7.3 DEFINE AND USE ZERO AND NEGATIVE EXPONENTS

Zero Power

□ Anything raised to the <u>Zero</u> power is

WHY:
$$\frac{4^{3}}{4^{3}} = 14^{\circ}k$$

* Any divided by itself is one.

* When dividing like bases subtract exponents.

Negative Exponents

□ When you have a <u>negative exponent</u> in the

Numerator

□ Put it in the <u>denominator</u> and make it <u>positive</u>.

EX: $(5^{-3} = \frac{1}{5^3})$

□ When you have a <u>negative exponent</u> in the

denominator

□ Put it in the <u>numerator</u> and make it <u>positive</u>.

■ EX: $\frac{7}{3^{-3}} = 3^{3}$

□ NOTE: Negative exponents represent

<u>small</u> numbers.

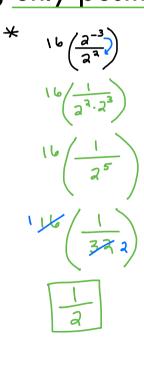
EX:

Undefined

Evaluate the expression. As much as possible.

□ Write your answer using only positive exponents.

256



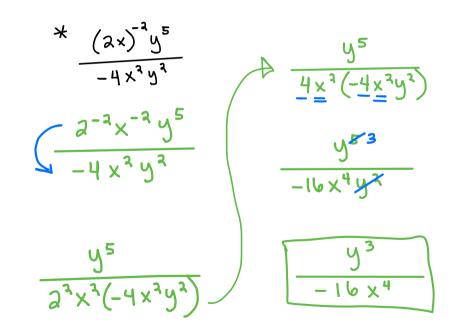
EX:

Simplify the expression.

Write your answer using only positive exponents.

*
$$(2 \times 9^{-5})^{3}$$

 $(2)^{3} \times^{3} (9^{-5})^{3}$
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EX:

□ The mass of one peppercorn is about 10⁻² gram. About how many peppercorns are in a box containing 1kilogram of peppercorns?

$$+ 1 Rg = 1000g = 10^{3}g$$

$$+ \frac{10^{3} - 10^{3}}{10^{3}} = \frac{10^{3}}{10^{3}} = \frac{10^{3}}{10^{5}} = \frac{1$$

