

Standard Form:

Terms are in order from largest exponent to smallest exponent.

Example:

1. $\frac{6x}{3} - \frac{7x^5}{1} + \frac{4x^2}{2} + \frac{9}{4}$

2. $\frac{y^2}{2} + \frac{y^6}{1} - \frac{3y}{3}$

3. $\frac{18m^5}{2} - \frac{3m^8}{1} + \frac{14m}{4} - \frac{2n^5}{3}$

Standard Form:

$$-7x^5 + 4x^2 + 6x + 9$$

$$y^6 + y^2 - 3y$$

$$-3m^8 + 18m^5 - 2n^5 + 14m$$

Find the degree:

1. $4p^4q^3$ (monomial \rightarrow + exponents) $4+3=7$

2. $7k^2m^1$ (monomial) $2+1=3$

3. $11x^7+3x^3$ (polynomial \rightarrow largest exp.) 7

4. $5x^1-6$ (poly) 1

Classify by degree & terms:

1. $5n^3 + 4n$

cubic, binomial

2. $4y^6 - 5y^3 + 2y - 9$

6th degree, 4th term

3. $-2x$

linear, monomial

4. 6

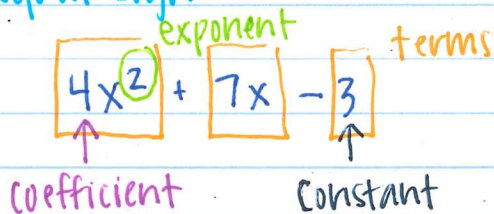
constant, monomial

Polynomials

9-4-18

Expression: contains #'s, variables, & operations

* NO equal sign



Other rules:

1. No dividing by a variable (~~$\frac{2}{x}$~~)
2. Only whole #'s in exponent (no fractions or decimals)
3. It can't have infinitely many terms

Polynomial Examples:

$$4x - 5$$

$$8x^3$$

$$9x^2 + 2 + 3y - 10z$$

Non-Examples:

$$x^{-5} + 2^{1/3}$$

$$\frac{4}{x} + 3$$

Polynomials are named according to their degree and number of terms.

Degree of monomial \rightarrow sum of exponents
 Degree of polynomial \rightarrow LARGEST exponent

Terms: the parts separated by + and -

Degree	Name	Example
0	constant	3
1	linear	$2x + 5$
2	quadratic	$x^2 - 4x$
3	cubic	$y^3 + y^2 - 4$
4	quartic	$x^4 - 3$
5	quintic	$y^5 + y^2$
6+	nth degree	$n^7 + n^6$

Terms	Name	Example
1	monomial	$3xy^2$
2	binomial	$2a - 4$
3	trinomial	$x^2 + 3x - 9$
4+	nth term	$y^5 + y^4 - 3y^3 - 4$

Let's Practice! Name the following polynomials:

$-7 + 3n^3$ cubic, binomial

5 constant, monomial

$-x^4 + 3x^2 - 11$ quartic, trinomial

4th term polynomial