

Mathematics
Practice Test Paper 5
(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. If $p(-2) = 0$, which point must lie on the graph of $y = p(x)$?

- | | |
|---------------|----------------|
| (A) $(0, -2)$ | (B) $(2, 0)$ |
| (C) $(-2, 0)$ | (D) $(-2, -2)$ |

2. The product of the zeroes of $3x^2 - 7x - 6$ is:

- | | |
|-------------------|----------|
| (A) -2 | (B) 2 |
| (C) $\frac{7}{3}$ | (D) -6 |

3. A quadratic polynomial whose zeroes have sum 0 and product -9 is:

- (A) $x^2 + 9$
(B) $x^2 - 9$
(C) $x^2 - 9x$
(D) $x^2 + 9x$

4. The repeated zero of $(2x + 3)^2$ is:

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

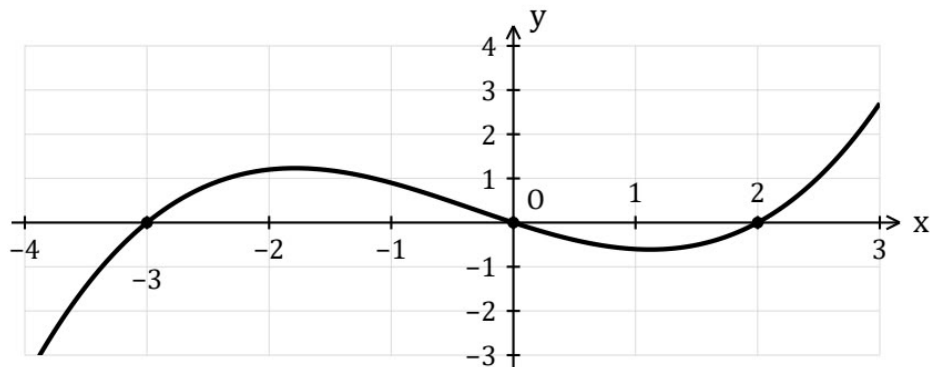
5. How many zeroes does the constant polynomial $p(x) = 7$ have?

- (A) 0
(B) 1
(C) 7
(D) Infinitely many

SECTION B

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

6. Find a quadratic polynomial whose zeroes have sum 4 and product 1.
7. The zeroes of $4x^2 - 17x + k - 4$ are reciprocals of each other. Find k .
8. The sum of the squares of the zeroes of $x^2 - 8x + k$ is 40. Find k .
9. Write all zeroes shown in the graph. What is the least possible degree of a polynomial with these distinct zeroes?



SECTION C

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

10. Find the zeroes of $x^2 - 15$ and verify their sum and product using the coefficients.
11. If α and β are zeroes of $x^2 + 2x - 15$, form a quadratic with zeroes $\alpha + 2$ and $\beta + 2$.
12. One zero of $2x^2 - 3x + p$ is 3. Find p and the other zero. Then give a quadratic polynomial whose zeroes are the negatives of these zeroes.

SECTION D

(Application Based Question - 3 marks)

13. A sensor's deviation from its target is modelled by $R(t) = t^2 - 6t + 9$, where t is time in minutes. The sensor reaches its target whenever $R(t) = 0$.
- (i) At what time does the sensor reach its target?
- (ii) How many distinct real zeroes does R have?
- (iii) Find $R(1)$.