

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 = _____

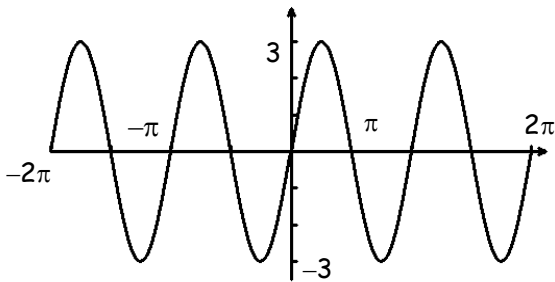
7. $y = 3 \sin \frac{2}{3}x$
Amplitude = _____
Period = _____

8. $y = -4 \cos 5x$
Amplitude = _____
Period = _____

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

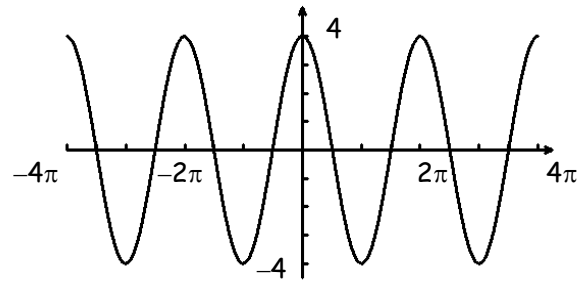
Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.



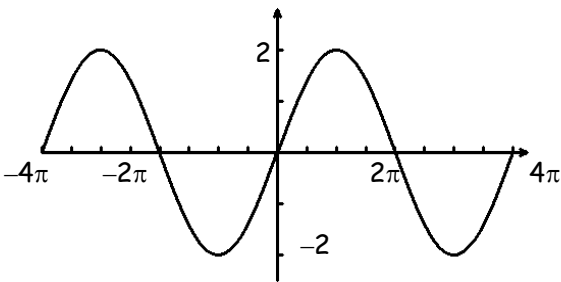
Amplitude = _____
Period = _____
Equation: _____

11.



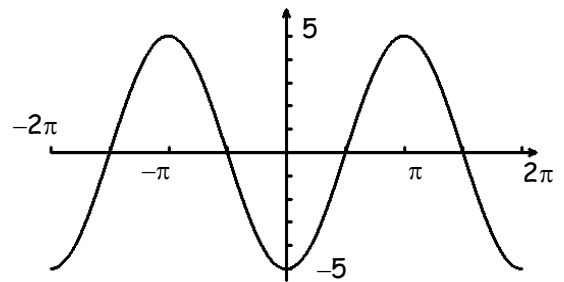
Amplitude = _____
Period = _____
Equation: _____

12.



Amplitude = _____
Period = _____
Equation: _____

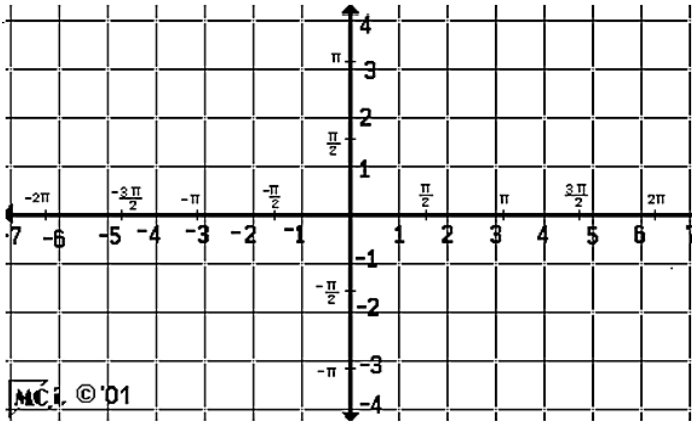
13.



Amplitude = _____
Period = _____
Equation: _____

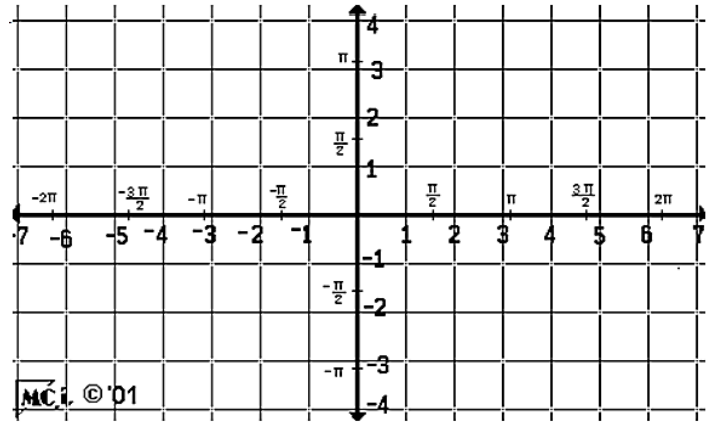
Give the amplitude and period of each function. Then sketch the graph of the function over the interval $-2\pi \leq x \leq 2\pi$ using the key points for each function.

