

**LESSON**  
**3.7****Practice C**

For use with the lesson "Graph Linear Functions"

**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.  $s(x) = 20x - 34; -134$

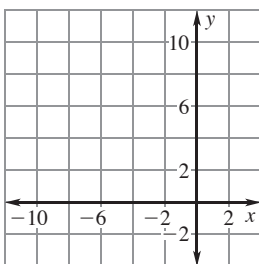
22.  $f(x) = -6.5x + 7.4; -70.6$

23.  $g(x) = 10.2x - 8.1; -39.6$

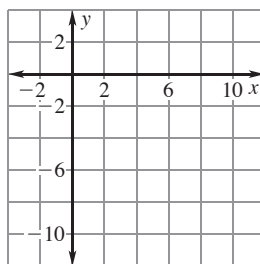
24.  $h(x) = 6.75x - 2.5; 58.25$

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

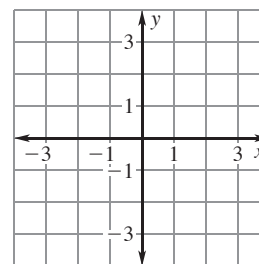
25.  $d(x) = x + 9$



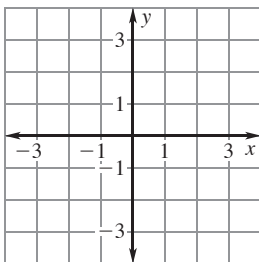
26.  $m(x) = x - 10$



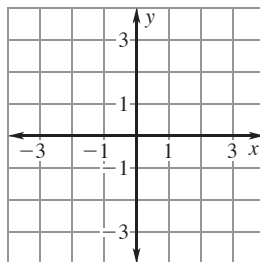
27.  $q(x) = 5x$



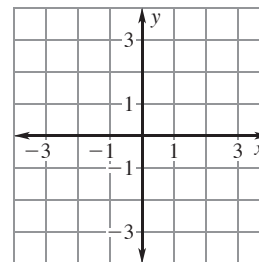
28.  $g(x) = \frac{1}{4}x$



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



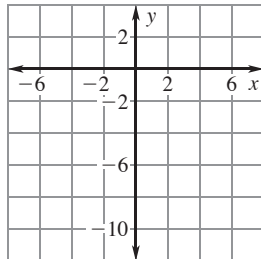
30.  $h(x) = -\frac{2}{3}x$



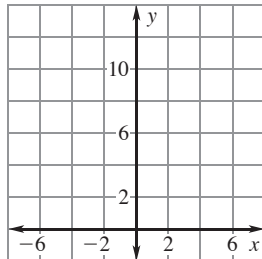
**LESSON**  
**3.7**

**Practice C** *continued*  
For use with the lesson "Graph Linear Functions"

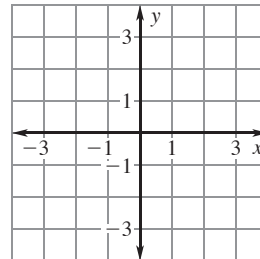
31.  $d(x) = x - 7.5$



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



33.  $p(x) = 2.5x$



**Match the function with the description of its graph.**

34.  $g(x) = 7x$

**A.** graph of  $f$  shifted up 7 units

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

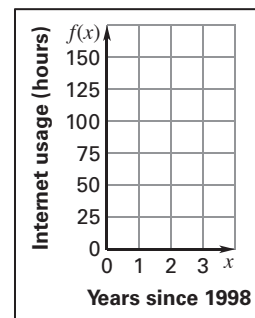
**B.** graph of  $f$  shifted down 7 units

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

**C.** graph of  $f$  dilated by factor of 7

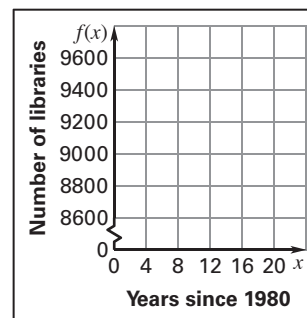
37. **Internet Usage** The number of hours people in the United States spent using the Internet each year from 1998 to 2001 can be modeled by the function  $f(x) = 26.4x + 54.4$  where  $x$  is the number of years since 1998.

- 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  $f$ ?

