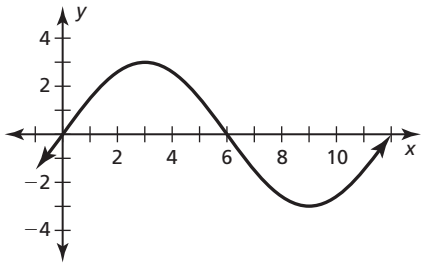
Name _____ Date _____

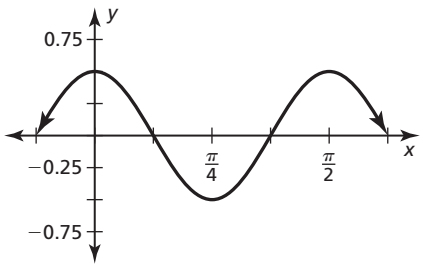
8.4 Practice B

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

1.



2.



In Exercises 3–6, 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. $g(x) = \cos \pi x$

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

6. $g(x) = \frac{1}{4} \cos 2x$

7. 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: 2π

d. amplitude: $\frac{1}{3}$
period: π

In Exercises 8–11, graph the function.

8. $g(x) = \cos x + 3$

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

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

11. $g(x) = \cos \frac{1}{2}(x + \pi) - 4$

In Exercises 12 and 13, write a rule for *g* that represents the indicated transformations of the graph of *f*.

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

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

Name_____ Date _____

8.5 Practice B

In Exercises 1–4, graph one period of the function. Describe the graph of *g* as a transformation of the graph of its parent function.

1. $g(x) = 2 \tan 4x$

2. $g(x) = 3 \cot \frac{1}{2}x$

3. $g(x) = \frac{1}{4} \tan 2\pi x$

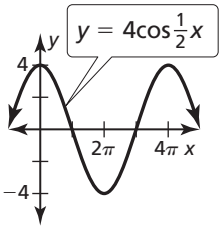
4. $g(x) = \frac{1}{3} \cot \pi x$

5. Describe and correct the error in describing the transformation of $f(x) = \tan x$ represented by $g(x) = 4 \tan \frac{1}{2}x$.

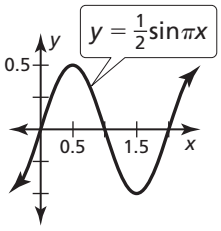
> ✗ A vertical stretch by a factor of 4 and a horizontal shrink by a factor of $\frac{1}{2}$

6. Use the given graph to graph each function.

a. $f(x) = 4 \sec \frac{1}{2}x$



b. $f(x) = \frac{1}{2} \csc \pi x$



In Exercises 7–10, graph one period of the function. Describe the graph of *g* as a transformation of the graph of its parent function.

7. $g(x) = \frac{1}{3} \csc \pi x$

8. $g(x) = \frac{1}{2} \sec 6x$

9. $g(x) = \sec \frac{\pi}{2}x$

10. $g(x) = \csc \frac{\pi}{3}x$