

Mathematics
Practice Test Paper 10
(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 degree of the non-zero constant polynomial -11 is:

- (A) 0 (B) 1
(C) 11 (D) not defined

2. Which condition says that 2 is a zero of a polynomial $p(x)$?

- (A) $p(0) = 2$ (B) $p(2) = 0$
(C) $p(2) = 2$ (D) $p(-2) = 0$

3. A polynomial whose zeroes have sum -4 and product -5 is:

- (A) $x^2 - 4x - 5$
(B) $x^2 + 4x + 5$
(C) $x^2 + 4x - 5$
(D) $x^2 - 5x - 4$

4. Which polynomial has the same zeroes as $x^2 - 9$?

- (A) $2x^2 - 9$
(B) $2x^2 - 18$
(C) $x^2 + 9$
(D) $x^2 - 3$

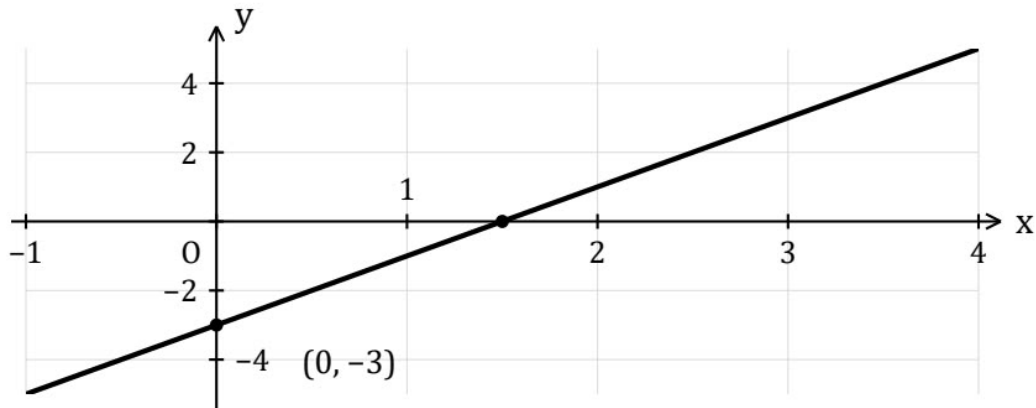
5. A non-zero polynomial with four distinct real zeroes must have degree:

- (A) exactly 2 (B) exactly 3
(C) at least 4 (D) at most 3

SECTION B

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

6. Find a quadratic polynomial whose zeroes have sum 7 and product 12.
7. For $3x^2 - kx + 12$, the sum of the zeroes equals their product. Find k .
8. The zeroes of $x^2 + px + q$ are 3 and -5 . Find p and q , and write the polynomial.
9. Use the line graph below to write the zero of $p(x)$ and the value $p(0)$.



SECTION C

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

10. Find the zeroes of $3x^2 + 5x - 2$ and verify both relationships between the zeroes and the coefficients.
11. If α and β are the zeroes of $x^2 - 4x + 2$, find a quadratic polynomial whose zeroes are $1 + \frac{1}{\alpha}$ and $1 + \frac{1}{\beta}$.
12. If α and β are non-zero real zeroes of $ax^2 + bx + c$, prove that $\frac{1}{\alpha^2} + \frac{1}{\beta^2} = \frac{b^2 - 2ac}{c^2}$. Hence, evaluate this expression for $2x^2 - 6x + 3$.

SECTION D

(Application Based Question - 3 marks)

13. Students compare the polynomial card $p(x) = 2x^2 - 22x + 56$ with another quadratic card that has the same zeroes and coefficient of x^2 equal to 1.
 - (i) Find the zeroes of $p(x)$.
 - (ii) Find the sum and product of these zeroes.
 - (iii) Write the polynomial on the second card.