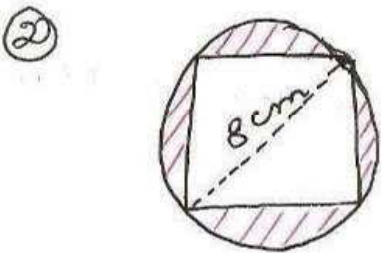


$$2\pi R = 2\pi (R_1 + R_2)$$

$$R = 15 + 18$$

$$= 33 \text{ cm}$$



diam. of  $\odot$  = diag of square

$$2r = 8$$

$$\Rightarrow r = \frac{8}{2}$$

$$= 4 \text{ cm}$$

area of shaded region  
= area of  $\odot$  - area of sq.

$$= \pi r^2 - \frac{1}{2} d^2$$

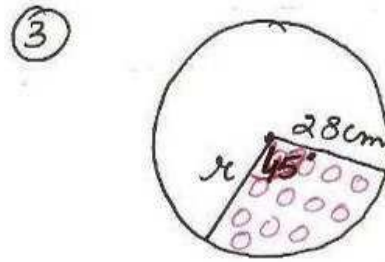
$$= \frac{22}{7} \times 4 \times 4 - \frac{1}{2} \times 8 \times 8$$

$$= 32 \left( \frac{11}{7} - 1 \right)$$

$$= 32 \times \frac{11-7}{7}$$

$$= 32 \times \frac{4}{7}$$

$$= 18.28 \text{ cm}^2$$

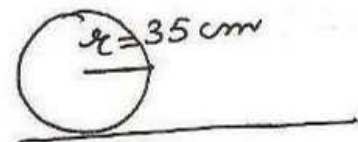


$$\text{area of sector} = \pi r^2 \frac{\theta}{360}$$

$$= \frac{22}{7} \times 28 \times 28 \times \frac{45}{360}$$

$$= 308 \text{ cm}^2$$

④



distance travelled in  
1 hour = 66 km  
= 66000 m

distance covered in  
1 revolution =  $2\pi r$   
=  $2 \times \frac{22}{7} \times 35$   
= 220 cm  
= 2.2 m

no. of revolutions per h  
=  $\frac{66000}{2.2} = 30000$   
= 3000.

$\therefore$  no. of rev. per min  
=  $\frac{30000}{60} = 500$