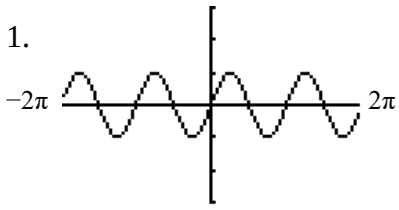
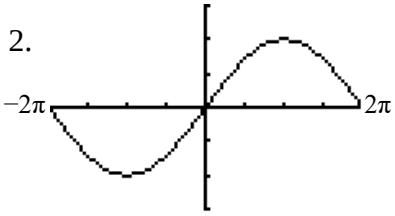
Secondary Math III Name: _____
Graphing Sine and Cosine Functions Period: _____
Assignment 7.2

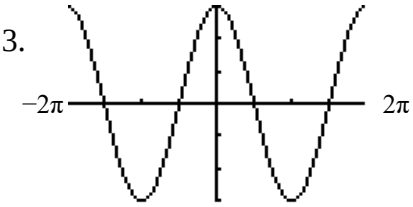
Determine the amplitude and period of the following graphs.

1.


A_____ P_____

2.


A_____ P_____

3.


A_____ P_____

4. $f(x) = -3\cos(2x)$

A_____ P_____

5. $y = \frac{3}{2}\sin(\pi x)$

A_____ P_____

6. $y = 10\sin(\frac{1}{3}x)$

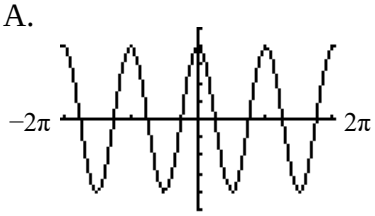
A_____ P_____

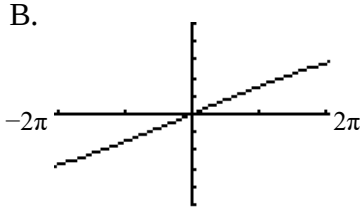
Use the period and amplitude to match each equation with its graph.

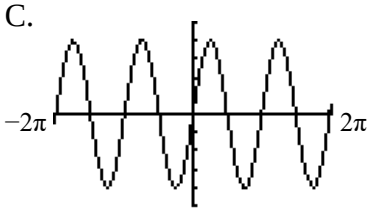
7. $y = 4\sin\left(\frac{1}{4}x\right)$

8. $y = 4\sin(2x)$

9. $y = 4\cos(2x)$

A.


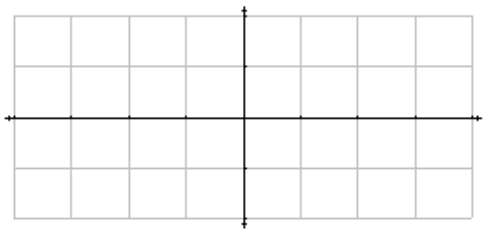
B.


C.


Graph two periods for each function. Find the amplitude/reflections, period and shifts first. Include scales on both axes.

