

Chapter 4

Cumulative Review (continued)

In Exercises 43–45, find the slope and y-intercept of the graph. Graph the linear equation.

43. $y = x - 3$

44. $y = \frac{3}{4}x$

45. $7x - 3y = 9$

In Exercises 46 and 47, use the graphs of f and g to describe the transformation from the graph of f to the graph of g .

46. $f(x) = 4x - 2$; $g(x) = -4x - 2$

47. $f(x) = 5x + 1$; $g(x) = 5x + 2$

In Exercises 48–50, graph the function. Compare the graph to the graph of $f(x) = |x|$. Describe the domain and range.

48. $t(x) = |x| - 3$

49. $r(x) = |x + 2|$

50. $h(x) = \frac{1}{3}|x|$

In Exercises 51–54, write an equation of the line with the given slope and y-intercept.

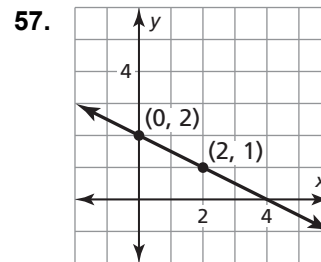
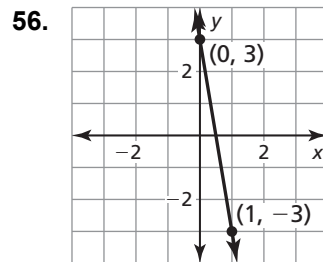
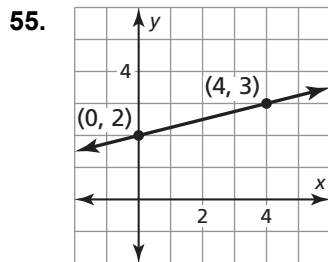
51. slope: 4; y-intercept: 12

52. slope: $-\frac{3}{4}$; y-intercept: -12

53. slope: $\frac{1}{2}$; y-intercept: $-\frac{2}{5}$

54. slope: -3; y-intercept: $\frac{1}{8}$

In Exercises 55–57, write an equation of the line in slope-intercept form.



In Exercises 58–61, write an equation in point-slope form of the line that passes through the given point and has the given slope.

58. $(3, 4)$; $m = 5$

59. $(7, 0)$; $m = -1$

60. $(3, -9)$; $m = \frac{1}{2}$

61. $(-1, -2)$; $m = -\frac{2}{7}$

In Exercises 62–65, write an equation in point-slope form of the line that passes through the given points.

62. $(2, 4)$, $(5, 7)$

63. $(-2, 4)$, $(7, 8)$

64. $(-5, -1)$, $(-3, 7)$

65. $(0, 2)$, $(3, 2)$

**Chapter
4****Cumulative Review** (continued)

In Exercises 66–68, write an equation of the line that passes through the given point and is parallel to the given line.

66. $(2, 3); y = 3x - 1$

67. $(-4, 0); y = \frac{2}{3}x + 1$

68. $(-2, 7); 2x + y = 6$

In Exercises 69–71, write an equation of the line that passes through the given point and is perpendicular to the given line.

69. $(0, 2); y = -x + 1$

70. $(1, 2); y = -\frac{3}{4}x - 2$

71. $(-4, -2); 4x - 2y = 10$

In Exercises 72 and 73, make a scatter plot of the data. Tell whether x and y show a positive, a negative, or no correlation.

72.

x	-2	-2	-1	-1	0	1	2
y	-3	-1	-2	1	0	-1	2

73.

x	-3	-2	-2	0	2	2	4
y	2	0	-2	0	-1	2	-2

In Exercises 74–76, graph the arithmetic sequence.

74. $-4, 0, 4, 8, \dots$

75. $3, 11, 19, 27, \dots$

76. $-3, -9, -15, -21, \dots$

In Exercises 77–79, determine whether the sequence is arithmetic. If so, find the common difference.

77. $2, 4, 7, 11, 16, 24, \dots$

78. $45, 41, 37, 34, \dots$

79. $7, 13, 19, 25, \dots$

In Exercises 80 and 81, graph the function. Describe the domain and range.

80. $y = \begin{cases} 2x + 1, & \text{if } x \geq -1 \\ 3x - 1, & \text{if } x < -1 \end{cases}$

81. $y = \begin{cases} -\frac{1}{2}x + 2, & \text{if } x < -2 \\ \frac{1}{2}x - 3, & \text{if } x \geq -2 \end{cases}$