

QUIZEN – Polynomial (9M02)

Learning Level 1	Learning Level 2	Learning Level 3
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	E - Evaluating (evaluation-based questions) N - Creating (creation-based questions)

Learning Level 1

1. Define a polynomial. Give an example of a polynomial of degree 3.
2. What is the degree of the polynomial $2x^3 + 5x^2 - 3x + 1$?
3. What is a zero of a polynomial?
4. Find the zeroes of the polynomial $x^2 - 4x - 21$.
5. State the Remainder Theorem for polynomials.

Learning Level 2

6. Given the polynomials $f(x) = 2x^3 - x^2 + 3x - 5$ and $g(x) = x^2 + 2x - 1$, find $f(x) + g(x)$.
7. Find the degree and leading coefficient of the polynomial $h(x) = 4x^5 - 3x^3 + 2x - 1$.
8. If $(x - 2)$ is a factor of the polynomial $f(x) = x^3 - 3x^2 + 2x + 6$, find the other two zeroes of the polynomial.
9. Factorize the polynomial $p(x) = x^3 - 4x^2 + 3x + 18$ completely.

10. Using the factor theorem, prove that $(x - 1)$ is a factor of the polynomial $f(x) = x^3 - 4x^2 + 5x - 2$.

Learning Level 3

11. Evaluate the polynomial $f(x) = x^3 + 2x^2 - 3x + 1$ for $x = 2$.

12. Show that the polynomial $p(x) = x^3 + 3x^2 + 3x + 1$ is always positive for all real values of x .

13. The sum of two zeroes of a cubic polynomial is 1 and their product is -6. Find the polynomial.

14. Using the factor theorem, find all the zeroes of the polynomial $f(x) = x^3 - 3x^2 - 4x + 12$.

15. Create a polynomial of degree 4 with integer coefficients that has -2, 1, and 3 as zeroes.