

# CBSE Class X Self Evaluation MATHEMATICS Tests-Polynomial

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## Section-A

- The zeroes of the quadratic polynomial  $x^2 + 99x + 127$  are  
(A) both positive (B) both negative (C) one positive and one negative (D) both equal
- The zeroes of the quadratic polynomial  $x^2 + kx + k$ ,  $k \neq 0$ ,  
(A) cannot both be positive (B) cannot both be negative (C) are always unequal (D) are always equal
- If the zeroes of the quadratic polynomial  $ax^2 + bx + c$ ,  $c \neq 0$  are equal, then  
(A)  $c$  and  $a$  have opposite signs (B)  $c$  and  $b$  have opposite signs (C)  $c$  and  $a$  have the same sign (D)  $c$  and  $b$  have the same sign
- If one of the zeroes of a quadratic polynomial of the form  $x^2 + ax + b$  is the negative of the other, then it  
(A) has no linear term and the constant term is negative.  
(B) has no linear term and the constant term is positive.  
(C) can have a linear term but the constant term is negative.  
(D) can have a linear term but the constant term is positive.
- The number of polynomials having zeroes as  $-2$  and  $5$  is  
(A) 1 (B) 2 (C) 3 (D) more than 3

## Section-B

- Find the zeroes of  $2x^3 - 11x^2 + 17x - 6$ .
- Find the quadratic polynomial, the sum and the product of whose zeroes are  $\frac{1}{2}$ , and  $-2$ .
- Find the values of  $m$  and  $n$  for which  $x = 2$  and  $-3$  are zeroes of the polynomial:  $3x^2 - 2mx + 2n$ .
- Check whether  $x^2 + 4$  is factor of  $x^4 + 9x^2 + 20$

## Section-C

- Divide the polynomial  $(x^4 + 1)$  by  $(x - 1)$  and verify the division algorithm.
- Find all zeroes of  $x^4 - 3x^3 - 5x^2 + 21x - 14$ , if two of its zeroes are  $\sqrt{7}$  and  $-\sqrt{7}$
- On dividing  $x^3 - 3x^2 + x + 2$  by a polynomial  $g(x)$ , the quotient and remainder were  $x - 2$  and  $-2x + 4$  respectively, find  $g(x)$ .

## Section-D

- Given that  $\sqrt{2}$  is a zero of the cubic polynomial  $6x^3 + \sqrt{2}x^2 - 10x - 4\sqrt{2}$ , find its other two zeroes.
- Find  $k$  so that  $x^2 + 2x + k$  is a factor of  $2x^4 + x^3 - 14x^2 + 5x + 6$ . Also find all the zeroes of the two polynomials.
- Given that  $x - \sqrt{5}$  is a factor of the cubic polynomial  $x^3 - 3\sqrt{5}x^2 + 13x - 3\sqrt{5}$ , find all the zeroes of the polynomial.