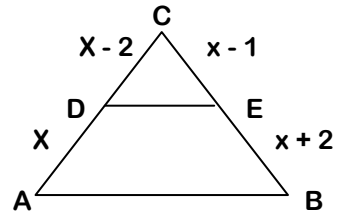
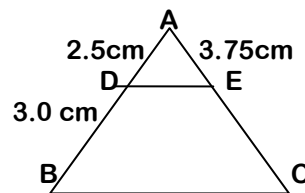


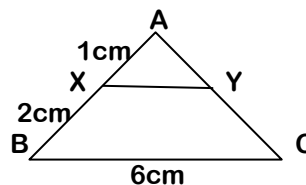
1. What value of x will make $DE \parallel AB$ in the given figure?



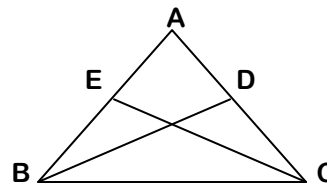
2. In figure, DE is parallel to base BC . If $AD = 2.5$ cm, $BD = 3.0$ cm and $AE = 3.75$ cm, find the length of AC



3. In the figure. $XY \parallel BC$. Find the length of XY



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

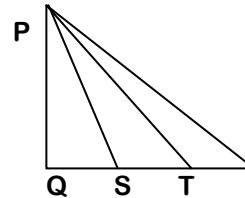


5. If $\triangle ABC \sim \triangle PQR$. Also $ar(\triangle ABC) = 4 ar(\triangle PQR)$. If $BC = 12$ cm, find QR
6. The areas two similar triangles ABC and DEF are 36 cm^2 and 81 cm^2 respectively. If $EF = 6.9$ cm, determine BC (4.6 cm)
7. Two isosceles triangles have equal angles and their areas 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 $\triangle ABC$. Find the ratio of the areas of $\triangle DEF$ and $\triangle ABC$
9. The perimeters of two similar triangles are 36 cm and 48 cm respectively. If one side of the first triangle is 9 cm, what is the corresponding side of the other triangle
10. In triangle ABC , $AB = \sqrt{3}a$, $AC = a$ and $BC = 2a$. Prove that $\angle A = 90^\circ$

11. In triangle ABC, $\angle BAC = 90^\circ$ and $AD \perp BC$. If $BD = 8\text{cm}$, $DC = 18\text{cm}$, 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 $\triangle ABC$ 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 $4(BL^2 + CM^2) = 5BC^2$