Quick Reference Sheet

Rules of Exponents

Product Rule :

When multiplying exponents with the same base, keep the base and add the powers.

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

Quotient Rule :

When dividing exponents with the same base, keep the base and subtract the powers.

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

Power of a Power Rule :

To raise a power to a power, multiply the exponents.

$$(x^n)^m = x^{nm}$$

Power of a Product Rule :

Each base is raised to the same power.

$$(xy)^m = x^m y^m$$

Negative Exponent Rule :

A negative exponent causes the number to be re-written as the reciprocal of the original number and the exponent becomes positive.

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

Zero Exponent Rule :

Any number raised to the zero power is equal to one.

$$n^0 = 1$$