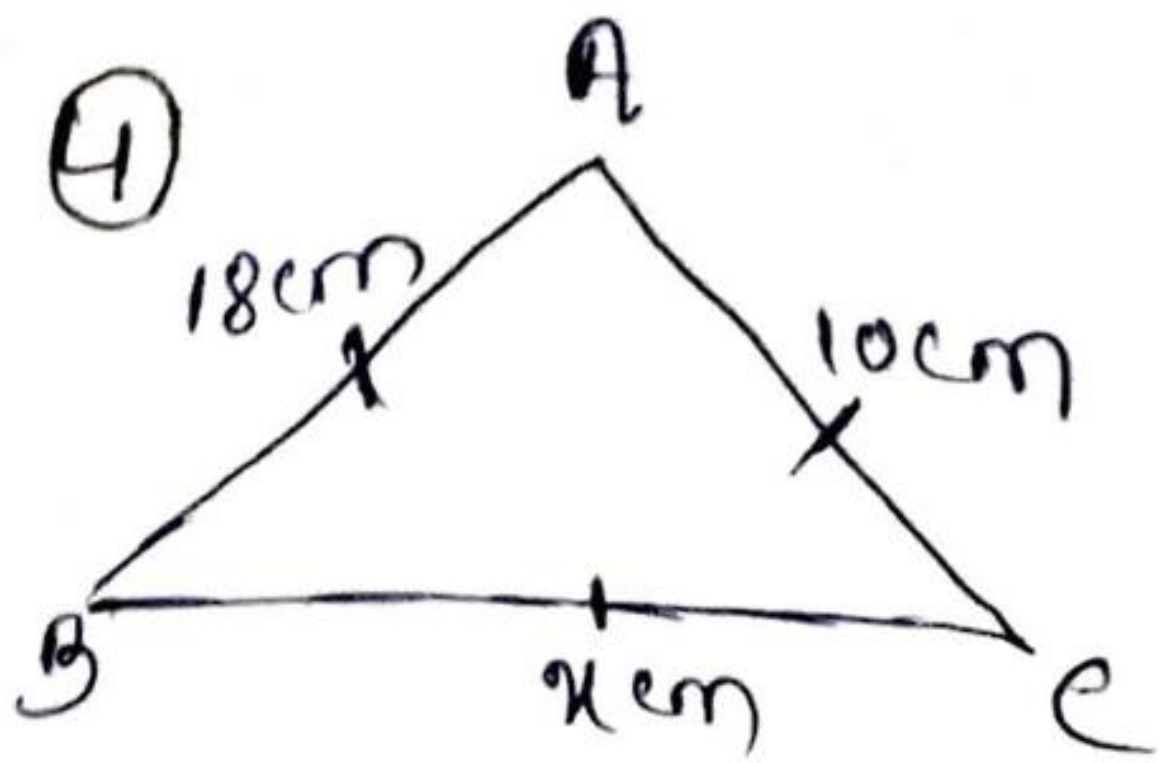


Worksheet



Given, perimeter = 42 cm

$$\Rightarrow 18 + 10 + x = 42 \text{ cm}$$

$$\Rightarrow 28 + x = 42 \text{ cm}$$

$$\Rightarrow x = 42 \text{ cm} - 28 \text{ cm}$$

$$\Rightarrow x = 14 \text{ cm}$$

