# Mathematics

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(Chapter – 2) (Polynomials) (Practice Test 4)

(Class X)

**Time: 1 hour 15 minutes** **M. M: 25**

**General Instructions:**

- This question paper contains four sections: A, B, C and D. Each part is compulsory.
- Section A has 5 MCQ of one mark each.
- Section B has 3 questions of two marks each.
- Section C has 3 questions of three marks each.
- Section D has 2 questions of five marks each, attempt any 1 out of 2.
- There is no negative marking.

## [Section – A]

1. Given that one of zeroes of the cubic polynomial $ax^3+bx^2+cx+d$ is zero, the product of other two zeroes is

   (A) $\frac{c}{a}$ (B) 0 (C) $-\frac{b}{a}$ (D) $-\frac{c}{a}$

2. Given that two of zeroes of the cubic polynomial $ax^3+bx^2+cx+d$ are 0, the value of c is

   (A) equal to 0 (B) can't say
   (C) greater than 0 (D) less than 0

3. If the graph of polynomial intersects the x-axis at exactly two points, then it

   (A) can be a cubic or quadratic polynomial (B) cannot be a linear or cubic polynomial
   (C) can be a quadratic polynomial only (D) can be linear or a quadratic polynomial

4. How many polynomials are there having 4 and -2 as zeroes?

   (A) one (B) two
   (C) three (D) more than 3

5. The number of polynomials having exactly two zeroes 1 & -2 is

   (A) 1 (B) 2
   (C) 3 (D) infinitely many

## [Section – B]

6. Find the zeroes of $(x+2)(2x-1)$.

7. The value of $6a+11b$, if $x^3-6x^2+ax+b$ is exactly divisible by $x^2-3x+2$.

8. If α, β be the zeroes of the polynomial $x^2-8x+k$ such that $\alpha^2+\beta^2=40$, then k =?

## [Section – C]

9. Compute the zeroes of the polynomial $4x^2 - 4x - 8$. Also, establish a relationship between the zeroes and coefficients.

10. Find the value of "$x$" in the polynomial $2a^2+2ax+5a+10$ if $(a+x)$ is one of its factors.

11. For what value of k, is the polynomial f(x) = $3x^4-9x^3+x^2+15x+k$ completely divisible by $3x^2-5$?

## [Section – D]

**12.** α and β are zeroes of the quadratic polynomial $x^2 - 6x + y$. Find the value of ' $y$ ' if $3\alpha + 2\beta = 20$.

**13.** If the zeroes of the polynomial $x^3 - 3x^2 + x + 1$ are a – b, a, a + b, then find the value of a & b.

# Hints and Answers

## Section – A

1. $\frac{c}{a}$
2. equal to 0
3. can be a cubic or quadratic polynomial
4. more than 3
5. 1

## Section - B

6. $-2, \frac{1}{2}$
7. 0
8. 12

## Section – C

9. x = 2, x = -1
10. x = 2
11. k = -10

## Section – D

12. y = -16
13. $1-\sqrt{2}, 1, 1+\sqrt{2}$