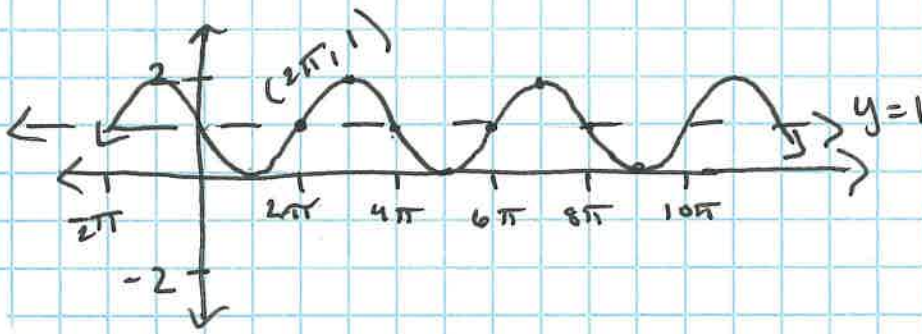
$$4. y = \cos\left(x - \frac{3\pi}{4}\right) - 2$$

amp 1  
 per  $2\pi$   
 freq  $\frac{1}{2\pi}$   
 p.s.  $-(-\frac{3\pi}{4}) = \frac{3\pi}{4}$  rt  
 vertical down 2  
 CPS =  $\frac{2\pi}{4}$   
 $\frac{\pi}{2}$



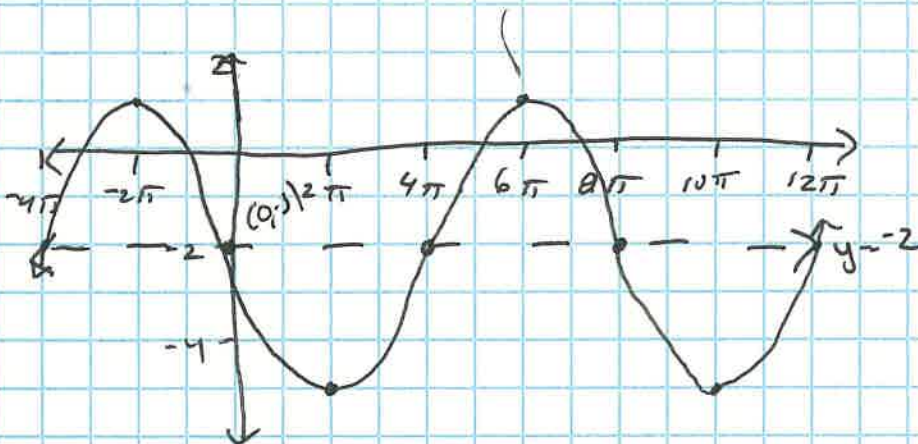
$$5. y = \sin\left(\frac{1}{2}x - \pi\right) + 1$$

amp: 1  
 per =  $\frac{2\pi}{\frac{1}{2}} = 4\pi$   
 freq  $\frac{1}{4\pi}$   
 ps =  $-(-\frac{\pi}{2}) = \frac{\pi}{2}$  rt  
 vert: up 1  
 CPS =  $\frac{4\pi}{9}$   
 $\pi$



$$6. y = -3 \sin\left(\frac{1}{4}x\right) - 2$$

amp: 3  
 per =  $\frac{2\pi}{\frac{1}{4}} = 8\pi$   
 freq  $\frac{1}{8\pi}$   
 ps none  
 vert down 2  
 CPS =  $\frac{8\pi}{4}$   
 $2\pi$



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

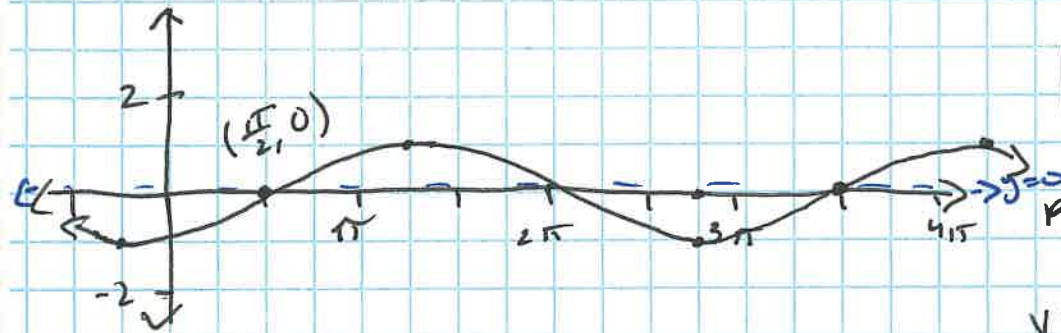
amp: 1  
 per =  $\frac{2\pi}{\frac{2}{3}} = \frac{6\pi}{2} = 3\pi$

