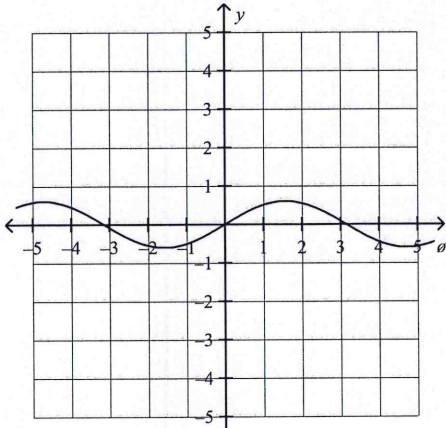


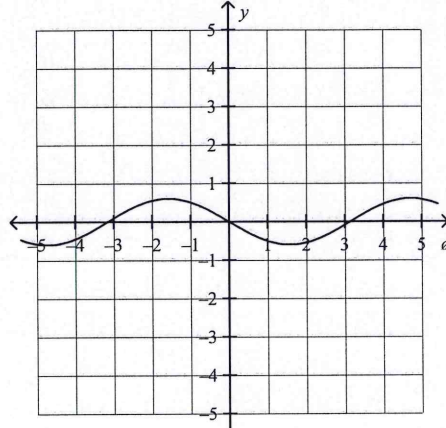


5. Which graph represents the function  $y = \frac{3}{5} \sin(-\theta)$ , where  $\theta$  is in radians?

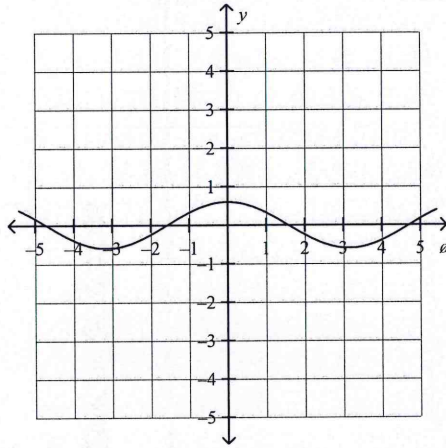
A.



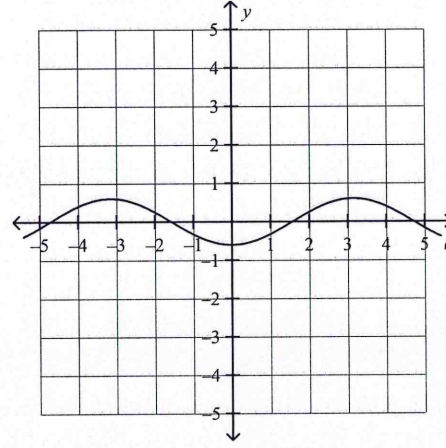
C.



B.

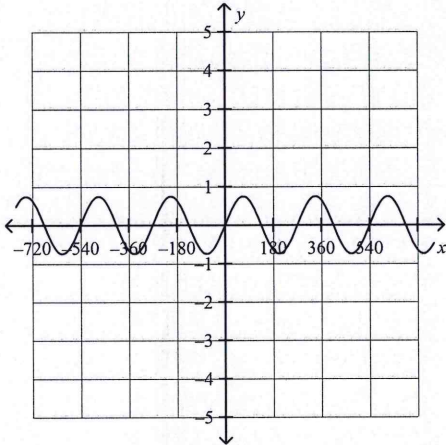


D.

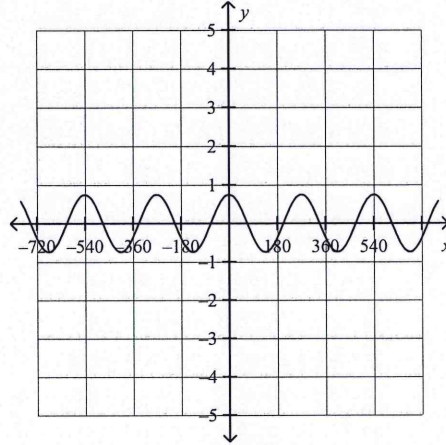


6. Which graph represents the function  $y = \frac{3}{4} \cos(-\frac{4}{3}x)$ , where  $x$  is in degrees?

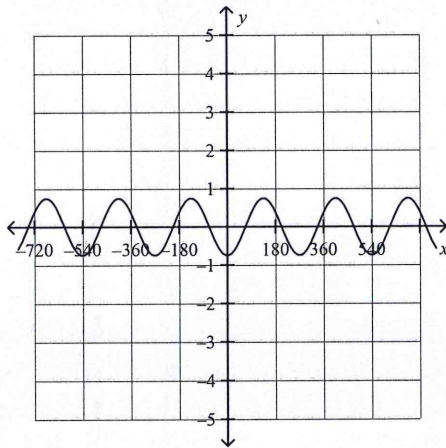
A.



