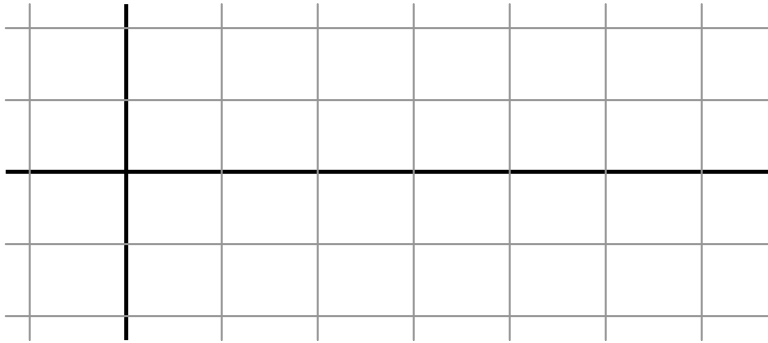


Math 173 – Section 6.6: Transforming Sine & Cosine Graphs

Consider the function $y = A \sin(Bx - C) + D$.

What does the D do?

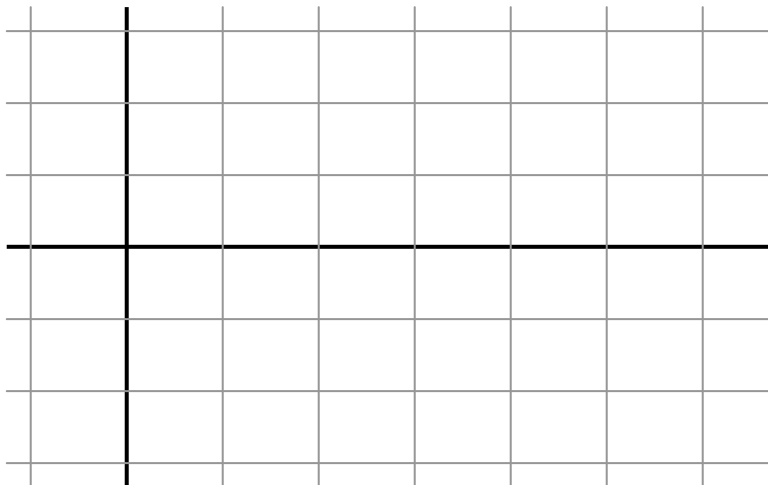
Sketch $y = \sin x + 1$:



amplitude: _____

period: _____

Sketch $y = \cos x - 2$:



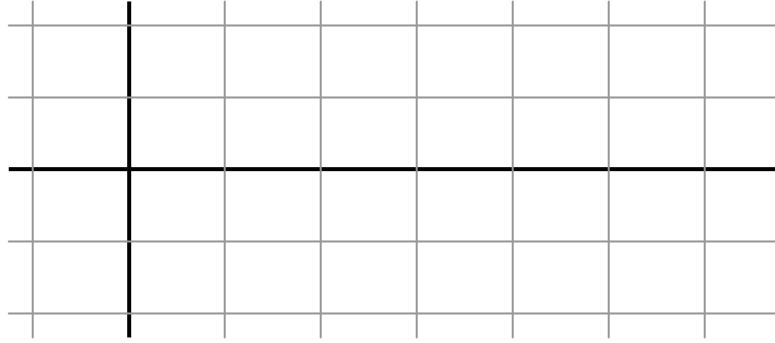
amplitude: _____

period: _____

What does the A do?Sketch $y = \frac{1}{2} \cos x$:

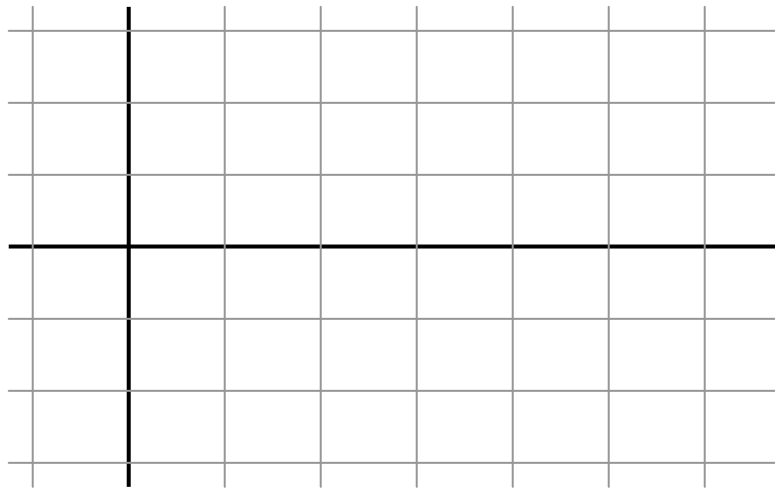
amplitude: _____

period: _____

Sketch $y = -3 \sin x$:

