CHAPTER TEST: TRIANGLES

Mathematics | Class IX (2026/TRI/09/CBSE-ICSE/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 Concept/Objective Questions (1 mark each).

Section A: Multiple Choice Questions (1 Mark Each)

1. Which of the following is not a criterion for congruence of triangles?
   (a) SAS (b) ASA (c) SSA (d) SSS

2. In $\triangle ABC$, if $AB = AC$ and $\angle B = 50^\circ$, then $\angle C$ is equal to:
   (a) 40° (b) 50° (c) 80° (d) 130°

3. In a right-angled triangle, the longest side is always the:
   (a) Base (b) Perpendicular (c) Hypotenuse (d) None of these

4. If $\triangle ABC \cong \triangle PQR$, then which of the following is true by CPCT?
   (a) $AB = PQ$ (b) $BC = PR$ (c) $AC = QR$ (d) $\angle A = \angle R$

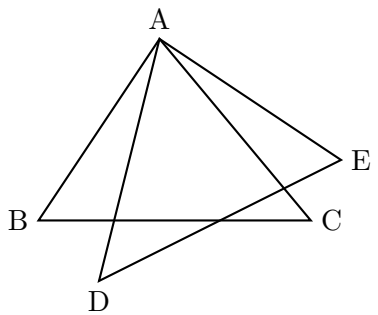
5. In $\triangle ABC$, if $\angle A = 90^\circ$, then the relation between sides is:
   (a) $AB^2 + AC^2 = BC^2$ (b) $AB + AC < BC$ (c) $BC^2 + AB^2 = AC^2$ (d) $AB = BC$

Section B: Short Answer Questions (2 Marks Each)

6. In $\triangle ABC$ and $\triangle PQR$, $AB = PQ$, $BC = QR$ and $\angle B = \angle Q$. Name the congruence criterion and write the congruence relation.

7. Show that the angles of an equilateral triangle are 60° each.

8. In the given figure, $AC = AE$, $AB = AD$ and $\angle BAD = \angle EAC$. Show that $BC = DE$.



9. In $\triangle PQR$, if $\angle P = 70^\circ$ and $\angle Q = 40^\circ$, find the longest side of the triangle. Justify your answer.

Section C: Long Answer Questions (4 Marks Each)

10. **Theorem:** Prove that angles opposite to equal sides of an isosceles triangle are equal.

11. ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively. Show that these altitudes are equal. (NCERT Exercise 7.2)

12. AD is an altitude of an isosceles triangle ABC in which $AB = AC$. Show that (i) AD bisects BC (ii) AD bisects $\angle A$.

13. Prove that the perimeter of a triangle is greater than the sum of its three medians.

Section D: Concept Checklist (1 Mark Each)

1. The sum of any two sides of a triangle is always _____ than the third side.

2. CPCT stands for _____.

3. In $\triangle ABC$, if $\angle B$ is the largest angle, then the side _____ is the longest.

4. Two triangles are congruent if their _____ and _____ are the same.

NCERT IMPORTANT HIGHLIGHTS

High-Yield NCERT Questions

Ensure you practice the following from the NCERT textbook:

- **Exercise 7.1, Q.3:** AD and BC are equal perpendiculars to a line segment AB...
- **Exercise 7.2, Q.4:** ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal...
- **Exercise 7.3, Q.1:** $\triangle ABC$ and $\triangle DBC$ are two isosceles triangles on the same base BC...
- **Inequalities in Triangles:** Theorem 7.6, 7.7, and 7.8 (Deleted in some latest CBSE circulars, but essential for ICSE/Competitive exams).