CHAPTER TEST: QUADRILATERALS

Mathematics | Class IX (2026/QUAD/09/NCERT/001)

Time: 1.5 Hours **Max. Marks: 33**

GENERAL INSTRUCTIONS

– All questions are compulsory.

– Section A: 5 MCQs (1 mark each).

– Section B: 4 Short Answer Questions (2 marks each).

– Section C: 4 Long Answer Questions (4 marks each).

– Section D: 4 Objective/Concept Questions (1 mark each).

Section A: Multiple Choice Questions (1 Mark Each)

1. The sum of all four angles of a quadrilateral is:
   (a) 180° (b) 270° (c) 360° (d) 90°

2. A quadrilateral whose opposite sides are parallel is called a:
   (a) Trapezium (b) Parallelogram (c) Kite (d) None of these

3. The diagonals of a rhombus bisect each other at:
   (a) 45° (b) 60° (c) 90° (d) 180°

4. If the diagonals of a parallelogram are equal and bisect each other at right angles, then it is a:
   (a) Rectangle (b) Rhombus (c) Square (d) Trapezium

5. In a parallelogram $ABCD$, if $\angle A = 75°$, then $\angle B$ is:
   (a) 75° (b) 105° (c) 15° (d) 180°

Section B: Short Answer Questions (2 Marks Each)

6. The angles of a quadrilateral are in the ratio $3 : 5 : 9 : 13$. Find all the angles.

7. Show that each angle of a rectangle is a right angle.

8. In a parallelogram $ABCD$, find $\angle D$ if $\angle A = (2x + 10)°$ and $\angle B = (3x - 40)°$.

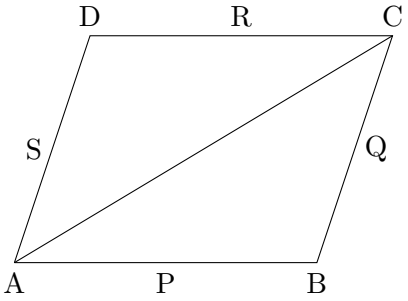
9. State the "Mid-point Theorem" of triangles.

Section C: Long Answer Questions (4 Marks Each)

10. Prove that a diagonal of a parallelogram divides it into two congruent triangles.

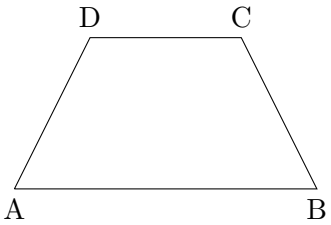
11. Show that the diagonals of a rhombus are perpendicular to each other.

12. $ABCD$ is a quadrilateral in which P, Q, R and S are mid-points of the sides AB, BC, CD and DA. AC is a diagonal.



Show that $PQRS$ is a parallelogram. (NCERT Important)

13. $ABCD$ is a trapezium in which $AB \parallel CD$ and $AD = BC$.



Show that $\angle A = \angle B$.

Section D: Objective Checklist (1 Mark Each)

1. A parallelogram with all sides equal is called a _____.

2. The line segment joining the mid-points of two sides of a triangle is _____ to the third side.

3. In a parallelogram, opposite angles are _____.

4. A square is a rectangle and also a _____.

NCERT IMPORTANT HIGHLIGHTS

Key Theorems to Master

Focus on these high-yield proofs for your exams:

- **Theorem 8.1:** A diagonal of a parallelogram divides it into two congruent triangles.
- **Properties of Parallelograms:** Opposite sides are equal, opposite angles are equal, and diagonals bisect each other.
- **Mid-point Theorem:** Very high probability of appearing in 4-mark sections.
- **Rectangle/Rhombus Proofs:** Properties regarding diagonals (equality and perpendicularity).