

Mathematics
Practice Test Paper 4
(Chapter 2: Polynomials)
Class X | 2026-27

Time Allowed: 45 Minutes

Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Use algebraic methods where required. Use of calculators is not allowed.

SECTION A

(5 questions $\times$ 1 mark = 5 marks)

1. For which values of p is $(p^2 - 1)x^2 + px + 2$ not quadratic?

- (A) $p = 0$ only
- (B) $p = 1$ only
- (C) $p = -1$ only
- (D) $p = 1$ or $p = -1$

2. The sum of the zeroes of $x^2 + 7x + 9$ is:

- (A) 7
- (B) -7
- (C) 9
- (D) -9

3. After simplification, the degree of $8x^2 - 8x^2 + 5x - 3$ is:

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

4. The zero of $\sqrt{2}x - 4$ is:

- (A) $\sqrt{2}$
- (B) $2\sqrt{2}$
- (C) $-2\sqrt{2}$
- (D) 4

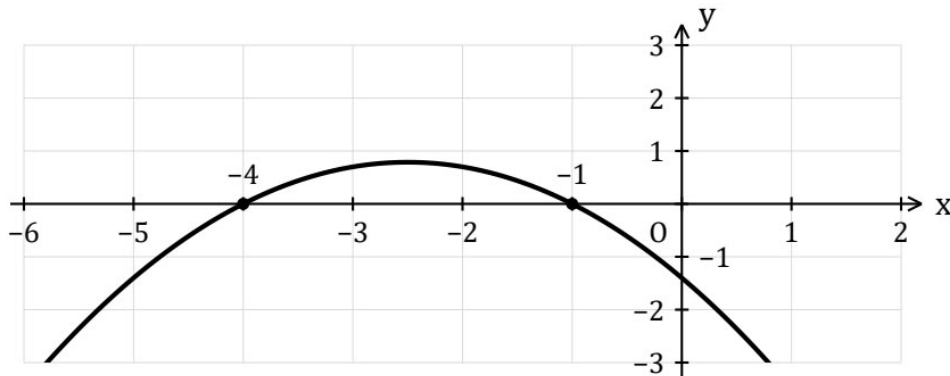
5. Which polynomial has no real zeroes?

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

SECTION B

(4 questions $\times$ 2 marks = 8 marks)

6. Find a quadratic polynomial whose zeroes have sum -5 and product 6 .
7. The zeroes of $4x^2 - (8k^2 - 40k)x - 9$ are opposites of each other. Find all possible values of k .
8. If 1 is a zero of $kx^2 + 3x - 4$, find k and the other zero.
9. Read the two zeroes from the graph. What is their sum?



SECTION C

(3 questions $\times$ 3 marks = 9 marks)

10. Find the zeroes of $4x^2 + 8x$ and verify both relationships between the zeroes and the coefficients.
11. If α and β are zeroes of $x^2 - 7x + 10$, form a quadratic with zeroes α^2 and β^2 .
12. A quadratic polynomial $ax^2 + bx + c$ has non-zero real zeroes α and β . Prove that the zeroes are reciprocals of each other if and only if $a = c$.

SECTION D

(Application Based Question - 3 marks)

13. The length and breadth, in metres, of a rectangular garden are the two zeroes of $x^2 - 13x + 40$. The length is greater than the breadth.
- (i) Find the length and breadth.
- (ii) Find the area of the garden.
- (iii) Find its perimeter.