4 CHAPTER REVIEW

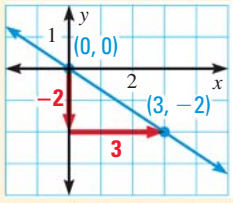
4.6 Model Direct Variation

pp. 253–259

EXAMPLE

Graph the direct variation equation $y = -\frac{2}{3}x$.

Plot a point at the origin. The slope is equal to the constant of variation, $-\frac{2}{3}$. Find and plot a second point, then draw a line through the points.



EXERCISES

EXAMPLES 1, 2, and 4 on pp. 253–255 for Exs. 22–28

Tell whether the equation represents direct variation. If so, identify the constant of variation.

22. $x - y = 3$ **23.** $x + 2y = 0$ **24.** $8x - 2y = 0$

Graph the direct variation equation.

25. $y = 4x$ **26.** $-5y = 3x$ **27.** $4x + 3y = 0$

28. SNOWSTORMS The amount s (in inches) of snow that fell during a snowstorm varied directly with the duration d (in hours) of the storm. In the first 2 hours of the storm 5 inches of snow fell. Write a direct variation equation that relates d and s. How many inches of snow fell in 6 hours?

4.7 Graph Linear Functions

pp. 262–268

EXAMPLE

Evaluate the function $f(x) = -6x + 5$ when $x = 3$.

$f(x) = -6x + 5$ **Write function.**

$f(3) = -6(3) + 5$ **Substitute 3 for x.**

$= -13$ **Simplify.**

EXERCISES

EXAMPLES 1 and 3 on pp. 262–263 for Exs. 29–34

Evaluate the function.

29. $g(x) = 2x - 3$ when $x = 7$ **30.** $h(x) = -\frac{1}{2}x - 7$ when $x = -6$

Graph the function. Compare the graph with the graph of $f(x) = x$.

31. $j(x) = x - 6$ **32.** $k(x) = -2.5x$ **33.** $t(x) = 2x + 1$

34. MOUNT EVEREST Mount Everest is rising at a rate of 2.4 inches per year. The number of inches that Mount Everest rises in x years is given by the function $f(x) = 2.4x$. Graph the function and identify its domain and range. Find the value of x so that $f(x) = 250$. *Explain* what the solution means in this situation.