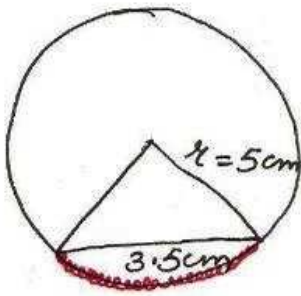


8



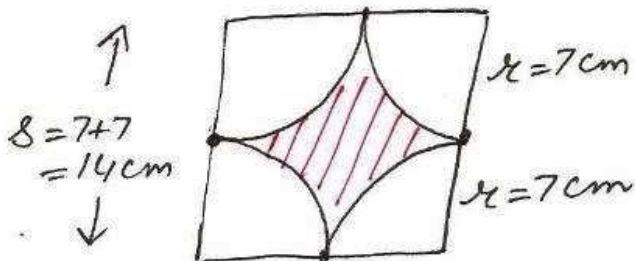
$$\text{length of arc} = \frac{2\pi r \theta}{360}$$

$$3.5 = \frac{2 \times \frac{22}{7} \times 5 \times \theta}{360}$$

$$\Rightarrow \theta = \frac{3.5 \times 7 \times 360}{22 \times 10}$$

$$\begin{aligned} \text{ar(Sector)} &= \frac{\pi r^2 \theta}{360} \\ &= \frac{\frac{22}{7} \times 5 \times 5 \times 3.5 \times 7 \times 18}{360 \times 10} \\ &= \frac{35}{4} \\ &= 8.75 \text{ cm}^2 \end{aligned}$$

9



$$\text{side of square} = 7+7 = 14 \text{ cm}$$

$$\begin{aligned} \text{reqd. area} &= \text{ar(sq)} - \text{ar}(4 \text{quad.}) \\ &= 8^2 - \frac{\pi r^2 \theta}{360} \times 4 \end{aligned}$$

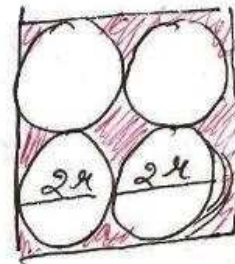
ex 11.4, exemplar x

$$= 14^2 - \frac{22}{7} \times 7 \times 7$$

$$= 196 - 154$$

$$= 42 \text{ cm}^2$$

10



$$\text{area of square} = 784 \text{ cm}^2$$

$$\text{Side}^2 = 784$$

$$\Rightarrow \text{Side} = \sqrt{784} = 28 \text{ cm}$$

$$2 \text{ diam.} = \text{Side of square}$$

$$2 \times 2r = 28$$

$$\Rightarrow r = \frac{28}{4}$$

$$= 7 \text{ cm}$$

$$\text{area of shaded region}$$

$$= \text{area(sq)} - \text{ar}(4 \text{QS})$$

$$= \text{Side}^2 - 4 \times \pi r^2$$

$$= 28^2 - 4 \times \frac{22}{7} \times 7 \times 7$$

$$= 28(28 - 22)$$

$$= 28 \times 6$$

$$= 168 \text{ cm}^2$$