**01 – Standard: Simplifying Expressions** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Algebra 1 Final Exam Review

Properties of Exponents

**Evaluate the expression.**

1.  2.  3. 

4.  5.  6. 

**Simplify the expression. Express your answer using positive exponents only.**

7.  8.  9. 

10.  11.  12. 

13.  14.  15. 

16.  17.  18. 

19.  20.  21. 

22.  23.  24. 

Evaluating Expressions

**Evaluate each of the following expressions.**

25. 4(*x* + *y*) − 2, when *x* = 4 and *y* = 5 26. 3*x*2 + 2*y*, when *x* = 3 and *y* = −3

­27. −5*a* + 2*b* − 6*c*,when *a* = −6, *b* = 4, and *c* = −2 28.  + 2*y*, when *x* = 5 and *y* = −2

29. 1−y|2*x* − *y*|, when *x* = 3 and *y* = 10

Multiplying Polynomials

**Simplify each by writing the product as a sum.**

30. (x – 2)(x – 9) 31. (2x + 4)(x + 1) 32. (3x + 7)(3x - 7)

33. (7x – 4)(3x + 6) 34. (2x + y)(x + 3y) 35. (7x + 3y)(x + 2y)

36. (2x – 1)2 37. (3x + 9)2 38. (4x – y)2

39. Explain what is similar and what is different about the two expressions: 3*x*2 and (3*x*)2.

40. Simplify then explain what is similar and what is different about the two expressions: (3*x*)2 and (3+*x*)2.

41. Simplify then explain what is similar and what is different about the two expressions: 3*x*-2 and (3*x*)-2

42. In the expression , if the value of **a** is positive and the value of **b** is negative, is the value of the expression positive or negative? Explain.

43. Write the algebraic expression for each of the phrases below.

a. Three subtracted from the product of -2 and 7 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

less than 5.

b. The quotient of a number and 4 is -1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. A number multiplied by 5, subtracted from the sum \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

of three times the number and 4 is 12.

d. The difference of seven and number, divided by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

product of 10 and a number is less than or equal to 8.