Name _____ Class _____ Date _____

Practice 5-5

Direct Variation

Is each equation a direct variation? If it is, find the constant of variation.

1. $y = 5x$
2. $8x + 2y = 0$
3. $y = \frac{3}{4}x - 7$
4. $y = 2x + 5$
5. $3x - y = 0$
6. $y = \frac{3}{5}x$
7. $-3x + 2y = 0$
8. $-5x + 2y = 9$
9. $8x + 4y = 12$
10. $6x - 3y = 0$
11. $x - 3y = 6$
12. $9x + 5y = 0$

The ordered pairs in each exercise are for the same direct variation. Find each missing value.

13. $(3, 2)$ and $(6, y)$
14. $(-2, 8)$ and $(x, 12)$
15. $(4, y)$ and $(16, 12)$
16. $(x, 8)$ and $(6, -16)$
17. $(3, y)$ and $(9, 15)$
18. $(2, y)$ and $(10, 15)$
19. $(-4, 3)$ and $(x, 6)$
20. $(3, y)$ and $(1.5, 6)$
21. $\left(\frac{2}{3}, 2\right)$ and $(x, 6)$
22. $(2.5, 5)$ and $(x, 9)$
23. $(4.8, 5)$ and $(2.4, y)$
24. $(9, 3)$ and $(x, -2)$

For the data in each table, tell whether y varies directly with x. If it does, write an equation for the direct variation.

25.

x	y
4	8
7	14
10	20

26.

x	y
−3	−2
3	2
9	6

27.

x	y
4	3
5	4.5
11	13.5

28.

x	y
−2	−2.8
3	4.2
8	11.2

29. Charles's Law states that at constant pressure, the volume of a fixed amount of gas varies directly with its temperature measured in degrees Kelvin. A gas has a volume of 250 mL at 300° K.

   a. Write an equation for the relationship between volume and temperature.

   b. What is the volume if the temperature increases to 420° K?

30. Your percent grade varies directly with the number of correct answers. You got a grade of 80 when you had 20 correct answers.

   a. Write an equation for the relationship between percent grade and number of correct answers.

   b. What would your percent grade be with 24 correct answers?

31. The amount of simple interest earned in a savings account varies directly with the amount of money in the savings account. You have $1000 in your savings account and earn $50 in simple interest. How much interest would you earn if you had $1500 in your savings account?