

Ques) The ratio of the areas of two triangles with the equal base is 6:5. If the height of bigger triangle is 9cm. Then find the corresponding height of the smaller triangle.

Solution: Let 'b' be the base of triangle.
 h^1 be the height of bigger Δ
and h^2 be the height of smaller Δ

As we know, Area of $\Delta = \frac{1}{2} \times \text{base} \times \text{height}$

$$\Rightarrow \frac{\cancel{\frac{1}{2}} \times \cancel{b} \times h^1}{\cancel{\frac{1}{2}} \times \cancel{b} \times h^2} = \frac{6}{5}$$

$$\Rightarrow \frac{9}{h^2} = \frac{6}{5}$$

$$\Rightarrow h^2 = 9 \times \frac{5}{6} = \frac{15}{2} = 7.5 \text{ cm}$$

\therefore Height of smaller $\Delta = 7.5 \text{ cm}$