amplitude: _____

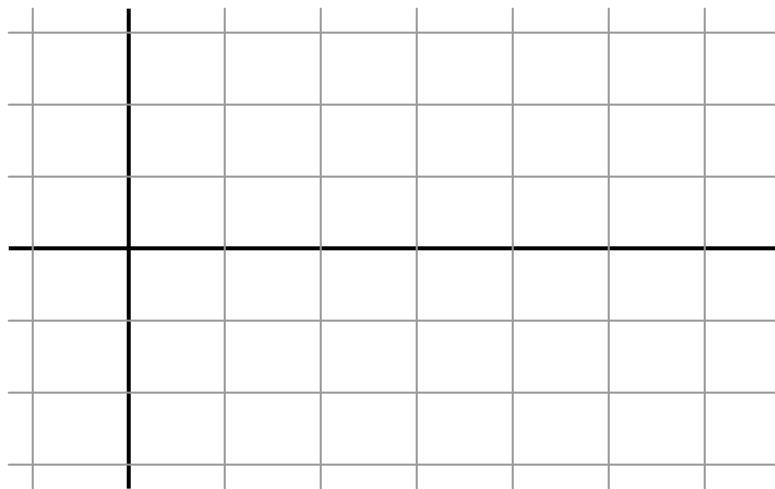
period: _____



Combining the effects of A and D :Sketch $y = 2 \sin x - 1$:

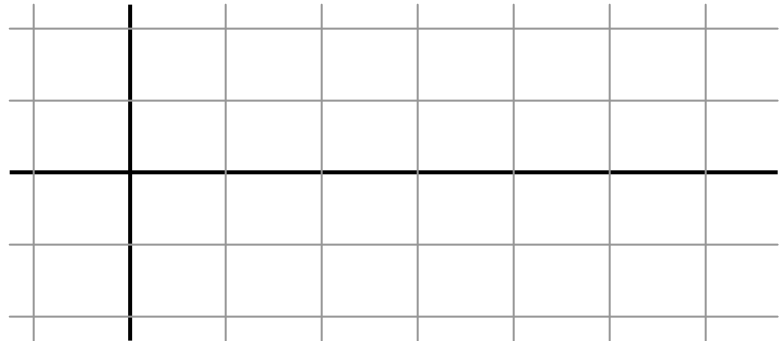
amplitude: _____

period: _____



What does the B do?Sketch $y = \sin 2x$:

x	$2x$	$\sin 2x$
0		
$\pi/4$		
$\pi/2$		
$3\pi/4$		
π		
$5\pi/4$		
$3\pi/2$		
$7\pi/4$		
2π		



amplitude: _____

period: _____

Sketch $y = \cos \frac{x}{2}$:

x	$x/2$	$\sin (x/2)$
0		
$\pi/4$		
$\pi/2$		
$3\pi/4$		
π		
$5\pi/4$		
$3\pi/2$		
$7\pi/4$		
2π		

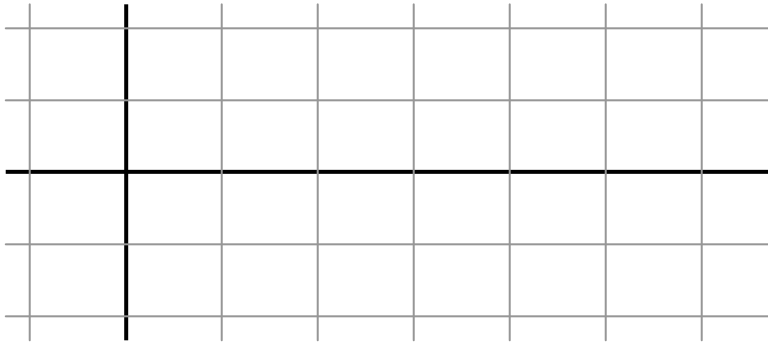


amplitude: _____

period: _____

Conclusion: the period of the graph $y = \sin Bx$ or $y = \cos Bx$ is:

Sketch $y = \sin 3x$:



amplitude: _____

period: _____

Sketch $y = \cos\left(-\frac{x}{3}\right)$:



