Math 105 – Chapter 1 Test Practice

NAME_____   DATE_____

Name the property. If the statement is incorrect, state "invalid"

1. $5 + 8 = 8 + 5$ 1. _____

2. $a(bc) = (ab)c$ 2. _____

3. $3(2x-3)=6x-9$ 3. _____

4. $20 - (10 - 5) = (20 - 10) - 5$ 4. _____

5. $(1 + 2) + 3 = 1 + (2 + 3)$ 5. _____

6. $7(3x+2)=10x+9$ 6._____

7. $(3 \bullet 2) \bullet 1 = 3 \bullet (2 \bullet 1)$ 7._____

8. $1 + (2 + 3) = (2 + 3) + 1$ 8._____

In Problems 9 – 13, use the following set of numbers: $\left\{ 0, \ -2, \ 1\frac{3}{4}, \ \pi, \ 9.62, \ \sqrt{25}, \ 4, \ \sqrt{3} \right\}$

9.   Which are rational numbers?   9. _____

10.   Which are irrational numbers?   10. _____

11.   Which are real numbers?   11. _____

12.   Which are integers?   12. _____

13.   All of these numbers in the set above are _____ numbers

Evaluate.

14. $(-9) + 2$ 15. $(-3)(-9)$ 16. $(-3)^3$

17. $12 +(-14)$ 18. $(-5)(8)$ 19. -2^3

20. $\sqrt{64}$

21. $\dfrac{-66}{-11}$

22. $(-2)(6)(-3)$

23. $\sqrt{49}$

24. $\dfrac{54}{-9}$

25. $(-2)(-5)(-3)$

26. -4^2

27. $\dfrac{2}{0}$

28. $-\sqrt{16}$

29. $(-4)^2$

30. $\dfrac{0}{2}$

31. $-3\sqrt{9}$

32. $\dfrac{-2}{3} - \dfrac{1}{4}$

33. $(-3) - (-12)$

34. Subtract 12 from -2

35. $\dfrac{-2}{5} - 2$

36. $(5) - (-12)$

37. Subtract 6 and 10

Evaluate the expression using order of operations.

38. $4 + 3 \bullet 4$

39. $-2^2 + (-5)^2$

40. $3 \bullet 7 + 4$

41. $(-2)^2 + (-5)^2$

42. $12 - 3 \bullet 2 + 1$

43. $20 \div 5 \bullet 4$

44. $2 \bullet 3 - 4 \bullet 3$

45. $24 \bullet 2 \div 6$

46. $(-2)(3) + 4(8 - 3)$

47. $\dfrac{3 - 7}{-2 + 4}$

48. $(-3)(-5) - 3(8 - 6)$

49. $\dfrac{5 - 11}{-4 + 3}$

50. $4 + |6 - 9| + 2^3$

51. $\left\{ 6 - \left[2 + (3 - 4) \right] \right\} - 8$

52. $|4 + 2| + 3^3 + 1$

53. $\left\{ -\left[5 + (8 - 3) \right] + 4 \right\} - 9$

54. $16 \div (-4)^2 + 3\left[6 - \dfrac{25}{5} \right]$

55. $25 \div -5^2 - 3\left[4 - \dfrac{10}{2} \right]$

Simplify by collecting like terms and using the Distributive Property when needed.

56. $-3(x+2)$

57. $2(2+x)-4(9-y)$

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

59. $-3(4+y)-2(x-6)$

60. $6-2\left[3(x+1)-4\right]$

61. $8-3\left[2(x+3)-5\right]$

62. Subtract $-3x+4$ from $9x-6$

63. Subtract $8y-7$ from $-10y-5$

64. $\dfrac{2}{3}(6x-12)+\dfrac{1}{5}(-15x+20)$

65. $-\dfrac{1}{7}(7y-21)+\dfrac{1}{4}(8y+1)$

Find the value of each expression when: $a=-3, \quad b=5$

66. $-2a-3a$

67. $4+a(2a-b)$

68. $-4b-5b$

69. $5+b(4b-a)$

70. $b^2+2a-3b$

71. $a^2+4b-3a$

Translate each phrase.

72. Seven decreased by X.

73. Ten taken from Y.

74. 20 fewer than three times A.

75. F quadrupled, subtracted from 30.

76. The quotient of A will be divided by the sum of B and C.

77. The quotient of X will be divided by the difference 10 and Y.