Warm Up:
Simplify.

\[(n^2)^3\] \[(8q^4)^3\]

\[(7y^3)^7\] \[(4y^4)^3\]

**7.4 Division Properties of Exponents**

**Learning Goal:** I will be able to divide powers with the same base and raise a quotient to a power.

**Division Property:**
Expand then Simplify.

**Property:**

Dividing powers with the Same Base:
To divide powers with the same base, subtract the exponents.

**Examples:**
**Examples 1-3:**
Simplify.

**Examples 4-6:**
With your shoulder buddy.
Simplify and evaluate if you can.

**Examples 7-8:**
Simplify.

**Examples 9-10:**
With your shoulder buddy.
Simplify.
**Property:**

Raising a Fraction to a Power:
To raise a fraction to a power, raise the numerator and the denominator to the power and simplify.

**Examples 11-12:**
Simplify.

**Examples 13-14:** With your shoulder buddy.
Simplify.

**Examples 15-16:**
Simplify.
Examples 17-18: With your shoulder buddy.

Simplify.

Summary

When dividing powers you _______________!!!

Explain in your own words how you would solve the following problem.

\[
\left( \frac{4x^4z^7}{24x^3z^2} \right)^3
\]