

CHAPTER-2 | Polynomials

QUIZ PART-04

1. What are the zeroes of the polynomial x^2+3x+2 ?

- A. -1, 2
B. 1, 2
C. -1, -2
D. 1, -2 (A)

Explanation: The zeroes of the polynomial x^2+3x+2 are -1 and 2, as the roots of the quadratic equation $x^2+3x+2 = 0$ are -1 and 2.

2. The number of zeroes of the polynomial $x^2 - 2x + 1$ is:

- A. 3
B. 1
C. 0
D. 2 (B)

Explanation: The polynomial $x^2 - 2x + 1$ is a perfect square trinomial, and it has one zero at $x = 1$.

3. For which of the following polynomials is $x = 2$ a zero?

- A. $x^2 - x + 1$
B. $x^2 - 4$
C. $x^2 + 4$
D. $x + 2$ (B)

Explanation: Substituting $x = 2$ in $x^2 - 4$, we get $2^2 - 4 = 0$, so $x = 2$ is a zero of this polynomial.

4. What is the value of the polynomial $p(x) = 5x^2 - 3x + 7$ when $x = 1$?

- A. 9
B. 5
C. 7
D. 3 (A)

Explanation: Substituting $x = 1$ into the polynomial $p(x) = 5x^2 - 3x + 7$ gives $5(1)^2 - 3(1) + 7 = 5 - 3 + 7 = 9$.

5. Which of the following is true about the zeroes of a cubic polynomial?

- A. A cubic polynomial has at most one zero.
B. A cubic polynomial has at most two zeroes.
C. A cubic polynomial has at most three zeroes.
D. A cubic polynomial has infinitely many zeroes.

(C)

Explanation: A cubic polynomial has at most three zeroes, as the degree of the polynomial is 3.

6. The geometric meaning of the zero of a polynomial is:

- A. The point where the polynomial intersects the y-axis.
B. The point where the polynomial intersects the x-axis.
C. The point where the polynomial crosses the y-axis.
D. The slope of the polynomial curve. (B)

Explanation: The zero of a polynomial corresponds to the point where the graph of the polynomial intersects the x-axis.

7. Which of the following is a valid zero of the polynomial $p(x) = 2x + 1$?

- A. $x = -1$
B. $x = -2$
C. $x = 1$
D. $x = 2$ (A)

Explanation: Substituting $x = -1$ into $p(x) = 2x + 1$, we get $p(-1) = 2(-1) + 1 = 0$. Hence, $x = -1$ is a zero of the polynomial.

8. The number of zeroes of the polynomial $x^2 + 3x + 2$ is:

- A. 3
B. 2
C. 1
D. 0 (B)

Explanation: $x^2 + 3x + 2 = 0$ has two zeroes. The roots are $x = -1$ and $x = -2$.

9. For the polynomial $p(x) = x^2 - 4x + 3$, the zeroes are:

- A. $x = 1, x = 3$
B. $x = -1, x = 2$
C. $x = 0, x = 3$
D. $x = 2, x = 1$ (A)

Explanation: Solving $x^2 - 4x + 3 = 0$, we find the zeroes $x = 1$ and $x = 3$.

10. What is the value of the polynomial $p(t) = 4t^4 + 5t^3 - t^2 + 6$ at $t = a$?

- A. $4a^4 + 5a^3 - a^2 + 6$
B. $4a^4 - 5a^3 + a^2 + 6$
C. $4a^3 + 5a^2 - a + 6$
D. None of the above (A)

Explanation: Substituting $t = a$ in the polynomial gives the value $p(a) = 4a^4 + 5a^3 - a^2 + 6$.