\therefore Hence BC = 14 cm

Area of the triangle, $\Rightarrow \frac{18 + 14 + 10}{2}$

$$\Rightarrow \frac{42}{2} = 21 \text{ cm}$$

$$\Rightarrow \sqrt{21(21-18)(21-14)(21-10)}$$

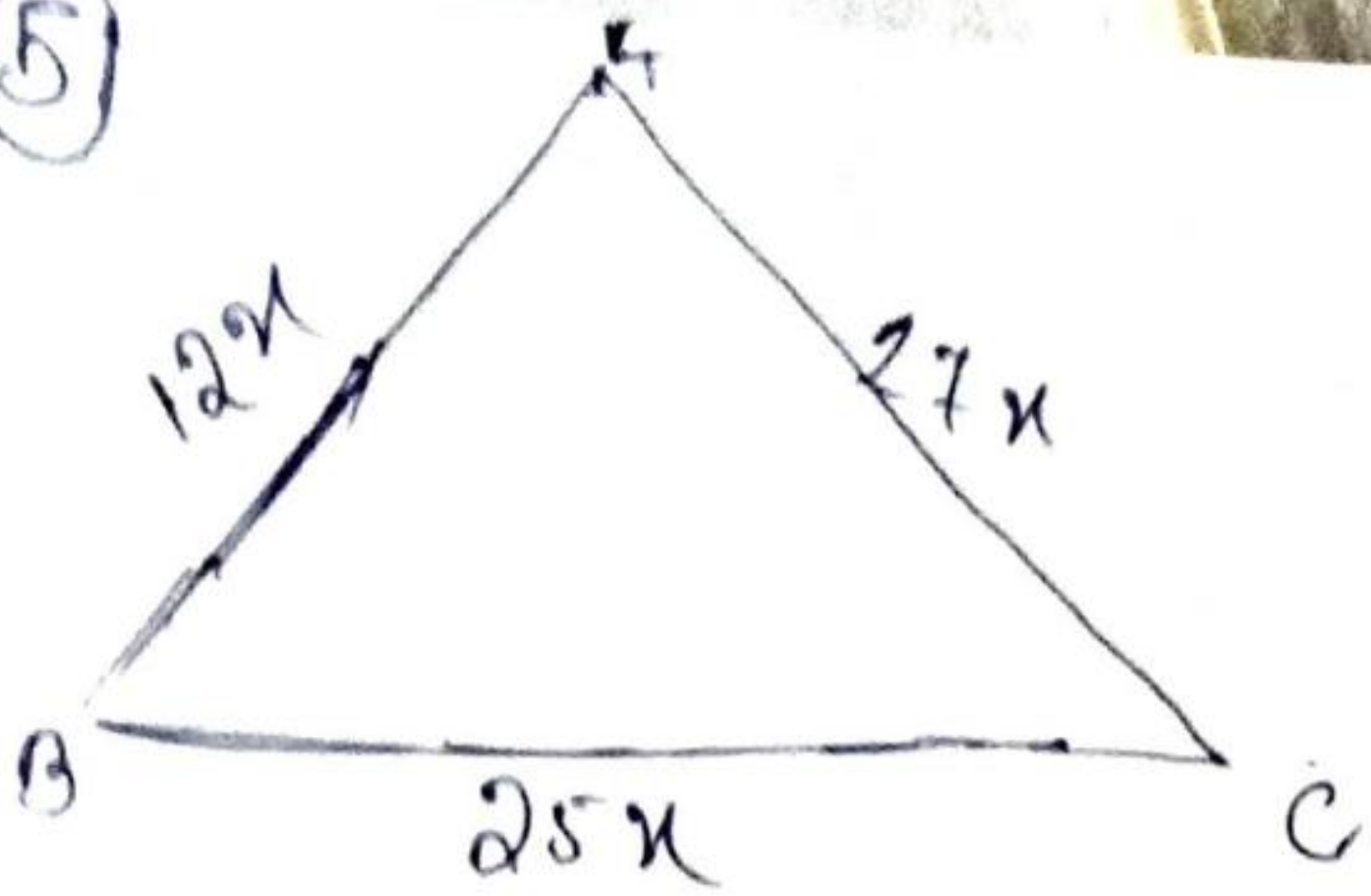
$$\Rightarrow \sqrt{21 \times 3 \times 7 \times 11}$$

