

Power Rules (*,+)

Objective:

By the end of the lesson you will be able to:

Understand and correctly use Power Rules for multiplying and adding to simplify monomials

Rule #1: Product of Powers

$$a^m \cdot a^n = a^m$$

When multiplying two monomials with the same base you ADD the exponents.

Examples: 1) $(4^2)(4^3) = ?$

2) $x^3x^4 = ?$

Examples: Product of Powers

Simplify the expressions.

3) $(c^6)(c^7)$

4) $3c^34c^7$

5) $(3a^6)(a^8)$

Rule #2: Power of a Power

$$(a^m)^n = a^{n}$$

When taking the *power of a power*, you *MULTIPLY* the exponents.

Examples: 7) $(x^3)^2 = ?$

8) $(2^4)^3$

9) $(a^2)^4$

Rule #3: Power of a Product

$$(ab)^m = a^m b^m$$

When taking the power of a product, you put the power to all elements in the product.

Examples:

10) $(y^4x^2)^3=?$

11) $(-2yx^2)^3=?$

12) $(2x^3y)^3$

Simplify the expressions.

$$13) \left(\frac{b^2c}{d} \right)^3$$

$$14) \left(\frac{3x^2}{4x^3} \right)^2$$

More practice. Simplify the expressions.

15) $(3x^4y^3)(4x^4y)$

16) $m^7(m^3b^2)$

17) $(3a^2)^3 + 2(a^3)^2$

18) $-3(ax^3y)^2$

Secondary 2 lesson 1.1: Power Rules (*,+)

Can You?:

Understand and correctly use Power Rules for multiplying and adding to simplify monomials

???

Assignment:

1.1 in the packet and MathXL 1.1

Due next class