

Match the graph with the equation. Write the letter on the lines provided.

6.  $y = 2\sin\left(\frac{\pi}{2}x\right)$

Graph F

7.  $y = 2\cos\left(\frac{\pi}{2}x\right)$

Graph E

8.  $y = 2\cos\left(\frac{1}{2}x\right)$

Graph A

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

Graph I

10.  $y = -3\sin(2x)$

Graph H

11.  $y = 2\sin\left(\frac{1}{2}x\right)$

Graph B

12.  $y = -2\cos\left(\frac{1}{2}x\right)$

Graph C

13.  $y = -2\cos\left(\frac{\pi}{2}x\right)$

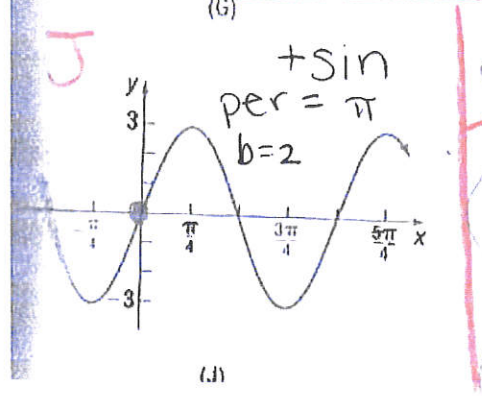
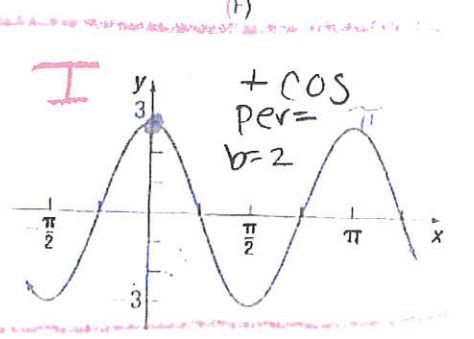
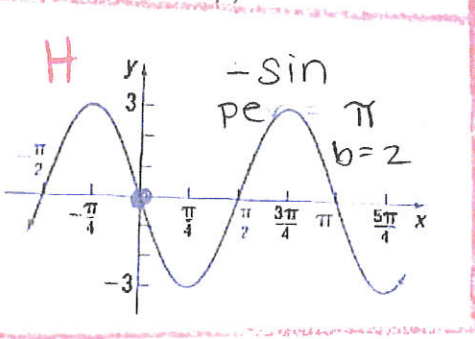
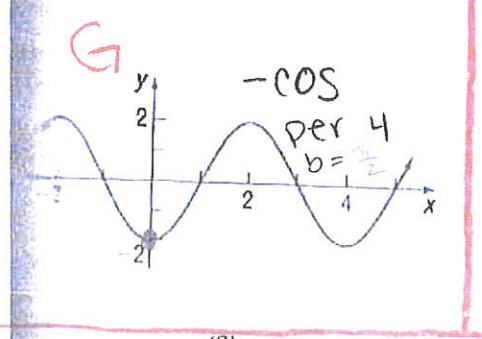
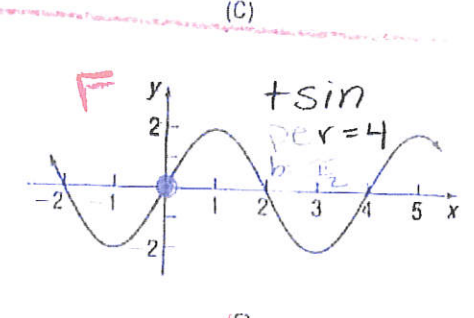
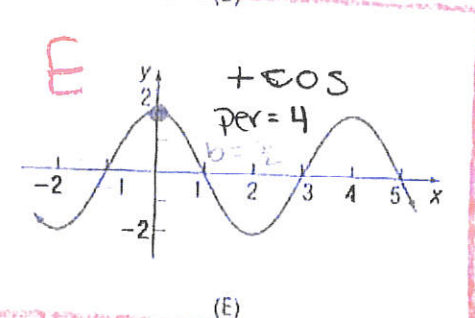
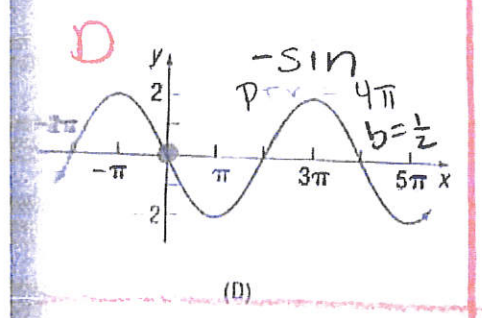
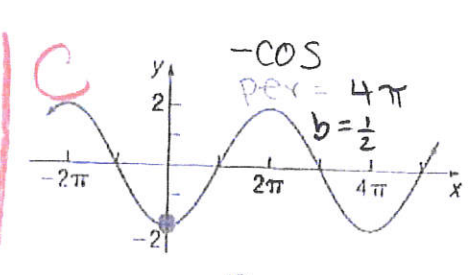
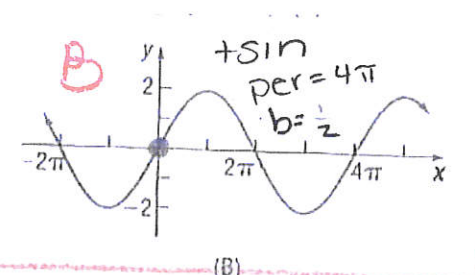
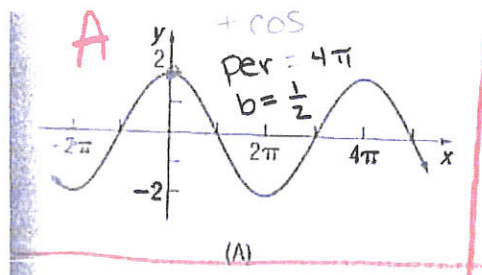
Graph G

