CHAPTER 4

NAME _____ DATE _____

Cumulative Review

For use after Chapters 1–4

Evaluate the expression for the given value of the variable. (1.1)

1. $2x - 1$ when $x = 3$

2. $5 - b$ when $b = 2$

3. $1.1c$ when $c = -10$

4. $\frac{4.2}{x}$ when $x = 2$

5. $\frac{1}{2}x$ when $x = \frac{5}{2}$

6. $\frac{2}{3} - p$ when $p = \frac{1}{9}$

Evaluate the numerical expression. (1.3)

7. $9 \div 3 + 2 \cdot 4$

8. $3 \cdot 4^2 \div 12$

9. $8[(20 - 4) - 6]$

10. $[15 + (3^2 \cdot 2)] \div 11$

11. $\frac{1}{4} \cdot 48 - 3^2$

12. $\frac{1}{5}(8 \cdot 10) + 4$

Write the verbal phrase as an algebraic expression. Use *x* for the variable in your expression. (1.5)

13. Six more than a number

14. Difference of fifteen and a number

15. Product of two and a number

Find the sum using the rules of addition. (2.2)

16. $-5 + 7$

17. $12 + 30$

18. $17 + 0$

19. $-12 + (-8)$

20. $4.2 + (-3.1) + 5.4$

21. $6.2 + (-1.1) + (-3.4)$

Find the difference. (2.3)

22. $6 - 10$

23. $7 - (-6)$

24. $-2 - (-4)$

25. $\frac{3}{4} - \frac{5}{4}$

26. $-\frac{2}{3} - \frac{1}{3}$

27. $\frac{5}{2} - \frac{1}{4}$

Simplify the variable expression. (2.5)

28. $(-6)(-z)$

29. $2(-b)(-b)(-b)$

30. $-(-y)^2$

31. $|(4)(-z)(-z)(-z)|$

32. $-(x^5)(x)$

33. $\frac{2}{3}\left(\frac{3}{2}x\right)$

Find the probability of choosing a red marble from a bag of red and white marbles. (2.8)

34. Number of red marbles: 12
Total number of marbles: 48

35. Number of red marbles: 6
Total number of marbles: 22

Solve the equation. (3.1–3.4, 3.6)

36. $15x - 3 = 48$

37. $4(32 - 2t) = 144$

38. $-(x - 1) = 2(x - 1)$

39. $-2(4.36 - 6.92x) = 13.83x - 2.55$

Review and Assess

NAME _____ DATE _____

Cumulative Review

For use after Chapters 1–4

Find the unit rate. (3.8)

40. \$1.50 for 4 cans of tuna

41. \$2.10 for $2\frac{1}{2}$ gallons of soda

42. \$189.00 for working 27 hours

43. 5 liters for 4 servings

Find three different ordered pairs that are solutions of the equation. (4.2)

44. $y = 2x - 1$

45. $y = 9 - 3x$

46. $x = \frac{1}{4}$

47. $y = -1$

Use a table of values to graph the equation. (4.2)

48. $y = -x + 2$

49. $y = 3x + 1$

50. $y = -\frac{1}{2}x + 4$

51. $y = -2$

Find the *x*-intercept and the *y*-intercept of the line. Graph the equation. Label the points where the line crosses the axes. (4.3)

52. $y = x + 3$

53. $2x + 3y = 9$

54. $y = 2x - 1$

55. $x - 4y = 7$

Plot the points and find the slope of the line passing through the points. (4.4)

56. $(2, 3), (4, 1)$

57. $(-1, -2), (-4, -3)$

58. $(3, 5), (-2, 5)$

59. $(7, 2), (-2, -6)$

60. $(1, -1), (1, 7)$

61. $\left(-\frac{1}{2}, \frac{2}{3}\right), \left(\frac{3}{2}, -\frac{4}{3}\right)$

Write the equation in slope-intercept form. Then graph the equation. (4.6)

62. $2y = 4$

63. $2x - 4y = 8$

64. $x + 5y - 1 = 0$

65. $x - y = 0$

Decide whether the graphs of the two equations are parallel lines. Explain your answer. (4.6)

66. $y = 2x + 5, y - 2x = 12$

67. $3x - 4y = 7, y = -\frac{4}{3}x - 5$

In Exercises 68–71, the variables *x* and *y* vary directly. Use the given values to write an equation that relates *x* and *y*. (4.5)

68. $x = 3, y = 6$

69. $x = -2, y = -4$

70. $x = 21, y = 7$

71. $x = -3, y = -3$

Evaluate the function when $x = 3$, $x = 0$, and $x = -1$. (4.8)

72. $f(x) = 15x - 2$

73. $f(x) = 4x$

74. $f(x) = -8x + 1$

75. $f(x) = \frac{1}{2}x - 3$