14. $y = 3 \sin x$



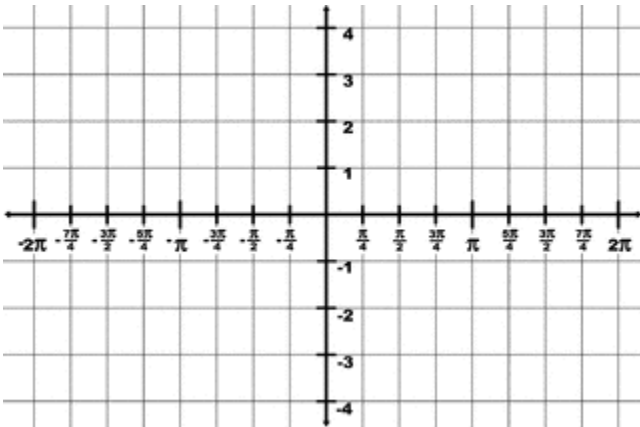
Amplitude = _____
 Period = _____

15. $y = 2 \cos x$



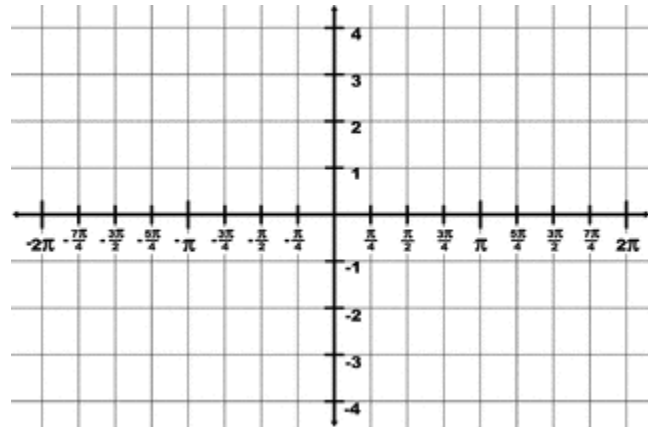
Amplitude= _____
 Period= _____

16. $y = 3 \sin 2x$



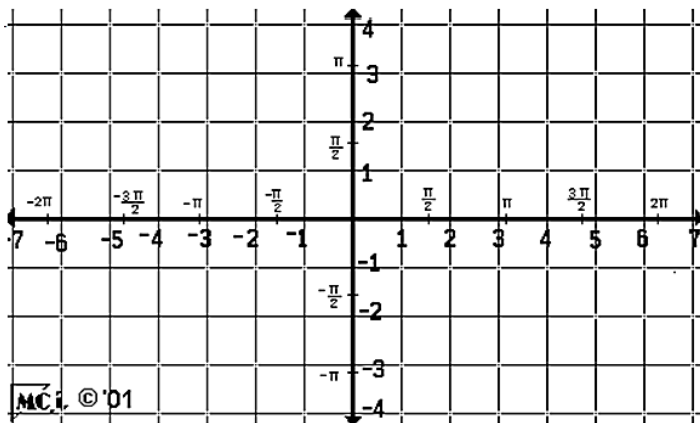
Amplitude = _____
 Period = _____

17. $y = 4 \cos 2x$



Amplitude= _____
 Period= _____

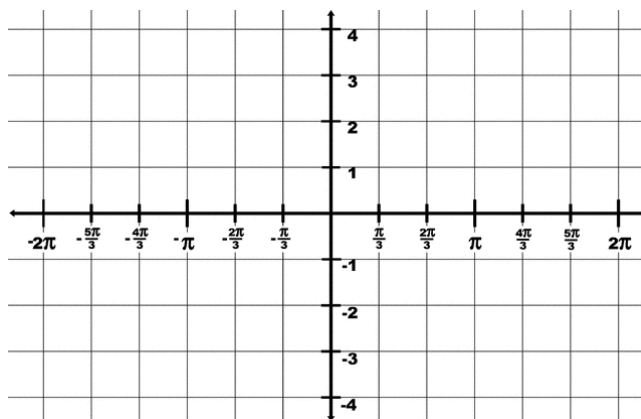
18. $y = 3 \cos \frac{1}{2} x$



Amplitude = _____

Period = _____

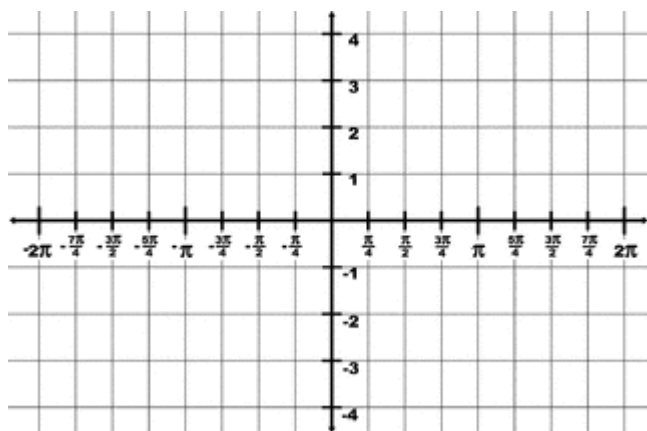
19. $y = \cos(-3x)$



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 π .

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 3π .

