

Properties of Exponents

Product of Powers

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

$x^4 \cdot x^9$

Quotient of Powers

$$\frac{a^m}{a^n} = a^{m-n}$$

$\frac{y^7}{y^4}$

Power of a Power

$$(a^m)^n = a^{m \cdot n}$$

$(z^3)^4$

Properties of Exponents

Power of Product

$$(ab)^m = a^m b^m$$

$(2x^4y^2)^3$

Power of Quotient

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

$\left(\frac{x^3}{y^2}\right)^4$

Properties of Exponents

Zero Exponent

$$a^0 = 1$$

$$(125x^2y^5)^0$$

Negative Exponent

$$a^{-m} = \frac{1}{a^m} \quad \frac{1}{a^{-m}} = a^m$$

$$x^{-2} = \quad \frac{1}{x^{-3}} =$$

