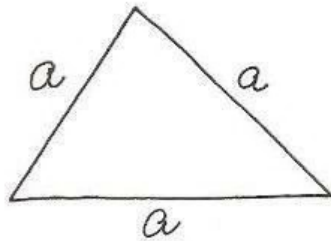


Herons formula  $\times$

①



$$\text{Sol - } s = \frac{a+a+a}{2} \\ = \frac{3a}{2} \text{ units}$$

$$\text{area} = \sqrt{s(s-a)(s-b)(s-c)} \\ = \sqrt{\frac{3a}{2} \left(\frac{3a}{2} - a\right) \left(\frac{3a}{2} - a\right) \left(\frac{3a}{2} - a\right)} \\ = \sqrt{\frac{3a}{2} \left(\frac{3a-2a}{2}\right) \left(\frac{3a-2a}{2}\right) \left(\frac{3a-2a}{2}\right)} \\ = \sqrt{\frac{3a \times a}{2} \times \frac{a \times a}{2}}$$

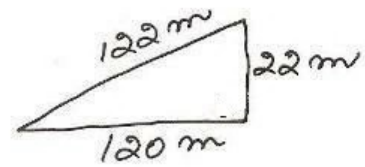
$$= \frac{\sqrt{3}}{2 \times 2} a \times a \\ = \frac{\sqrt{3}}{4} a^2 \text{ Sq. units}$$

Per. of equi.  $\Delta = 180 \text{ cm}$

$$3a = 180 \\ \Rightarrow a = \frac{180}{3} \\ = 60 \text{ cm}$$

$$\text{area} = \frac{\sqrt{3}}{4} \times 60 \times 60 \\ = 900 \sqrt{3} \text{ cm}^2$$

②



area of wall

$$s = \frac{a+b+c}{2} \\ = \frac{22+120+122}{2} \\ = \frac{264}{2} \\ = 132 \text{ m}$$

$$\text{area} = \sqrt{s(s-a)(s-b)(s-c)} \\ = \sqrt{132(132-22)(132-120)} \\ \quad \quad \quad (132-122)} \\ = \sqrt{132 \times 110 \times 12 \times 10} \\ = \sqrt{11 \times 12 \times 11 \times 10 \times 12 \times 10} \\ = 10 \times 11 \times 12 \\ = 1320 \text{ m}^2$$

$$\text{cost adv per Sq m per year} \\ = \text{Rs } 5000$$

$$\text{cost of adv on wall for 1 year} \\ = \text{Rs } (1320 \times 5000)$$

$$\text{cost of adv on wall} \\ \text{for 3 months} = \frac{1320 \times 5000}{12} \times 3 \\ = \text{Rs } 1650,000$$