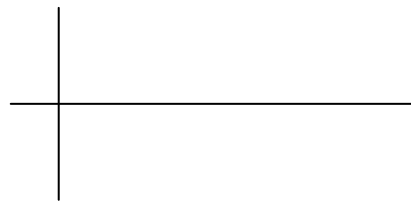
amplitude: _____

period: _____

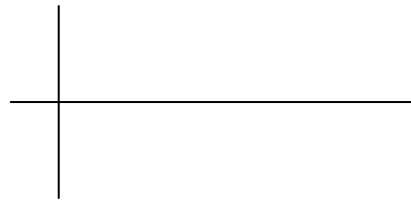
Combining transformations using BEDMAS:

Sketch $y = -2 \cos 4x$:

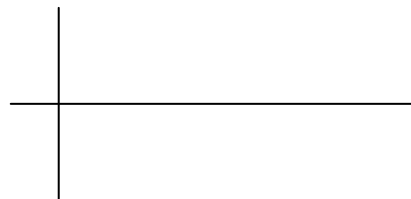
quick sketch of $y = \cos x$:

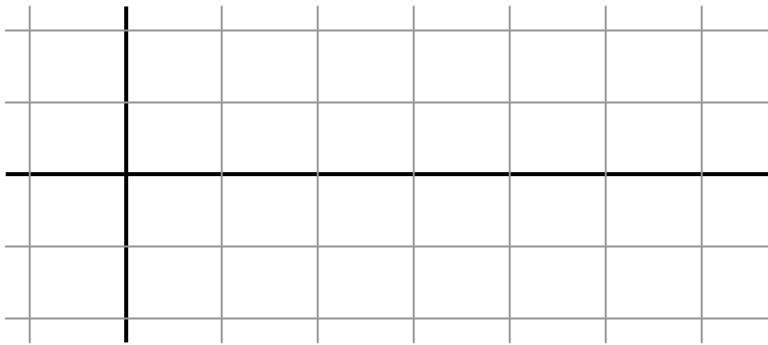


quick sketch of $y = \cos 4x$



quick sketch of $y = 2 \cos 4x$

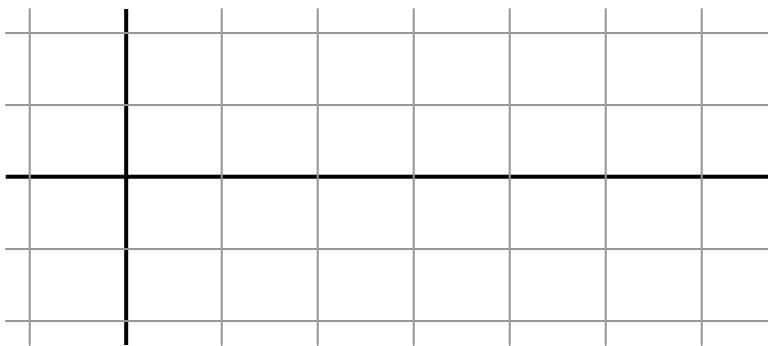
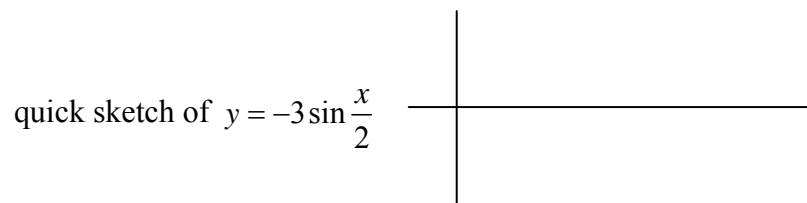
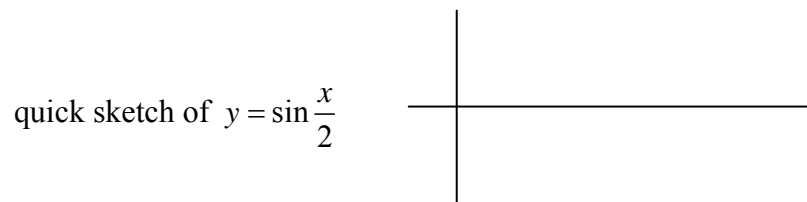
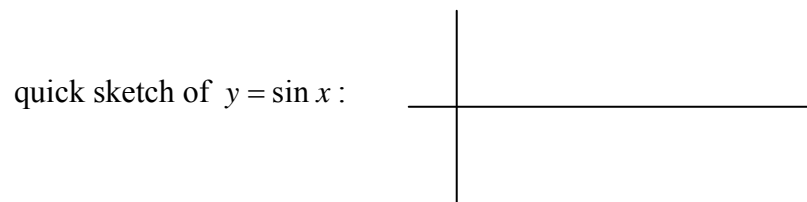




amplitude: _____

period: _____

Sketch $y = -3 \sin\left(\frac{x}{2}\right) + 1$:



amplitude: _____

period: _____