

# Graphs of Sine and Cosine Functions

Name \_\_\_\_\_

Period \_\_\_\_\_

Determine the amplitude and period of each function.

1.  $y = \sin 4x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

2.  $y = \cos 5x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

3.  $y = \sin x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

4.  $y = 4 \cos x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

5.  $y = -2 \sin x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

6.  $y = 2 \sin(-4x)$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

7.  $y = 3 \sin \frac{2}{3}x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

8.  $y = -4 \cos 5x$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

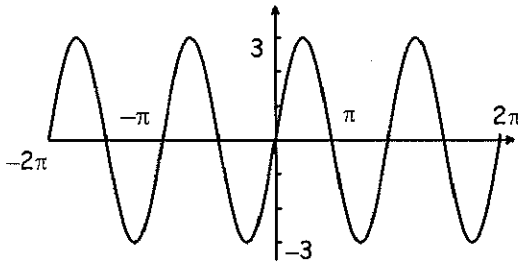
9.  $y = 3 \cos(-2x)$

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.

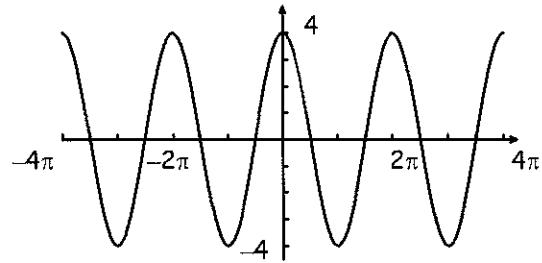


Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Equation: \_\_\_\_\_

11.

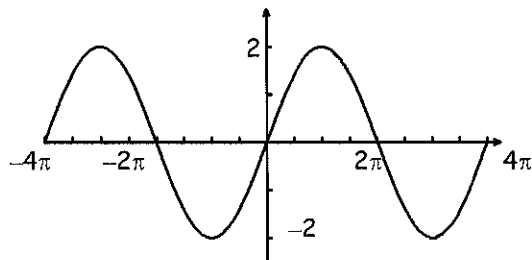


Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Equation: \_\_\_\_\_

12.

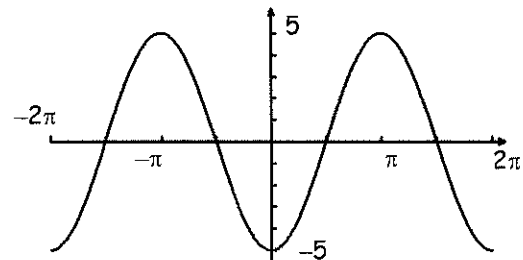


Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Equation: \_\_\_\_\_

13.



Amplitude = \_\_\_\_\_

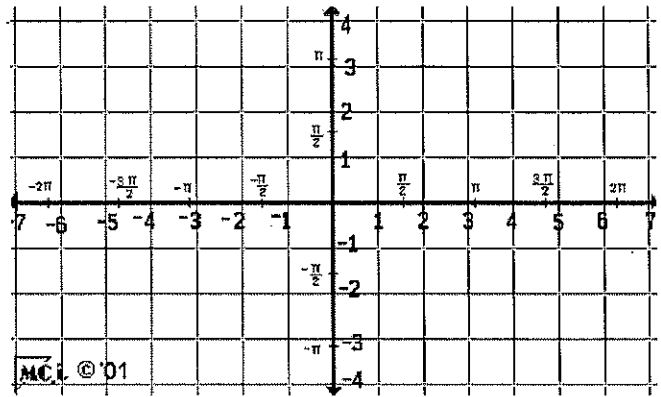
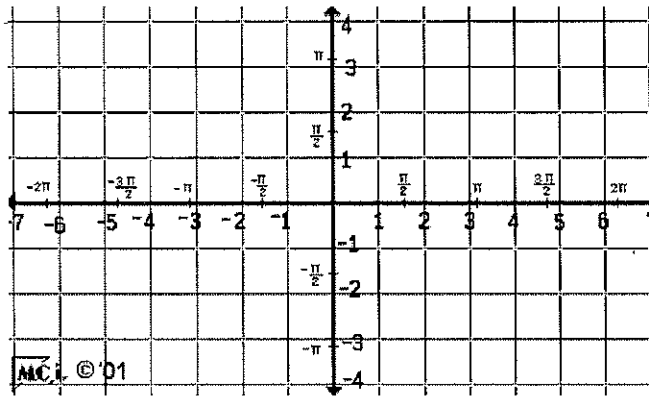
Period = \_\_\_\_\_

Equation: \_\_\_\_\_

Give the amplitude and period of each function. Then sketch the graph of the function over the interval  $-2\pi \leq x \leq 2\pi$  using the key points for each function.

