Naming Polynomials by their Degree

Degree	Name	Example
0	Constant	3, -10, 15, 12
1	Linear	$2x+1$
2	Quadratic	x^2-4x
3	Cubic	y^3+2y
4	Quartic	x^4-x^3+2x+1
5	Quintic	x^5-y^2
6	6th degree	$z^6+z^4+z^2$
n	nth degree	

Naming Polynomials by their Number of Terms

Number of Terms	Name	Examples
1	Monomial	$3x$
2	binomial	$2x+4$
3	trinomial	x^2+3x+4
4 or more	polynomial	$4x^3+2x^2+4x-1$

Ex:

$4y^3-4y^2+3-y$ Standard form: $4y^{\textcircled{3}}-4y^2-y+3$

Name: Cubic Polynomial

an expression that is a number, variable or a product of numbers and variables.

- Exponents must 0 or positive whole #s

Monomial

(one) (term)

These are monomials

12 (constant)

y

$12y$

$\frac{c}{3}$

$-5x^2y$

These are not monomials

$\frac{2}{x}$, $\sqrt{x} = x^{1/2}$

$3xy^{-2}$, $\frac{2}{(x+2)}$

Monomials are named based on their degree. The degree is the sum of the exponents on the variables.

Ex: $2x^1$: Degree: 1 $7x^2y^2$ Degree: 4 Ex: $2^2a^4b^2$ Degree: 6

A polynomial can be a monomial or the sum or difference of 2 or more monomials.

- Must always be written in standard form

highest $ax^2 + bx + c$ constant

Polynomial

(many) (terms)

These are Polynomials

$3x^4 + 5x^3 - 2x^2 + 5$

$4xy$

$7x + 10$

$4xy^2 + 2x^2y$

These are not Polynomials

$3x^{-4} + 2x^2$

$\frac{3}{x-5} + 5$

$\sqrt{x}$

Polynomials are named based on degree (highest exponent) and number of terms.