122. $\dfrac{168m}{-12}$ **123.** $\dfrac{252a}{-8}$ **124.** $\dfrac{-756x}{7x}$, $x \neq 0$ **125.** $\dfrac{-253u}{-23u}$, $u \neq 0$

126. $-\dfrac{c}{17}(-17)$ **127.** $-9 \cdot \dfrac{x}{9}$ **128.** $\dfrac{8w}{7} \cdot 7$ **129.** $-\dfrac{5h}{3}(-3)$

Chapter 3

Solve. Check your answers. (3-1, 3-2, 3-3)

1. $a - 13 = 17$ **2.** $c + 8 = 22$ **3.** $s - 20 = -12$

4. $y + 14 = -33$ **5.** $15 + h = 0$ **6.** $0 = k - 13$

7. $f - 4 = |16|$ **8.** $g + 7 = |-2|$ **9.** $-x + 6 = 9$

10. $23 - y = 47$ **11.** $-5 - m = 7$ **12.** $13 = -q + 8$

13. $(e + 4) + 3 = 9$ **14.** $6 = 10 + (n + 3)$ **15.** $-5 + (1 + z) = 8$

16. $13u = 338$ **17.** $-396 = 22a$ **18.** $-12x = -444$ **19.** $126 = -9w$

20. $\dfrac{1}{7}t = 13$ **21.** $\dfrac{1}{8}h = -8$ **22.** $11 = -\dfrac{1}{4}v$ **23.** $-10 = -\dfrac{1}{5}m$

24. $-42 = \dfrac{n}{7}$ **25.** $-\dfrac{c}{4} = 32$ **26.** $-\dfrac{m}{27} = 0$ **27.** $-\dfrac{m}{3} = -40$

28. $4x = -\dfrac{2}{7}$ **29.** $-\dfrac{3}{2} = -9z$ **30.** $\dfrac{1}{4}v = 2\dfrac{3}{4}$ **31.** $3\dfrac{1}{2} = \dfrac{1}{2}u$

32. $5k + 8 = 43$ **33.** $7h - 6 = 36$ **34.** $-3 + 3m = -45$

35. $2n + 8n = 80$ **36.** $9v - 5v = 44$ **37.** $3c - 8c = 65$

38. $\dfrac{n}{5} + 9 = -11$ **39.** $-\dfrac{x}{3} - 2 = 7$ **40.** $\dfrac{5}{6}u + 15 = 0$

41. $x - 5 - 6x = -25$ **42.** $0 = y - 14 - 3y$ **43.** $e + 3e + 4e = 48$

44. $5(k + 3) = -10$ **45.** $-\dfrac{4}{3}(n - 6) = 12$ **46.** $2(v + 7) - 9 = 19$

Solve each problem using the five-step plan to help you. (3-4)

47. The sum of 37 and three times a number is 67. Find the number.

48. Four times a number, decreased by 24, is -20. Find the number.

49. The perimeter of a rectangle is 108. If the length is 33, find the width.

50. A large bucket holds 3 L more than twice as much as a small bucket. It took 2 small buckets and 5 large buckets to fill a 63 L tank. How much does a large bucket hold?

51. The lengths, in meters, of the sides of a triangle are consecutive even integers. The perimeter is 18 m. How long are the sides?

52. Bruce's savings account contains $122 more than his younger brother's account. Together, they have $354. Find the amount in each account.

Solve each equation. If the equation is an identity or if it has no solution, write (3-5)
identity or *no solution*.

53. $10w = 8w + 14$ **54.** $x = 45 - 4x$ **55.** $48 - 6k = -12k$

56. $9m + 3 = 6m + 21$ **57.** $27 + u = 3 - 3u$ **58.** $4n + 1 = -1 + 4n$

59. $2(v - 8) = 6v$ **60.** $3x = 5(x - 6)$ **61.** $7y - 3 = 6(y + 2)$

62. $\frac{1}{3}(18 - 9c) = 6 - 3c$ **63.** $m - 5 = \frac{1}{2}(12 - 14m)$ **64.** $\frac{4}{5}(25x - 15) = 50x + 38$

65. $5(3 + h) = 4(h + 2)$ **66.** $(6x - 3)2 = (4x + 7)3$ **67.** $7(n - 3) = 5(n - 3)$

Solve. Use a chart to help you solve the problem. (3-6, 3-7)

68. Jay's salary is $\frac{2}{3}$ of his wife's salary. In January, when they both get $2000 raises, their combined income will be $49,000. What are their current salaries?

69. Erin's three test scores were consecutive odd integers. If her next test score is 18 points more than the highest score of the three tests, her total number of points will be 328. Find Erin's test scores.

70. Julius weighs twice as much as each of his twin brothers. If each of the twins gains 5 lb and Julius gains twice that amount, the sum of the three brothers' weights will be 240 lb. How much does each weigh now?

71. The width of a rectangle is 6 cm less than the length. A second rectangle, with a perimeter of 54 cm, is 3 cm wider and 2 cm shorter than the first. What are the dimensions of each rectangle?

72. Martha has some nickels and dimes worth $6.25. She has three times as many nickels as dimes. How many nickels does she have?

73. Elliot paid $1.50 a dozen for some flowers. He sold all but 5 dozen of them for $2 a dozen, making a profit of $18. How many dozen flowers did he buy?

74. Rachel spent $16.18 for some cans of dog food costing 79 cents each and some cans of cat food costing 69 cents each. She bought two more cans of cat food than of dog food. How many cans of each did she buy?

75. Victor earns $3 an hour working after school and $4 an hour working on Saturdays. Last week he earned $43, working a total of 13 h. How many hours did he work on Saturday?

State a reason for each step in Exercises 76–78. (3-8)

76. $6 + (15 + 4) = 6 + (4 + 15)$ <u> ? </u>
$= (6 + 4) + 15$ <u> ? </u>
$= 10 + 15 = 25$ <u> ? </u>

77. $20 + (-4) = (16 + 4) + (-4)$ <u> ? </u>
$= 16 + [4 + (-4)]$ <u> ? </u>
$= 16 + 0$ <u> ? </u>
$= 16$ <u> ? </u>