freq:  $= \frac{1}{3\pi}$

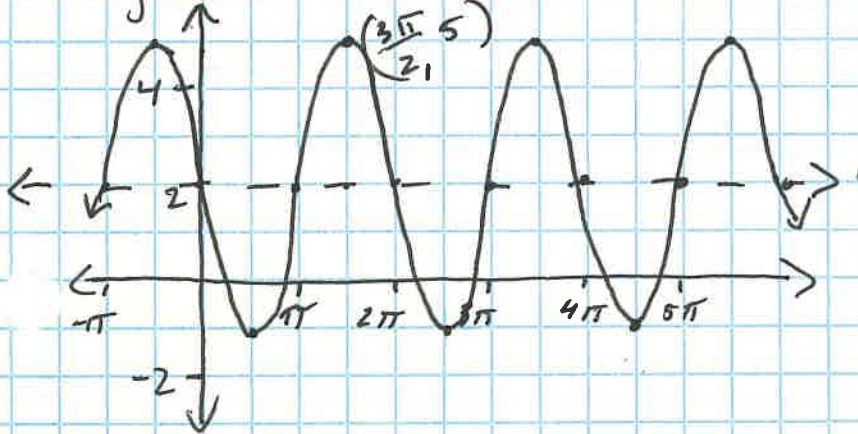
PS =  $-\left(\frac{-\frac{\pi}{3}}{\frac{2}{3}}\right) = \frac{\pi}{2}$  right

VS none

CPS  $\frac{3\pi}{4}$



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



amp: 2

per:  $2\pi$

freq:  $= \frac{1}{2\pi}$

PS =  $-\left(\frac{-\frac{3\pi}{2}}{1}\right) = \frac{3\pi}{2}$  right

VS: up 3

CPS =  $\frac{2\pi}{4} = \frac{\pi}{2}$

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

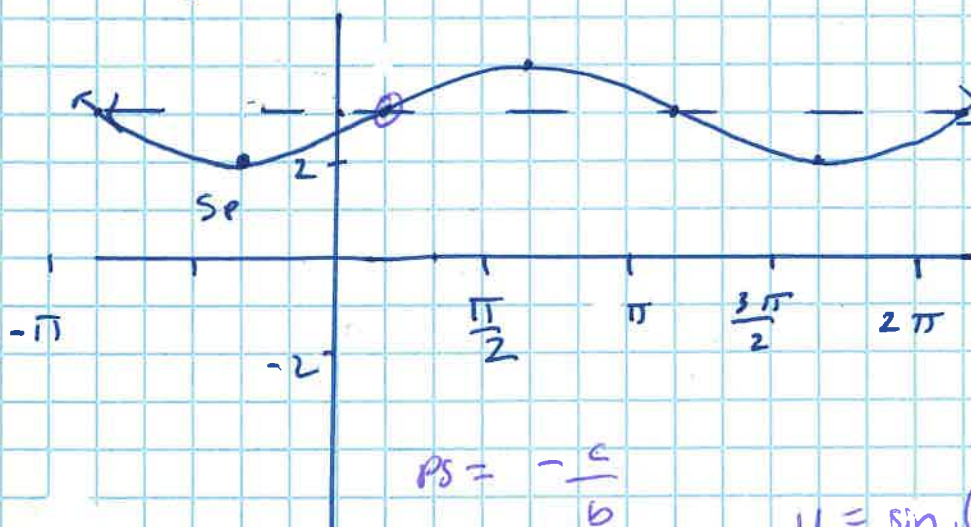
amp: 1

per =  $2\pi$  CPS =  $\frac{\pi}{2}$

freq:  $\frac{1}{2\pi}$

PS =  $-\frac{\pi}{3}$  left  $+\frac{\pi}{3}$

VS up 3



PS =  $-\frac{c}{b}$

$\frac{\pi}{6} = \frac{-c}{1}$

$-\frac{\pi}{6} = c$

$y = \sin\left(x - \frac{\pi}{6}\right) + 3$