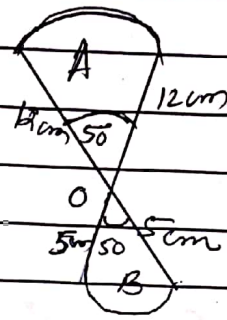


Ex: 27.11

Calculate the perimeter.



a) Arc length of sector A

$$= \frac{50}{360} \times 2\pi \times 12$$

$$= 10.47 \text{ cm}$$

$$\text{Arc length of B} = \frac{50}{360} \times 2\pi \times 5$$

$$= 4.36 \text{ cm}$$

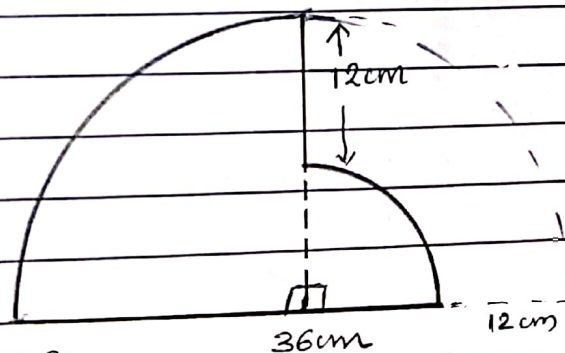
Perimeter

$$= 12 + 12 + 10.47 + 5 + 5 + 4.36$$

$$= \underline{\underline{48.83 \text{ cm}}}$$

b.

radius of big circle = 24 cm



$$\text{Arc length} = \frac{90}{360} \times 2\pi \times 24$$

$$= 37.704 \text{ cm}$$

radius of small circle = 12 cm.

$$\text{Arc length} = \frac{90}{360} \times 2\pi \times 12$$

$$= 18.85 \text{ cm}$$

Date: ___/___/___

$$\begin{aligned} \text{Perimeter of the shape} &= 37.704 + 18.1 + 36 + 10 \\ &= \underline{\underline{104.554 \text{ cm}}} \end{aligned}$$

$$2. \quad a) \quad \theta = \frac{O}{360} \times 2\pi r$$

$$= \frac{30}{360} \times 2\pi \times 7$$

$$= \underline{\underline{3.67 \text{ cm}}}$$

$$\begin{aligned} b. \quad \text{Total perimeter} &= 10 + 10 + 12 + 7 + 7 + 3.67 \\ &= \underline{\underline{49.7 \text{ cm}}} \end{aligned}$$

$$c. \quad \theta = \frac{O}{360} \times 2\pi r$$

$$\frac{O}{360} \times 2\pi \times 10 = 12$$

$$\begin{aligned} O &= \frac{12 \times 360}{2\pi \times 10} \\ &= \underline{\underline{68.7^\circ}} \end{aligned}$$

3.

$$10 : 20$$

$$x : 24$$

$$20x = 24 \times 10$$

$$x = \frac{240}{20} = \underline{\underline{12 \text{ cm}}}$$

b. Perimeter of the shape = $12 + 12 + 20 + 10$
= 54 cm

c. $a = \frac{\theta}{360} \times 2\pi r$

$$20 = \frac{\theta}{360} \times 2\pi \times 24$$

$$\frac{48\pi\theta}{360} = 20$$

$$\theta = \frac{20 \times 360}{48\pi}$$
$$= \underline{\underline{47.7}}$$