
CBSE TEST PAPER-01

Class X - Mathematics (Polynomials)

1. Which of the following is polynomial? [1]
(a) $x^2 - 6\sqrt{x} + 2$ (b) $\sqrt{x} + \frac{1}{\sqrt{x}}$ (c) $\frac{5}{x^2 - 3x + 1}$ (d) none of these
 2. Polynomial $2x^4 + 3x^3 - 5x^2 - 5x^2 + 9x + 1$ is a [1]
(a) linear polynomial (b) quadratic polynomial
(c) cubic polynomial (d) bi-quadratic polynomial
 3. If α and β are zeros of $x^2 + 5x + 8$, then the value of $(\alpha + \beta)$ is [1]
(a) 5 (b) -5 (c) 8 (d) -8
 4. The sum and product of the zeros of a quadratic polynomial are 2 and -15 [1] respectively. The quadratic polynomial is
(a) $x^2 - 2x + 15$ (b) $x^2 - 2x - 15$ (c) $x^2 + 2x - 15$ (d) $x^2 + 2x + 15$
 5. Find the quadratic polynomial where sum and product of the zeros are a and $\frac{1}{a}$. [2]
 6. If α and β are the zeros of the quadratic polynomial $f(x) = x^2 - x - 4$, find the [2] value of $\frac{1}{\alpha} + \frac{1}{\beta} - \alpha\beta$.
 7. If the square of the difference of the zeros of the quadratic polynomial [2] $f(x) = x^2 + px + 45$ is equal to 144, find the value of p .
 8. Divide $(6x^3 - 26x - 21 + x^2)$ by $(-7 + 3x)$. [2]
 9. Apply division algorithm to find the quotient $q(x)$ and remainder $r(x)$ on dividing [3] $f(x)$ by $g(x)$, where $f(x) = x^3 - 6x^2 + 11x - 6$, $g(x) = x^2 + x + 1$
 10. If two zeros of the polynomial $x^4 - 6x^3 - 26x^2 + 138x - 35$ are $2 \pm \sqrt{3}$, find the other [3] zeros.
 11. What must be subtracted from the polynomial $f(x) = x^4 + 2x^3 - 13x^2 - 12x + 21$ so [3] that the resulting polynomial is exactly divisible by $g(x) = x^2 - 4x + 3$?
 12. What must be added to $6x^5 + 5x^4 + 11x^3 - 3x^2 + x + 5$ so that it may be exactly [3] divisible by $3x^2 - 2x + 4$?
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