14.  $y = 3 \sin x$

15.  $y = 2 \cos x$



Amplitude = \_\_\_\_\_

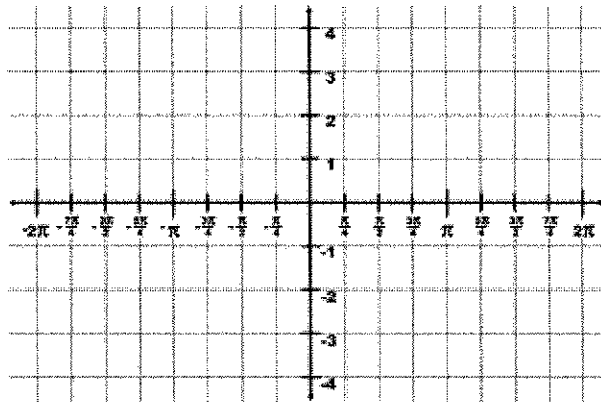
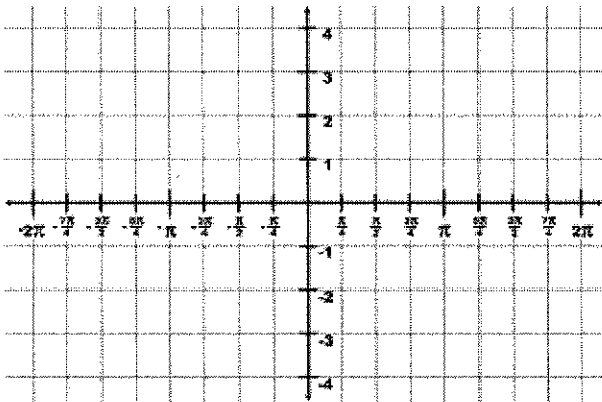
Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Period = \_\_\_\_\_

