



Laying the foundation of lifelong success

CHAPTER 2

Polynomials

(Previous Years' Questions)

3 – Markers

1. α, β are the zeroes of the quadratic polynomial $p(x) = x^2 - 4x + k$ such that $\alpha - \beta = 8$. Find the value of k . **(Comptt., 2025)**
2. Zeroes of the quadratic polynomial $p(x) = (a^2 + 10)x^2 - 74x + 7a$ are reciprocal of each other and they are rational. Find the value of ' a '. **(Comptt., 2025)**
3. If α, β are the zeroes of the polynomial $p(x) = x^2 - 2x - 3$, then find a polynomial where zeroes are $(2\alpha + 3\beta)$ and $(3\alpha + 2\beta)$. **(Comptt., 2025)**
4. α and β are zeroes of a quadratic polynomial $px^2 + qx + 1$. Form a quadratic polynomial whose zeroes are $\frac{2}{\alpha}$ and $\frac{2}{\beta}$. **(2025)**
5. If α and β are the zeroes of the polynomial $ax^2 - x + c$, obtain a polynomial whose zeroes are $\alpha - 3$ and $\beta - 3$. **(2025)**
6. Obtain the zeroes of the polynomial $7x^2 + 18x - 9$. Hence, write a polynomial each of whose zeroes is twice the zeroes of given polynomial. **(2025)**

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7. Obtain the zeroes of the polynomial $p(x) = 2x^2 - 5x - 3$. Hence, obtain a polynomial each of whose zeroes is one less than each of the zero of $p(x)$. **(2025)**
8. Find the zeroes of the polynomial $p(x) = 6x^2 - 5x - 1$. Hence, obtain a polynomial each of whose zeroes is three times the zeroes of $p(x)$. **(2025)**
9. Find the zeroes of the polynomial $p(x) = 3x^2 - 4x - 4$. Hence, write a polynomial whose each of the zeroes is 2 more than zeroes of $p(x)$. **(2025)**
10. Find the zeroes of the polynomial $q(x) = 8x^2 - 2x - 3$. Hence, find a polynomial whose zeroes are 2 less than the zeroes of $q(x)$. **(2025)**
11. Find the zeroes of the polynomial $r(x) = 4x^2 + 3x - 1$. Hence, write a polynomial whose zeroes are reciprocal of the zeroes of polynomial $r(x)$. **(2025)**
12. Find a quadratic polynomial whose sum of the zeroes is 8 and difference of the zeroes is 2. **(Comptt., 2024)**

13. If α and β are the zeroes of the polynomial $p(x) = x^2 - (k + 5)x + (5k + 1)$ such that $\alpha + \beta = \frac{\alpha\beta}{3}$, then find the value of k . **(Comptt., 2024)**

14. If α, β are the zeroes of the polynomial $3x^2 - 13x - 10$, then find the value of $(3\alpha + 1)(3\beta + 1)$. **(Comptt., 2024)**

15. Find the zeroes of the quadratic polynomial $x^2 - 15$ and verify the relationship between the zeroes and the coefficients of the polynomial. **(2024)**

16. (a) Find the zeroes of the polynomial $4x^2 + 4x - 3$ and verify the relationship between zeroes and coefficients of the polynomial.

OR

(b) If α and β are the zeroes of the polynomial $x^2 + x - 2$, then find the value of $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$. **(2024)**

