Chapter 2

Cumulative Review (continued)

In Exercises 61–64, write the sentence as an inequality.

61. A number n is less than 4.

62. A number y minus 8 is greater than or equal to 10.

63. The number 21 is at least a number t times 3.

64. Two-thirds of a number b is no more than 12.

In Exercises 65–68, tell whether the value is a solution of the inequality.

65. $x - 5 > 10; x = 2$

66. $\frac{2}{3}y - 12 \le 24; y = 48$

67. $30 - 6w < -3(5 + 7w); w = -4$

68. $2(4z + 6) \ge -8z + 12; z = -1$

69. You and your friend are fishing when your friend catches a 15-inch largemouth bass. You tell your friend that last week you caught one at least twice as big.

   a. Write an inequality that represents the possible lengths of the fish you caught.

   b. Is 29 inches a solution of the inequality? Explain.

In Exercises 70–75, solve the inequality. Graph the solution.

70. $4 + y \ge 24$

71. $c + 2 \le 9$

72. $-5h + 6h \ge 8 - 1$

73. $b + 4 - 8 \ge 9$

74. $28 - (-t) > -40 + 18$

75. $20 - 3z + 4z < 9 - 20$

In Exercises 76 and 77, write the sentence as an inequality. Then solve the inequality.

76. A number plus 12 is no more than 8.

77. The difference of 20 and a number is at least 15.

78. A lift gate on the back of a semi-truck trailer can lift at most 2000 pounds. You are loading a pallet that weighs 1835 pounds plus yourself. Write an inequality that represents the possible weights and solve the inequality.

In Exercises 79–84, solve the inequality. Graph the solution.

79. $9w \le 27$

80. $-40 \ge 8y$

81. $\frac{1}{5}a > 7$

82. $\frac{3}{-4}g < 18$

83. $-7 > -\frac{1}{11}d$

84. $\frac{w}{-4} \le 12$

85. You have $900 to spend on a new deck. Write and solve an inequality that represents the cost per square foot that you can pay for the new deck if you want to build a deck that is 10 feet long and 15 feet wide.

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In Exercises 86–88, solve the inequality. Graph the solution.

86. $3u - 7 \le 14$

87. $-11 \ge 13 - 6n$

88. $7 + \dfrac{p}{3} < 2$

In Exercises 89–91, solve the inequality.
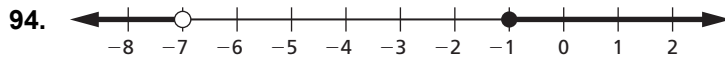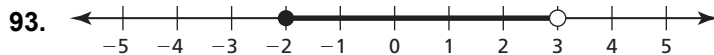
89. $7w + 1 < w - 5$

90. $3(g - 5) > 3g$

91. $2(h - 2) \le -2(1 - h)$

92. You are saving $12 per week to purchase a new kayak. Prices start at $300 and go up. Your parents give you $144 to help you purchase your kayak. Write and solve an inequality to find the number of weeks you need to save to purchase the kayak.

In Exercises 93 and 94, write a compound inequality that is represented by the graph.

93.

94.

In Exercises 95 and 96, write the sentence as an inequality. Graph the inequality.

95. A number h is greater than 3 and less than 8.

96. A number m is more than 4 or less than or equal to –3.

In Exercises 97–101, solve the inequality. Graph the solution.

97. $-1 < 9 + n < 17$

98. $-50 < 7k + 6 < -8$

99. $g + 5 \ge 12 \ or \ \dfrac{g}{9} < 0$

100. $8t + 8 \ge -64 \ and \ -7 - 8t \ge -79$

101. $2x < 10 \ or \ \dfrac{x}{2} \ge 3$

In Exercises 102–107, solve the inequality. Graph the solution, if possible.

102. $|y| < 4$

103. $|h - 7| \ge 5$

104. $|4x - 12| > -7$

105. $|2x - 8| < -10$

106. $|4w - 7| + 8 \ge 17$

107. $|10 + 4x| < 14$

108. The ideal diameter of a piston for a car is 88 millimeters, and the actual diameter can vary from the ideal diameter by at most 0.007 millimeter. Write and solve an absolute value inequality that represents the actual diameter.

109. In a poll of 100 people, you have an approval rating as class president of 78% with a 3% margin of error. Write and solve an absolute value inequality that represents your approval rating.