Name _____

Date _____ Period _____

Powers of a Quotient

$$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$$

For a fraction raised to a power, distribute the power to all exponents in numerator and denominator.

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

Zero Exponent Property

$$a^0 = 1$$

Negative Exponent Property

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

Product of Powers

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

When multiplying like bases, add the exponents

Quotient of Powers

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

When dividing like bases, subtract the exponents

Power to a Power

$$\left(x^m\right)^n = x^{m \cdot n}$$

When raising a power to a power, multiply exponents

$$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$$

For a fraction raised to a power, distribute the power to all exponents in numerator and denominator.

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

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

$$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$$

For a fraction raised to a power, distribute the power to all exponents in numerator and denominator.

$$\left(\frac{1}{3}\right)^{-3}$$

$$\left(\frac{2a}{5a^2}\right)^3$$

$$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$$

For a fraction raised to a power, distribute the power to all exponents in numerator and denominator.

$$\left(\frac{3x}{x^5}\right)^2$$

$$\left(\frac{3ab}{5a^2b}\right)^0$$

Powers of a Quotient

$$\left(\frac{x}{y}\right)^m = \frac{x^m}{y^m}$$

For a fraction raised to a power, distribute the power to all exponents in numerator and denominator.