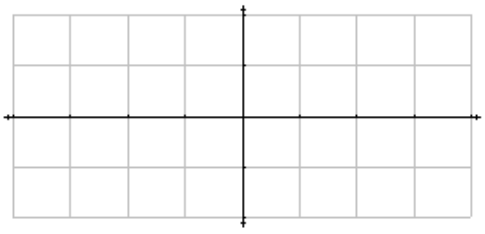
10. $y = -3\cos x$

A_____ R_____ P_____



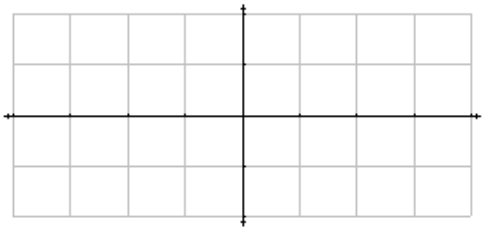
11. $f(x) = 2\sin(2x)$

A_____ P_____



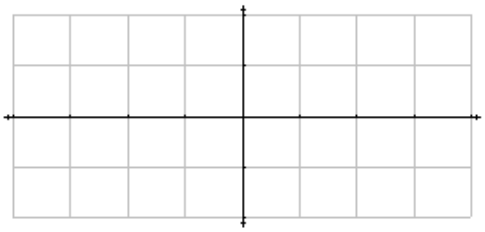
12. $y = 4\cos(\frac{1}{2}x)$

A_____ P_____



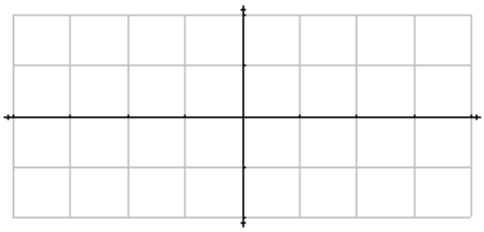
13. $y = -1.5\sin(x-\pi)$

A_____ R_____ P_____ HS _____



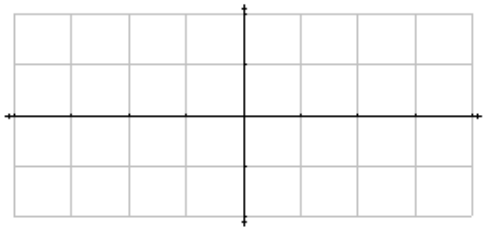
14. $y = \cos\left(x-\frac{\pi}{2}\right)$

A_____ P_____ HS _____



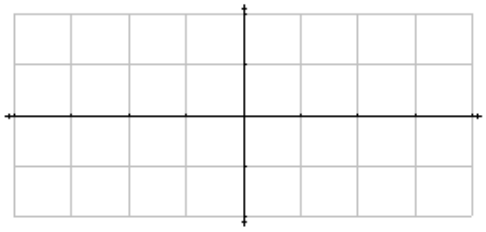
15. $y = \sin\left(\frac{1}{3}x\right)+1$

A_____ P_____ VS _____



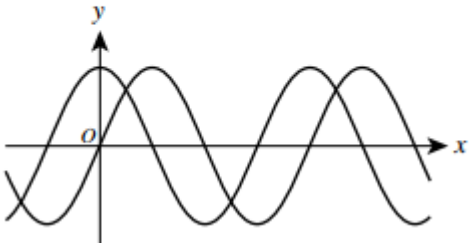
16. $f(x) = \cos 3x - 2$

A_____ P_____ VS _____



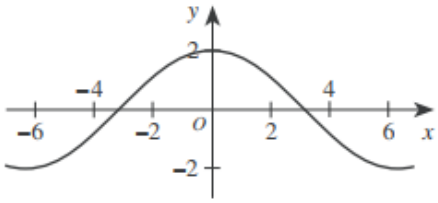
ACT:

17. The functions $y = \sin x$ and $y = \sin(x + a) + b$, for constants a and b, are graphed in the standard (x,y) coordinate plane below. The functions have the same maximum value. One of the following statements about the values of a and b is true. Which statement is it?



A. $a < 0$ and $b = 0$
B. $a < 0$ and $b > 0$
C. $a = 0$ and $b > 0$
D. $a > 0$ and $b < 0$
E. $a > 0$ and $b > 0$

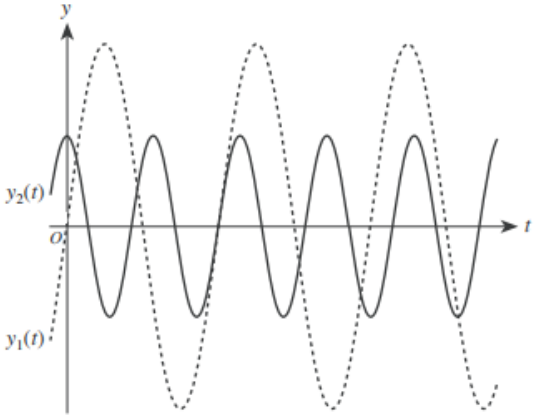
18. The graph of the trigonometric function $y = 2\cos\left(\frac{1}{2}x\right)$ is shown below.



The function is:

F. even (that is, $f(x) = f(-x)$ for all x).
G. odd (that is, $f(-x) = -f(x)$ for all x).
H. neither even nor odd.
J. the inverse of a cotangent function.
K. undefined at $x = \pi$.

19. The equations of the 2 graphs shown below are $y_1(t) = a_1 \sin(b_1 t)$ and $y_2(t) = a_2 \cos(b_2 t)$, where the constants b_1 and b_2 are both positive real numbers.



Which of the following statements is true of the constants a_1 and a_2 ?

A. $0 < a_1 < a_2$
B. $0 < a_2 < a_1$
C. $a_1 < 0 < a_2$
D. $a_1 < a_2 < 0$
E. $a_2 < a_1 < 0$