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Algebra I Unit I Review

Find the place value of each digit.

1. 26,915

- (a) 1
- (b) 2
- (c) 9
- (d) 5
- (e) 6

2. 58,129,304

- (a) 5
- (b) 0
- (c) 1
- (d) 8
- (e) 2

Name each number using words.

3. 3,975,284

Write each number as a whole number using digits.

4. Three hundred sixteen

5. Ninety million, twenty thousand, seven

Round each number to the nearest (a) ten, (b) hundred, and (c) thousand.

6. 26,846

7. 3,972,849

Find the prime factorization.

8. 420

9. 1560

Find the least common multiple.

10. 24, 30

11. 60, 75

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Translate from algebra to English.

12. $25 - 7$

13. $5 \cdot 7$

14. $42 \geq 28$

15. $3 \leq 20 \div 4$

Determine if each is an expression or equation.

16. $6 \cdot 6 + 9x$

17. $x - 9 = 45$

Simplify each expression.

18. $6 + 10/2 + 3$

19. 3^5

20. $20 \div (4 + 6) \cdot 8$

21. $(4 + 3)^2$

Evaluate the expressions.

22. $9x + 8$ when $x = 2$

23. x^4 when $x = 4$

24. 3^x when $x = 3$

25. $2x + 4y - 9$ when $x = 7, y = 8$

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Identify the coefficient of each term.

26. $14n$

27. $-y$

Identify the like terms.

28. $3n, n^2, 19, 12m^2, 4, 3n^2$

29. $6, 18d^4, 9g, 9d^4, 5g, 10g$

Simplify the expressions by combining like terms.

30. $17z + 10z$

31. $9x + 4x + 12$

32. $7y - 5 + 4y - 9$

Translate the following phrases into algebraic expressions

33. the sum of nine and five

34. the difference of x and 1035. the product of 6 and k

36. Allie bought a skirt and a blouse. The skirt cost \$16 more than the blouse. Let b represent the cost of the blouse. Write an expression for the cost of the skirt.

Order each of the following pairs of numbers using $<$ or $>$.

37. $6 \underline{\hspace{1cm}} 2$

38. $-7 \underline{\hspace{1cm}} 8$

39. $-9 \underline{\hspace{1cm}} -4$

40. $3 \underline{\hspace{1cm}} -10$

Find the opposite of each number.

41. -8

42. 9

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Simplify.

43. $-(-28)$

44. $-(-54)$

45. $-x$ when $x = -3$

46. $-p$ when $x = 4$

47. $|-8|$

48. $-|-25|$

49. $|4|$

50. $|0|$

Fill in $<$, $>$, or $=$ for each of the following pairs of numbers.

51. -9 _____ $|-9|$

52. $-|-34|$ _____ $|-34|$

53. 11 _____ $-|-11|$

Simplify.

54. $8(14 - 2|-2|)$

55. $140 + (-75) + 67$

56. $-5 - (-1)$

57. $-15 - (-28) + 5$

58. $-16 - (-4 + 1) - 7$

59. $-8(-2) - 3(-9)$

60. $-4 \cdot 2 \cdot 11$

61. $-10(-5) \div (-25)$

62. $24 - 3(2 - 10)$

63. $6x - 5y + 15$ when $x = 3$ and $y = -1$

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Simplify each fraction.

64. $\frac{7}{21}$

65. $-\frac{168}{192}$

66. $\frac{11x}{11y}$

Multiply or divide.

67. $\frac{7}{12} \left(-\frac{8}{21}\right)$

68. $-28b \left(-\frac{1}{4}\right)$

69. $-\frac{4}{5} \div \frac{4}{7}$

70. $\frac{7x}{12} \div \frac{21x}{8}$

71. $-\frac{\frac{x}{6}}{-\frac{8}{9}}$

72. $\frac{15 + 9}{18 + 12}$

73. $\frac{12 \cdot 9 - 3^2}{3 \cdot 18}$

74. $\frac{7 + 3(5)}{-2 - 3^2}$

Add or subtract.

75. $-\frac{1}{8} + \left(-\frac{5}{8}\right)$

76. $-\frac{8}{a} - \frac{3}{a}$

77. $-\frac{7}{20} - \left(-\frac{5}{8}\right)$

Write as a decimal.

78. Eight and three hundredths

79. nine thousandths

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Name the decimal.

80. 0.005

81. 1.45

Simplify.

82. $-4.2 + (-9.3)$

83. $100 - 65.89$

Simplify.

84. $0.3(3.14)$

85. $(0.09)(24.78)$

86. $12/0.08$

Write each as a decimal, fraction, and percent.

87. 0.08

88. 0.425

89. $-\frac{4}{5}$

90. $\frac{5}{9}$

91. 5%

92. 115%

93. 0.009

94. 1.5

Simplify

95. $\sqrt{64}$

96. $-\sqrt{25}$

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Classify each number as rational, irrational, whole, natural, real, not real, or integer

97. -4 , 0 , $\sqrt{16}$, $5.432\dots$, $13/3$, 10.5 Order each of the following pairs of numbers using $<$, $>$, or $=$:98. -1 _____ $-1/8$ 99. $-7/9$ _____ $-4/9$ 100. 0.9 _____ 0.61 101. -0.27 _____ -0.3 102. 0.7 _____ $-3/4$ 103. 0.8 _____ 0.43

Simplify.

104. $\left(\frac{7}{12} + \frac{4}{5}\right) + \frac{1}{5}$ 105. $11x + 8y + 16x + 15y$ 106. $-18 \cdot 15 \cdot (2/9)$

Find the additive inverse:

107. $\frac{1}{4}$ 108. -14

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Find the multiplicative inverse:

109. -10

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

111. 2.1

112. 0.9

Simplify.

113. $7(c + 8)$

114. $-8(-6w - 13)$

115. $(y - 4) - (6a + 9)$

116. $4(x - 3) - 8(x - 7)$

Convert the measurements.

117. $5 \text{ ft. } 4 \text{ inches} = \text{_____ in.}$

118. $14,179 \text{ ft} = \text{_____ miles}$

119. $1.7 \text{ m} = \text{_____ cm}$

120. $13\text{g} = \text{_____ mg}$