16.  $y = 3 \sin 2x$

17.  $y = 4 \cos 2x$



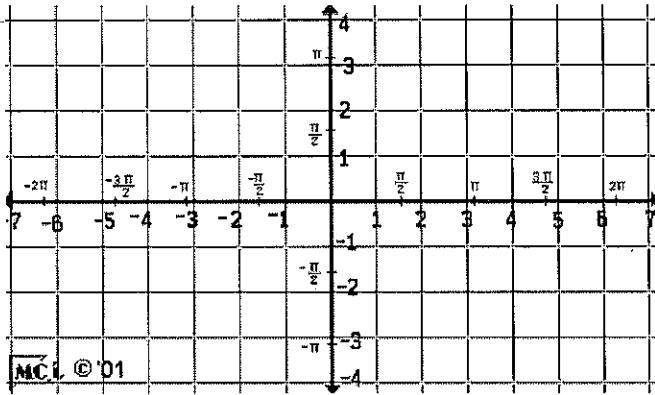
Amplitude = \_\_\_\_\_

Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

Period = \_\_\_\_\_

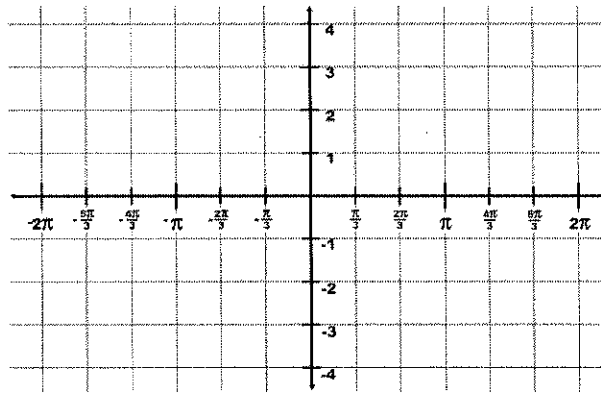
18.  $y = 3 \cos \frac{1}{2} x$



Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

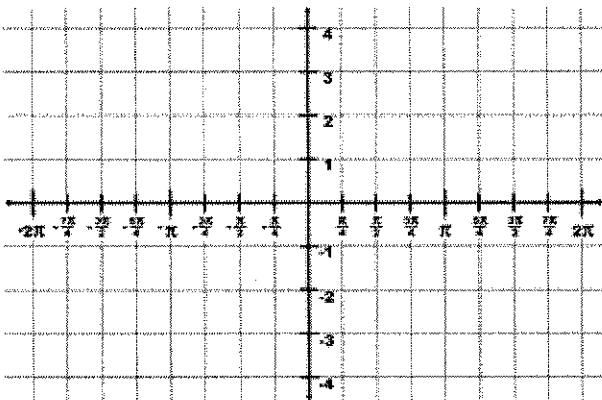
19.  $y = \cos(-3x)$



Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

20.  $y = -2 \sin(-2x)$



Amplitude = \_\_\_\_\_

Period = \_\_\_\_\_

21. Find an equation for a sine function that has amplitude of 4, a period of  $\pi$ .

22. Find an equation for a cosine function that has an amplitude of  $\frac{3}{5}$ , a period of  $\frac{3}{2}\pi$ .

23. Find an equation for a sine function that has amplitude of 5, a period of  $3\pi$ .

Graphs of Sine and Cosine Functions

Name Key

Period \_\_\_\_\_

Determine the amplitude and period of each function.

1.  $y = \sin 4x$   
 Amplitude = 1  
 Period =  $\frac{2\pi}{4} = \frac{\pi}{2}$

2.  $y = \cos 5x$   
 Amplitude = 1  
 Period =  $\frac{2\pi}{5}$

3.  $y = \sin x$   
 Amplitude = 1  
 Period =  $2\pi$

4.  $y = 4 \cos x$   
 Amplitude = 4  
 Period =  $2\pi$

5.  $y = -2 \sin x$   
 Amplitude = 2  
 Period =  $2\pi$

6.  $y = 2 \sin(-4x)$   
 Amplitude = 2  
 Period =  $\frac{2\pi}{4} = \frac{\pi}{2}$

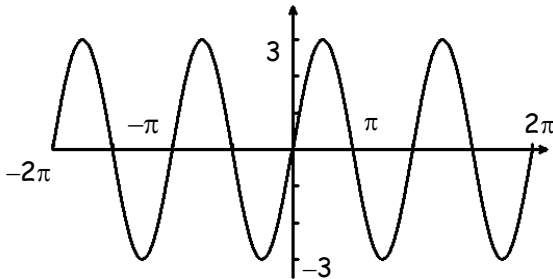
7.  $y = 3 \sin \frac{2}{3}x$   
 Amplitude = 3  
 Period =  $\frac{2\pi}{2/3} = 6\pi$

8.  $y = -4 \cos 5x$   
 Amplitude = 4  
 Period =  $\frac{2\pi}{5}$

9.  $y = 3 \cos(-2x)$   
 Amplitude = 3  
 Period =  $\frac{2\pi}{2} = \pi$

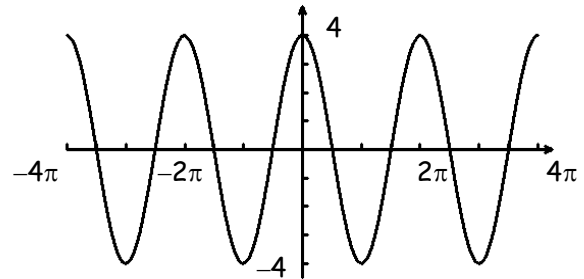
Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.



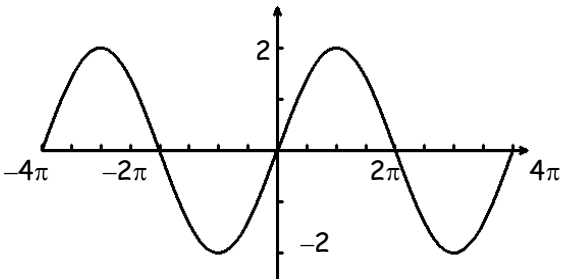
Amplitude = 3  
 Period =  $\pi$   
 Equation:  $y = 3 \sin 2x$

11.



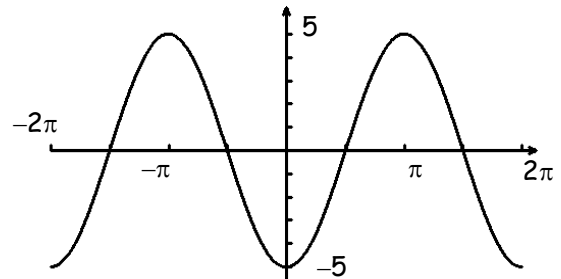
Amplitude = 4  
 Period =  $2\pi$   
 Equation:  $y = 4 \cos x$

12.



