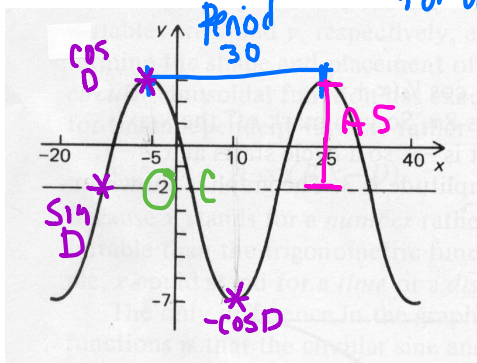


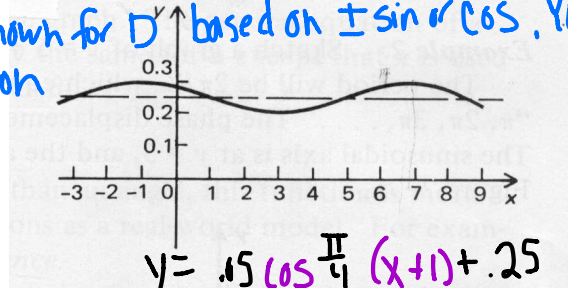
## 2.3 Writing Equations from Graphs

Name: \_\_\_\_\_

Given the graph write an equation in either sine or cosine. Check the axis for degrees or radians



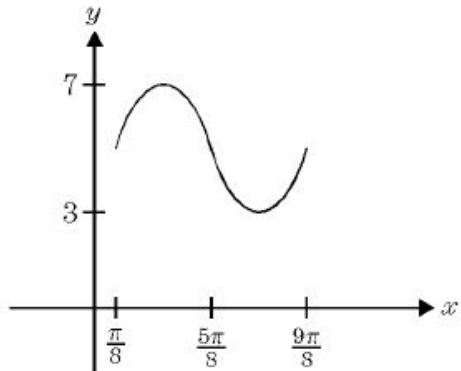
For all questions, A, B & C will not change, but there are many options shown for D based on  $\pm \sin$  or  $\cos$ . You only need one option



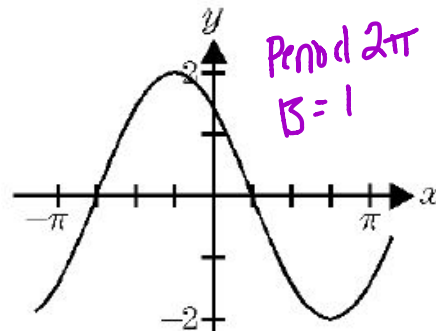
$$y = .15 \cos \frac{\pi}{4} (x+1) + .25$$

1.  $y = 5 \cos \frac{\pi}{30} (x+5) - 2$   
 -  $\cos (x-25)$   
 -  $\cos (x-10)$   
 -  $\sin (x+12.5)$   
 -  $\sin (x-12.5)$

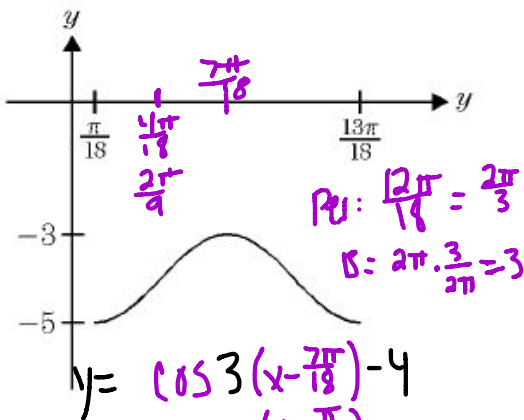
2.  $y = .15 \cos \frac{\pi}{4} (x-7) - \cos (x-3) + \sin (x+3) - \sin (x-5) - \sin (x-1)$



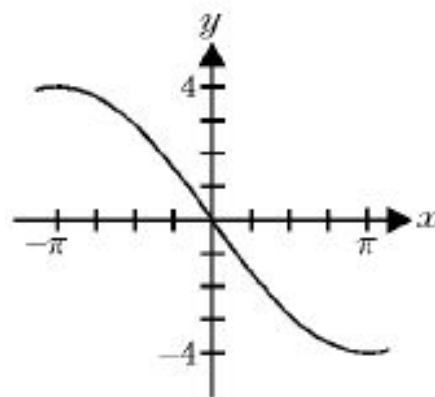
3.  $y = 2 \sin 2(x - \frac{\pi}{8}) + 5$   
 -  $\sin (x - \frac{5\pi}{8})$   
 -  $\cos (x - \frac{3\pi}{8})$



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



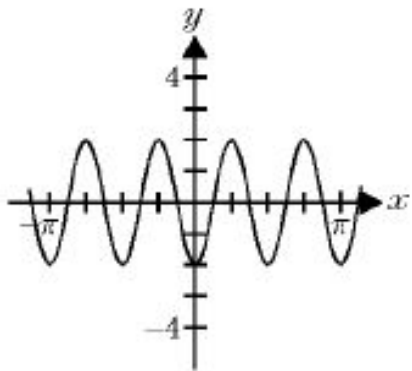
5.  $y = \cos 3(x - \frac{7\pi}{18}) - 4$   
 -  $\cos (x - \frac{\pi}{6})$   
 -  $\sin (x - \frac{2\pi}{3})$



6.  $y = 4 \cos \frac{1}{2}(x + \pi) - \cos (x - \pi) - \sin x$

5.

