

WSCA Summer Assignment

Algebra I

1-6 Cumulative Practice

Evaluate the expression for the given value of the variable. (1.1, 1.2, 1.3)

1. $x + 8$ when $x = -1$

2. $3x - 2$ when $x = 7$

3. $x(4 + x)$ when $x = 5$

4. $3(x - 5)$ when $x = 1$

5. $\frac{x + 8}{x}$ when $x = 4$

6. $x^3 - 3x + 1$ when $x = 2$

7. PHOTO COSTS A photography studio charges \$65 for a basic package of graduation photos. Each additional wallet-sized photo costs \$1. Use the equation $C = 65 + n$, where C is the total cost and n is the number of additional wallet-sized photos. Make an input-output table that shows the cost of ordering 0 through 6 additional wallet-sized photos. (1.8)

Evaluate the expression. (2.2, 2.3, 2.4)

8. $-|3|$

9. $|-2.5|$

10. $-15 + 7$

11. $2 + (-6) + (-14)$

12. $-8 - 12$

13. $3.1 - (-3.3) - 1.8$

14. VELOCITY AND SPEED A hot-air balloon descends at a rate of 800 feet per minute. What are the hot-air balloon's velocity and speed? (2.2)

15. TEMPERATURES On February 21, 1918, the temperature in Granville, North Dakota, rose from -33°F to 50°F in 12 hours. By how many degrees did the temperature rise? (2.4)

Simplify the expression. (2.6, 2.7)

16. $4(a - 4)$

17. $3(6 + x)$

18. $(5 + n)2$

19. $(3 - t)(-5)$

20. $20x - 17x$

21. $4b + 7 + 7b$

22. $5x - 3(x - 9)$

23. $4(y + 1) + 2(y + 1)$

Solve the equation. (3.1-3.4)

24. $x + 4 = -1$

25. $-3 = n - (-15)$

26. $6b = -36$

27. $\frac{x}{4} = 6$

28. $3x + 4 = 13$

29. $5x + 2 = -18$

30. $6 + \frac{2}{3}x = 14$

31. $2x + 7x - 15 = 75$

32. $5(x - 2) = 15$

33. $\frac{1}{3}(x - 15) = 20$

34. $x - 8 = 3(x - 4)$

35. $-(x - 6) = 4x + 1$

In Exercises 36 and 37, use the formula for density, $d = \frac{m}{v}$, where m represents mass and v represents volume. (3.7)

36. Find a formula for v in terms of d and m .

37. Use the formula you wrote in Exercise 36 to find the volume (in cubic centimeters) of a piece of cork that has a density of 0.24 gram per cubic centimeter and a mass of 3 grams.

Find the unit rate. (3.8)

38. \$1 for two cans of dog food

39. 156 miles traveled in 3 hours

40. \$480 for working 40 hours

41. 125 feet in 5 seconds

Plot and label the ordered pairs in a coordinate plane. (4.1)

42. $A(2, 3)$, $B(2, -3)$, $C(-1, 1)$

43. $A(0, -2)$, $B(-3, -3)$, $C(2, 0)$

44. $A(2, 4)$, $B(3, 0)$, $C(-1, -4)$

45. $A(1, -4)$, $B(-2, 4)$, $C(0, -1)$

CATFISH SALES In Exercises 46 and 47, use the following information.

The table below shows the number of catfish (in millions) sold in the United States from 1990 through 1997. The numbers are rounded to the nearest million. (4.1)

Year	1990	1991	1992	1993	1994	1995	1996	1997
Number of catfish (millions)	273	333	374	379	348	322	375	387

► Source: U.S. Bureau of the Census

46. Draw a scatter plot of the data. Use the horizontal axis to represent the time.

47. Describe the relationship between the number of catfish sold and time.

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

48. $x + y = 0$

49. $2x + y = 12$

50. $x - y = 8$

51. $x - y = 4$

52. $2x - y = -1$

53. $x + 2y = 4$

Write the equation of the line in slope-intercept form. (5.1)

54. Slope = 1; y-intercept = -3.

55. Slope = -2; y-intercept = 5.

56. Slope = 0; y-intercept = 0.

57. Slope = 4; y-intercept = 1.

Write in slope-intercept form the equation of the line that passes through the given point and has the given slope. (5.2)

58. $(-1, 1)$, $m = 2$

59. $(0, 1)$, $m = 1$

60. $(3, 3)$, $m = 0$

61. $(3, -1)$, $m = \frac{1}{4}$

62. $(-3, 6)$, $m = -5$

63. $(-2, 2)$, $m = -3$

Write in point-slope form the equation of the line that passes through the given points. (5.3)

64. $(2, 0)$ and $(0, -2)$

65. $(1, 4)$ and $(3, 6)$

66. $(1, 10)$ and $(3, 2)$

67. $(-1, -7)$ and $(-2, 1)$

68. $(0, 3)$ and $(2, 4)$

69. $(4, 7)$ and $(8, 10)$

Solve the inequality. (6.1-6.5, 6.7)

70. $-6 \leq x + 12$

71. $6 > 3x$

72. $-\frac{x}{6} \geq 8$

73. $-4 - 5x \leq 31$

74. $-4x + 3 > -21$

75. $-x + 2 < 2(x - 5)$

76. $-3 \leq x + 1 < 7$

77. $-4 \leq -2x \leq 10$

78. $2x > 10$ or $x + 1 < 3$

79. $x + 3 > 7$ or $2x + 3 \leq -1$

80. $|x - 8| > 10$

81. $|2x + 5| \leq 7$