Name _____ Date _____

LESSON 4.2

Practice C

For use with the lesson "Use Linear Equations in Slope-Intercept Form"

Write an equation of the line that passes through the given points and has slope *m*.

1. $(-5, -2)$; $m = 8$

2. $(4.5, -3)$; $m = 0.5$

3. $(6, -1)$; $m = -\frac{5}{6}$

Write an equation of the line that passes through the given points.

4. $(-4.5, -22), (6, 30.5)$

5. $(-10, 7), (5, -2)$

6. $(-6, -10), (9, 10)$

Write an equation for the linear function *f* with the given values.

7. $f(-2) = 4.2, f(6) = -8.6$

8. $f(-4) = -10, f(3) = -8$

9. $f(-1.2) = 5, f(3.6) = 8$

10. $f\left(\frac{1}{2}\right) = -4, f\left(-\frac{5}{2}\right) = -16$

11. $f(0.7) = -1.35, f(4.3) = 7.65$

12. $f(1) = -6.6, f(-4) = 10$

Decide whether the three points lie on the same line. *Explain* how you know. If the points do lie on the same line, write an equation of the line that passes through all three points.

13. $(3, 7), (-2, -8), (7, -19)$

14. $(-3, 13), (8, -9), (-8, 23)$

15. A line passes through the points $(3, 16)$, $(-2, -14)$, and $(h, 28)$. Find the value of h. *Explain* your steps.

16. **Car Wash** You are scheduled to start your job at a car wash 2 hours after the car wash opens. Three hours after you start, a total of 47 cars have been washed since the car wash opened. Three hours later, a total of 55 cars have been washed. At what rate are the cars being washed? How many cars were washed before you started work?

17. **Classified Ad** A newspaper charges a flat rate to place a 3-line ad in the classified section of the newspaper and then charges a per line fee for any additional lines. One person placed a 4-line ad for \$17.10 and another person placed a 6-line ad for \$22.50. Write an equation that gives the total cost (in dollars) as a function of the number of lines in the ad. What do the rate of change and initial value in your equation represent? *Explain* your answer using unit analysis.

18. **Farm Acreage** The number of acres of farmland in the United States has decreased at a relatively constant rate of 3.27 million acres per year from 1987 to 1997. In 1997, there were 931.8 million acres of farmland.

a. Write an equation that gives the number of acres of farmland as a function of the number of years since 1987.

b. Graph the equation from part (a). *Explain* what the slope and y-intercept of the graph mean in this situation.

c. Predict when the number of acres will fall below 915 million acres.