Learning Goals

1. To understand, to simplify a power of a power, multiply exponents.

2.3 Power of a Power

To simplify a power of a power, multiply the outer most exponent by all of the exponents inside the bracket.

$(a^m)^n = a^{mn}$ and $\left(\frac{a^m}{b^n}\right)^p = \frac{a^{mp}}{b^{np}}$

Example One

Simplify. $(x^5)^3$

$= x^{15}$

Example Two

Simplify.

Hint: Don't forget the exponent on the coefficients.

$$\frac{(2x^2y^3)^3}{(2xy^2)^2}$$

$$= \frac{2^3 x^6 y^9}{2^2 x^2 y^4}$$

$$= 2x^4y^5$$

Complete: p. 96 - 97 #1, 3, 6 - 9, 11, 15.