

CHAPTER 3 Mid-Chapter Quiz

Lessons 3-1 through 3-3

Determine whether each equation is a linear equation. Write *yes* or *no*. If yes, write the equation in standard form.

(Lesson 3-1)

- $y = -4x + 3$ **yes, $4x + y = 3$**
- $x^2 + 3y = 8$ **no**
- $\frac{1}{4}x - \frac{3}{4}y = -1$ **yes, $x - 3y = -4$**

Graph each equation using the x - and y -intercepts.

(Lesson 3-1) **4-5. See margin.**

- $y = 3x - 6$
- $2x + 5y = 10$

Graph each equation by making a table. (Lesson 3-1)

- $y = -2x$
- $x = 8 - y$

6-7. See margin.

- BOOK SALES** The equation $5x + 12y = 240$ describes the total amount of money collected when selling x paperback books at \$5 per book and y hardback books at \$12 per book. Graph the equation using the x - and y -intercepts.

(Lesson 3-1) **See margin.**

Additional Answer



Find the slope of the line that passes through each pair of points. (Lesson 3-3)

- (2, 6), (4, 12) **3**

- (1, 5), (3, 8) **$\frac{3}{2}$**

- (-3, 4), (2, -6) **-2**

- $(\frac{1}{3}, \frac{3}{4}), (\frac{2}{3}, \frac{1}{4})$ **$-\frac{3}{2}$**

- MULTIPLE CHOICE** Find the value of r so the line that passes through the pair of points has the given slope.

(Lesson 3-3) **G**

$$(-4, 8), (r, 12), m = \frac{4}{3}$$

F -4

G -1

H 0

J 3

- Find the slope of the line that passes through the pair of points. (Lesson 3-3) **12**

book. Graph the equation using the x - and y -intercepts.
 (Lesson 3-1) **See margin.**

Find the root of each equation. (Lesson 3-2)

9. $x + 8 = 0$ **-8**

10. $4x - 24 = 0$ **6**

11. $18 + 8x = 0$ **$-\frac{9}{4}$**

12. $\frac{3}{5}x - \frac{1}{2} = 0$ **$\frac{5}{6}$**

Solve each equation by graphing. (Lesson 3-2)

13. $-5x + 35 = 0$ **7**

14. $14x - 84 = 0$ **6**

15. $118 + 11x = -3$ **-11**

16. **MULTIPLE CHOICE** The function $y = -15 + 3x$ represents the outside temperature, in degrees Fahrenheit, in a small Alaskan town where x represents the number of hours after midnight. The function is accurate for x values representing midnight through 4:00 P.M. Find the zero of this function. (Lesson 3-2) **C**

A 0

C 5

B 3

D -15

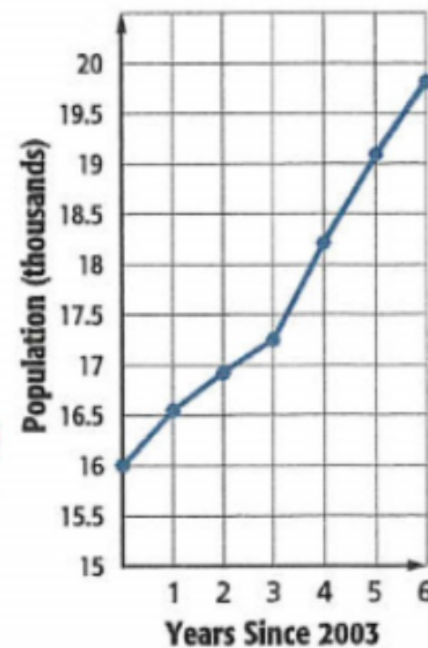
17. Find the rate of change represented in the table. (Lesson 3-3) **$\frac{4}{3}$**

x	y
1	2
4	6
7	10
10	14

23. Find the slope of the line that passes through the pair of points. (Lesson 3-3) **12**

x	y
2.6	-2
3.1	4

24. **POPULATION GROWTH** The graph shows the population growth in Heckertsville since 2003. (Lesson 3-3)



b. The population of Heckertsville has increased by about 630 per year.

a. For which time period is the rate of change the greatest? **2006-2007**

b. Explain the meaning of the slope from 2003 to 2009.