

CHAPTER-2 | Polynomials

QUIZ  
PART-05

1. Find the value of the polynomial  $5x - 4x^2 + 3$  at  $x = 0$
- A. 3
  - B. 5
  - C. 0
  - D. 4
- (A)

**Explanation:** Substituting  $x = 0$  into  $5x - 4x^2 + 3$  we get  $5(0) - 4(0)^2 + 3$

2. Find  $p(0)$ ,  $p(1)$ , and  $p(2)$  for the polynomial  $p(y) = y^2 - y + 1$
- A.  $p(0) = 1$ ,  $p(1) = 1$ ,  $p(2) = 3$
  - B.  $p(0) = 1$ ,  $p(1) = 1$ ,  $p(2) = 5$
  - C.  $p(0) = 1$ ,  $p(1) = 2$ ,  $p(2) = 3$
  - D.  $p(0) = 0$ ,  $p(1) = 1$ ,  $p(2) = 4$
- (A)

**Explanation:** Substituting the values:  $p(0) = 0^2 + 0 + 1 = 1$ ,  $p(2) = 2^2 - 2 + 1 = 3$ ,  $p(1) = 1^2 - 1 + 1 = 1$

3. For which of the following polynomials is  $x = -1$  a zero?
- A.  $p(x) = 3x + 1$
  - B.  $p(x) = 5x - 5$
  - C.  $p(x) = x^2 - 1$
  - D.  $p(x) = x + 2$
- (A)

**Explanation:** Substituting  $x = -1$  into  $p(x) = 3x + 1$  we get  $3(-1) + 1 = -3 + 1 = -2$ , so it is not a zero for this polynomial.

4. Find the zero of the polynomial  $p(x) \text{ deg} = x + 5$
- A. -5
  - B. 5
  - C. 0
  - D. -3
- (A)

**Explanation:** The zero of the polynomial  $p(x) = x + 5$  occurs when  $x + 5 = 0$  hence  $x = -5$

5. Verify whether 1 is a zero of the polynomial  $p(x) = x^2 - 1$ .
- A. Yes
  - B. No
  - C. It cannot be determined
  - D. None of the above
- (A)

**Explanation:** Substituting  $x = 1$  into  $p(x) = x^2 - 1$  we get  $1^2 - 1$ , so  $x = 1$  is indeed a zero of the polynomial.

6. What is the value of  $p(t) = 2 + t + 2t^2 - t^2$  when  $t = 1$ ?
- A. 5
  - B. 3
  - C. 4
  - D. 2
- (A)

**Explanation:** Substituting  $t = 1$  into  $p(t) = 2 + t + 2t^2 - t^2$  we get  $2 + 1 + 2(1)^2 - (1)^2 = 5$ .

7. Find the zero of the polynomial  $p(x) = 3x - 2$
- A.  $\frac{2}{3}$
  - B.  $\frac{2}{3}$
  - C.  $-\frac{2}{3}$
  - D. None of the above
- (C)

**Explanation:** The zero occurs when  $3x - 2 = 0$  Solving for 2, we get  $x = \frac{2}{3}$

8. For  $p(x) = x^3 - 2x^2 + x - 1$  check if  $x = 1$  is a zero.
- A. Yes
  - B. No
  - C. It cannot be determined
  - D. None of the above
- (A)

**Explanation:** Substituting  $x = 1$  into  $p(x) = x^3 - 2x^2 + x - 1$  we get  $1^3 - 2(1)^2 + 1 - 1 = 0$ , so  $x = 1$  is a zero.

9. What is the zero of the polynomial  $p(x) = x - 5$
- A. 5
  - B. -5
  - C. 0
  - D. None of the above
- (A)

**Explanation:** The zero of the polynomial  $p(x) = x - 5$  occurs when  $x - 5 = 0$  hence 5.

10. The polynomial  $p(x) = (x + 1)(x - 2)$  has zeroes at:
- A.  $x = 1, 2$
  - B.  $x = -1, 2$
  - C.  $x = -1, -2$
  - D. -2, 2
- (B)

**Explanation:**  $p(x) = (x + 1)(x - 2)$  we get the zeroes  $x = -1$  and  $x = 2$