

Chapter
2**Cumulative Review****In Exercises 1–4, add or subtract.**

1. $5 - 8$

2. $-1 + (-17)$

3. $-5 - (-7)$

4. $20 + (-3)$

In Exercises 5–12, multiply or divide.

5. $-9(8)$

6. $-19 \cdot (-2)$

7. $8 \cdot (-1)$

8. $10(-2)$

9. $-42 \div 6$

10. $52 \div (-4)$

11. $-40 \div (-2)$

12. $14 \div (-7)$

In Exercises 13–15, solve the problem and specify the units of measure.

13. You shoveled your neighbor's driveway in 3 hours and were paid \$21. What was your hourly wage?

14. How many packs of gum can you buy with \$4.76 if one pack costs \$1.19?

15. Your fish tank is 2 feet wide, 2 feet deep, and 5 feet long. The tank is filling at a rate of 3 cubic feet per hour. After how many hours will it be 75% full?

In Exercises 16–19, solve the equation, justify each step, and check your answer.

16. $x + 2 = 9$

17. $7b = 49$

18. $x + (-10) = 51$

19. $\frac{y}{13} = 5$

In Exercises 20–22, solve the equation. Check your solution.

20. $\frac{2}{11} + y = \frac{8}{11}$

21. $-5\pi + a = 7\pi$

22. $w \div (-4) = -0.9$

In Exercises 23 and 24, write and solve an equation to answer the question.

23. You and your friend chip in to buy a new gaming computer, which costs \$1024. How much do each of you pay for the new gaming computer?

24. It cost \$510 to get your car fixed. If it was \$375 for parts, how much did the mechanic charge for the work to fix your car?

In Exercises 25–30, solve the equation. Check your solution.

25. $5x - 10 = -10$

26. $36 = 12u - 3u$

27. $11 = 1 - w$

28. $8 = \frac{c}{7} + 4$

29. $17x - 3 - 5x = 45$

30. $\frac{z + 5}{2} = 3$

31. Write and solve an equation to answer the question. It cost \$1031 for a camping trip. It cost \$231 to park for the trip and \$200 a day for the camping site. How many days was the camping trip?

Chapter 2

Cumulative Review (continued)

In Exercises 32–40, solve the equation. Check your solution.

32. $27 - 5x = 4x$

33. $-8w + 17 = 2w - 3$

34. $9h - 6 = 2h + 36$

35. $5(x + 4) = 2(16 + 2x)$

36. $3k - 11 - 7k = 9k + 3 + k$

37. $-35 = -5(2r - 3)$

38. $-7(-x + 3) = -6(5 - x)$

39. $-2(5x - 10) = 5(3 - 2x) - x$

40. $\frac{4}{5}(10y - 10) = \frac{2}{7}(7y + 14)$

41. A protein bar has 33% of the protein you need daily. You must get the remaining 12 grams of protein from other sources. Approximately how many grams of protein do you need daily? Round your answer to the nearest tenth of a gram.

42. Two different golf country clubs have the following membership fees and monthly costs. Ludwig's Fast 18 charges a \$100 membership fee and then \$30 a month. Ocean Shore Country Club charges a \$160 membership fee and then \$10 a month. Find the number of months you must be a member to have the same cost for each club.

In Exercises 43–45, solve the equation. Determine whether the equation has *one solution*, *no solution*, or *infinitely many solutions*.

43. $y + 3 - 12 = y - 9$

44. $24v - 22 = -4(1 - 6v)$

45. $4(6x + 1) = 3(4x + 3) + 43$

In Exercises 46–49, simplify the expression.

46. $|-0.4 \cdot 7|$

47. $-|14|$

48. $|12| - |-12|$

49. $\left| -\frac{24}{-2} \right|$

In Exercises 50–56, solve the equation. Graph the solution(s), if possible.

50. $|x + 7| = 2$

51. $|d| = -2$

52. $|-3r| = 12$

53. $\left| \frac{y}{5} \right| = 10$

54. $-4|7x - 5| = 8$

55. $|2n - 10| - 6 = -4$

56. $-6|6 - 3n| = -36$

57. A regulation professional basketball is to be inflated to 8 pounds per square inch with a margin of error of 0.2 pound per square inch. Write and solve an equation to find the minimum and the maximum air pressure to which the basketball can be inflated.

In Exercises 58–60, solve the literal equation for y .

58. $y - 3x = 9$

59. $3x + y = 7$

60. $32x - 8y = 64$

**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. $\frac{2}{3}y - 12 \leq 24$; $y = 48$
 67. $30 - 6w < -3(5 + 7w)$; $w = -4$ 68. $2(4z + 6) \geq -8z + 12$; $z = -1$
 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. $4 + y \geq 24$ 71. $c + 2 \leq 9$ 72. $-5h + 6h \geq 8 - 1$
 73. $b + 4 - 8 \geq 9$ 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. $9w \leq 27$ 80. $-40 \geq 8v$ 81. $\frac{1}{5}a > 7$
 82. $\frac{3}{-4}g < 18$ 83. $-7 > -\frac{1}{11}d$ 84. $\frac{w}{-4} \leq 12$
 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.

Chapter 2

Cumulative Review (continued)

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

86. $3u - 7 \leq 14$

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

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

In Exercises 89–91, solve the inequality.

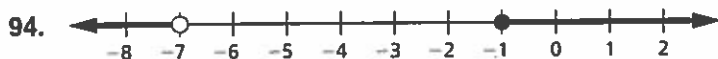
89. $7w + 1 < w - 5$

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

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

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.



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. $g + 5 \geq 12$ or $\frac{g}{9} < 0$

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

101. $2x < 10$ or $\frac{x}{2} \geq 3$

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

102. $|y| < 4$

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

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

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

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

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.