

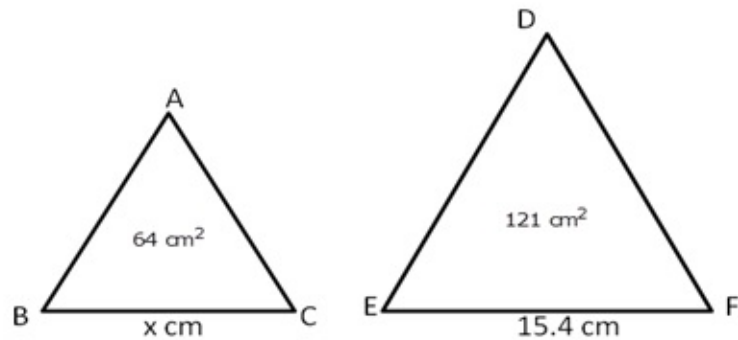


Exercise 4C

Question 1:

Given: $\triangle ACB \sim \triangle DEF$,

area of $\triangle ABC = 64\text{cm}^2$ and area of $\triangle DEF = 121\text{ cm}^2$



We know that the ratio of the area of two similar triangles is equal to the ratio of the squares of their corresponding sides.

$$\therefore \frac{\text{ar}(\triangle ABC)}{\text{ar}(\triangle DEF)} = \frac{BC^2}{EF^2}$$

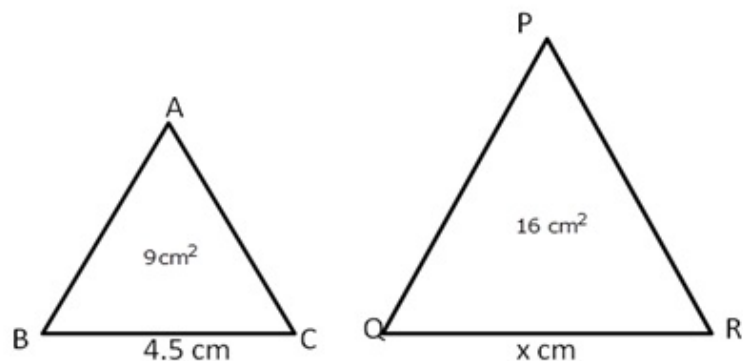
$$\Rightarrow \frac{64}{121} = \frac{x^2}{(15.4)^2} \text{ where } BC = x$$

$$x^2 = \frac{64}{121} \times (15.4)^2$$

$$x = \sqrt{\frac{64}{121} \times 15.4 \times 15.4} = \left(\frac{8}{11} \times 15.4\right) = 11.2 \text{ cm}$$

Hence, $BC = 11.2 \text{ cm}$

Question 2:



Given: $\triangle ABC \sim \triangle PQR$,

area of $\triangle ABC = 9\text{cm}^2$ and area of $\triangle PQR = 16\text{cm}^2$.

We know that the ratio of the areas of two similar triangles is equal to the ratio of squares of their corresponding sides.

$$\therefore \frac{\text{area of } \triangle ABC}{\text{area of } \triangle PQR} = \frac{9}{16} = \frac{BC^2}{QR^2}$$

$$\Rightarrow \frac{9}{16} = \frac{(4.5)^2}{QR^2}$$

$$\Rightarrow QR^2 = (4.5)^2 \times \frac{16}{9}$$

$$\Rightarrow QR = \sqrt{(4.5)^2 \times \frac{16}{9}}$$

$$\Rightarrow QR = 4.5 \times \frac{4}{3} = 6 \text{ cm}$$

Hence, QR = 6 cm

***** END *****