

let sides be $12x$ cm,
 $17x$ cm, $25x$ cm

Per. of $\Delta = 540$ cm

$$12x + 17x + 25x = 540$$

$$\Rightarrow 54x = 540$$

$$\Rightarrow x = \frac{540}{54}$$

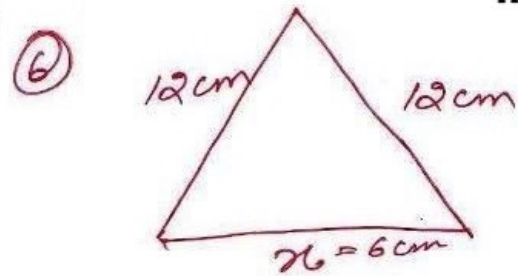
$$= 10$$

\therefore Sides $12 \times 10 = 120$ cm
 $17 \times 10 = 170$ cm
 $25 \times 10 = 250$ cm

$$s = \frac{p}{2} = \frac{540}{2}$$

$$= 270$$
 cm

$$\begin{aligned} \text{area} &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{270(270-120)(270-170)(270-250)} \\ &= \sqrt{270 \times 150 \times 100 \times 20} \\ &= \sqrt{27 \times 10 \times 15 \times 10 \times 10 \times 10 \times 2 \times 10} \\ &= 10 \times 10 \sqrt{27 \times 15 \times 2 \times 10} \\ &= 100 \sqrt{3 \times 3 \times 3 \times 3 \times 5 \times 2 \times 2 \times 5} \\ &= 100 \times 2 \times 3 \times 5 \times 3 \\ &= 9000 \text{ cm}^2 \end{aligned}$$



Perimeter of $\Delta = 30$ cm

$$12 + 12 + x = 30$$

$$\Rightarrow x = 30 - 24$$

$$= 6$$

\therefore Third Side = 6 cm

$$\begin{aligned} \text{semi perimeter}^{(s)} &= \frac{p}{2} \\ &= \frac{30}{2} \\ &= 15 \text{ cm} \end{aligned}$$

$$\begin{aligned} \text{area} &= \sqrt{s(s-a)(s-b)(s-c)} \\ &= \sqrt{15(15-6)(15-12)(15-12)} \\ &= \sqrt{15 \times 9 \times 3 \times 3} \\ &= 3 \sqrt{3 \times 5 \times 3 \times 3} \\ &= 3 \times 3 \sqrt{15} \\ &= 9\sqrt{15} \text{ cm}^2 \end{aligned}$$