Mathematics

Practice Test Paper 6

(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.

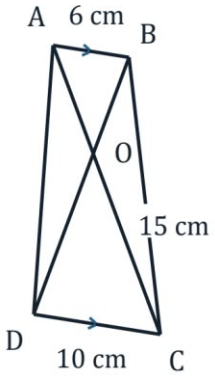
SECTION A

(5 questions × 1 mark = 5 marks)

1. Which set of side lengths forms a triangle similar to one with sides 5 cm, 7 cm and 8 cm?

(A) 10, 14, 16 cm
(B) 10, 12, 16 cm
(C) 6, 8, 9 cm
(D) 15, 21, 25 cm

2. AB ∥ CD in the trapezium shown, and AC and BD meet at O. Find OA.



(A) 6 cm
(B) 9 cm
(C) 15 cm
(D) 25 cm

3. In a triangle, DE ∥ BC and AD : DB = 4 : 1. What is EC : AC?

(A) 4 : 5
(B) 1 : 4
(C) 1 : 5
(D) 5 : 1

4. A similarity scale factor changes which of the following?

(A) Angle measures
(B) The number of vertices
(C) The order of corresponding vertices
(D) Corresponding side lengths

5. $\triangle ABC \sim \triangle DEF$ and BC : EF = 7 : 3. If AB = 28 cm, find DE.

(A) 12 cm (B) 21 cm

(C) 16 cm (D) 9 cm

SECTION B

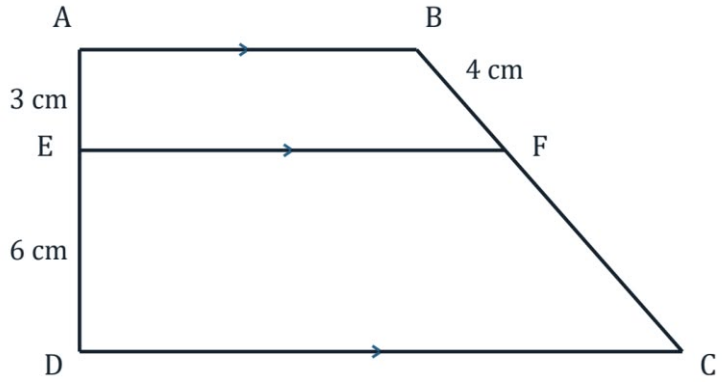
(4 questions × 2 marks = 8 marks)

6. In $\triangle ABC$, $\angle A = 38°$ and $\angle B = 72°$. In $\triangle DEF$, $\angle D = 38°$ and $\angle F = 69°$. Determine whether the triangles are similar.

7. D lies on AB and E lies on AC. Given AD = 2.4 cm, AB = 6 cm, AE = 3.2 cm and AC = 8 cm, show that DE ∥ BC.

8. The corresponding altitudes of two similar triangles are 8 cm and 14 cm. If the first triangle has a side of 12 cm, find the corresponding side of the second.

9. In trapezium ABCD, AB ∥ EF ∥ DC. Use the labelled lengths to find FC.

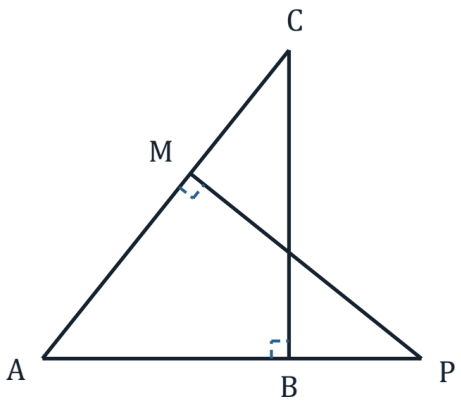


SECTION C

(3 questions × 3 marks = 9 marks)

10. A line parallel to QR meets PQ and PR at S and T. If PS = 6 cm, SQ = 9 cm and RT exceeds PT by 4 cm, find PT and PR.

11. In the diagram, ABC and AMP are right triangles, right-angled at B and M. Prove that $\triangle ABC \sim \triangle AMP$ and hence CA/PA = BC/MP.

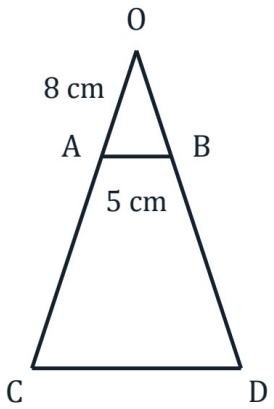


12. In $\triangle ABC$, D lies on BC and $\angle ADC = \angle BAC$. Prove $AC^2 = BC \times CD$. If BC = 16 cm and CD = 9 cm, find AC.

SECTION D

(Application Based Question - 3 marks)

13. A projector at O sends rays through the ends A and B of a small screen to C and D on a larger parallel screen. OA = 8 cm, OC = 24 cm and AB = 5 cm.



(i) Find the enlargement factor from $\triangle OAB$ to $\triangle OCD$.

(ii) Find CD.

(iii) Find the distance AC along the ray.