



Question 6:

$$\text{Area of square} = (\text{side})^2 = 484 \text{ cm}^2$$

$$\Rightarrow \text{side} = \sqrt{484} \text{ cm} = 22 \text{ cm}$$

$$\text{Perimeter of square} = 4 \times \text{side} = 4 \times 22 = 88 \text{ cm}$$

$$\text{Circumference of circle} = \text{Perimeter of square}$$

$$2\pi r = 88 \text{ cm} \Rightarrow r = \frac{88 \times 7}{2 \times 22} = 14 \text{ cm}$$

$$\text{Area of circle} = \pi r^2 = \left(\frac{22}{7} \times 14 \times 14 \right) \text{ cm}^2 = 616 \text{ cm}^2$$

Question 7:

$$\text{Area of equilateral} = \frac{\sqrt{3}a^2}{4} = 121\sqrt{3}$$

$$a^2 = 121 \times \frac{\sqrt{3}}{\sqrt{3}} \times 4$$

$$a^2 = 484 \Rightarrow a = \sqrt{484}$$

$$a = 22 \text{ cm}$$

$$\text{Perimeter of equilateral triangle} = 3a = (3 \times 22) \text{ cm}$$

$$= 66 \text{ cm}$$

$$\text{Circumference of circle} = \text{Perimeter of circle}$$

$$2\pi r = 66 \Rightarrow r = 66 \times \frac{7}{22 \times 2} = 10.5 \text{ cm}$$

$$\text{Area of circle} = \pi r^2 = \left(\frac{22}{7} \times 10.5 \times 10.5 \right) \text{ cm}^2$$

$$= 346.5 \text{ cm}^2$$

Question 8:

Let the radius of park be r meter

$$\begin{aligned}\text{Thus, } \pi r + 2r &= 90 \Rightarrow \frac{22r}{7} + 2r = 90 \\ \Rightarrow \frac{36r}{7} &= 90 \Rightarrow r = \frac{90 \times 7}{36} \\ r &= 17.5 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Area of semicircle} &= \frac{1}{2} \pi r^2 = \left(\frac{1}{2} \times \frac{22}{7} \times 17.5 \times 17.5 \right) \text{m}^2 \\ &= 481.25 \text{ m}^2\end{aligned}$$

Question 9:

Let the radii of circles be x cm and $(7 - x)$ cm

Then,

$$2\pi x - [2\pi(7 - x)] = 8$$

$$2\pi x - [14\pi - 2\pi x] = 8$$

$$2\pi x - 14\pi + 2\pi x = 8$$

$$4\pi x - 14\pi = 8$$

$$2\pi x = 4 + 7\pi$$

$$2\pi x = 4 + 22$$

$$2\pi x = 26$$

Substitute the value of $2\pi x$ in $2\pi(7 - x)$

$$= 14\pi - 2\pi x = 14 \times \frac{22}{7} - 26$$

$$= 44 - 26 = 18 \text{ cm}$$

Circumference of the circles are 26 cm and 18 cm

***** END *****