📓 Class 9 Mathematics – Chapter 2: Polynomials

✍ Revision Questions from Exercises 2.1 to 2.3

📚 Exercise 2.1 – Polynomials in One Variable

1. Identify the type of polynomial (monomial, binomial, trinomial, or not a polynomial):
(a) $5x - 7$
(b) $x^2 + \sqrt{2}x + 1$
(c) 7
(d) $x^3 + x^2 + x + 1$

2. Classify the expressions as polynomials or not in one variable:
(a) $x^2 + 2/x$
(b) $\sqrt{x} + 1$
(c) $3x^4 + 2x^3 - x + 7$

3. Write the degree of each polynomial:
(a) $4x^3 + x^2 - 1$
(b) $5a^2b + 3ab^2$
(c) $7y^4 - 2y + 9$
(d) 8

4. Write the coefficient of:
(a) x^2 in $4x^2 + 2x - 5$
(b) x in $-3x + 1$
(c) Constant term in $7x^2 - 3x + 6$

📓 Exercise 2.2 – Zeroes of a Polynomial

1. Find the zero of each linear polynomial:
(a) $p(x) = x + 5$
(b) $p(x) = 3x - 9$
(c) $p(x) = 2x + \sqrt{3}$

2. Check whether the given value is a zero of the polynomial:
(a) $p(x) = x^2 - 5x + 6$; check for $x = 2$
(b) $p(x) = x + 7$; check for $x = -7$
(c) $p(x) = 2x^2 - 3x + 1$; check for $x = 1$

3. Find the value of the polynomial at given values of x:
(a) $p(x) = x^2 + 2x + 1$; $x = -1$
(b) $p(x) = 3x^2 - x + 4$; $x = 0$

Exercise 2.3 – Factorisation Using Factor Theorem

1. Verify whether the given value is a zero,
(a) $p(x) = x^2 + 5x + 6$; check $x = -2$
(b) $p(x) = x^2 - 7x + 12$; check $x = 3$

2. Factorise the following quadratic polynomials:
(a) $x^2 - 5x + 6$
(b) $x^2 + 3x + 2$
(c) $x^2 - 2x - 8$

3. Factorise the following cubic polynomials by trial method (one root is given):
(a) $x^3 - 6x^2 + 11x - 6$; given one zero is 1
(b) $2x^3 + 3x^2 - 2x - 3$; given one zero is -1