

## Extra Practice: Skills and Word Problems

● **Lessons 3-1 to 3-2** Solve each equation.

1.  $8p - 3 = 13$

2.  $8j - 5 + j = 67$

3.  $-n + 8.5 = 14.2$

4.  $6(t + 5) = -36$

5.  $m - 9 = 11$

6.  $\frac{1}{2}(s + 5) = 7.5$

7.  $7h + 2h - 3 = 15$

8.  $\frac{7}{12}x = \frac{3}{14}$

9.  $3r - 8 = -32$

10.  $8g - 10g = 4$

11.  $-3(5 - t) = 18$

12.  $3(c - 4) = -9$

Define a variable and write an equation for each situation. Then solve.

13. Your test scores for the semester are 87, 84, and 85. Can you raise your test average to 90 with your next test?

14. You spend  $\frac{1}{2}$  of your allowance each week on school lunches. Each lunch costs \$1.25. How much is your weekly allowance?

● **Lesson 3-3** Solve each equation. If the equation is an identity, write *identity*. If it has no solution, write *no solution*.

15.  $4h + 5 = 9h$

16.  $2(3x - 6) = 3(2x - 4)$

17.  $7t = 80 + 9t$

18.  $m + 3m = 4$

19.  $-b + 4b = 8b - b$

20.  $6p + 1 = 3(2p + 1)$

21.  $10z - 5 + 3z = 8 - z$

22.  $3(g - 1) + 7 = 3g + 4$

23.  $17 - 20q = (-13 - 5q)4$

● **Lessons 3-4 and 3-5** Solve each proportion.

24.  $\frac{3}{4} = \frac{-6}{m}$

25.  $\frac{t}{7} = \frac{3}{21}$

26.  $\frac{9}{j} = \frac{3}{16}$

27.  $\frac{2}{5} = \frac{w}{65}$

28.  $\frac{s}{15} = \frac{4}{45}$

29.  $\frac{9}{4} = \frac{x}{10}$

30.  $\frac{10}{q} = \frac{8}{62}$

31.  $\frac{3}{2} = \frac{18}{y}$

32. The scale on a map is 1 in. : 15 mi. The distance between two cities is 25 mi. Find the distance in inches between the cities on the map.

● **Lesson 3-6**

33. **Transportation** A bus traveling 40 mi/h and a car traveling 50 mi/h cover the same distance. The bus travels 1 h more than the car. How many hours did each travel?

● **Lesson 3-7** Find each percent of change. Describe each as a percent of increase or decrease. Round to the nearest percent.

34. \$4.50 to \$5.00

35. 56 in. to 65 in.

36. 18 oz to 12 oz

37. 1 s to 3 s

38. 8 lb to 5 lb

39. 6 km to 6.5 km

● **Lesson 3-8** Find the square roots of each number.

40. 25

41.  $\frac{4}{9}$

42. 64

43.  $\frac{25}{36}$

44. 0.81

45. 900

● **Lesson 3-9** Determine whether the given lengths are sides of a right triangle.

46. 15, 36, 39

47. 3, 7, 10

48. 8, 15, 17

49.  $\sqrt{3}$ ,  $\sqrt{4}$ ,  $\sqrt{5}$

For the values given,  $a$  and  $b$  are legs of a right triangle. Find the length of the hypotenuse. If necessary, round to the nearest tenth.

50.  $a = 6, b = 8$

51.  $a = 5, b = 9$

52.  $a = 4, b = 10$

53.  $a = 9, b = 1$