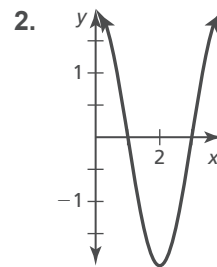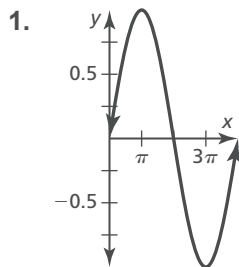Name_____ Date_____

8.4 Practice A

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. $g(x) = 2 \sin x$

4. $g(x) = 4 \cos x$

5. $g(x) = \sin 2x$

6. $g(x) = 3 \cos \pi x$

7. Which functions have an amplitude of 2 and a period of π?

   A. $y = 2 \sin 2x$

   B. $y = -2 \cos \pi x$

   C. $y = 4 \sin 2x$

   D. $y = -2 \cos 2x$

8. The motion of a pendulum can be modeled by the function $d = 3 \cos 6\pi t$, where d is the horizontal displacement (in inches) of the pendulum relative to its position at rest and t is the time (in seconds). Find and interpret the period and amplitude in the context of this situation. Then graph the function.

In Exercises 9–12, graph the function.

9. $g(x) = \sin x - 3$

10. $g(x) = \cos\left(x + \frac{\pi}{2}\right)$

11. $g(x) = 2 \sin x + 1$

12. $g(x) = \cos 2(x + \pi)$

In Exercises 13 and 14, write a rule for g that represents the indicated transformations of the graph of f.

13. $f(x) = 2 \cos x$; translation 4 units down and π units left

14. $f(x) = \sin 4x$; translation 1 unit up and 2 units right