

Name: _____

Date: _____

Review Ditto

Common Core Algebra

1) An algebraic expression that contains three terms is called	2) Name the method for multiplying a binomial by a binomial	3) Arrange $5x^{20} + 3x^{32} - x^{21} + x^2 - 6$ in standard form
4) Any non-zero number raised to the zero power is always equal to	5) What is the conjugate of $x - 2$?	6) What is the additive inverse of $7x - 3y$?

Addition Rule	Subtraction Rule

7) Simplify $6x + 2y + 9 - 3x - 5y - 8$	8) The sum of $8x^2 - x + 4$ and $x - 5$
9) The sum of $3x^2 + 4x - 2$ and $x^2 - 5x + 3$ can be expressed as	10 Express the sum of $x^2 - 3x + 5$ and $3x^2 - 2x - 2$ as a trinomial.
11) Simplify $5x^2 - (-2x^2)$	12) The sum of $3x^2 + x + 8$ and $x^2 - 9$ can be expressed as
13) When $a^2 + a - 3$ is subtracted from $3a^2 - 5$, the result is	14) When $3x^2 - 8x$ is subtracted from $2x^2 + 3x$, the difference is
15) The expression $(2x^2 + 6x + 5) - (6x^2 + 3x + 5)$ is equivalent to	16) When $-2x^2 + 4x + 2$ is subtracted from $x^2 + 6x - 4$, the result is

Multiplication Rule # 1 Powers that have the same base:17) The expression $x \cdot x^3 \cdot x^5$ is equivalent to18) The expression $3^2 \cdot 3^3 \cdot 3^4$ is equivalent to19) The expression $x^{-2} \cdot x^{-3} \cdot x^9$ is equivalent to**Multiplication Rule # 2 Multiplying by a monomial**20) The product of $4x^2y$ and $2xy^3$ to21) What is the product of $2r^2 - 5$ and $3r$?22) What is the product of $-3x^2y$ and $(5xy^2 + xy)$?23) Simplify $-3x(2x^4 - 12x^2 + 7)$ 24) Simplify $7 + 2(5x - 6)$ 25) Simplify $-6x - 7(4 + 3x)$ **Multiplication Rule # 2 Multiplying by binomials**26) $(x + 2)(x + 3)$ 27) $(x + 4)(x - 2)$ 28) $(m - 10)(m + 7)$ 29) $(x - 3)(x - 5)$

30) $(3x^2 + 6x) - (x^2 - 7x + 9)$	31) $(x - 6)^2$
32) The expression $(a^2 + b^2)^2$ is equivalent to 1) $a^4 + b^4$ 2) $a^4 + a^2b^2 + b^4$ 3) $a^4 + 2a^2b^2 + b^4$ 4) $a^4 + 4a^2b^2 + b^4$	33) Multiply $(x - 3)$ by its conjugate

Power Rule

34) $(x^5y^4)^3$	35) $(2b^4)^3$
36) $(10^3)^2$	37) The expression $(6x^3y^6)^2$ is equivalent to
38) The product of $(5ab)$ and $(-2a^2b)^3$ is	39) Simplify $(x^3)^{-4}$

Negative Exponent Rule	Zero Power Rule

40) Simplify 6^{-2}	41) Simplify $6(3^{-3})$	42) Simplify $(-2x)^0$
43) Simplify $-2x^0$	44) Simplify $2^0 + 5$	45) Simplify $5^0 + 5^{-2}$

Division Rule

46) $\frac{-45x^3 + 15x}{5x}$	47) $\frac{-8abc - 16abc}{-4ab}$
48) If $x \neq 0$, then $\frac{(x^4)^4}{x^4}$ (A) 1 (B) x^2 (C) x^8 (D) x^{12}	49) What is the quotient of $15xy^2z^3 - 5x^2yz^5 + 10xyz$ and $5xyz$?

50) Which expression represents $\frac{(2x^3)(8x^5)}{4x^6}$ in simplest form?

51) Simplify: $\frac{27k^5m^8}{(4k^3)(9m^2)}$

Word Problems

52) What is the width of a rectangle if the area is $16wx^3y^8z - 8wxyz$ and the length is $8wxyz$?

53) The length of a rectangle is $(2x + 3)$ and the width of a rectangle is $(x + 6)$. Find the perimeter and the area of the rectangle.

54) What is the perimeter of a triangle whose sides are $x^2 + 4x + 5$, $3x^2 - 5x - 3$, and $-6x^2 + 2x - 3$?

55) The cost of a pizza is 20 cents less than 9 times the cost of a soft drink. If x represents the cost, in cents, of a soft drink, express in simplest form the cost of two pizzas and six soft drinks.