Mathematics

Practice Test Paper 2

(Chapter 4: Quadratic Equations)

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 × 1 mark = 5 marks)

1. For $ax^2 + bx + c = 0$ to be quadratic, which condition is essential?

(A) $a \neq 0$ (B) $b \neq 0$

(C) $c \neq 0$ (D) $b = c$

2. If a quadratic equation has discriminant −12, its roots are:

(A) real and equal

(B) real and distinct

(C) both zero

(D) not real

3. The roots of $x^2 - 0.04 = 0$ are:

(A) ±0.02 (B) ±0.2

(C) ±2 (D) ±0.4

4. The standard form of $x(x + 3) = 10$ is:

(A) $x^2 + 3x + 10 = 0$

(B) $x^2 - 3x - 10 = 0$

(C) $x^2 + 3x - 10 = 0$

(D) $x^2 - 10x + 3 = 0$

5. If $(x - 4)(x + 2) = 0$, the roots are:

(A) 4 and −2 (B) −4 and 2

(C) 4 and 2 (D) −4 and −2

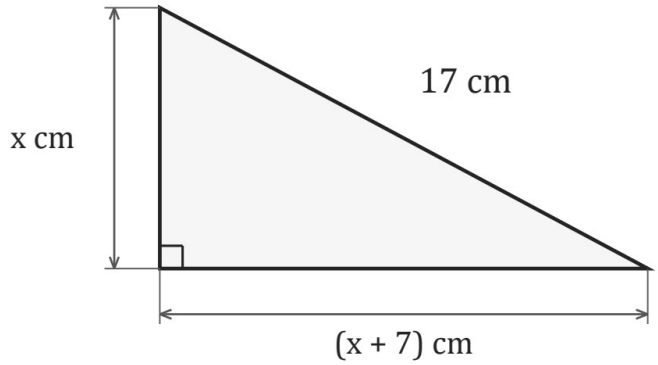
SECTION B

(4 questions × 2 marks = 8 marks)

6. Solve $2x^2 + x - 6 = 0$ by factorisation.

7. Find k so that $kx^2 - 5x + k = 0$ is quadratic with equal real roots.

8. Use the right triangle shown to form a quadratic equation and find x.



9. If 3 is a root of $2x^2 - kx - 3 = 0$, find k and the other root.

SECTION C

(3 questions × 3 marks = 9 marks)

10. The product of two consecutive positive integers is 306. Form a quadratic equation and find the integers.

11. Use the quadratic formula to solve $x^2 - 4x - 1 = 0$. Give exact roots.

12. Find p so that $(p + 1)x^2 - 6(p + 1)x + 3(p + 9) = 0$ has equal roots. Find those roots.

SECTION D

(Application Based Question - 3 marks)

13. An auditorium has x rows with (x + 3) seats per row, giving 154 seats in all.

(i) Form the quadratic equation.

(ii) Find the number of rows.

(iii) How many seats would there be after adding two identical rows?