

Answer the following:

1.) Determine the amplitude: $y = -5\cos(x + 3\pi) + 9$. 5

2.) Determine the period: $y = -\frac{2}{5}\csc\left(4x - \frac{1}{3}\right)$. $\frac{2\pi}{b} = \frac{2\pi}{4} = \frac{\pi}{2}$

3.) Describe the shifts in the graph of g with respect to the graph of f :

$2x + \frac{\pi}{2} = 0$
 $2x = -\frac{\pi}{2}$
 $x = -\frac{\pi}{4}$

$g(x) = \sin\left(2x + \frac{\pi}{2}\right) - 5$ and $f(x) = \sin 2x$

Left $+\frac{\pi}{4}$, Down 5

4.) Determine the period: $y = 8\cot 3x$. $P = \frac{\pi}{3}$

5.) Write an equation of a cosine curve that has an amplitude of 3, phase shift right π , and vertical shift down 2.

$y = 3\cos(x - \pi) - 2$

6.) Write an equation that represents the vertical asymptotes of the graph of $y = -4\tan\frac{x}{2}$.

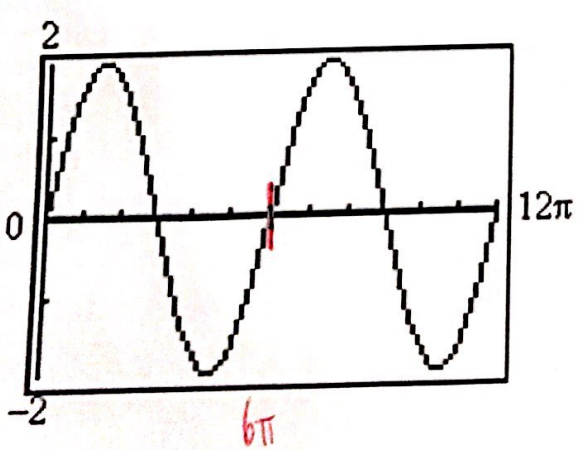
$x = \pi + 2\pi n$

$\frac{1}{2}x = \frac{\pi}{2} \cdot 2$
 $x = \pi$

7.) Identify the range of $y = 3\cos(x - \pi) - 1$.

$[-4, 2]$

8.) Write a **SINE OR COSINE** equation for the graph provided.



$y = 2\sin\frac{1}{3}x$

$P = 6\pi = \frac{2\pi}{b}$
 $\frac{6\pi b}{6\pi} = \frac{2\pi}{6\pi}$
 $b = \frac{1}{3}$