Algebraic Expressions

1. The letters which are used to represent numbers are called literal numbers or literals.

2. The literal numbers themselves as well as the combinations of literal numbers and numbers obey all the rules (and signs) of addition, subtraction, multiplication and division of numbers along with the properties of these operations.

3. $x \times y = xy, 5 \times x = 5x, 1 \times x = x, x \times 4 = 4x.$

4. $a \times a \times .... \times 12 times = a^{12}$, $y \times y \times .... \times 15 times = y^{15}.$

5. In x^9, 9 is called the index or exponent and x is called the base. In a^5, the index or exponent is 5 and the base is a.

6. A symbol having a fixed numerical value is called a constant.

7. A symbol which takes various numerical values is called a variable.

8. A combination of constants and variables connected by the signs of fundamental operations of addition, subtraction, multiplication and division is called an algebraic expression.

9. Various parts of an algebraic expression which are separated by the signs of '+ ' or ' −' are called the terms of the expression.

10. An algebraic expression is called a monomial, a binomial, a trinomial, a quadrinomial according as it contains one term, two terms, three terms and four terms respectively.

11. Each term in an algebraic expression is a product of one or more number(s) and/or literal number(s). These number(s) and or literal number(s) are known as the factors of that term.

12. A term of the expression having no literal factor is called a constant term.

13. In a term of an algebraic expression any of the factors with the sign of the term is called the coefficient of the product of the factors.

14. The terms having the same literal factors are called like or similar terms.

15. The terms not having same literal factors are called unlike or dissimilar terms.

16. The sum or difference of several like terms is another like term whose coefficient is the sum or difference of those like terms.

17. In adding or subtracting algebraic expressions, we collect different groups of like terms and find the sum or difference of like terms in each group.

18. To subtract an expression from another, we change the sign (from + ' to' − ' and from '−' to +) of each term of the expression to be subtracted and then add the two expressions.

19. When a grouping symbol preceded by ' sign is removed or inserted, then the sign of each term of the corresponding expression is changed (from ' + ' to ‘– ' and from ‘– ' to + ').