

Part C

What would your strategy be if the entire fractional expression is raised to a power?

Simplify $\left(\frac{6x^4y^3}{4x^3y^5}\right)^3$.

1. Applying the exponent first –

- a. Apply the exponent to everything within the parentheses first. What do you get? (Your answer here should be a fractional expression)

$$\left(\frac{6x^4y^3}{4x^3y^5}\right)^3 = \underline{\hspace{10em}}$$

- b. Simplify the expression above that you got by applying the 3rd power to the entire fractional expression.
- c. Final simplified answer?

2. Simplify within the parentheses first –

- a. Simplify within the parentheses first. What do you get?

$$\left(\frac{6x^4y^3}{4x^3y^5}\right)^3 = \left(\hspace{2em} \right)^3$$

- b. Apply the 3rd power to your simplified expression.
- c. Final simplified answer?

What do you think?

When you have a fractional expression raised to a power, is it more efficient to apply the exponent first then simplify, or to simplify first and then apply the exponent?



**8-2 Skills Practice*****Dividing Monomials***

Simplify. Assume that no denominator is equal to zero.

1. $\frac{6^5}{6^4}$

2. $\frac{9^{12}}{9^8}$

3. $\frac{x^4}{x^2}$

4. $\frac{r^3s^2}{r^3s^4}$

5. $\frac{m}{m^3}$

6. $\frac{9d^7}{3d^6}$

7. $\frac{12n^5}{36n}$

8. $\frac{w^4u^3}{w^4u}$

9. $\frac{a^3b^5}{ab^2}$

10. $\frac{m^7n^2}{m^3n^2}$

11. $\frac{-21w^5u^2}{7w^4u^5}$

12. $\frac{32x^3y^2z^5}{-8xyz^2}$