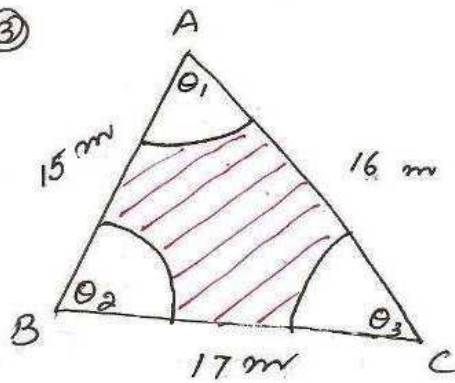


③



$$s(\triangle ABC) = \frac{15+16+17}{2} = 24 \text{ cm}$$

$$\begin{aligned} \text{area} &= \sqrt{24(24-15)(24-16)(24-17)} \\ &= \sqrt{24 \times 9 \times 8 \times 7} \\ &= 24\sqrt{21} \\ &= 110.16 \text{ m}^2 \end{aligned}$$

area which cannot be grazed

$$= \text{area of } \triangle - \text{area of 3 sectors}$$

$$= 110.16 - \frac{\pi r^2 (\theta_1 + \theta_2 + \theta_3)}{360}$$

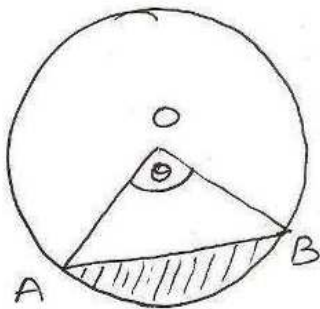
$$= 110.16 - \frac{22 \times 7 \times 7}{7 \times 360} \times 180$$

[angle sum prop of \triangle]

$$= 110.16 - 77$$

$$= 33.16 \text{ m}^2$$

④



$$\theta = 60^\circ \text{ [each angle of equilateral } \triangle \text{]}$$

NCERT Exemplar Solutions by Dev Anoop (Bathinda)

area of segment

$$= \text{area of Sector} - \text{ar (equi. } \triangle)$$

$$= \pi r^2 \frac{\theta}{360} - \frac{\sqrt{3}}{4} \text{ sides}^2$$

$$= \pi r^2 \frac{\theta}{360} - \frac{\sqrt{3}}{4} r^2$$

$$= r^2 \left(\frac{\pi \theta}{360} - \frac{\sqrt{3}}{4} \right)$$

$$= 12 \times 12 \left(\frac{3.14 \times 60}{360} - \frac{1.73}{4} \right)$$

$$= \frac{144}{4} \left(\frac{3.14 \times 60}{360} - 1.73 \right)$$

$$= \frac{12}{36} [6.28 - 5.19]$$

$$= 12 \times 1.09$$

$$= 13.08 \text{ cm}^2$$