

**April 13, 2012** **Alg1**

**Get out yesterday's WS...  
we need to take scores.**



## 4/13 - Exponent Rules: Power of Powers

An exponent tells you how many times the base is used as a factor (multiplied).

$$\begin{aligned} & (k^2)^2 \\ &= k^2 \cdot k^2 \\ &= k k k k \\ &= k^4 \end{aligned}$$

$$\begin{aligned} & (v^3)^3 \\ &= v^3 \cdot v^3 \cdot v^3 \\ &= v^9 \end{aligned}$$

$$\begin{aligned} & (n^4)^2 \\ &= n^4 \cdot n^4 \\ &= n^8 \end{aligned}$$

$$\begin{aligned} & (2n^4)^2 \\ &= 2n^4 \cdot 2n^4 \\ &= 4n^8 \end{aligned}$$

$$\begin{aligned} & (3m^3)^4 \\ &= 3m^3 \cdot 3m^3 \cdot 3m^3 \cdot 3m^3 \\ &= 81m^{12} \end{aligned}$$

$$\begin{aligned} & (-v^3)^2 \\ &= (-v^3)(-v^3) \\ &= v^6 \end{aligned}$$

$$\begin{aligned} & \text{---} \\ & (-3v^3)^3 \\ &= -27v^9 \end{aligned}$$

pos. if even

$$(-4n)^4 = 256n^4$$

$$\begin{aligned} & (-2p^4)^3 \\ &= (-2p^4)(-2p^4)(-2p^4) \\ &= -8p^{12} \end{aligned}$$

$$\begin{aligned} & (u^4 v^4)^2 \\ &= u^4 v^4 \cdot u^4 v^4 \\ &= u^8 v^8 \end{aligned}$$

$$\begin{aligned} & (4xy^3)^3 \\ &= 64x^3y^9 \end{aligned}$$

$$\begin{aligned} & (2a^2b^3)^4 \\ &= 16a^8b^{12} \end{aligned}$$

$$\begin{aligned} & (3x^3y^2)^2 \\ &= 9x^6y^4 \end{aligned}$$

$$\begin{aligned} & (-2x^2y^4)^4 \\ &= 16x^8y^{16} \end{aligned}$$

$$\begin{aligned} & (-3x^3y^3)^3 \\ &= -27x^9y^9 \end{aligned}$$

$$\begin{aligned} & (-4u^4v^2)^2 \\ &= 16u^8v^4 \end{aligned}$$

$$\begin{aligned} & (-4u^2v^3)^3 \\ &= -64u^6v^9 \end{aligned}$$

negatives to even powers are positive  
negatives to odd powers are negative

# Homework

**Blue Exponents WS2**

**Due**