Mathematics

Practice Test Paper 10

(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. If $\triangle ABC \sim \triangle PQR$ and $\angle A = 47°$, $\angle Q = 68°$, then $\angle R$ is:

(A) 47° (B) 68°

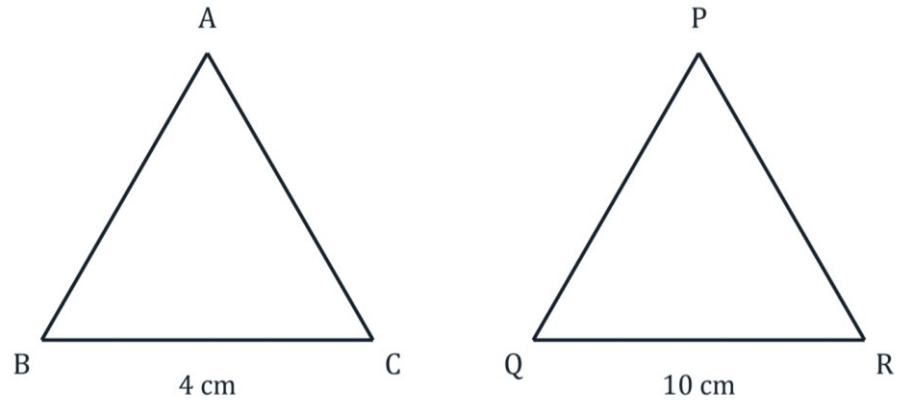
(C) 75° (D) 65°

2. Two similar triangles have scale factor 1. Which statement must hold?

(A) They are congruent. (B) They are equilateral.

(C) They are right-angled. (D) They have unequal areas.

3. The two triangles shown are equilateral. What is their smaller-to-larger perimeter ratio?



(A) 4 : 25 (B) 2 : 5

(C) 5 : 2 (D) 1 : 5

4. A triangle's sides 6 cm, 8 cm and 9 cm are enlarged by 2.5. The longest new side is:

(A) 15 cm (B) 20 cm

(C) 22.5 cm (D) 23 cm

5. In △ABC, DE ∥ BC. If AE : EC = 5 : 4, then AB : AD is:

(A) 5 : 9 (B) 4 : 5

(C) 9 : 4 (D) 9 : 5

SECTION B

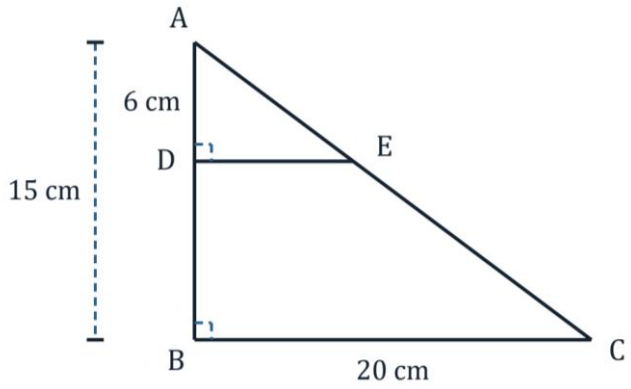
(4 questions × 2 marks = 8 marks)

6. Explain why equal perimeters do not imply similarity. Give two triangles with equal perimeters that are not similar.

7. In △ABC, DE ∥ BC, AE = 7 cm, EC = 5 cm and DB = 10 cm. Find AD.

8. Triangles have side lengths 7 cm, 8 cm, 9 cm and 10.5 cm, 12 cm, 13.5 cm. Prove that their largest angles are equal.

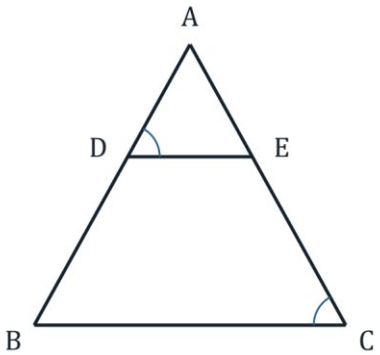
9. ABC and ADE are right triangles sharing angle A, with D on AB and E on AC. Use the labelled lengths to find DE.



SECTION C

(3 questions × 3 marks = 9 marks)

10. D and E lie on AB and AC. Given AD/DB = AE/EC and ∠ADE = ∠ACB, prove that AB = AC.



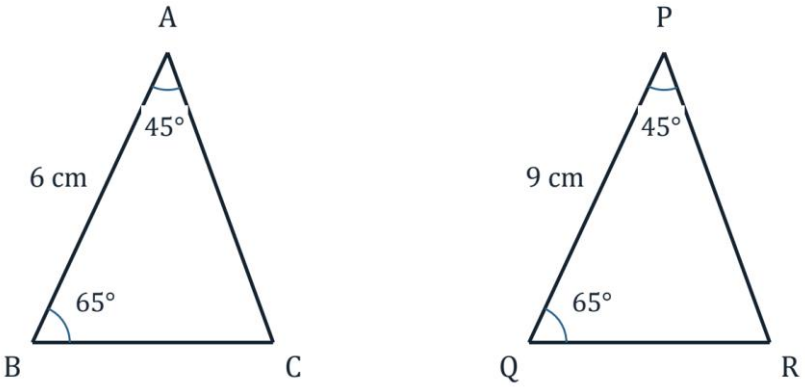
11. △ABC ~ △PQR, with AB = 10 cm, BC = 14 cm, CA = 16 cm. If PQ + QR = 36 cm, find all three sides of △PQR.

12. In $\triangle ABC$, DE $\parallel$ BC, AB = 24 cm, AC = 30 cm and BC = 36 cm. If the perimeter of $\triangle ADE$ is 45 cm, find AD, AE and DE.

SECTION D

(Application Based Question - 3 marks)

13. Two triangular pennants ABC and PQR have equal corresponding angles as labelled. Their corresponding sides AB and PQ are 6 cm and 9 cm.



(i) State the similarity criterion.

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

(iii) Find $\angle R$.