14.  $y = 3\sin(2x)$

Graph J

15.  $y = -2\sin\left(\frac{1}{2}x\right)$

Graph D



**WORK:**

Period =  $4\pi$

$$\frac{2\pi}{b} = 4\pi \cdot b$$

$$2\pi = 4\pi b$$

$$\frac{2\pi}{4\pi} = b \quad b = \frac{1}{2}$$

(I)

Period = 4

$$\frac{2\pi}{b} = 4 \cdot b$$

$$2\pi = 4b$$

$$\frac{2\pi}{4} = b \quad b = \frac{\pi}{2}$$

Period =  $\pi$

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

$$2\pi = \pi b$$

$$2 = b$$

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

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

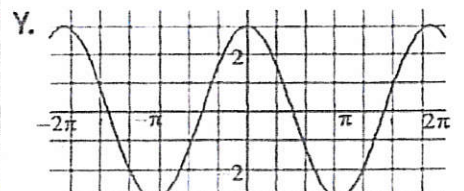
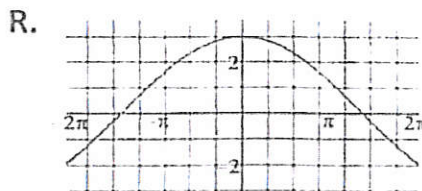
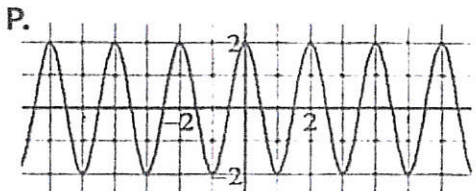
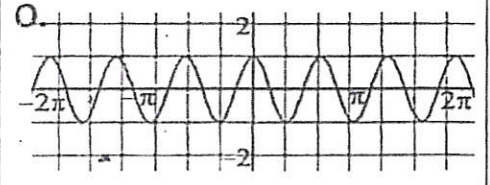
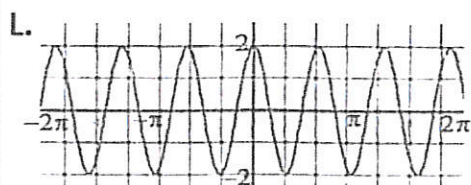
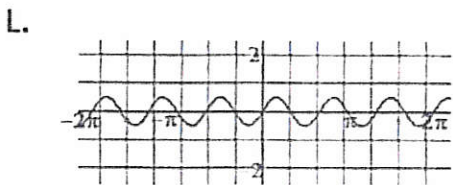
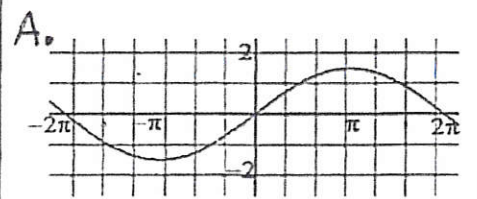
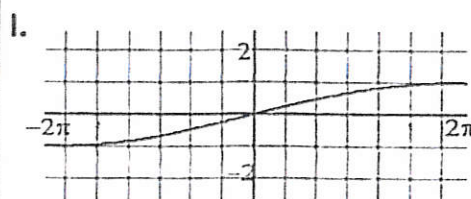
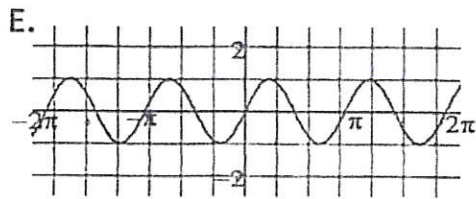
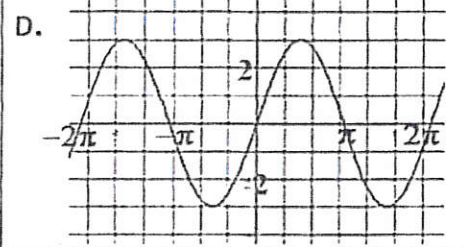
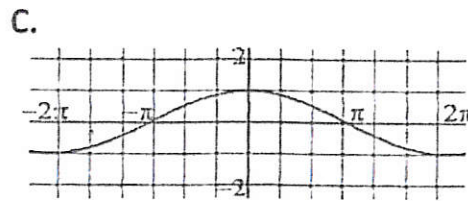
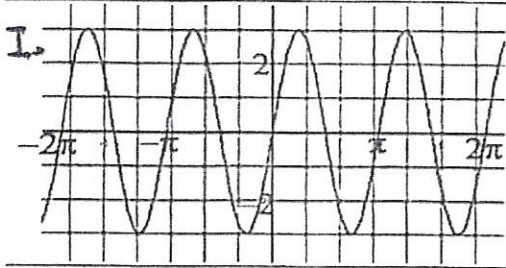
$|A|$  = Amplitude

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

*Key*

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

Match each function from above with a graph below.



**P E R I O D I C A L L Y**  
 10 2 11 3 5 1 7 4 9 12 6 108