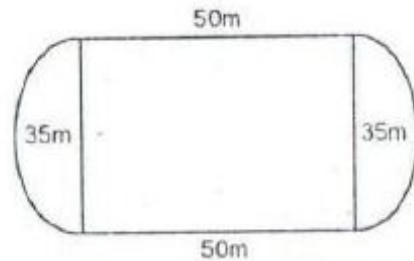




Question 43:



Area of rectangular lawn in the middle
 $= (50 \times 35) \text{ m}^2 = 1750 \text{ m}^2$

Radius of semi circles $= \frac{35}{2} = 17.5 \text{ m}$

Area of two semicircles $= 2(\text{area of semi circle})$
 $= \left[2 \left(\frac{1}{2} \pi r^2 \right) \right] \text{ m}^2$
 $= \left(2 \times \frac{1}{2} \times \frac{22}{7} \times 17.5 \times 17.5 \right) \text{ m}^2$
 $= 962.5 \text{ m}^2$

Area of lawn $= (\text{area of rectangle} + \text{area of semi circle})$
 $= (1750 + 962.5) \text{ m}^2 = 2712.5 \text{ m}^2$

Question 44:

Area of plot which cow can graze when $r = 16 \text{ m}$ is πr^2

$$= \left(\frac{22}{7} \times 16 \times 16 \right) \text{ m}^2$$
$$= 804.5 \text{ m}^2$$

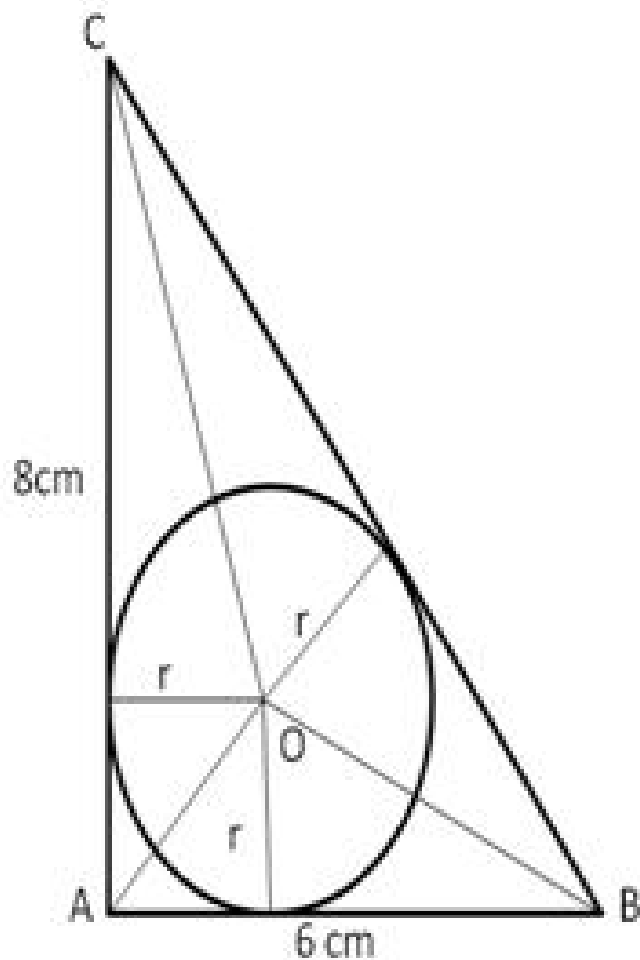
Area of plot which cow can graze when radius is increased to 23 m

$$= \left(\frac{22}{7} \times 23 \times 23 \right) \text{ m}^2$$
$$= 1662.57 \text{ m}^2$$

Additional ground $= \text{Area covered by increased rope} - \text{old area}$

$$= (1662.57 - 804.5) \text{ m}^2 = 858 \text{ m}^2$$

Question 45:



Given: ABC is right angled at A with AB = 6 cm and AC = 8 cm

$$BC = \sqrt{AB^2 + AC^2} = \sqrt{(6)^2 + (8)^2} \text{ cm}$$

$$= \sqrt{36 + 64} \text{ cm}$$

$$BC = \sqrt{100} \text{ cm} = 10 \text{ cm}$$

Let us join OA, OB and OC

$$\text{ar}(\Delta AOC) + \text{ar}(\Delta OAB) + \text{ar}(\Delta BOC) = \text{ar}(\Delta ABC)$$

$$\Rightarrow \left(\frac{1}{2} \times 8 \times r \right) + \left(\frac{1}{2} \times 6 \times r \right) + \left(\frac{1}{2} \times 10 \times r \right)$$

$$= \frac{1}{2} \times 6 \times 8$$

$$4r + 3r + 5r = 24$$

$$12r = 24$$

$$\Rightarrow r = \frac{24}{12} = 2$$

$$\text{Radius} = 2 \text{ cm}$$

***** END *****