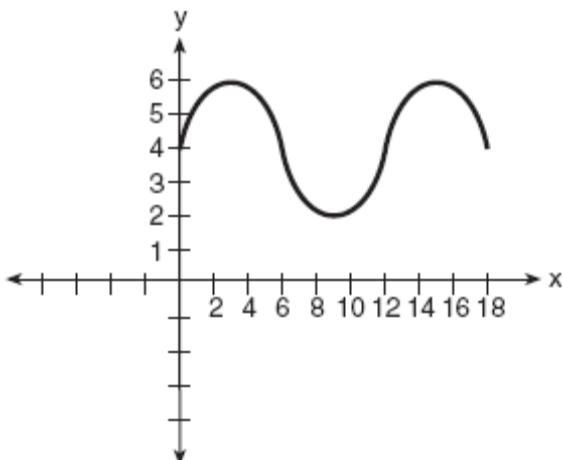


NAME: _____

1. 010715b, P.I. A2.A.69

What is the amplitude of the function shown in the accompanying graph?



- [A] 1.5 [B] 6 [C] 2 [D] 12

2. 060403b, P.I. A2.A.69

What is the amplitude of the function

$$y = \frac{2}{3} \sin 4x?$$

- [A] $\frac{\pi}{2}$ [B] 4 [C] 3π [D] $\frac{2}{3}$

3. 010301b, P.I. A2.A.69

A monitor displays the graph $y = 3 \sin 5x$.

What will be the amplitude after a dilation of 2?

- [A] 7 [B] 5 [C] 6 [D] 10

4. 080419b, P.I. A2.A.69

The path traveled by a roller coaster is modeled by the equation $y = 27 \sin 13x + 30$.

What is the maximum altitude of the roller coaster?

- [A] 13 [B] 30 [C] 27 [D] 57

5. fall9919b, P.I. A2.A.69

If $f(x) = 2 \sin 3x + C$, then the maximum value of $f(x)$ is:

- [A] C [B] $C + 3$ [C] $C + 2$ [D] $C + 6$

6. 010810b, P.I. A2.A.69

A wave displayed by an oscilloscope is represented by the equation $y = 3 \sin x$. What is the period of this function?

- [A] 2 [B] 3π [C] 3 [D] 2π

7. 080514b, P.I. A2.A.69

A certain radio wave travels in a path represented by the equation $y = 5 \sin 2x$.

What is the period of this wave?

- [A] 5 [B] π [C] 2 [D] 2π

8. 080113b, P.I. A2.A.69

What is the period of the function $y = 5 \sin 3x$?

- [A] 3 [B] $\frac{2\pi}{3}$ [C] $\frac{2\pi}{5}$ [D] 5

9. 010606b, P.I. A2.A.69

A sound wave is modeled by the curve $y = 3 \sin 4x$. What is the period of this curve?

- [A] 4 [B] $\frac{\pi}{2}$ [C] 3 [D] π

NAME: _____

10. 010204b, P.I. A2.A.69

An object that weighs 2 pounds is suspended in a liquid. When the object is depressed 3 feet from its equilibrium point, it will oscillate according to the formula $x = 3\cos(8t)$, where t is the number of seconds after the object is released. How many seconds are in the period of oscillation?

- [A] 2π [B] π [C] $\frac{\pi}{4}$ [D] 3

11. 080615b, P.I. A2.A.69

What is the period of the graph of the equation $y = 2\sin\frac{1}{3}x$?

- [A] $\frac{2}{3}\pi$ [B] 2π [C] 6π [D] $\frac{3\pi}{2}$

12. 060920b, P.I. A2.A.69

The Sea Dragon, a pendulum ride at an amusement park, moves from its central position at rest according to the trigonometric function $P(t) = -10\sin(\frac{\pi}{3}t)$, where t represents time, in seconds. How many seconds does it take the pendulum to complete one full cycle?

- [A] 5 [B] 6 [C] 3 [D] 10

13. 010425b, P.I. A2.A.69

The brightness of the star MIRA over time is given by the equation $y = 2\sin\frac{\pi}{4}x + 6$, where x represents time and y represents brightness. What is the period of this function, in radian measure?

14. 060105b, P.I. A2.A.69

A modulated laser heats a diamond. Its variable temperature, in degrees Celsius, is given by $f(t) = T\sin at$. What is the period of the curve?

- [A] $\frac{1}{a}$ [B] $|T|$ [C] $\frac{2\pi}{a}$ [D] $\frac{2a\pi}{a}$

15. 010711b

Which transformation could be used to make the graph of the equation $y = \sin x$ coincide with the graph of the equation $y = \cos x$?

- [A] translation [B] rotation
 [C] point reflection [D] dilation

16. 010216b

Which type of symmetry does the equation $y = \cos x$ have?

- [A] line symmetry with respect to $y = x$
 [B] line symmetry with respect to the x -axis
 [C] point symmetry with respect to $(\frac{\pi}{2}, 0)$
 [D] point symmetry with respect to the origin

17. 080903b, P.I. A2.A.69

The graph of the equation $y = |\sin x|$ will contain *no* points in Quadrants

- [A] III and IV [B] I and IV
 [C] II and III [D] I and II

[1] C _____

[2] D _____

[3] C _____

[4] D _____

[5] C _____

[6] D _____

[7] B _____

[8] B _____

[9] B _____

[10] C _____

[11] C _____

[12] B _____

[2] 8, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 8, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[13] incorrect procedure. _____

[14] C _____

[15] A _____

[16] C _____

[17] A _____