CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-X

Subject: MATHEMATICS

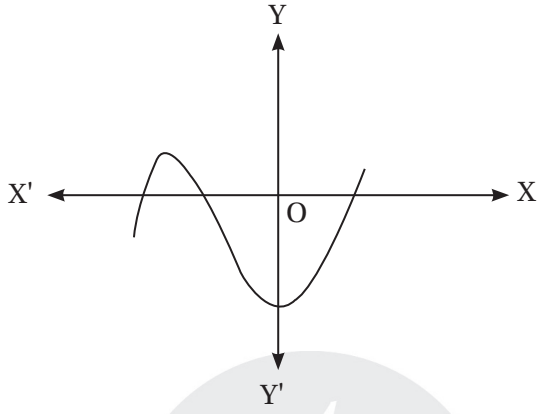
Chapter Name : Polynomials (Chap : 2)

Total : 4 Marks (expected) [MCQ(1)-1 Mark, SA-II(1)-3 Marks]

Level - 1

MCQ Type :

1. The graph of a polynomial is shown in Figure, then the number of its zeroes is



Ⓐ 3 Ⓑ 1 Ⓒ 2 Ⓓ 4

(Hints : Graph cuts the x-axis at three different points.)

2. The maximum number of zeroes a cubic polynomial can have, is

Ⓐ 1 Ⓑ 4 Ⓒ 2 Ⓓ 3

(Hints : Polynomial of degree n has n zeroes at most.)

3. If one zero of a quadratic polynomial $(kx^2 + 3x + k)$ is 2, then the value of k is

Ⓐ $\frac{5}{6}$ Ⓑ $-\frac{5}{6}$ Ⓒ $\frac{6}{5}$ Ⓓ $-\frac{6}{5}$

(Hints : Put x = 2.)

4. The quadratic polynomial, the sum of whose zeroes is –5 and their product is 6, is

Ⓐ $x^2 + 5x + 6$ Ⓑ $x^2 - 5x + 6$ Ⓒ $x^2 - 5x - 6$ Ⓓ $-x^2 + 5x + 6$

(Hints : Quadratic polynomial = x^2 – (sum of zeroes) x + product of zeroes.)

5. If one zero of the polynomial $(3x^2 + 8x + k)$ is the reciprocal of the other. then value of k is

Ⓐ 3 Ⓑ –3 Ⓒ $\frac{1}{3}$ Ⓓ $-\frac{1}{3}$

(Hints : c = a when one zero is reciprocal of other.)

6. If the polynomial $f(x) = x^3 - 6x^2 + 11x - 6$ is factored completely, which of the following is NOT a zero?

Ⓐ 1 Ⓑ 2 Ⓒ 3 Ⓓ 4

(Hints : x–4 is not a factor.)

SA-II Type :

7. Find the zeroes of $p(x) = 4x^2 + 24x + 36$ and verify the relationship between the zeroes and their coefficients.

(Hints : Factiorise to find zeroes. $\alpha + \beta = \frac{-b}{a}, \alpha\beta = \frac{c}{a}$ **)**

8. If α and β are zeroes of the quadratic polynomial $4x^2 + 4x + 1$, then form a quadratic polynomial whose zeroes are 2α and 2β.

(Hints : $\alpha + \beta = -1$, $\alpha.\beta = \frac{1}{4}$**)**

9. If α, β are zeroes of quadratic polynomial $2x^2 + 5x + k$, find the value of k such that $(\alpha + \beta)^2 - \alpha\beta = 24$.

(Hints : $\alpha + \beta = -\frac{5}{2}$, $\alpha.\beta = \frac{k}{2}$**)**

10. If α, β are zeroes of polynomial $p(x) = 5x^2 + 5x + 1$, then find the value of

(i) $\alpha^2 + \beta^2$ (ii) $\alpha^{-1} + \beta^{-1}$

(Hints : $\alpha + \beta = -1$, $\alpha\beta = \frac{1}{5}$**)**

11. If one zero of a polynomial $3x^2 - 8x + 2k + 1$ is seven times the other, find the value of k.

(Hints : Two zeroes are α **and** 7α**)**

12. If one zero of the quadratic polynomial $f(x) = 4x^2 - 8kx + 8x - 9$ is negative of the other, then find the zeroes of $kx^2 + 3kx + 2$.

(Hints : from sum of zeroes = 0 find k.)

ANSWER

1. Ⓐ
2. Ⓓ
3. Ⓓ
4. Ⓐ
5. Ⓐ
6. Ⓒ
7. –3, –3
8. $x^2 + 2x + 1$
9. –71/2
10. (i) $\frac{3}{5}$ (ii) –5
11. $\frac{2}{3}$
12. –1, –2 .