$$\Rightarrow \sqrt{3 \times 7 \times 3 \times 7 \times 11}$$

$$\Rightarrow 3 \times 7 \sqrt{11}$$

$$\Rightarrow 21\sqrt{11} \text{ cm}^2$$

5



Perimeter = 540 cm

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

$$\rightarrow 54x = 540 \text{ cm}$$

$$\rightarrow x = \frac{540}{54} = 10 \text{ cm}$$

$$12x = 12 \times 10 \Rightarrow 120 \text{ cm}$$

$$17x = 17 \times 10 \Rightarrow 170 \text{ cm}$$

$$25x = 25 \times 10 \Rightarrow 250 \text{ cm}$$

Area =

$$\text{Semi perimeter} = \frac{250 + 170 + 120}{2}$$

$$= \frac{540}{2} = 270$$

$$\rightarrow \sqrt{270(270-250)(270-170)(270-120)}$$

$$\rightarrow \sqrt{270 \times 20 \times 100 \times 150}$$

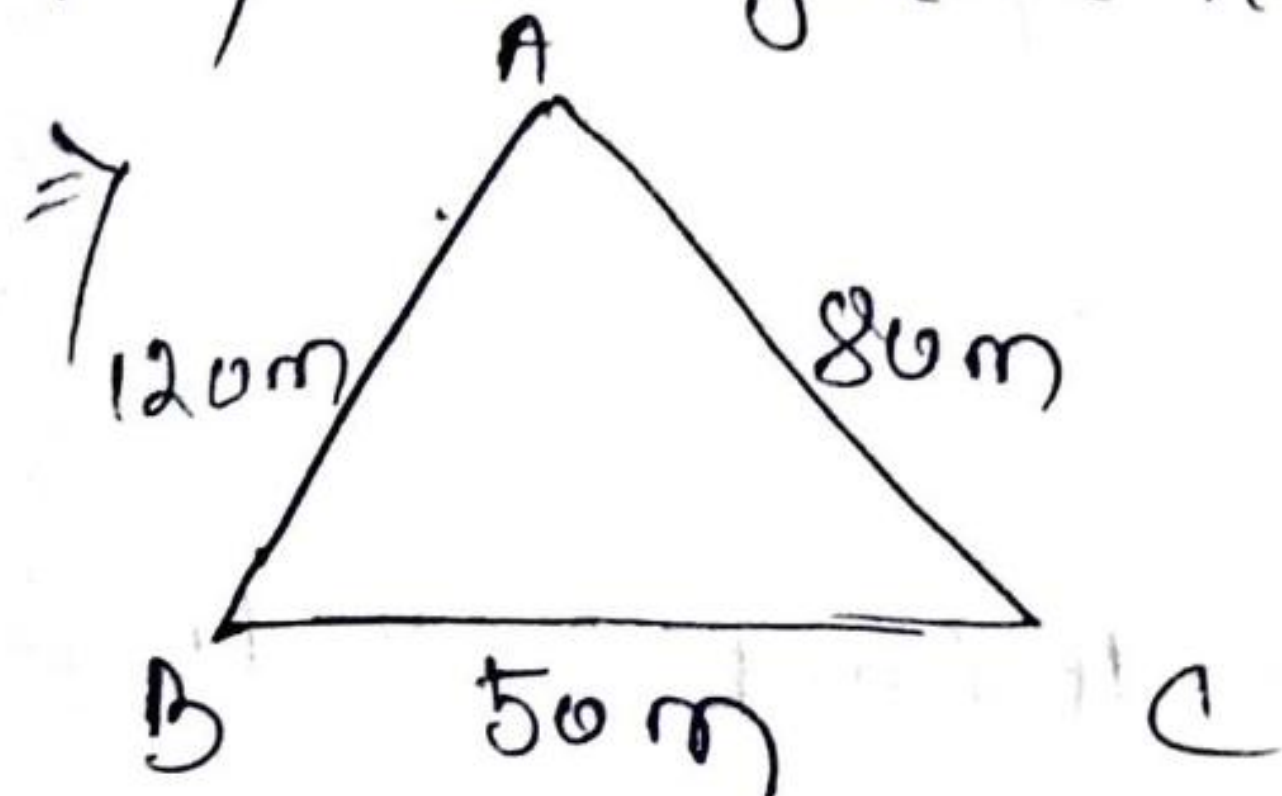
$$\rightarrow \sqrt{3 \times 3 \times 3 \times 2 \times 5 \times 2 \times 5 \times 2 \times 5 \times 5 \times 5 \times 5 \times 3 \times 2 \times 5}$$