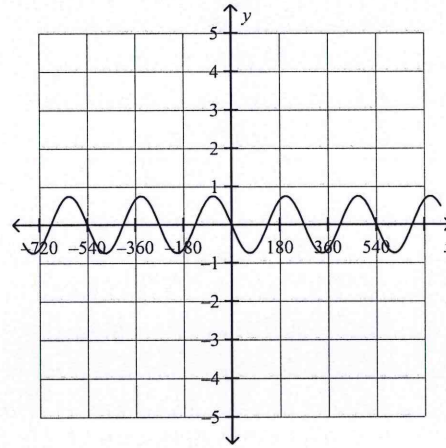
C.



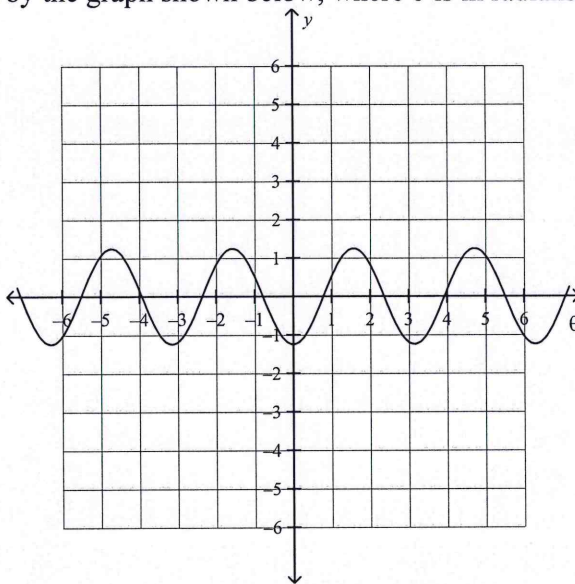
B.



D.



7. Which function is represented by the graph shown below, where  $\theta$  is in radians?



A.  $y = -\frac{5}{4}\sin(-2x)$

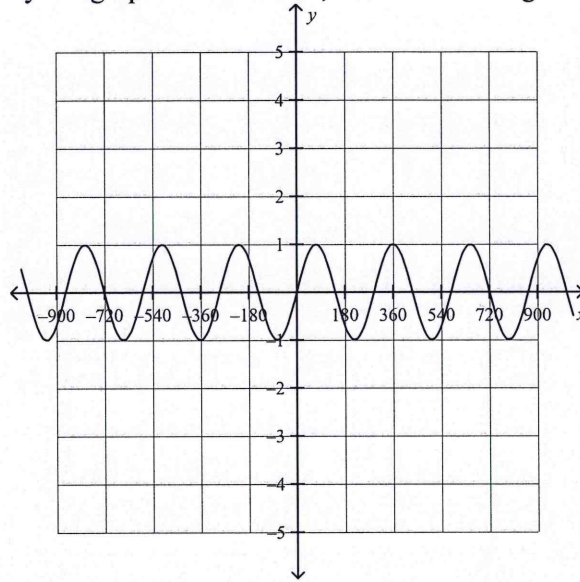
B.  $y = -2\sin(-\frac{5}{4}x)$

C.  $y = -2\cos(-\frac{5}{4}x)$

D.  $y = -\frac{5}{4}\cos(-2x)$



8. Which function is represented by the graph shown below, where  $x$  is in degrees?



- A.  $y = \sin\left(\frac{5}{4}x\right)$   
 B.  $y = \frac{5}{4} \cos(x)$   
 C.  $y = \cos\left(\frac{5}{4}x\right)$   
 D.  $y = \frac{5}{4} \sin(x)$

9. The graph of  $y = \sin x$  can be obtained by translating the graph of  $y = \cos x$

- A.  $\frac{\pi}{4}$  units to the right  
 B.  $\frac{\pi}{2}$  units to the right  
 C.  $\frac{\pi}{3}$  units to the right  
 D.  $\pi$  units to the right

