

Pre-Calculus

1.5 Graphs of Sine and Cosine Functions

Assignment #44

$$b = \frac{2\pi}{\text{period}}$$

$$\text{period} = \frac{2\pi}{b}$$

Name Very
 Period Group #

Determine the amplitude and period of each function.

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

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

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

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

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

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

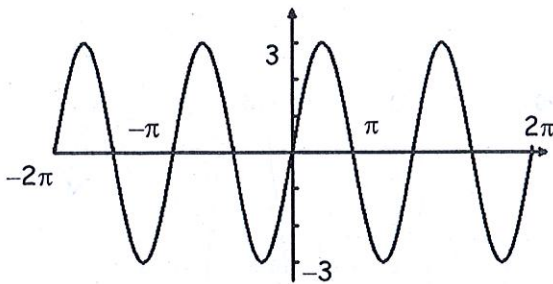
7. $y = 3 \sin \frac{2}{3} x$
 Amplitude = 3
 Period = 3π

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

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

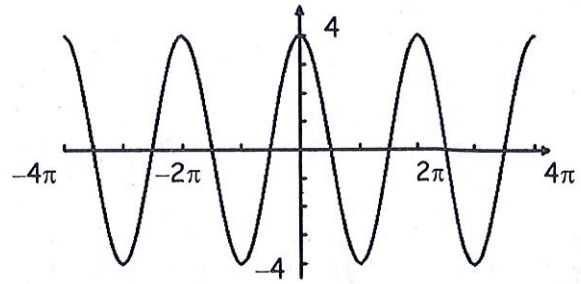
Give the amplitude and period of each function graphed below. Then write an equation of each graph.

10.



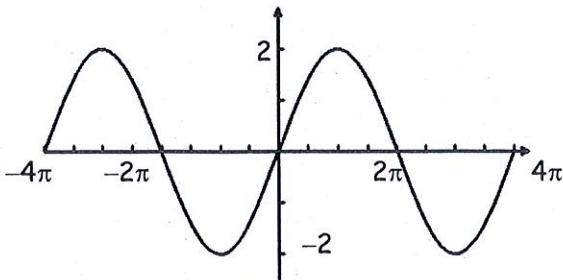
Amplitude = 3
 Period = π
 Equation: $3\sin 2x$

11.



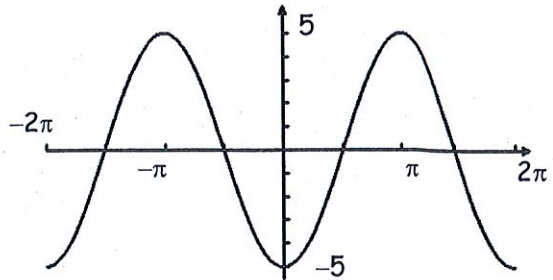
Amplitude = 4
 Period = 2π
 Equation: $4\cos x$

12.



Amplitude = 2
 Period = 4π
 Equation: $2\sin \frac{1}{2}x$

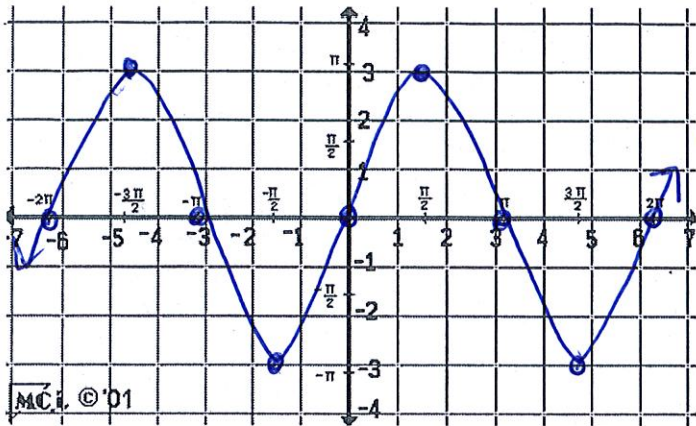
13.



Amplitude = 5
 Period = 2π
 Equation: ~~$5\cos x$~~ $-5\cos x$

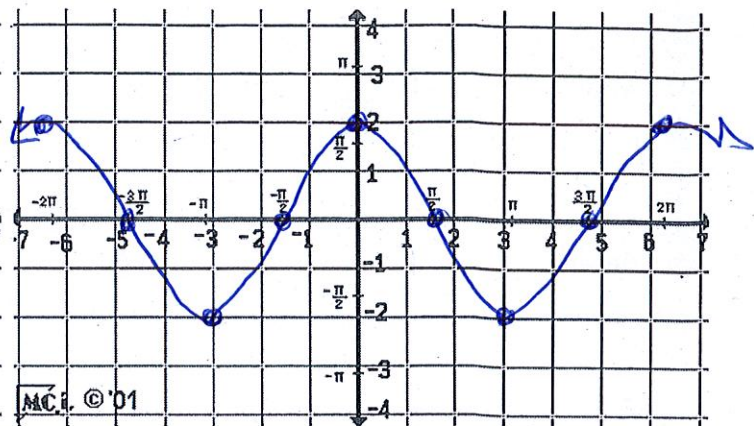
Give the amplitude and period of each function. Then sketch the graph of the function over the interval $-2\pi \leq x \leq 2\pi$ using the key points for each function.

14. $y = 3 \sin x$



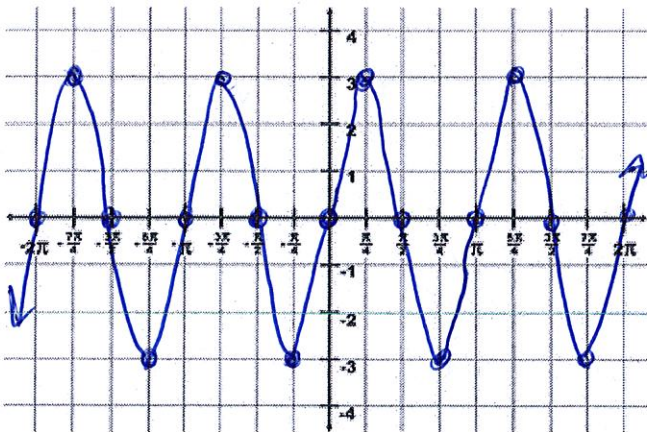
Amplitude = 3
 Period = 2π

15. $y = 2 \cos x$



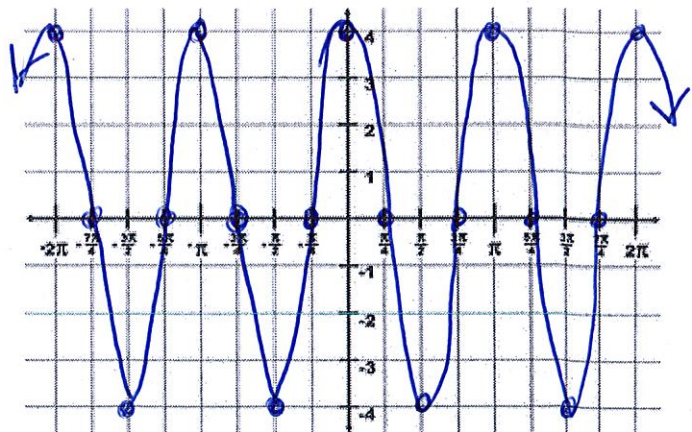
Amplitude = 2
 Period = 2π

16. $y = 3 \sin 2x$



Amplitude = 3
 Period = π

17. $y = 4 \cos 2x$



Amplitude = 4
 Period = π