
CBSE TEST PAPER-03

Class X - Mathematics (Polynomials)

1. Degree of polynomial $y^3 - 2y^2 - \sqrt{3}y + \frac{1}{2}$ is [1]
(a) $\frac{1}{2}$ (b) 2 (c) 3 (d) $\frac{3}{2}$
2. Zeros of $P(x) = 2x^2 + 9x - 35$ are [1]
(a) 7 and $\frac{5}{2}$ (b) -7 and $\frac{5}{2}$ (c) 7 and 5 (d) 7 and 2
3. The quadratic polynomial whose zeros are 3 and -5 is [1]
(a) $x^2 + 2x - 15$ (b) $x^2 + 3x - 8$ (c) $x^2 - 5x - 15$ (d) None of these
4. If α and β are the zeros of the quadratic polynomial $P(x) = x^2 - px + q$, then the value of $\alpha^2 + \beta^2$ is equal to [1]
(a) $p^2 - 2q$ (b) $\frac{p}{q}$ (c) $q^2 - 2p$ (d) none of these
5. Find the zeros of the polynomial $p(x) = 4\sqrt{3}x^2 + 5x - 2\sqrt{3}$ and verify the relationship between the zeros and its coefficients. [2]
6. Find the value of 'k' so that the zeros of the quadratic polynomial $3x^2 - kx + 14$ are in the ratio 7:6. [2]
7. If one zero of the quadratic polynomial $f(x) = 4x^2 - 8kx - 9$ is negative of the other, find the value of 'k'. [2]
8. Check whether the polynomial $(t^2 - 3)$ is a factor of the polynomial $2t^4 + 3t^3 - 2t^2 - 9t - 12$ by Division method. [2]
9. Obtain all other zeros of $3x^4 + 6x^3 - 2x^2 - 10x - 5$. If two of its zeros are $\sqrt{\frac{5}{3}}$ and $-\sqrt{\frac{5}{3}}$. [3]
10. If the polynomial $x^4 - 6x^3 + 16x^2 - 25x + 10$ is divided by another polynomial $x^2 - 2x + k$, the remainder comes out to be $(x + a)$, find 'k' and 'a'. [3]
11. Find the value of 'k' for which the polynomial $x^4 + 10x^3 + 25x^2 + 15x + k$ is exactly divisible by $(x + 7)$. [3]
12. If α and β are the zeros of the polynomial $f(x) = x^2 + px + q$, find polynomial whose zeros are $(\alpha + \beta)^2$ and $(\alpha - \beta)^2$. [3]
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