

Mathematics
Practice Test Paper 8
(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. The zero of $7 - 2x$ is:

- | | |
|--------------------|-------------------|
| (A) $-\frac{7}{2}$ | (B) $\frac{7}{2}$ |
| (C) $\frac{2}{7}$ | (D) -7 |

2. If α and β are the zeroes of $x^2 - 1$, then $\alpha + \beta$ equals:

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

3. Which quadratic polynomial has both 1 and 3 as zeroes?

- (A) $x^2 - 4x + 3$
(B) $x^2 + 4x + 3$
(C) $x^2 - 3x + 2$
(D) $x^2 - 1$

4. The graph of $y = ax^2 + bx + c$ passes through $(0, -8)$. Then c is:

- | | |
|----------|-------------|
| (A) 0 | (B) 8 |
| (C) -8 | (D) $a - 8$ |

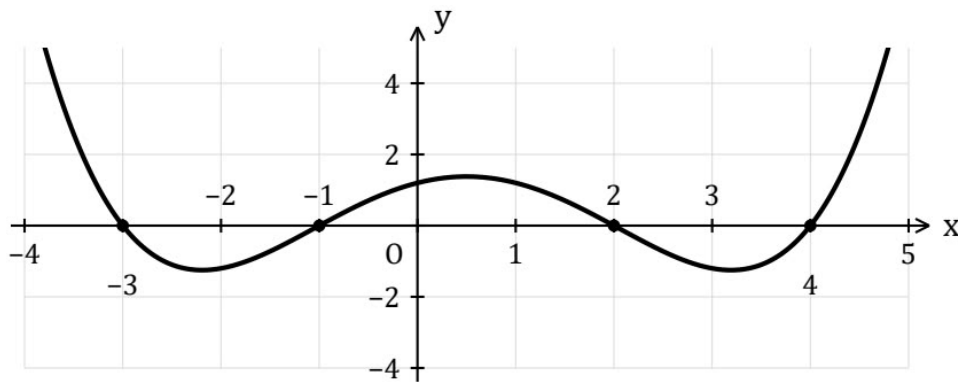
5. The sum of the zeroes of $5x^2 + 2x - 3$ is:

- | | |
|--------------------|--------------------|
| (A) $\frac{2}{5}$ | (B) $-\frac{2}{5}$ |
| (C) $-\frac{3}{5}$ | (D) $\frac{3}{5}$ |

SECTION B

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

6. Find a quadratic polynomial whose zeroes have sum 3 and product -4 .
7. A quadratic polynomial has rational coefficients and one zero $2 - \sqrt{3}$. Find its other zero and give one such polynomial.
8. If α and β are the zeroes of $2x^2 + 7x + 5$, find $(\alpha - \beta)^2$ without finding the zeroes.
9. Count the distinct real zeroes shown below. Could this be the graph of a cubic polynomial? Give a reason.



SECTION C

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

10. Find the zeroes of $x^2 - 3$ and verify their sum and product using the coefficients.
11. A quadratic polynomial $ax^2 - 5x + b$ has zeroes $\frac{1}{2}$ and 2. Find a and b, and write the polynomial.
12. The real zeroes α and β of $x^2 - kx + 16$ differ by 6. Find all possible k and the corresponding pairs of zeroes.

SECTION D

(Application Based Question - 3 marks)

13. A mathematics club plots a quadratic with x-intercepts $(-7, 0)$ and $(3, 0)$. Its coefficient of x^2 is 1. The polynomial is called $g(x)$.
- (i) Write $g(x)$ in expanded form.
- (ii) Find its y-intercept.
- (iii) If every value is multiplied by -2 , what are the zeroes of the new polynomial?