Name _____ Date _____

LESSON 4.7

Practice C

For use with pages 262–268

Evaluate the function when $x = -3$, 2, and 4.5.

1. $f(x) = 5.2x - 4$ **2.** $g(x) = -6x + 2.2$ **3.** $p(x) = -3.2x - 7.1$

4. $h(x) = 8.5 - 10x$ **5.** $m(x) = 5x + 12.7$ **6.** $f(x) = -2.8x + 14.3$

7. $s(x) = \frac{7}{3}x - 2$ **8.** $d(x) = \frac{9}{2}x + \frac{3}{4}$ **9.** $h(x) = \frac{5}{4} - \frac{1}{2}x$

10. $f(x) = -7.2x + 6$ **11.** $g(x) = 2.25x - 3$ **12.** $h(x) = 4.3x - 2.1$

Find the value of x so that the function has the given value.

13. $f(x) = 8x + 9; -7$ **14.** $d(x) = 11x - 15; 40$

15. $p(x) = 14 - 4x; 26$ **16.** $h(x) = 13x - 4; -43$

17. $q(x) = 6x + 4; 13$ **18.** $g(x) = 9 - 7x; 44$

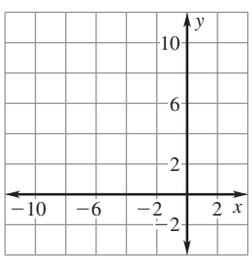
19. $m(x) = -5x + 13; -14$ **20.** $n(x) = 12x - 17; 19$

21. $s(x) = 20x - 34; -134$ **22.** $f(x) = -6.5x + 7.4; -70.6$

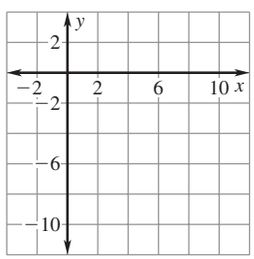
23. $g(x) = 10.2x - 8.1; -39.6$ **24.** $h(x) = 6.75x - 2.5; 58.25$

Graph the function. *Compare* your graph to the graph of $f(x) = x$.

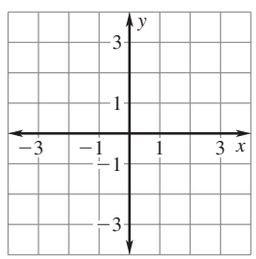
25. $d(x) = x + 9$



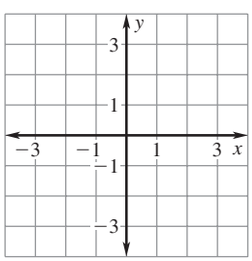
26. $m(x) = x - 10$



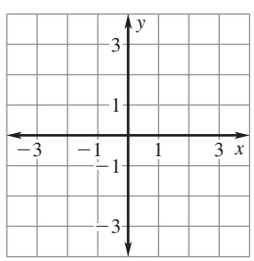
27. $q(x) = 5x$



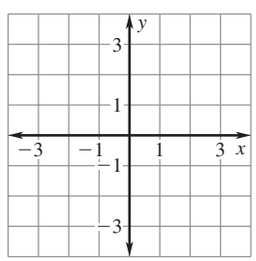
28. $g(x) = \frac{1}{4}x$



29. $p(x) = \frac{3}{2}x$



30. $h(x) = -\frac{2}{3}x$



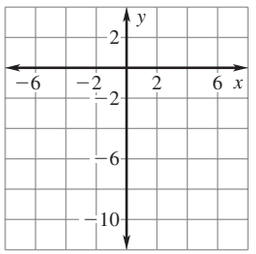
Name _____ Date _____

LESSON 4.7

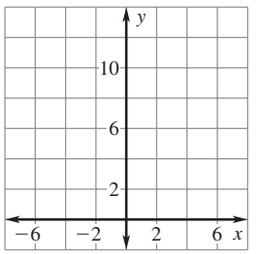
Practice C *continued*

For use with pages 262–268

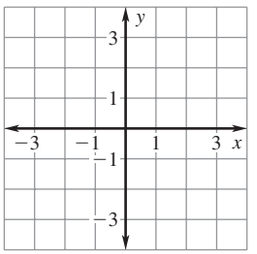
31. $d(x) = x - 7.5$



32. $g(x) = x + 8.5$



33. $p(x) = 2.5x$



Match the function with the description of its graph.

34. $g(x) = 7x$

35. $g(x) = x + 7$

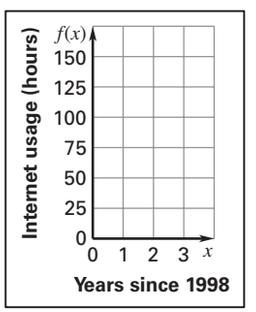
36. $g(x) = x - 7$

A. graph of f shifted up 7 units

B. graph of f shifted down 7 units

C. graph of f dilated by factor of 7

37. Internet Usage The number of hours people in the United States spent using the Internet each year from 1998 to 2001 can be modeled by the function $f(x) = 26.4x + 54.4$ where x is the number of years since 1998.

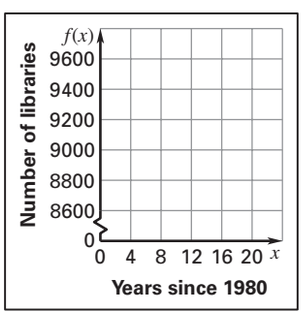


a. Graph the function and identify its domain and range.

b. Find the number of hours that people spent on the Internet in 2000. *Explain* how you found your answer.

c. When did people spend about 120 hours per year on the Internet? *Explain* how you found your answer.

38. Public Libraries The number of libraries in the United States from 1980 to 2000 can be modeled by the function $f(x) = 38.9x + 8685.8$ where x is the number of years since 1980.



a. Graph the function and identify its domain and range.

b. Find the number of libraries in the United States in 1996. *Explain* how you found your answer.

c. When were there 9000 libraries in the United States? *Explain* how you found your answer.

39. Gym Membership You join a gym that charges a \$75 initial sign up fee and \$35 a month for a membership. The total cost of the membership can be modeled by $f(x) = 35x + 75$ where x is the number of months of the membership. After some time, you decide to rent a locker that costs \$50 for the entire year. A function for the total cost of the membership with the locker rental is $g(x) = 35x + 125$. Graph both functions. How is the graph of g related to the graph of f?