



ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

STUDY MATERIAL

CLASS -VI

Subject – Algeb-Geom – First Term

CHAPTER – FUNDAMENTAL CONCEPTS (Revision)

Date - 06.05.20

ALGEBRAIC EXPRESSION DEFINITIONS

1. Algebraic Expression:

An expression consisting of arithmetic numbers, letters (used as symbols) and operation signs is called an Algebraic Expression.

Examples:

$2x + 3y$, $-9p + 2r$, $x^2 + 5x + 6$, $a^3 + b^3 + 3ab^2 + 3a^2b$

2. Constant:

Algebraic symbols that have a fixed value and do not change like variables (which are used as place holders) are called Constants.

Examples:

In $2x + 3y + 4$, 4 is a constant. In $2a^2 - 3ab + 7$, 7 is a constant

3. Variable

A symbol in Algebra that can be plugged in with different numerical values (numbers) is called a variable.

In $5p + 6q + r$, the letters (symbols) p,q are called Variables.

4 .Terms of an expression

The parts in an algebraic expression connected by the operation signs + or — are called Terms

In $2y + 3$, $2y$ is one term and 3 is another term.

5. Monomials

An algebraic expression containing only one term is called a Monomial. Monomials are also called simple expressions.

$2x$, $5x^2$, pq are examples of monomials.

6. Binomial

An algebraic expression that contains two terms is called a Binomial

$2x + 3y$, $2p^2 + 9y^3$ are some examples of Binomials.

7. Trinomial

An algebraic expression that has three terms is called a Trinomial.

$3x + 4y + 5z$, $ax^2 + bx + c$ are examples of Trinomials.

8. Polynomial

An algebraic expression that contains two or more terms is called a Polynomial.

Examples of Polynomials are:

$$ax^2 + bx + c, 3a - b + \frac{5}{3}c$$

9. Factor:

Symbols or Numbers in multiplication are called factors.

Example:

In pq , p and q are factors in the multiplication $p \times q$.
 pq is called the product of the factors p and q .

10. Coefficient:

Coefficient is of two types. Numerical coefficient and Literal coefficient.
Numbers form Numerical coefficients and symbols form literal coefficients.

Examples:

In $2xy$, 2 is the number or the Numerical coefficient while xy , the symbol, is the Literal Coefficient. In the Monomial y , the Numerical coefficient is 1 and the literal coefficient is y . In the product $100xy$, 100 is the Numerical coefficient and xy is the literal coefficient.

11. Like Terms:

Two or more terms that have the same literal coefficients are called Like Terms. Like terms can have different Numerical Coefficients, but not literal coefficients.

Examples:

$4pq$ and $100pq$ are like terms as the literal coefficients pq are same in the two terms.
 $-13p^2q^2$ and $13p^2q^2$ are Like terms as only the numerical coefficients are different but the literal coefficients are same.

12. Unlike Terms

Terms that are not Like terms are Unlike Terms.
So, Unlike terms have different literal coefficients.

Examples

$3xy$, $3xy^2$ are unlike terms

13. Degree of a Polynomial

It is simply the greatest of the exponents or powers over the various terms present in the algebraic expression.

Example: *Find the degree of $7x - 5$*

In the given example, the first term is $7x$, whereas the second term is -5 . Now, let us define the exponent for each term. The exponent for the first term $7x$ is 1 and for the second term -5 , it is 0. Since the highest exponent is 1, the degree of $7x - 5$ is also 1.

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