EXPONENTS

EXPONENT: Power that indicates self-multiplication

x^n ← exponent

Base ↗ x

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EXAMPLES:

1. Expand	2. Rewrite w/ Exp.
$2^3 \cdot 4^2$	$x \cdot x \cdot x \cdot y \cdot y \cdot y \cdot z \cdot z$
$2 \cdot 2 \cdot 2 \cdot 4 \cdot 4$	$x^3 y^3 z^2$

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PRODUCT RULE

IF THE SAME BASE EXISTS WHEN MULTIPLYING EXPONENTS, THEN THE FOLLOWING RULE APPLIES....

$$x^m \cdot x^n = x^{m+n}$$

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EXAMPLES:

3. Rewrite

$2^3 \cdot 2^2$

2^5

4. Rewrite

$2x^3 \cdot 4x^7$

$8x^{10}$

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ZERO RULE

ANYTHING TO THE ZERO POWER IS EQUAL TO

ONE

$$x^0 = 1$$

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EXAMPLES:

5. Rewrite

$2{,}100{,}100{,}923^0$

1

6. Rewrite

$x^0 \cdot 4x^7$

$1 \cdot 4x^7$

$4x^7$

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