Mathematics

Practice Test Paper 8

(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. The roots of $x^2 - 49 = 0$ are:

(A) ±7
(B) ±49
(C) 0 and 7
(D) 0 and 49

2. A quadratic equation with discriminant 8 has roots that are:

(A) real and equal
(B) not real
(C) both zero
(D) real and distinct

3. The equation $(x + 4)(x - 1) = 0$ in standard form is:

(A) $x^2 - 3x - 4 = 0$
(B) $x^2 + 3x - 4 = 0$
(C) $x^2 + 5x + 4 = 0$
(D) $x^2 + 3x + 4 = 0$

4. For $x^2 - 8x + h = 0$ to have equal roots, h is:

(A) 8
(B) 32
(C) 16
(D) 64

5. If $x(x - 5) = 0$, which complete set of roots is correct?

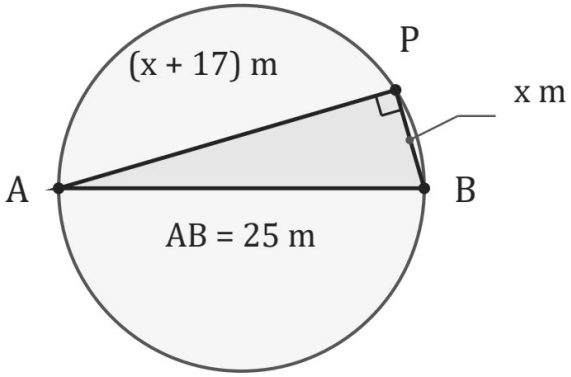
(A) 0 and 5
(B) 5 only
(C) 0 only
(D) −5 and 5

SECTION B

(4 questions × 2 marks = 8 marks)

6. Solve $3x^2 - 2\sqrt{6}x + 2 = 0$ by factorisation.

7. AB is a diameter of the circular park. Use the right-angle mark and lengths shown to find the positive value of x.



AB is a diameter; ∠APB = 90°

8. For which q does $x^2 - 6x + q = 0$ have no real roots?

9. Without solving $2x^2 - 7x + 1 = 0$, determine whether its roots are real and rational or real and irrational.

SECTION C

(3 questions × 3 marks = 9 marks)

10. Find two consecutive positive integers whose squares have sum 365.

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

12. Reducing a book's price by ₹5 allows a buyer to buy five more books for ₹300. Find the original price per book.

SECTION D

(Application Based Question - 3 marks)

13. A stall sells n tickets at ₹(50 − n) each, collecting ₹600. The number n is a positive integer and the ticket price is positive.

(i) Form the quadratic equation in n.

(ii) Find both possible numbers of tickets.

(iii) If more than 25 tickets were sold, find the ticket price.