

-- Expressions --



Algebraic Expressions

Example	Definition
$6x+10$	"6": Coefficient (Constant that is multiplying the variable) "X": Variable (Unknown value) "10": Constant (not changing value) "+": Operator

Exponent Properties

Example	Terms	a
4^3	"3": Exponent "4": Base The exponent of a number tells us how many times to multiply the base number by itself	

Rules		
Product Rule	$a^x * a^y = a^{x+y}$	When multiplying like bases, add exponents
Quotient Rule	$a^x / a^y = a^{x-y}$	When dividing like bases, subtract exponents
Power Rule	$(a^x)^y = a^{x*y}$	When raising a power to a power, multiply exponents
Power of a Product Rule	$(ab)^x = a^x * b^x$	When a product is raised to a power, raise each factor by the power
Zero Exponent	$a^0 = 1$	Any base raised to a power of 0 would equal 1
Negative Exponent	$a^{-x} = \frac{1}{a^x}$	Inverse of positive exponents (Dividing instead of multiplying)
Fractional Exponent	$a^{\frac{x}{y}} = \sqrt[y]{a^x}$	Numerator is the power and denominator is the root

Polynomial Expressions

Types of Polynomials	Examples
Monomials (One Term)	10, 3x, -7xy
Binomials (Two Terms)	2x-8, xy+11, a+7b
Trinomials (Three Terms)	$a^3 + 6x - 10$
Polynomials (Many terms)	$5a^7 + 6y^2 - 8b + 15$

Degree

The degree of a monomial is the sum of the exponents of the variable	The degree of a polynomial is the degree of the monomial term with the highest degree
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