

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

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

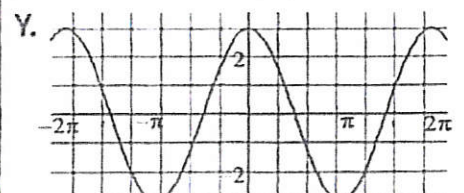
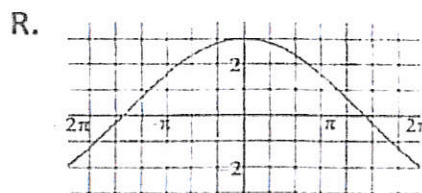
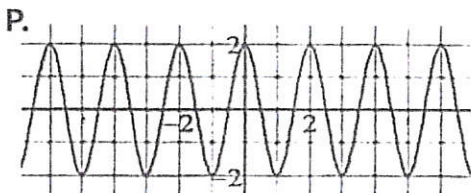
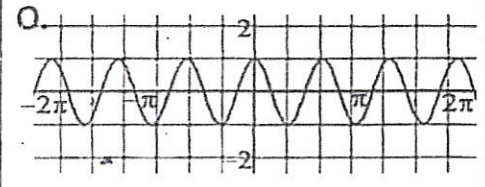
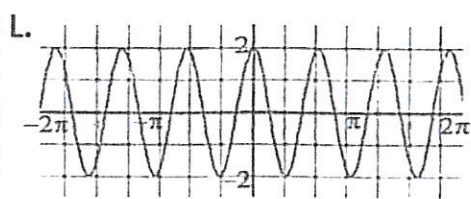
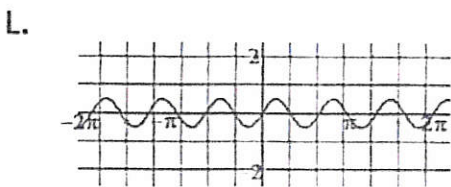
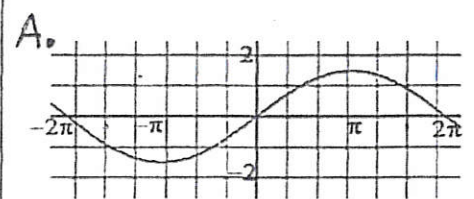
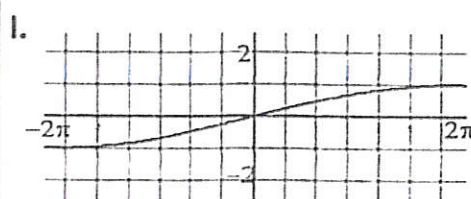
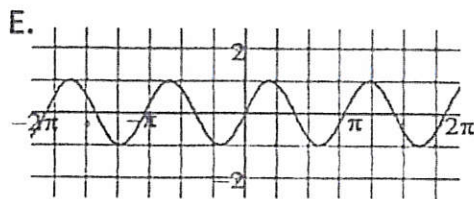
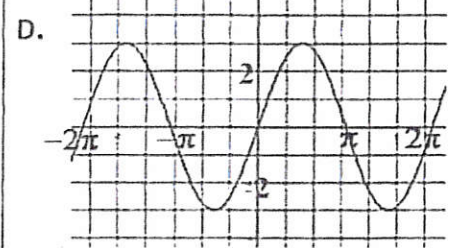
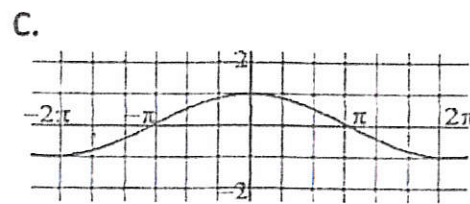
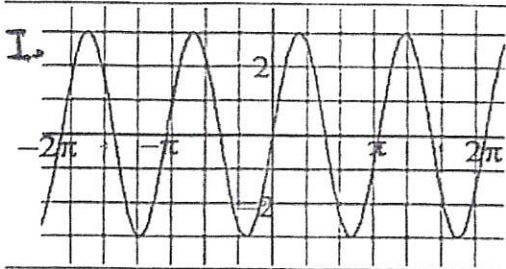
$|A|$ = Amplitude

