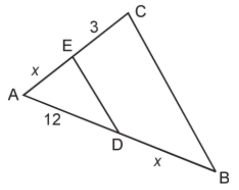
TRIANGLES CM100601

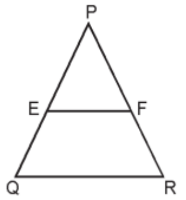
Very Short Answer Type Questions : **1 mark each**

1. In ΔABC, if DE || BC, then the value of x is :



(a) 4 (b) 6 (c) 8 (d) 9

2. In the given figure, PQ = 1.28 cm, PR = 2.56 cm, PE = 0.18 cm and PF = 0.36 cm, then :



(a) EF is not parallel to QR (b) EF || QR (c) cannot say anything (d) None

3. If $\Delta ABC \sim \Delta PQR$ and $\angle P = 50°$, $\angle B = 60°$, then $\angle R$ is :

(a) 100° (b) 80° (c) cannot be determined (d) 70°

4. $\Delta ABC \sim \Delta DEF$ and the perimeters of ΔABC and ΔDEF are 30 cm and 18 cm respectively. If BC = 9 cm, then EF is equal to :

(a) 6.3 cm (b) 5.4 cm (c) 7.2 cm (d) 4.5 cm

5. A vertical stick 30 m long casts a shadow 15 m long on the ground. At the same time, a tower casts a shadow 75 m long on the ground. The height of the tower is :

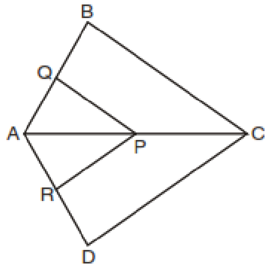
(a) 150 m (b) 100 m (c) 25 m (d) 200 m

Short Answer Type Questions : **2 marks each**

6. In a triangle ABC, altitudes AL and BM intersect in O. Prove that $\frac{AO}{BO} = \frac{OM}{OL}$.

7. A ladder is placed against a wall such that its foot is at a distance of 3.5 m from the wall and its top reaches a window 12 m above the ground. Find the length of the ladder.

8. In the figure, if PQ || CB and PR || CD, prove that $\frac{AR}{AD} = \frac{AQ}{AB}$.

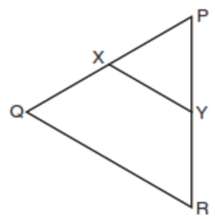


Long Answer Type Questions : **3 marks each**

9. The foot of a ladder is 6 m away from a wall and its top reaches a window 8 m above the ground. If the ladder is shifted in such a way that its foot is 8 m away from the wall, to what height does its tip reach?

10. In an equilateral triangle ABC, D is a point on side BC such that 3BD = BC. Prove that $9AD^2 = 7AB^2$.

11. In figure, XY || QR, $\frac{PQ}{XQ} = \frac{7}{3}$ and PR = 6.3 cm. Find YR.



Very Long Answer Type Questions : **4 marks each**

12. State and prove Basic Proportionality theorem.

13. Through the mid-point M of the side CD of a parallelogram ABCD, the line BM is drawn intersecting AC in L and AD produced in E. Prove that EL = 2BL.