Mathematics

Practice Test Paper 5

(Chapter 6: Triangles)

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. Give reasons for geometrical statements where required. Use of calculators is not allowed.

SECTION A

(5 questions × 1 mark = 5 marks)

1. For $\triangle LMN \sim \triangle XYZ$, which ratio equals LM/XY?

(A) LN/YZ (B) MN/XY

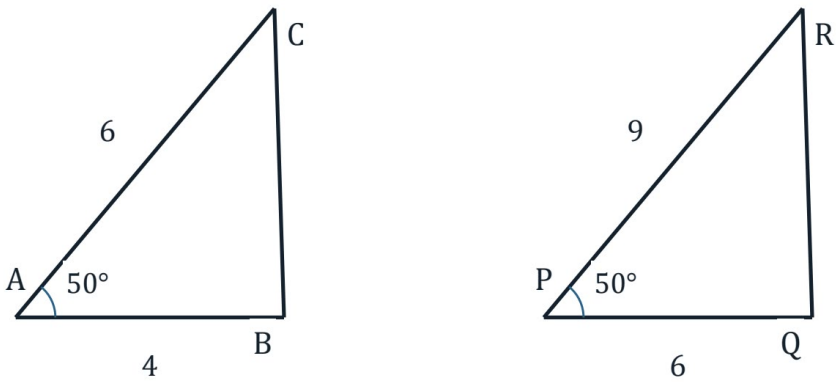
(C) LN/XZ (D) LM/YZ

2. Which pair need not be similar?

(A) Two circles (B) Two squares

(C) Two equilateral triangles (D) Two right triangles

3. Which criterion directly proves the similarity of the two triangles shown?



(A) SSS (B) AA

(C) SAS (D) SSA

4. Two triangles have corresponding medians in the ratio 5 : 7. If the triangles are similar, their corresponding sides are in the ratio:

(A) 25 : 49 (B) 7 : 5

(C) 5 : 7 (D) 10 : 7

5. If $\angle A = \angle D$ and $\angle C = \angle F$, then $\triangle ABC$ and $\triangle DEF$ are similar by:

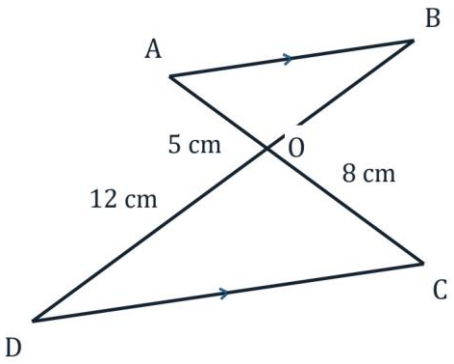
(A) AA (B) SSS

(C) SAS only (D) No criterion

SECTION B

(4 questions × 2 marks = 8 marks)

6. AB ∥ CD and the straight lines AC and BD meet at O. Establish a suitable similarity relation and find OB.



7. A rectangular card is 6 cm × 10 cm. Is a 9 cm × 15 cm card similar to it? Is a 9 cm × 14 cm card similar? Give reasons.

8. In $\triangle ABC$, D is on AB and E is on AC. If $AD/AB = AE/AC = 3/8$, prove that DE ∥ BC.

9. A model triangular sign has perimeter 18 cm. The actual sign is similar and one actual side is 45 cm long, corresponding to a 3 cm model side. Find the actual perimeter.

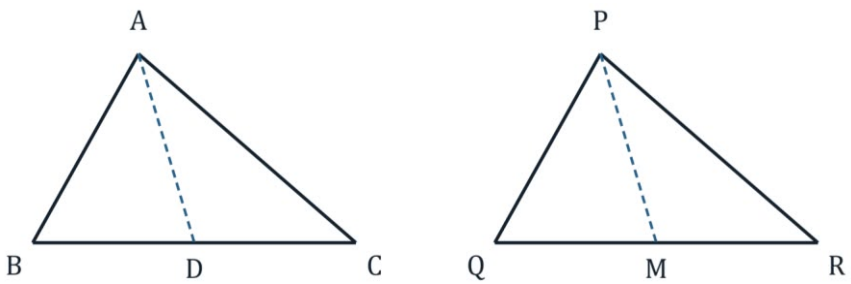
SECTION C

(3 questions × 3 marks = 9 marks)

10. $\triangle ABC \sim \triangle PQR$. CD and RF bisect $\angle ACB$ and $\angle PRQ$, with D on AB and F on PQ. Prove that $\triangle ACD \sim \triangle PRF$ and hence $CD/RF = AC/PR$.

11. A 6 m pole casts a 4 m shadow when a tower casts a 28 m shadow. Find the tower's height. Later the pole's shadow is 3 m; find the tower's shadow then.

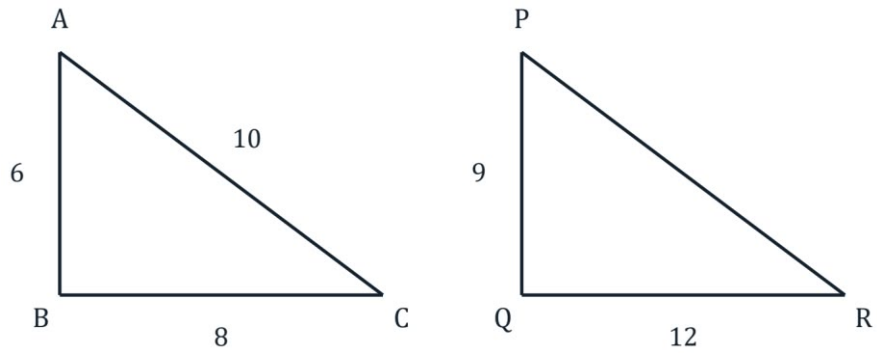
12. $\triangle ABC \sim \triangle PQR$. AD and PM are corresponding medians. Prove that $AD/PM = AB/PQ$.



SECTION D

(Application Based Question - 3 marks)

13. A designer compares two triangular panels ABC and PQR. Their side lengths are shown in centimetres; PR is unknown. The panels are similar in the stated order.



(i) Find the scale factor from ABC to PQR.

(ii) Find PR.

(iii) Find the perimeter of PQR.