



Question 28:

Distance covered by a wheel in 1 minute

$$= \left( \frac{72.6 \times 1000 \times 100}{60} \right) \text{cm} = 121000 \text{ cm}$$

$$\text{Circumference of a wheel} = \left( 2 \times \frac{22}{7} \times 70 \right) \text{cm} = 440 \text{cm}$$

$$\text{Number of revolution in 1 min} = \left( \frac{121000}{440} \right) = 275$$

Question 29:

$$\text{Area of quadrant} = \frac{1}{4} \pi r^2$$

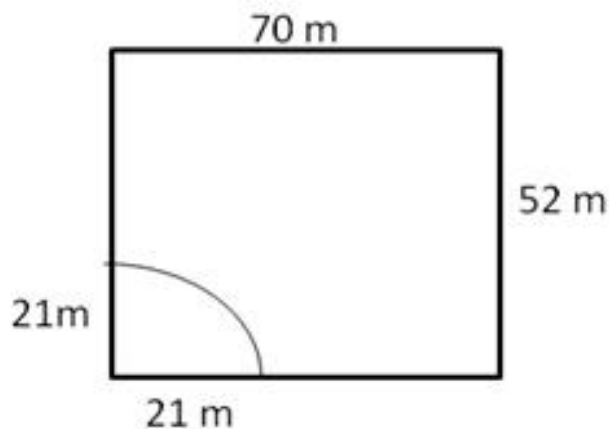
$$\text{Circumference of circle} = 2 \pi r = 22$$

$$2 \times \frac{22}{7} \times r = 22$$

$$\Rightarrow r = \frac{22 \times 7}{2 \times 22} = 3.5 \text{ cm}$$

$$\begin{aligned} \text{Area of quadrant} &= \frac{1}{4} \pi r^2 = \left( \frac{1}{4} \times \frac{22}{7} \times 3.5 \times 3.5 \right) \text{cm}^2 \\ &= 9.625 \text{ cm}^2 \end{aligned}$$

Question 30:



Area which the horse can graze = Area of the quadrant of radius 21 m

$$= \left( \frac{1}{4} \times \frac{22}{7} \times 21 \times 21 \right) \text{m}^2$$

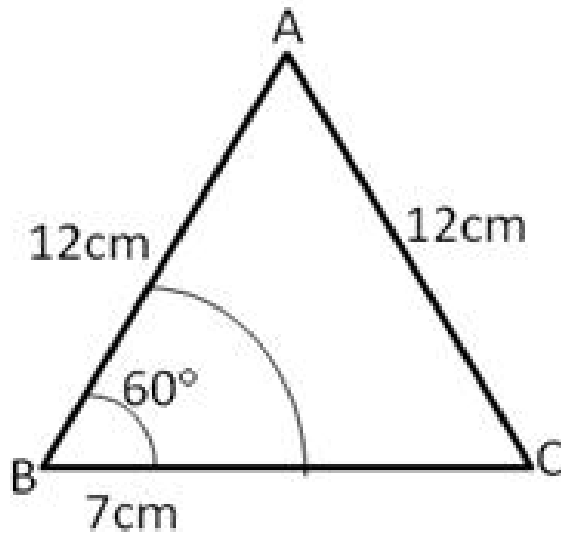
$$= 346.5 \text{m}^2$$

$$\text{Area ungrazed} = [(70 \times 52) - 346.5] \text{m}^2$$

$$= 3293.5 \text{m}^2$$

Question 31:

Each angle of equilateral triangle is  $60^\circ$



$$\begin{aligned} \text{Area which cannot be grazed} &= (\text{area of equilateral } \triangle ABC) \\ &\quad - (\text{area of the sector with } r = 7\text{m}, \theta = 60^\circ) \\ &= \left[ \frac{\sqrt{3}}{4} \times (12)^2 - \frac{22}{7} \times (7)^2 \times \frac{60}{360} \right] \text{m}^2 \\ &= \left[ (\sqrt{3} \times 12 \times 3) - \frac{(22 \times 7)}{6} \right] \\ &= 62.35 - 25.66 \text{ m}^2 \\ &= 36.68 \text{ m}^2 \end{aligned}$$

Area that the horse cannot graze is  $36.68 \text{ m}^2$

\*\*\*\*\* END \*\*\*\*\*