HOW OFTEN DID THE STUDENT WHO GOT "C" ON HIS TRIG FUNCTIONS TEST DO HIS HOMEWORK?

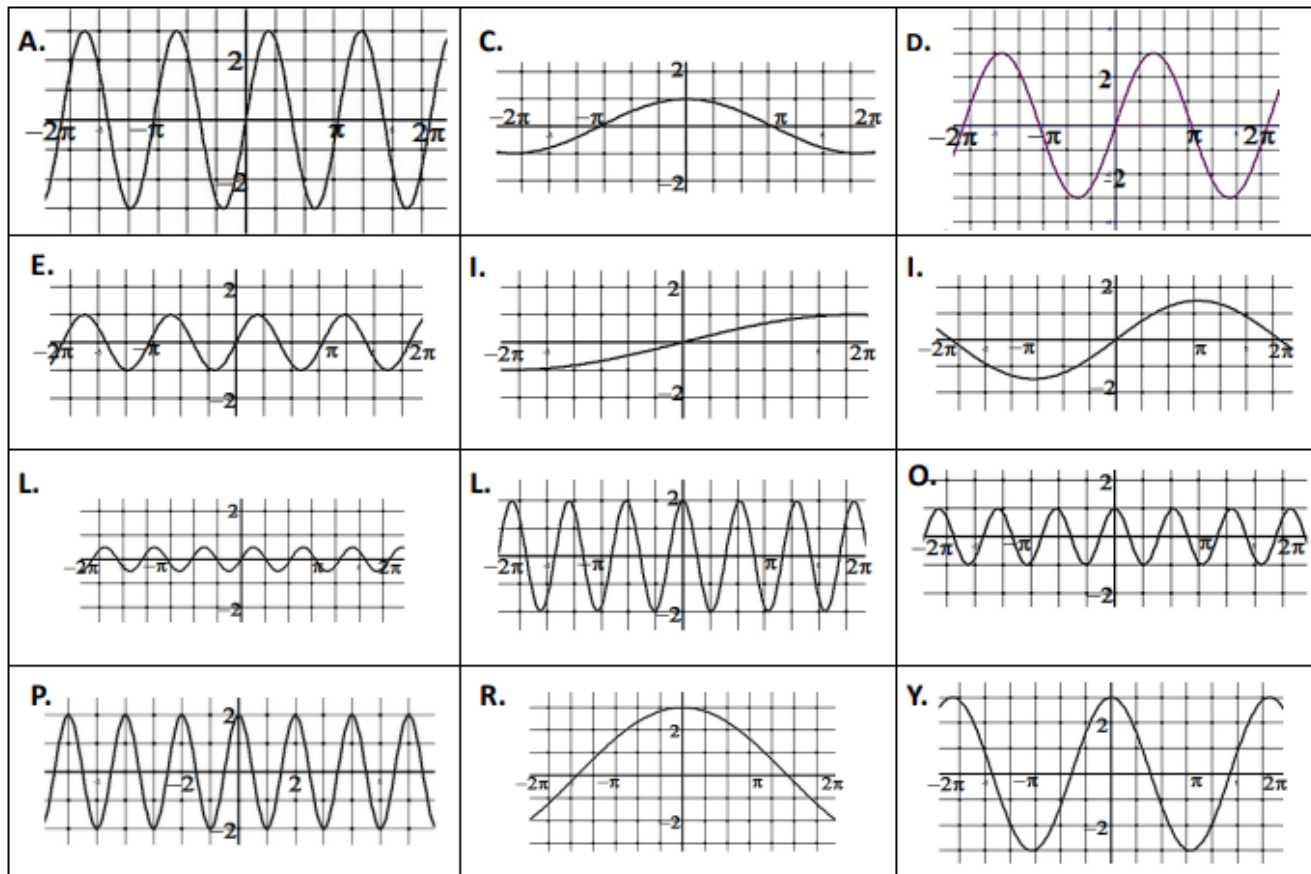
$$f(x) = A\sin(Bx) \quad f(x) = A\cos(Bx)$$

$|A|$ = Amplitude

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

| | | | |
|---------------------------|--------------------------------------|--------------------------------------|-----------------------------|
| 1) $y=3\sin x$ | 2) $y=\sin(2x)$ | 3) $y=\sin(\frac{1}{4}x)$ | 4) $y=\cos(\frac{1}{2}x)$ |
| 5) $y=\cos(\frac{4}{3}x)$ | 6) $y=\frac{1}{2}\sin(\frac{4}{3}x)$ | 7) $y=\frac{3}{2}\sin(\frac{1}{2}x)$ | 8) $y=2\cos(\pi x)$ |
| 9) $y=3\sin x$ | 10) $y=3\cos x$ | 11) $y=3\cos(\frac{1}{2}x)$ | 12) $y=2\cos(\frac{4}{3}x)$ |

Match each function from above with a graph below.



| | | | | | | | | | | | |
|---|---|----|---|---|---|---|---|---|----|---|----|
| | | | | | | | | | | | |
| 8 | 2 | 11 | 3 | 5 | 1 | 7 | 4 | 9 | 12 | 6 | 10 |