Key

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

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 6 118

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

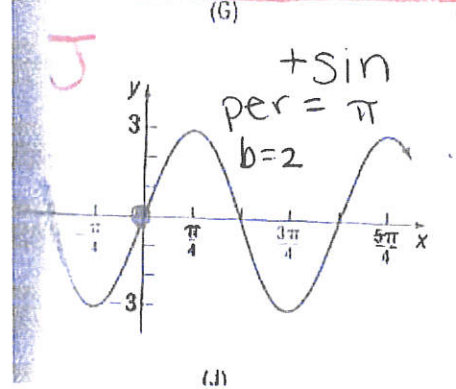
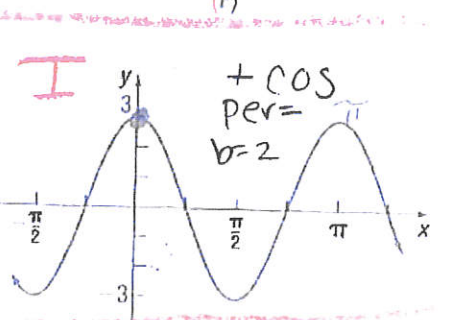
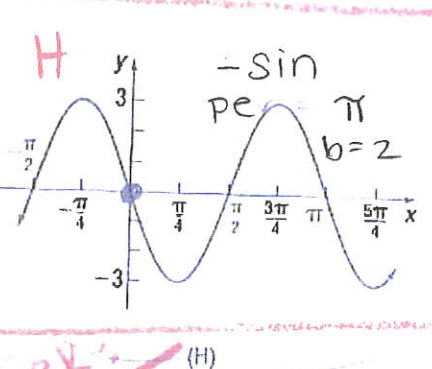
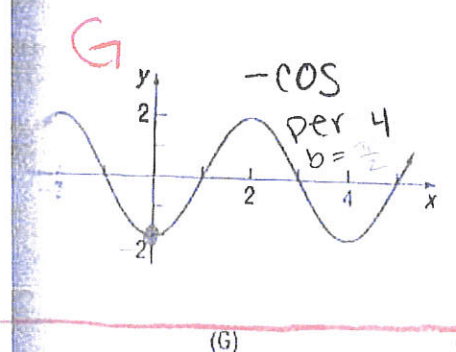
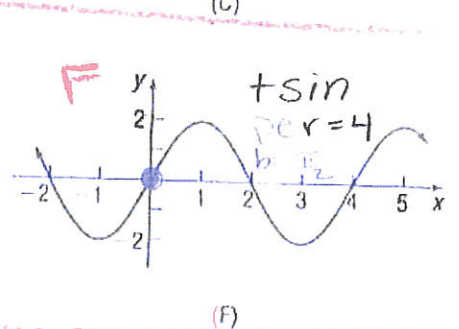
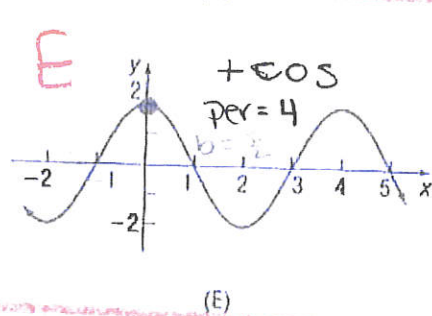
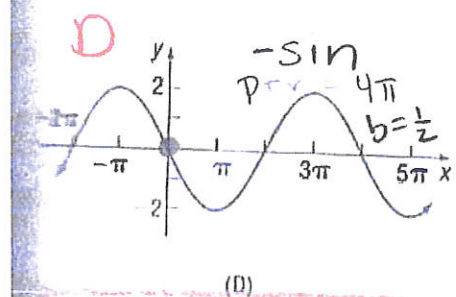
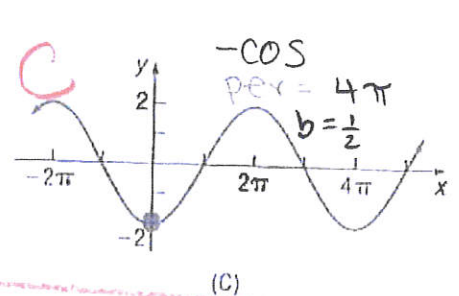
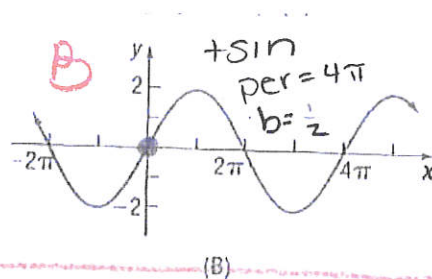
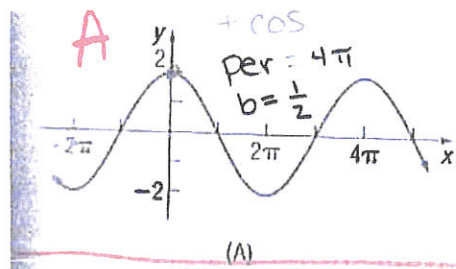
Graph G

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

Graph J

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

Graph D



WORK:

Period = 4π

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

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

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

(I)

Period = 4

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

$$2\pi = 4b$$

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

Period = π

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

$$2\pi = \pi b$$

$$2 = b$$