Warm Up April 12, 2019

Simplify the polynomial expressions:

1.) $(x - 4)^2$ 2.) $(3x + y^2)^2$

Write the equation of a line given the following information:

3.) X-Intercept : (4,0)
Y-Intercept: (0, -1)

Hint: Find the slope first.

Go Go Power Ru-ule!

Powers of Monomials

Example: $(4x^3)^2$

- **Step 1:** Raise the coefficient to the outer exponent
- **Step 2:** Use the **POWER RULE** to simplify the exponents.

POWER RULE:

$$(x^a)^b = x^{ab}$$

multiply exponents

EASY

1. $(x^2)^5$ $(1)^5(x^2)^5$ x^{10}	**2.** $(cd^2)^3$ $(1)^3(c^1)^3(d^2)^3$ c^3d^6
3. $-4(mn^4)^3$ $-4(m)^3(n^4)^3$ $-4m^3n^{12}$	**4.** $(2x^2y)^5$ $(2)^5(x^2)^5(y)^5$ $32x^{10}y^5$

$$(x^2)^5 = x^2 \cdot x^2 \cdot x^2 \cdot x^2 \cdot x^2$$
$$= x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$$

MEDIUM

7. $(-2a^4b^6)^2$

$(-2)^2(a^4)^2(b^6)^2$

$4a^8b^{12}$

8. $(-5x^3y^4)^2$

$(-5)^2(x^3)^2(y^4)^2$

$25x^6y^8$

9. $(x^3y^3)^3 \cdot xy^2$

$(x^3)^3(y^3)^3 \cdot xy^2$

$x^9y^9 \cdot x^1y^2$

$x^{10}y^{11}$

10. $a^3 \cdot (a^2b)^4$

$a^3 \cdot (a^2)^4(b)^4$

$a^3 \cdot a^8b^4$

$a^{11}b^4$

HARD

13. $(2a^2)^3 + (a^4)(3a^2)$

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

$8a^6 + 3a^6$

$11a^6$

14. $(3x^3y)^4 - (7x^5y)^2 \cdot x^2y^2$

$(3)^4(x^3)^4(y)^4 - (7)^2(x^5)^2(y)^2$

$81x^{12}y^4 - 49x^{10}y^2 \cdot x^2y^2$

$81x^{12}y^4 - 49x^{12}y^4$

$32x^{12}y^4$