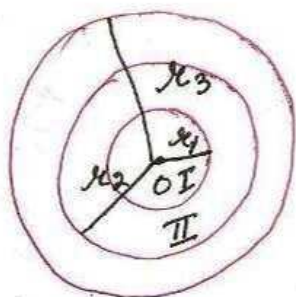


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$$d_1 : d_2 : d_3 = 1 : 2 : 3$$

$$\text{let } d_1 = 2x$$

$$\Rightarrow 2r_1 = 2x$$

$$\Rightarrow r_1 = x$$

$$d_2 = 4x$$

$$\Rightarrow 2r_2 = 4x$$

$$\Rightarrow r_2 = 2x$$

$$d_3 = 6x$$

$$2r_3 = 6x$$

$$r_3 = 3x$$

$$\therefore r_1 = x, r_2 = 2x, r_3 = 3x$$

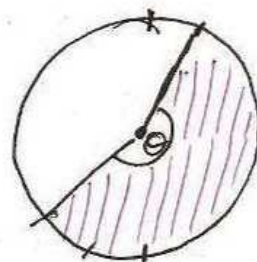
$$\begin{aligned} \text{Area region I} &= \pi r_1^2 \\ &= \pi x^2 \\ &= \pi x^2 \end{aligned}$$

$$\begin{aligned} \text{Area of region II} &= \pi (r_2^2 - r_1^2) \\ &= \pi [(2x)^2 - x^2] \\ &= \pi 3x^2 \end{aligned}$$

$$\begin{aligned} \text{area of region III} &= \pi [r_3^2 - r_2^2] \\ &= \pi [(3x)^2 - (2x)^2] \\ &= \pi 5x^2 \end{aligned}$$

$$\begin{aligned} A_1 : A_2 : A_3 &= \pi x^2 : \pi 3x^2 : \pi 5x^2 \\ &= x^2 : 3x^2 : 5x^2 \\ &= 1 : 3 : 5 \end{aligned}$$

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$$\theta = 35 \times 6$$

$$= 210^\circ$$

$$r = 5 \text{ cm}$$

area swept
= area of sector

$$= \pi r^2 \frac{\theta}{360}$$

$$= \frac{22}{7} \times 5 \times 5 \times \frac{210}{360}$$

$$= \frac{275}{6}$$

$$= 45 \frac{5}{6} \text{ cm}^2$$