10. What is the amplitude of the sinusoidal function  $y = 7 \sin\left(-8\left(x - \frac{\pi}{3}\right)\right) - 5$ ?

- A.  $\frac{\pi}{3}$   
 B.  $-8$   
 C.  $-5$   
 D.  $7$

11. What is the period of the sinusoidal function  $y = -\cos\left(8\left(x - \frac{\pi}{2}\right)\right) - 2$ ?

A.  $\frac{1}{8}\pi$

C.  $\frac{1}{4}\pi$

B.  $4\pi$

D.  $\frac{1}{2}\pi$

12. Determine the phase shift of the sinusoidal function  $y = -6\sin\left(5\left(x - \frac{\pi}{3}\right)\right) + 2$ .

A.  $\frac{\pi}{3}$  units to the right

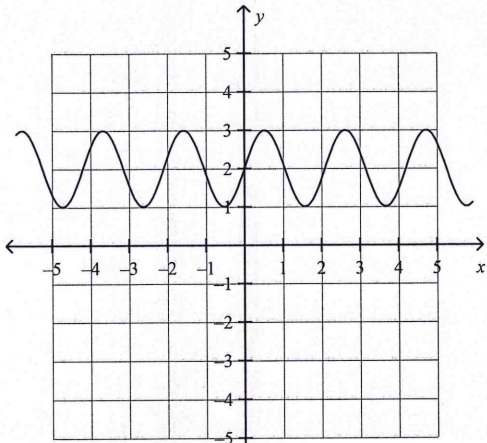
C.  $\frac{\pi}{3}$  units to the left

B.  $3\pi$  units to the left

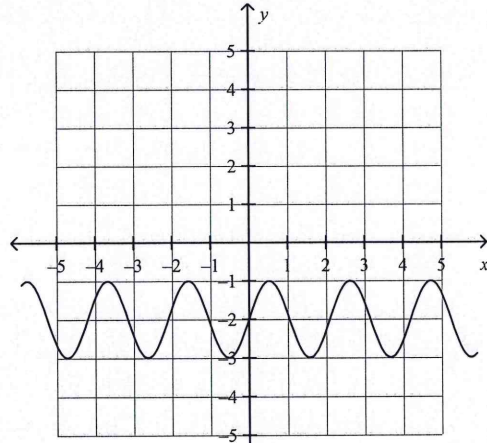
D.  $3\pi$  units to the right

13. Which graph represents the sinusoidal function  $y = \cos\left(3\left(x + \frac{\pi}{6}\right)\right) - 2$ ?

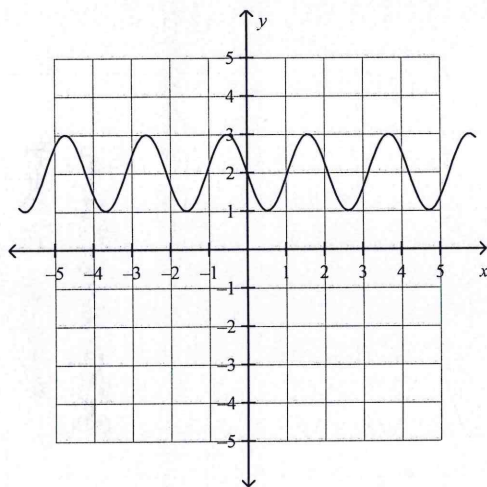
A.



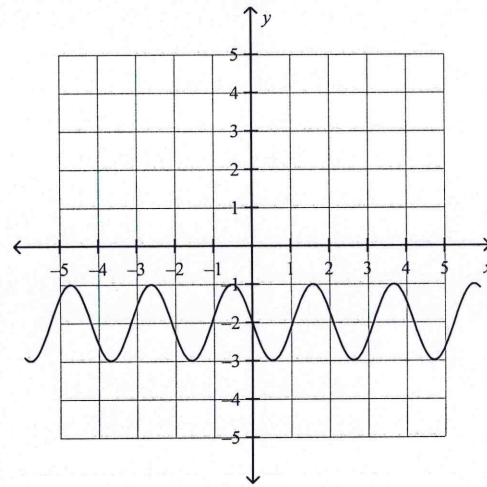
C.



B.

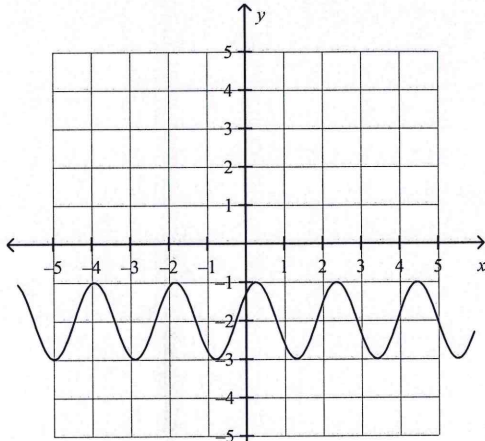


D.

