

EXPONENT RULES

KATESMATHLESSONS.COM

The Product Rule

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

The Power Rule

$$(a^m)^n = a^{mn}$$

Power of a Product Rule

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

Power of a Fraction Rule

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

The Quotient Rule

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

Negative Exponents

$$a^{-n} = \frac{1}{a^n}$$

Zero Exponent

$$a^0 = 1$$

nth Roots

$$a^{1/n} = \sqrt[n]{a}$$

Fractional Exponents

$$a^{m/n} = (\sqrt[n]{a})^m$$