Unit Circle Day 6

Name: _____ **Date:** _____

1. What is the period of the function $f(x) = 2\sin\frac{1}{2}x$?

   A. $\frac{1}{2}$ B. π C. 2π D. 4π

2. What is the period of the function $f(x) = 2\sin\frac{\pi}{2}x$?

   A. π B. 2 C. 4 D. 4π

3. Determine the period of the function:

   $$y = \frac{1}{3}\sin\left(\frac{x}{2} - \pi\right)$$

   A. $\frac{1}{2}$ B. $\frac{\pi}{2}$ C. π D. 4π

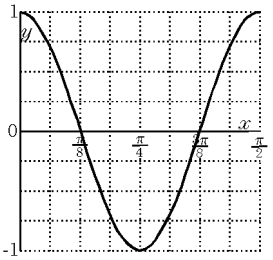
4. Which is an equation for the graph shown?

   A. $y = \cos\frac{1}{4}x$

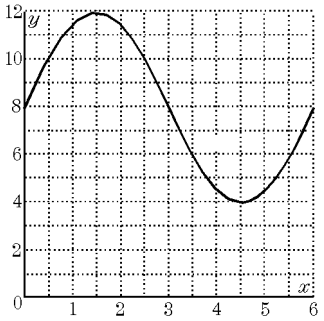
   B. $y = \cos 4x$

   C. $y = \cos 2x$

   D. $y = \cos\frac{1}{2}x$



5. The graph shown has the form $y = a\sin x + d$. What is the equation?



   A. $y = 8\sin x + 12$ B. $y = 8\sin x + 4$

   C. $y = 4\sin x + 8$ D. $y = 8\sin x - 4$

6. Which of the following is an equation having an amplitude of 2 and a period of 6?

   A. $y = 2\cos\frac{2x}{3}$ B. $y = 2\cos\frac{3\pi x}{2}$

   C. $y = 2\cos\frac{\pi x}{3}$ D. $y = 2\cos(3\pi x)$

7. Find the phase shift and period for the function $y = 2\sin 3\left(x - \frac{\pi}{2}\right) + 1$.

A. phase shift: $\frac{\pi}{2}$; period: $\frac{2\pi}{3}$

B. phase shift: $\frac{\pi}{2}$; period: $-\frac{2\pi}{3}$

C. phase shift: $-\frac{\pi}{2}$; period: $\frac{2\pi}{3}$

D. phase shift: $\frac{\pi}{3}$; period: 3

8. What is the period of the graph which represents the function $y = 3\cos\frac{1}{2}x$?

A. π B. 2π C. $\frac{\pi}{2}$ D. 4π

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1.
Answer: D
Objective: F.TF.4

2.
Answer: C
Objective: F.TF.4

3.
Answer: D
Objective: F.TF.4

4.
Answer: B
Objective: F.TF.5

5.
Answer: C
Objective: F.TF.5

6.
Answer: C
Objective: F.TF.5

7.
Answer: A
Objective: F.TF.5

8.
Answer: D
Objective: F.TF.5