Perimeter of the square = 220 cm

$\Rightarrow 4a = 220$

$\Rightarrow a = \left(\frac{220}{4}\right)$ cm = 55 cm

Hence, each side of the square will be 55 cm.

Q16
Answer :

Length of the hour hand (r)= 4.2 cm.

Distance covered by the hour hand in 12 hours = $2\pi r = \left(2 \times \frac{22}{7} \times 4.2\right)$ cm = 26.4 cm

∴ Distance covered by the hour hand in 24 hours = (2 × 26.4) = 52.8 cm

Length of the minute hand (R)= 7 cm

Distance covered by the minute hand in 1 hour = $2\pi R = \left(2 \times \frac{22}{7} \times 7\right)$ cm = 44 cm

∴ Distance covered by the minute hand in 24 hours = (44 × 24) cm = 1056 cm

∴ Sum of the distances covered by the tips of both the hands in 1 day = (52.8 + 1056) cm

= 1108.8 cm

Q17
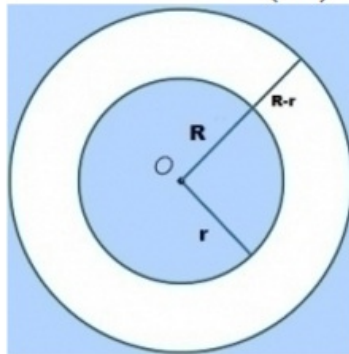**Answer :**

Given:

Diameter of the well (d) = 140 cm.

Radius of the well (r) = $\left(\frac{140}{2}\right)$ cm = 70 cm

Let the radius of the outer circle (including the stone parapet) be R cm.

Length of the outer edge of the parapet = 616 cm

$\Rightarrow 2\pi R = 616$

$\Rightarrow \left(2 \times \frac{22}{7} \times R\right) = 616$

$\Rightarrow R = \left(\frac{616 \times 7}{2 \times 22}\right)$ cm = 98 cm

Now, width of the parapet = {Radius of the outer circle (including the stone parapet) - Radius of the well}

= {98 -70} cm = 28 cm

Hence, the width of the parapet is 28 cm.

Q18

Answer :

It may be noted that in one rotation, the bus covers a distance equal to the circumference of the wheel.

Now, diameter of the wheel = 98 cm

∴ Circumference of the wheel = πd = $\left(\frac{22}{7} \times 98\right)$ cm = 308 cm

Thus, the bus travels 308 cm in one rotation.

∴ Distance covered by the bus in 2000 rotations = (308 × 2000) cm

= 616000 cm

= 6160 m   [since 1 m = 100 cm]

Q19

Answer :

It may be noted that in one revolution, the cycle covers a distance equal to the circumference of the wheel.

Diameter of the wheel = 70 cm

∴ Circumference of the wheel = πd = $\left(\frac{22}{7} \times 70\right)$ cm = 220 cm

Thus, the cycle covers 220 cm in one revolution.

∴ Distance covered by the cycle in 250 revolutions = (220 × 250) cm

= 55000 cm

= 550 m   [since 1 m = 100 cm]

Hence, the cycle will cover 550 m in 250 revolutions.

Q20

Answer :

Diameter of the wheel = 77 cm

⇒ Radius of the wheel = $\left(\frac{77}{2}\right)$ cm

Circumference of the wheel = $2\pi r$

= $\left(2 \times \frac{22}{7} \times \frac{77}{2}\right)$ cm = (22 × 11) cm = 242 cm

= $\left(\frac{242}{100}\right)$ m = $\left(\frac{121}{50}\right)$ m

Distance covered by the wheel in 1 revolution = $\left(\frac{121}{50}\right)$ m

Now, $\left(\frac{121}{50}\right)$ m is covered by the car in 1 revolution.

(121 × 1000) m will be covered by the car in $\left(1 \times \frac{50}{121} \times 121 \times 1000\right)$ revolutions, i.e. 50000 revolutions.

∴ Required number of revolutions = 50000

Q21

Answer :

It may be noted that in one revolution, the bicycle covers a distance equal to the circumference of the wheel.

Total distance covered by the bicycle in 5000 revolutions = 11 km

⇒ 5000 × Circumference of the wheel = 11000 m   [since 1 km = 1000 m]

Circumference of the wheel = $\left(\frac{11000}{5000}\right)$ m = 2.2 m = 220 cm   [since 1 m = 100 cm]

Circumference of the wheel = $\pi \times$ **Diameter of the wheel**

⇒ 220 cm = $\frac{22}{7} \times$ **Diameter of the wheel**

⇒ Diameter of the wheel = $\left(\frac{220 \times 7}{22}\right)$ cm = 70 cm

Hence, the circumference of the wheel is 220 cm and its diameter is 70 cm.

********** END *********