SUBJECT: MATHEMATICS **TOPIC: TRIANGLES** **CLASS: X**

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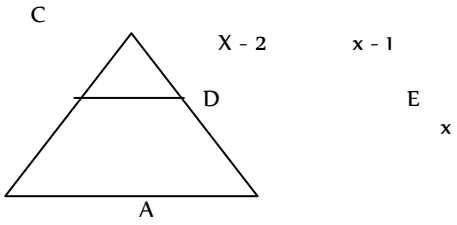
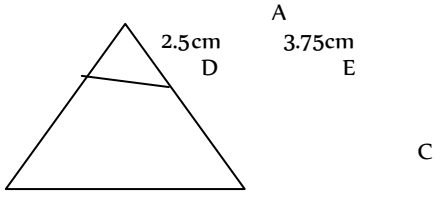
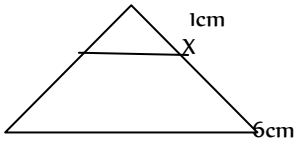
1. What value of x will make DE ll AB in the given figure?



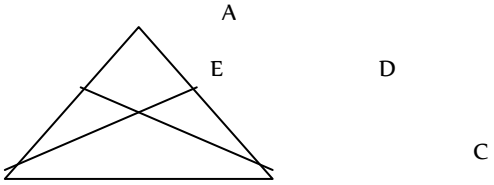
2. In figure, DE is parallel to base BC. If AD = 2.5 cm, BD = 3.0 cm and AE = 3.75 cm, find the length of AC



3. In the figure. XY ll BC . Find the length of XY



4. In figure, considering triangles BEP and CPD, prove that:
BP X PD = EP X PC



5. If Δ ABC ~ Δ PQR. Also ar (ΔABC) = 4 ar (Δ PQR). If BC = 12cm, find QR

6. The areas two similar triangles ABC and DEF are 36 cm^2 and 81 cm^2 respectively. If EF = 6.9 cm, determine BC
(4.6 cm)

7. Two isosceles triangles have equal angles and their areas are in the ratio 81: 25. Find the ratio of their Corresponding heights

8. D, E and F are respectively the mid points of the sides BC, CA and AB of ΔABC. Find the ratio of the areas of Δ DEF and Δ ABC

9. The perimeters of two similar triangles are 36cm and 48cm respectively. If one side of the first triangle is 9cm, what is the corresponding side of the other triangle

10. In triangle ABC, AB= $\sqrt{3}a$, $\angle A = 90°$ = a and BC = 2a. Prove that

11. In triangle ABC, $\angle BAC = 90°$ and AD $\perp$ BC. If BD = 8cm, DC= 18 cm, find AD

12. Two poles of height 8m and 13m stand on a plane ground. If the distance between their tips is 13m, find the distance between their feet

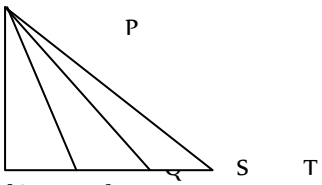
13. The perpendicular from A on side BC of a triangle ABC intersects BC at D such that BD = 3CD. Prove that $2AB^2 - 2AC^2 = BC^2$

14. In an isosceles triangle ABC with AB = AC, BD is a perpendicular from B to the side AC. Prove that $BD^2 - CD^2 = 2CD \cdot AD$

15. P and Q are points on the sides CA and CB respectively of a ΔABC right angled at C. Prove that $AQ^2 + BP^2 = AB^2 + PQ^2$

16. In figure, T trisects the side QR of right triangle PQR.

Prove that $8PT^2 = 3PR^2 + 5PS^2$



17. If BL and CM are medians of a triangle ABC right angled at A, then prove that $4(BL^2 + CM^2) = 5BC^2$