Mathematics

Practice Test Paper 9

(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. Which statement about similar polygons is correct?

(A) Equal corresponding angles alone always suffice.

(B) Equal corresponding side ratios alone always suffice.

(C) Both angle equality and side proportionality are required.

(D) They must have equal perimeters.

2. If $\triangle ABC \sim \triangle DEF$ and AC : DF = 2 : 7, then DF : AC is:

(A) 2 : 7

(B) 4 : 49

(C) 7 : 2

(D) 49 : 4

3. DE ∥ BC, with D on AB and E on AC. If AD = DB, then:

(A) AE = EC

(B) AE = AC

(C) DE = BC

(D) AB = AC

4. A triangle with perimeter 32 cm is similar to one with perimeter 56 cm. If the smaller one's shortest side is 6 cm, the larger one's shortest side is:

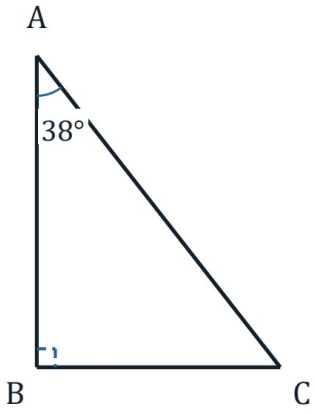
(A) 9 cm

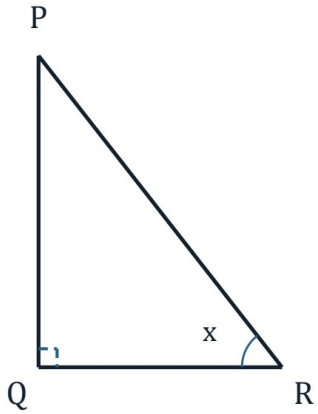
(B) 10 cm

(C) 12 cm

(D) 10.5 cm

5. The right triangles shown are similar. If ∠A = 38°, find the angle x at R.



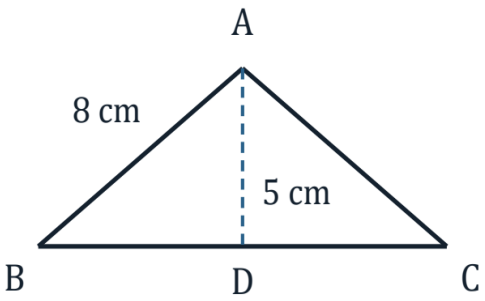


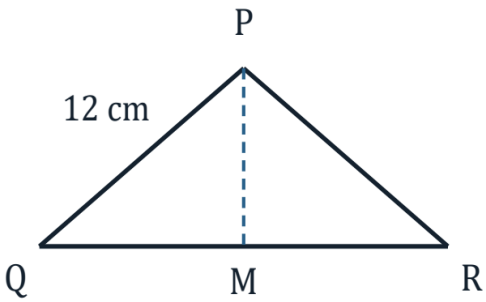
(A) 38°
(B) 52°
(C) 90°
(D) 128°

SECTION B

(4 questions × 2 marks = 8 marks)

6. △ABC ~ △PQR and AD and PM are medians. Use the labelled lengths to find PM, stating the ratio used.





7. In △PQR, E lies on PQ and F on PR. Given PQ = 1.28 cm, PR = 2.56 cm, PE = 0.18 cm and PF = 0.36 cm, determine whether EF ∥ QR.

8. In △ABC and △PQR, AB = 9 cm, BC = 12 cm, PQ = 6 cm and QR = 8 cm. Which angle equality would make SAS applicable? Explain.

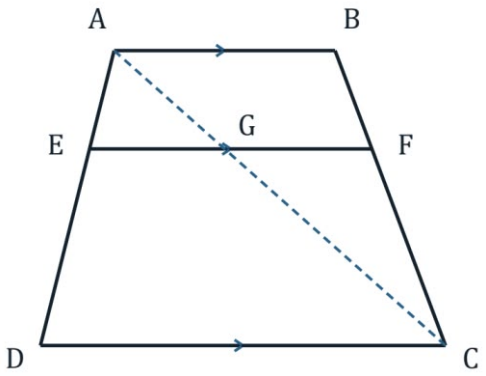
9. An equilateral triangle has side 8 cm. A second equilateral triangle has perimeter 42 cm. Find the first-to-second scale ratio and justify similarity.

SECTION C

(3 questions × 3 marks = 9 marks)

10. A triangle has sides 9 cm, 12 cm and 15 cm. A similar triangle has perimeter 60 cm. Find its three sides and the length of a median corresponding to a 6 cm median.

11. In trapezium ABCD, AB ∥ EF ∥ DC. E lies on AD and F on BC. Prove that AE/ED = BF/FC, using the diagonal AC.

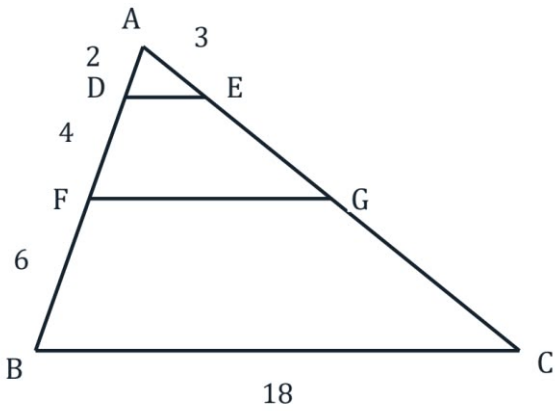


12. D and E lie on AB and AC, with DE ∥ BC. If AD : DB = 3 : 2, AE = x + 4 and EC = x − 1, find x, AE and AC. Lengths are in centimetres.

SECTION D

(Application Based Question - 3 marks)

13. A triangular fence ABC has two crossbars DE and FG, both parallel to BC. Use the labelled lengths, in metres.



(i) Find AC.

(ii) Find the length of FG.

(iii) Find the length of DE.