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. $y = 3 \sin x$

Amplitude = 

Period = 

15. $y = 2 \cos x$

Amplitude = 

Period = 

16. $y = 3 \sin 2x$

Amplitude = 

Period = 

17. $y = 4 \cos 2x$

Amplitude = 

Period = 
18. \( y = 3 \cos \frac{1}{2}x \)

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

Amplitude =

Period =

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 \( 3\pi \).
HOW OFTEN DID THE STUDENT WHO GOT “C” ON HIS TRIG FUNCTIONS TEST DO HIS HOMEWORK?

\[ f(x) = \text{Asin}(Bx) \quad f(x) = \text{Acos}(Bx) \]

<table>
<thead>
<tr>
<th>Function</th>
<th>Graph</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) ( f(x) = 2\sin x )</td>
<td>A.</td>
</tr>
<tr>
<td>2) ( f(x) = \sin(2x) )</td>
<td>C.</td>
</tr>
<tr>
<td>3) ( f(x) = \sin\frac{x}{4} )</td>
<td>D.</td>
</tr>
<tr>
<td>4) ( f(x) = \cos\left(\frac{1}{2}x\right) )</td>
<td></td>
</tr>
<tr>
<td>5) ( f(x) = \cos(3x) )</td>
<td>E.</td>
</tr>
<tr>
<td>6) ( f(x) = \frac{1}{2}\sin(3x) )</td>
<td>I.</td>
</tr>
<tr>
<td>7) ( f(x) = 3\sin(2x) )</td>
<td>L.</td>
</tr>
<tr>
<td>8) ( f(x) = 4\sin x )</td>
<td>L.</td>
</tr>
<tr>
<td>9) ( f(x) = \frac{3}{2}\sin\left(\frac{1}{2}x\right) )</td>
<td>O.</td>
</tr>
<tr>
<td>10) ( f(x) = 4\cos(x) )</td>
<td></td>
</tr>
<tr>
<td>11) ( f(x) = 3\sin\frac{x}{3} )</td>
<td></td>
</tr>
<tr>
<td>12) ( f(x) = 2\cos(3x) )</td>
<td></td>
</tr>
</tbody>
</table>

Match each function from above with a graph below.

\[ \text{Amplitude} = |A| \]

B represents the number of complete waves in an interval of \( 2\pi \), therefore \( \frac{2\pi}{B} \) = Period.