$$\rightarrow 3 \times 2 \times 2 \times 3 \times 5 \times 5 \times 5 \times 5$$

$$\rightarrow 3600 \text{ cm}^2$$

Example 2 →

Ans) A triangle ABC has sides 120m, 80m, 50m



→ Area of triangle = $\frac{120+80+50}{2}$

$$S \Rightarrow \frac{250}{2}$$

$$\Rightarrow \sqrt{125(125-120)(125-80)(125-50)}$$

$$\Rightarrow \sqrt{125 \times 5 \times 45 \times 75}$$

$$\Rightarrow \sqrt{5 \times 5 \times 5 \times 5 \times 5 \times 3 \times 3 \times 5 \times 5 \times 3}$$

$$\Rightarrow 5 \times 5 \times 5 \times 3 \sqrt{15}$$

$$\Rightarrow 375\sqrt{15} \text{ m}^2$$

As we have to fence all around it, we will take perimeter

$$\text{Perimeter} = AB + AC + BC$$

$$\Rightarrow 120 + 80 + 50$$

$$\Rightarrow 250 \text{ m}$$

Given that we have leave 3m for gate

$$\Rightarrow 250 \text{ m} - 3 \text{ m}$$

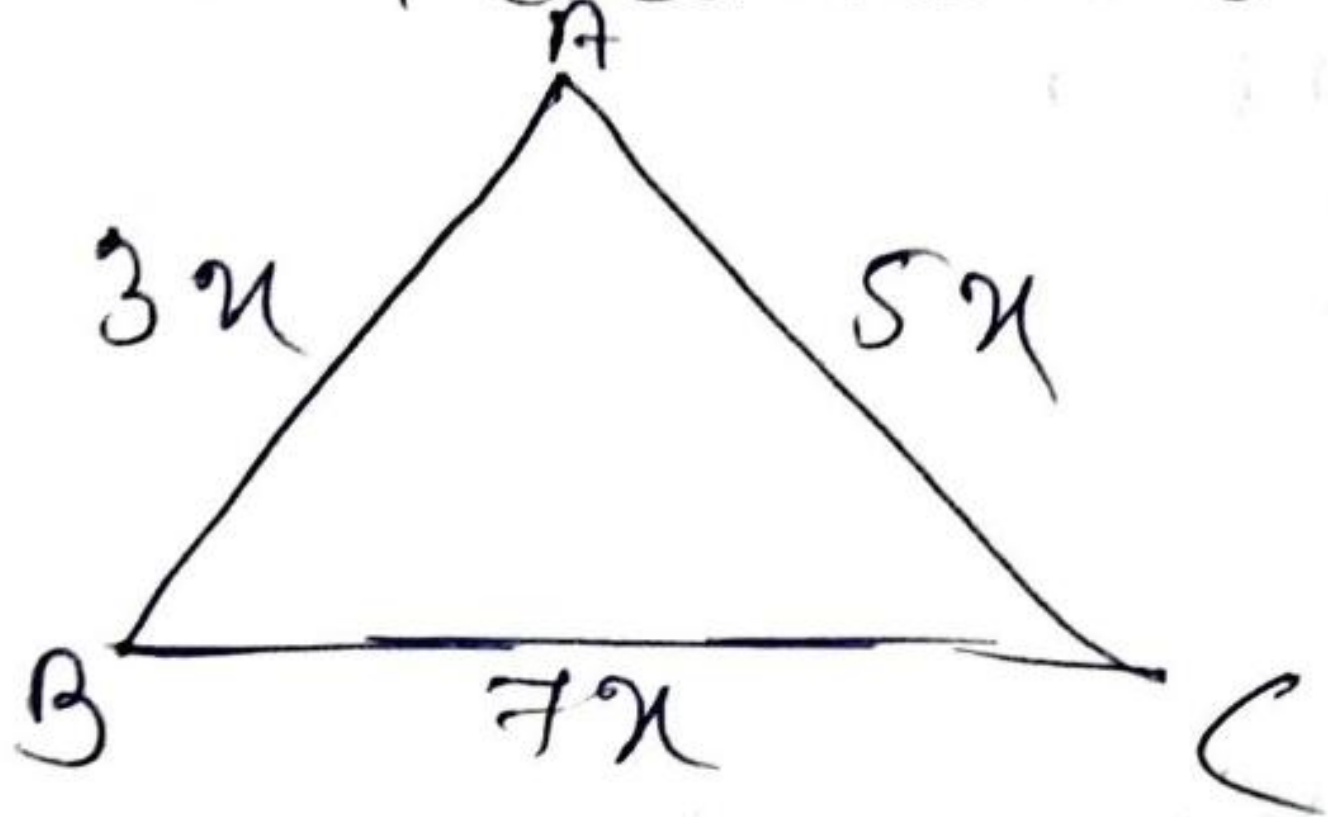
$$\Rightarrow 247 \text{ m}$$

Now Cost of fencing = 224×220

$$\Rightarrow ₹ 49280$$

Example = 3

Ans Given that sides of the triangle are $3:5:7$
are in the ratio $3:5:7$



Then we know that Perimeter = $300m$

$$\Rightarrow 3x + 5x + 7x = 300m$$

$$\Rightarrow 15x = 300m$$

$$\Rightarrow x = \frac{300m}{15}$$

So sides of triangle are 3×20 , 5×20 , 7×20

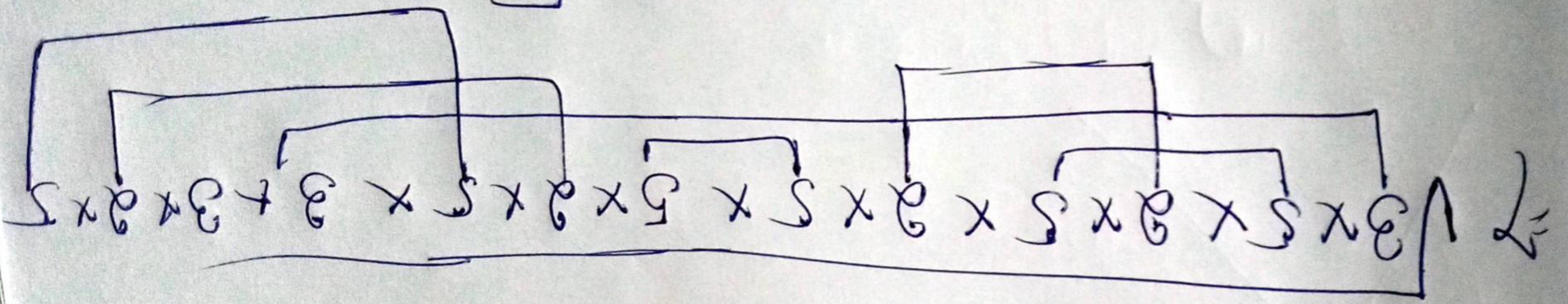
$$\Rightarrow 60m, 100m, 140m$$

$$\Rightarrow \frac{60 + 100 + 140}{2}$$

$$\Rightarrow \frac{300}{2} = 150m$$

→ $\sqrt{150}$ (150-140) (150-100) (150-60)

→ $\sqrt{150 \times 10 \times 50 \times 90}$



→ $\sqrt{3 \times 5 \times 2 \times 5 \times 2 \times 5 \times 3}$

→ $\sqrt{150000 m^2}$

→ X