Chapter 5

# Practice Test

NAME: _____

PER.: ____ DATE: _____

## Vocabulary and Concepts

1. **Explain** why the equation of a vertical line cannot be in slope-intercept form.
2. **Draw** a scatter plot that shows a positive correlation.
3. **Name** the part of the slope-intercept form that represents the rate of change.

ALL WORK ON LOOSELEAF

## Skills and Applications

**Find the slope of the line that passes through each pair of points.**

4. (5, 8), (−3, 7)
5. (5, −2), (3, −2)
6. (6, −3), (6, 4)

LOOK

7. **BUSINESS** A web design company advertises that it will design and maintain a website for your business for $9.95 per month. Write a direct variation equation to find the total cost C for any number of months $m$.

**Graph each equation.**

8. $y = 3x - 1$
9. $y = 2x + 3$
10. $2x + 3y = 9$

11. **WEATHER** The temperature is 16°F at midnight and is expected to fall 2° each hour during the night. Write the slope-intercept form of an equation to find the temperature $T$ for any hour $h$ after midnight.

**Suppose $y$ varies directly as $x$. Write a direct variation equation that relates $x$ and $y$.**

12. $y = 6$ when $x = 9$
13. $y = -12$ when $x = 4$
14. $y = -8$ when $x = 8$

**Write the slope-intercept form of an equation of the line that satisfies each condition.**

15. has slope −4 and $y$-intercept 3
16. passes through (−2, −5) and (8, −3)
17. parallel to $3x + 7y = 4$ and passes through (5, −2)
18. a horizontal line passing through (5, −8)
19. perpendicular to the graph of $5x - 3y = 9$ and passes through the origin
20. Write the point-slope form of an equation for a line that passes through (−4, 3) with slope −2.

BONUS

**ANIMALS** **For Exercises 21–24, use the table that shows the relationship between dog years and human years.**

| Dog Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Human Years | 15 | 24 | 28 | 32 | 37 | 42 | 47 |

21. Draw a scatter plot and determine what relationship, if any, exists in the data.
22. Draw a line of fit for the scatter plot.
23. Write the slope-intercept form of an equation for the line of fit.
24. Determine how many human years are comparable to 13 dog years.