

Rules of Exponents

1. Zero Exponent: $a^0 = 1$

2. Product Rule: $a^n \cdot a^m = a^{n+m}$

3. Quotient Rule: $\frac{a^n}{a^m} = a^{n-m}$

4. Negative Exponent: $a^{-n} = \frac{1}{a^n}$

To move a number or a symbol from the numerator to the denominator (or from the denominator to the numerator), you must change the sign of the exponent.

5. Power Rule: $(a^m)^n = a^{m \cdot n}$

6. Power of a Product: $(a \cdot b)^n = a^n \cdot b^n$

7. Power of a Quotient: $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$