Amplitude = 2  
 Period =  $4\pi$   
 Equation:  $y = 2 \sin \frac{x}{2}$

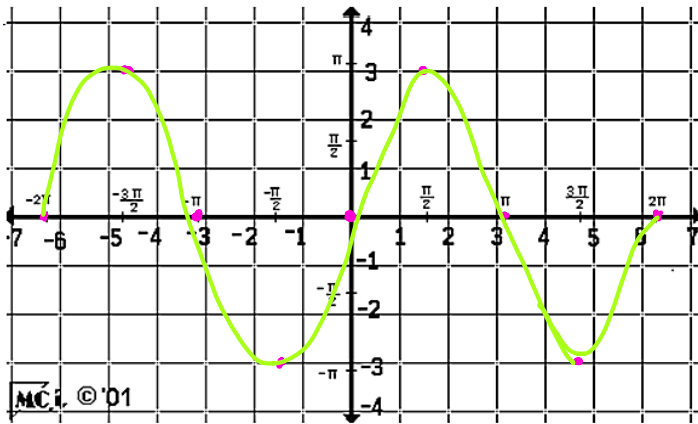
13.



Amplitude = 5  
 Period =  $2\pi$   
 Equation:  $y = -5 \cos x$

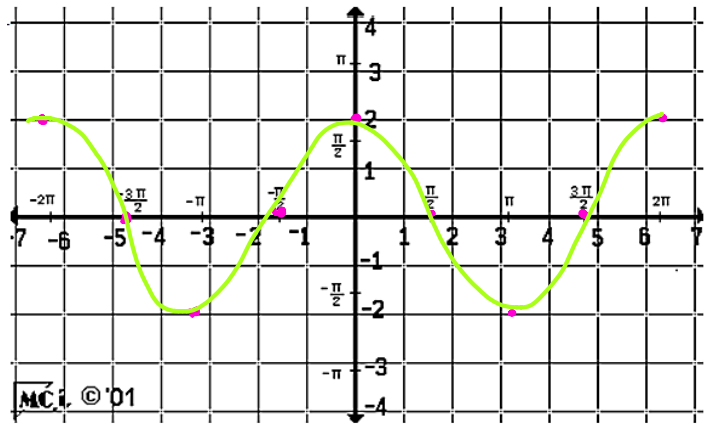
Give the amplitude and period of each function. Then sketch the graph of the function over the interval  $-2\pi \leq x \leq 2\pi$  using the key points for each function.

14.  $y = 3 \sin x$



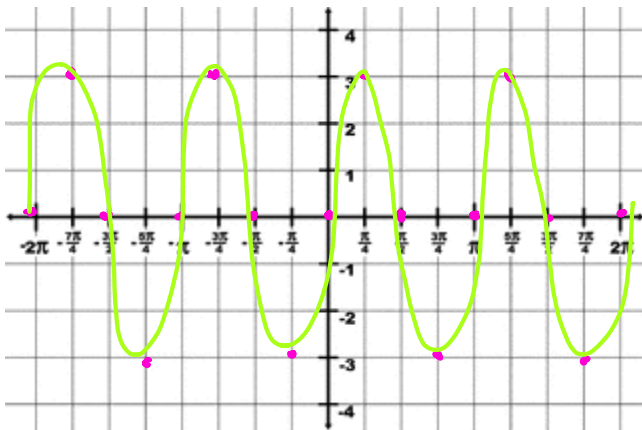
Amplitude = 3  
 Period =  $2\pi$

15.  $y = 2 \cos x$



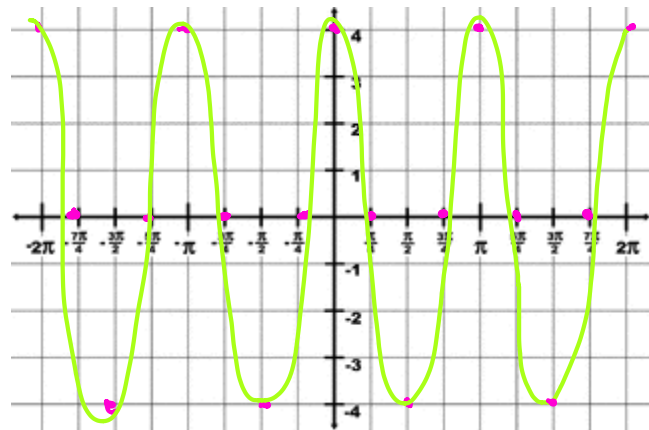
Amplitude = 2  
 Period =  $2\pi$

16.  $y = 3 \sin 2x$



Amplitude = 3  
 Period =  $\pi$

17.  $y = 4 \cos 2x$



Amplitude = 4  
 Period =  $\pi$

