Brainbox learn easy

Chapter 02

POLYNOMIALS

SUMMARY:

In this chapter, you have studied the following points:

- An algebraic expression in which the variables involved only non-negative integral powers is called a polynomial.

  (OR)

  An expression of the form

  $P(x) = a_0x^n + a_1x^{n-1} + a_2x^{n-2} + ... + a_{n-1}x + a_n$.

  Where $a_0, a_1, a_2, ...a_{n-1}, a_n$ are real numbers and $a_0 \neq 0$, is called a polinomial in $'x'$ of degree $'n'$.

- A polynomial of one term is called a monomial.
- A polynomial of two terms is called a binomial.
- A polynomial of three terms is called a trinomial.
- A polynomial of degree one is called a linear polynomial.
- A polynomial of degree two is called a quadratic polynomial.
- A polynomial of degree three is called a cubic polynomial.
- A real number ‘a’ is a zero of a polynomial p(x) if p(a) = 0. In this case, ‘a’ is also called a root of the equation p(x) = 0.
- Every linear polynomial in one variable has a unique zero, a non-zero constant polynomial has no zero, and every real number is a zero of the zero polynomial.
- Remainder Theorem: If p(x) is any polynomial of degree greater than or equal to 1 and p(x) is divided by the linear polynomial x – a, then the remainder is p(a).
- Factor Theorem: x – a is a factor of the polynomial p(x), if p(a) = 0. Also, if x – a is a factor of p(x), then p(a) = 0.