

5 Practice Test

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.

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. $(6, -3), (6, 4)$
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 .

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.
25. **STANDARDIZED TEST PRACTICE** A line passes through $(0, 4)$ and $(3, 0)$. Which equation does *not* represent the equation of this line?

(A) $y - 4 = -\frac{4}{3}(x - 0)$

(B) $y = -\frac{4}{3}x + 3$

(C) $\frac{x}{3} + \frac{y}{4} = 1$

(D) $y - 0 = -\frac{4}{3}(x - 3)$

(E) $4x + 3y = 12$