Mathematics

Practice Test Paper 2

(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 pair is necessarily similar?

(A) Any two squares
(B) Any two rectangles
(C) Any two rhombuses
(D) Any two isosceles triangles

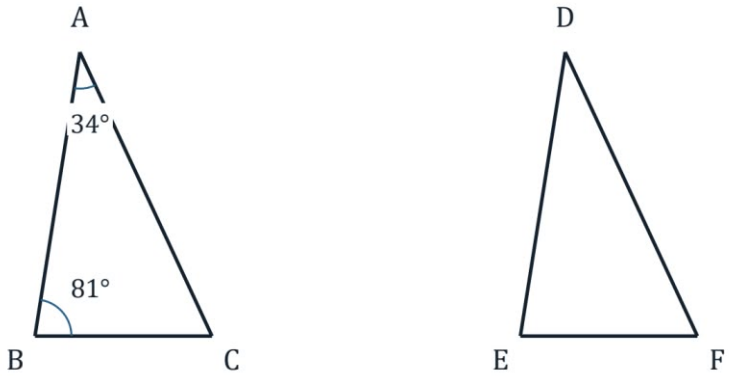
2. For $\triangle ABC \sim \triangle DEF$, AB = 4 cm, DE = 10 cm and EF = 15 cm. Find BC.

(A) 5 cm
(B) 8 cm
(C) 6 cm
(D) 12 cm

3. A line joins D on AB to E on AC. Which condition guarantees DE ∥ BC?

(A) $\frac{AD}{DB} = \frac{AE}{EC}$
(B) $AD = EC$
(C) $AB = AC$
(D) $DE = BC$

4. The two triangles in the diagram are similar with A ↔ D and B ↔ E. Find ∠F.



(A) 34°
(B) 81°
(C) 65°
(D) 115°

5. An enlargement multiplies every side of a triangle by 7/4. A 12 cm side becomes:

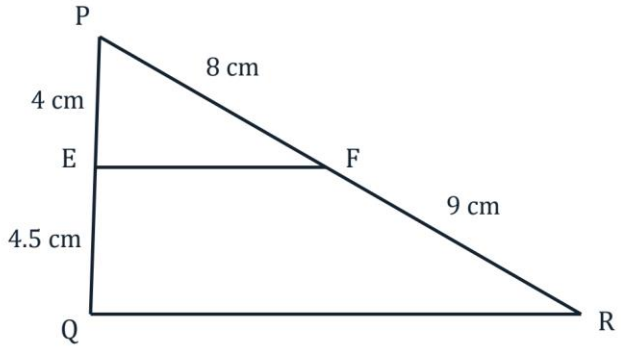
(A) 21 cm (B) 16 cm

(C) 19 cm (D) 28 cm

SECTION B

(4 questions × 2 marks = 8 marks)

6. E and F lie on PQ and PR as shown. Determine whether EF ∥ QR, giving a reason.



7. A student claims that a square and a non-square rhombus are similar because all their sides are in equal ratios. Explain the error.

8. In △ABC, ∠A = 46° and ∠B = 64°. In △PQR, ∠P = 46° and ∠R = 70°. Write the correct similarity relation and justify it.

9. In △XYZ, U lies on XY and V on XZ, with UV ∥ YZ. If XU : UY = 2 : 5 and XZ = 21 cm, find XV.

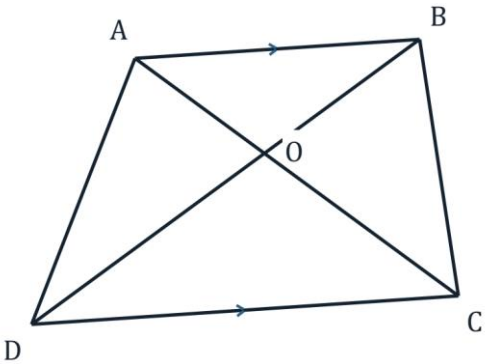
SECTION C

(3 questions × 3 marks = 9 marks)

10. In △ABC, AB = 15 cm, AC = 20 cm and BC = 25 cm. D lies on AB with AD = 9 cm, and DE ∥ BC meets AC at E. Find AE, EC and DE.

11. Triangles KLM and XYZ have KL = 5 cm, KM = 8 cm, XY = 7.5 cm and XZ = 12 cm. If ∠K = ∠X = 48°, prove similarity and find YZ when LM = 7 cm.

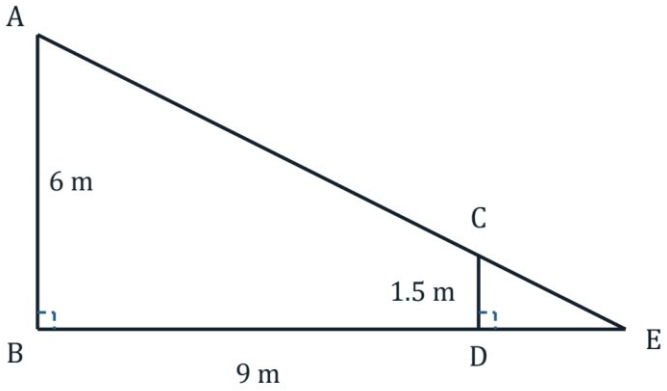
12. ABCD is a trapezium with AB ∥ CD, and its diagonals meet at O. Prove that OA/OC = OB/OD.



SECTION D

(Application Based Question - 3 marks)

13. AB is a 6 m lamp-post and CD is a 1.5 m child standing 9 m from its base. The light ray through C meets the level ground at E.



(i) Explain why $\triangle ABE$ and $\triangle CDE$ are similar.

(ii) Find the length of the child's shadow DE.

(iii) Find the distance BE from the lamp-post to the shadow's tip.