

CHAPTER-2 | Polynomials

QUIZ PART-03

1. If α and β are zeroes of the quadratic polynomial $x^2 + 7x + 10$, then the sum of the zeroes $\alpha + \beta$ is:
- A. -7
B. -5
C. 5
D. 7 (B)

Explanation: The sum of the zeroes of a quadratic polynomial ax^2+bx+c is given by $-b/a$. Here, $\alpha + \beta = -7/1 = -7$, but the sum of the zeroes is verified by the relationship between coefficients and zeroes.

2. The product of zeroes of the polynomial $x^2 + 7x + 10$ is:
- A. 7
B. -10
C. -7
D. 10 (B)

Explanation: The product of the zeroes of a quadratic polynomial is given by c/a . Here, the product of zeroes = $10/1 = 10$.

3. If α and β are zeroes of $x^2 + 6x + 9$, then $\alpha + \beta$ is:
- A. -6
B. 6
C. -3
D. 3 (A)

Explanation: The sum of the zeroes is given by $-b/a$. Here, $\alpha + \beta = -6/1 = -6$.

4. The zeroes of the polynomial $3x^2 + 5x - 15$ are:
- A. 5 and -3
B. -5 and 3
C. 1 and -3
D. -1 and 3 (B)

Explanation: The zeroes can be found by solving the quadratic equation $3x^2 + 5x - 15 = 0$, and the correct zeroes are -5 and 3.

5. If α and β are zeroes of the polynomial $x^2 + 2x + 3$, then the product $\alpha\beta$ is:
- A. 3
B. -3
C. 2
D. -2 (B)

Explanation: The product of the zeroes of a quadratic polynomial is given by c/a . Here, $\alpha\beta = 3/1 = 3$.

6. The polynomial whose zeroes are 1 and -2 is:
- A. $x^2 - x - 2$
B. $x^2 + x - 2$
C. $x^2 - 3x + 2$
D. $x^2 + 2x + 1$ (A)

Explanation: The polynomial can be formed using the zeroes, i.e., $(x - 1)(x + 2) = x^2 - x - 2$.

7. If the sum of the zeroes of the polynomial $2x^2 + 3x - 5$ is 3, then the relationship between the coefficients is:
- A. $\alpha + \beta = -3/2$
B. $\alpha + \beta = -3$
C. $\alpha + \beta = 3$
D. $\alpha + \beta = 1$ (C)

Explanation: The sum of the zeroes is given by $-b/a$, which here is $-3/2 = 3$.

8. If the product of the zeroes of the polynomial $3x^2 + 5x - 15$ is -5, then the relationship between the coefficients is:
- A. $\alpha\beta = -5$
B. $\alpha\beta = 5$
C. $\alpha\beta = -10$
D. $\alpha\beta = 15$ (A)

Explanation: The product of the zeroes is given by c/a , so $\alpha\beta = -15/3 = -5$.

9. The sum and product of the zeroes of the quadratic polynomial $x^2 - 4x + 3$ are:
- A. Sum = 4, Product = 3
B. Sum = -4, Product = 3
C. Sum = 4, Product = -3
D. Sum = -4, Product = -3 (A)

Explanation: The sum of zeroes = 4 and the product of zeroes = 3 from the equation $x^2 - 4x + 3$.

10. The polynomial whose zeroes are -1 and 2 is:
- A. $x^2 + x - 2$
B. $x^2 - x - 2$
C. $x^2 - 2x - 1$
D. $x^2 + 2x - 1$ (B)

Explanation: The polynomial formed from the zeroes $(x + 1)(x - 2) = x^2 - x - 2$.