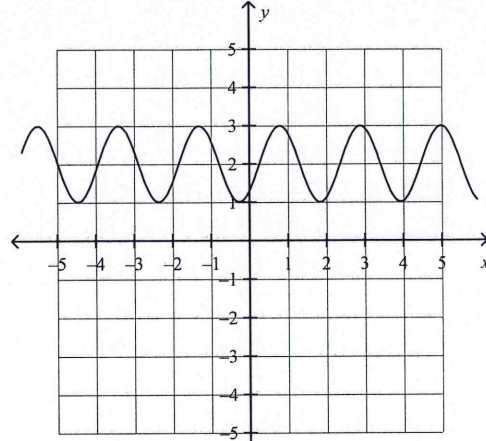


14. Which graph represents the sinusoidal function  $y = \sin\left(-3\left(x + \frac{\pi}{4}\right)\right) + 2$ ?

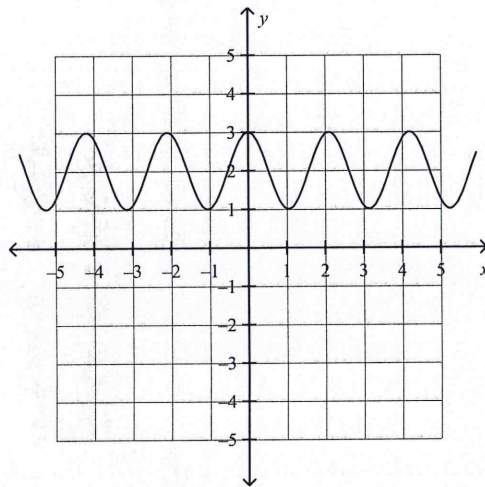
A.



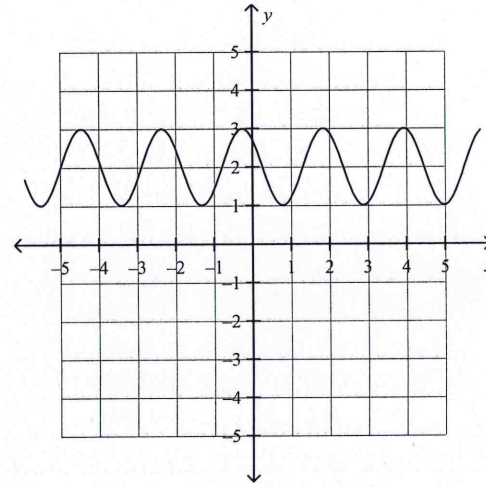
C.



B.



D.



15. Give an equation for a transformed sine function with an amplitude of  $\frac{5}{8}$ , a period of  $\frac{4}{5}$ , a phase shift of  $\frac{3}{2}$  rad to the right, and a vertical translation of 9 units down.

A.  $y = \frac{5}{8} \sin\left[5/2(x + 3/2)\right] - 9$

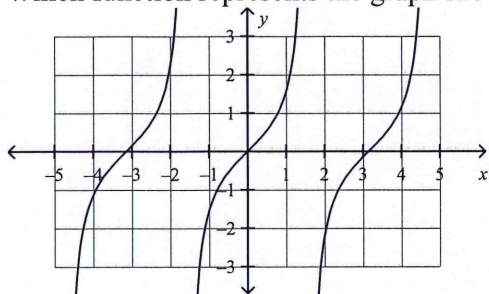
C.  $y = \frac{5}{8} \sin\left[5/2(x - 3/2)\right] - 9$

B.  $y = \frac{5}{8} \sin \frac{5}{2}\pi(x + 3/2) - 9$

D.  $y = \frac{5}{8} \sin \frac{5}{2}\pi(x - 3/2) - 9$



16. Which function represents the graph shown, where  $x$  is in radians?



- A.  $y = \tan x$   
 B.  $y = \cos x$   
 C.  $y = -\tan x$   
 D.  $y = \sin x$

17. Which of the following is not an asymptote of the function  $f(\theta) = \tan \theta$ ?

- A.  $x = -\frac{7}{2}\pi$   
 B.  $x = -\frac{9}{2}\pi$   
 C.  $x = -\frac{5}{2}\pi$   
 D.  $x = -\pi$

18. Which function has zeros only at  $\theta = n\pi, n \in \mathbb{I}$ ?

- A.  $y = \tan(\theta + \frac{2}{3}\pi)$   
 B.  $y = \tan(\theta - \pi)$   
 C.  $y = \tan(\theta - \frac{7}{6}\pi)$   
 D.  $y = \tan(\theta + \frac{5}{4}\pi)$

19. Given the trigonometric function  $y = \tan \theta$ , which is the  $x$ -coordinate at which the function is undefined?

- A.  $\frac{9}{2}\pi$   
 B.  $-\frac{7}{6}\pi$   
 C.  $-\frac{1}{3}\pi$   
 D.  $\frac{3}{4}\pi$

20. Find the value of the  $y$ -coordinate of the point with  $x$ -coordinate = 1 on the unit circle, and the point is on the terminal arm of  $\theta = -660^\circ$  in standard position.

- A.  $\sqrt{3}$   
 B.  $-1$   
 C. 1  
 D. undefined