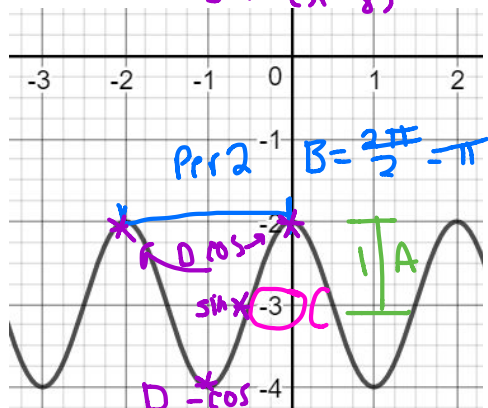
6.



$$y = 2 \cos 4(x - \frac{\pi}{4})$$

$\cos(x + \frac{\pi}{4})$   
 $-\cos x$   
 $\sin(x - \frac{\pi}{8})$

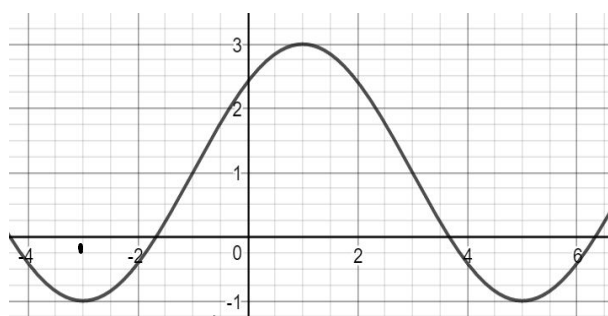
7.



$$y = \cos \pi x - 3$$

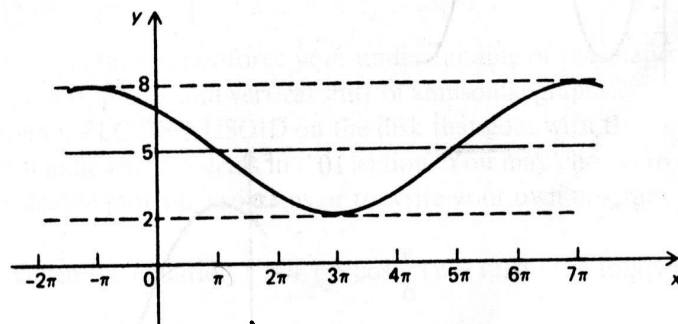
$\cos(x+2)$   
 $\cos(x-2)$   
 $-\cos(x+1)$   
 $\cos(x-1)$   
 $\sin(x+\frac{1}{2})$   
 $-\sin(x-\frac{1}{2})$

9.



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

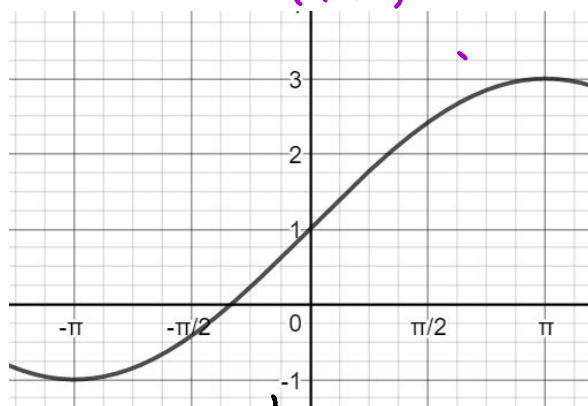
$-\cos(x+3)$   
 $-\cos(x-5)$   
 $\sin(x+1)$   
 $-\sin(x-3)$



$$y = 3 \cos \frac{1}{4}(x+\pi) + 5$$

$\cos(x-7\pi)$   
 $-\cos(x-3\pi)$   
 $\sin(x-5\pi)$   
 $-\sin(x-\pi)$

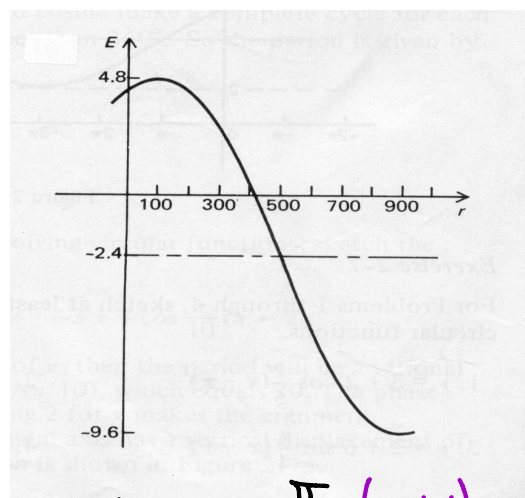
8.



$$y = 2 \sin \frac{1}{2} x + 1$$

$\cos(x-\pi)$   
 $\cos(x+\pi)$

10.



$$y = 7.2 \cos \frac{\pi}{800}(x-100)$$

$-\cos(x-900)$   
 $-\sin(x-500)$

11.

12.