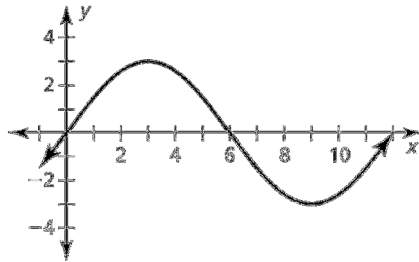


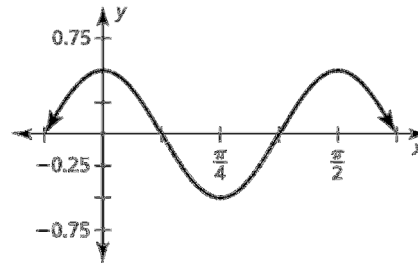
# 9.4 Practice WS3

In Exercises 1 and 2, identify the amplitude and period of the graph of the function.

1.

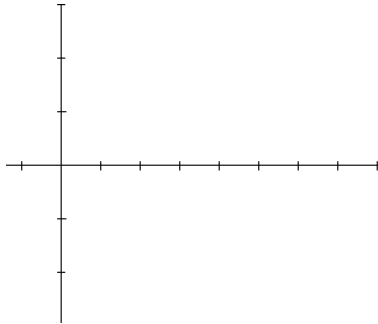


2.

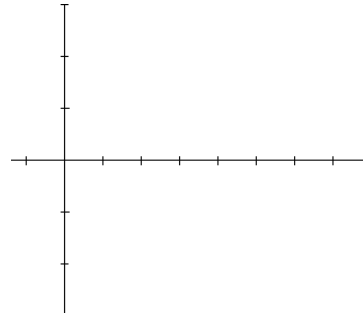


In Exercises 3–4, identify the amplitude and period of the function. Then graph the function and describe the graph of  $g$  as a transformation of the graph of its parent function.

3.  $g(x) = 4 \sin x$



4.  $g(x) = 5 \sin 4x$



5. Write an equation of the form  $y = a \cos bx$ , where  $a > 0$  and  $b > 0$ , so that the graph has the given amplitude and period.

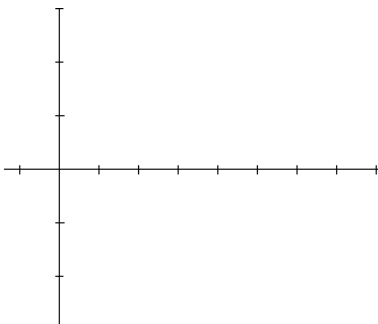
a. amplitude: 1  
period: 3

b. amplitude: 3  
period: 4

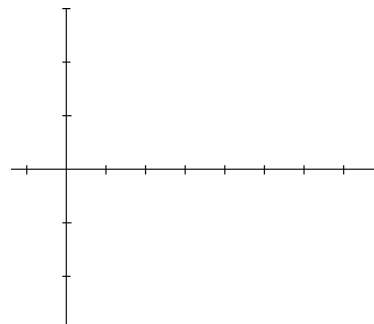
c. amplitude: 12  
period:  $2\pi$

In Exercises 6–7, graph the function.

6.  $g(x) = 2 \sin x - 1$



7.  $g(x) = \sin \frac{1}{2}(x - \pi) - 2$



In Exercises 8 and 9, write a rule for  $g$  that represents the indicated transformations of the graph of  $f$ .

8.  $f(x) = \frac{1}{2} \cos 3x$ ; translation 2 units up, followed by a reflection in the line  $y = 2$

9.  $f(x) = \frac{1}{3} \sin \pi x$ ; translation 3 units down, followed by a reflection in the line  $y = -3$