

Polynomials

A polynomial is an algebraic expression formed by _____ or _____ terms.

A term is a _____ or _____ or product of number(s) and variable(s).

_____ is the number factor in a term.

_____ is the variable factor in a term.

Label the polynomial below.

$$4x^2y + 9xy - 3xy^2$$

Types of Polynomials

1. Monomial →

2. Binomial →

3. Trinomial →

4. Polynomial →

Degrees of Polynomial

A method of classifying a polynomial using the exponents of variables.

Degree of a Term – the sum of the exponents on the variables in a term.

Degree of a Polynomial – the degree of the greatest degree term.

Complete the table.

Polynomial	Degree of 1 st Term	Degree of 2 nd Term	Degree of 3 rd Term	Degree of 4 th Term	Degree of Polynomial
$5x^3 + 2x^2 - 4x + 8$					
$4x^3y^2 - 8xy^5 + 17x^2y^2$					

Operations with Polynomials

Addition and Subtraction

1. Remove brackets
2. Collect like terms

a. $(4x^2 + 2xy - 7) + (2x^2 - 5yx + 3)$

b. $(3x^2 - 2x + 1) - (4x^2 - x - 5)$

Multiplication

1. Use the distributive property and multiply each term in the first polynomial by each term in the second.
2. Multiply numerical coefficients.
3. Multiply literal coefficients (_____ the exponents)

a. $(-4xy)(2xy^3)$

b. $-3y(y^2 - 2y + 5)$

c. $5(x^2 - x + 1) - 3(x^2 + 2x - 3)$

Division

1. Divide numerical coefficients.
2. Divide literal coefficients (_____ the exponents)

a. $\frac{-48x^8y^4}{6x^2y}$

b. $\frac{-45a^3b^5c^7}{-9a^2bc^5}$

Homework – Complete the Polynomial Review Worksheet