



Surface Area and volume of A Right Circular cylinder Ex 19.2 Q4

Answer :

Given data is as follows:

$$\text{Lateral Surface Area} = 94.2 \text{ cm}^2$$

$$h = 5 \text{ cm}$$

We have to find:

- (i) Radius of the base
- (ii) Volume of the cylinder

(i) We know that,

$$\text{Lateral Surface Area} = 2\pi rh$$

That is,

$$2\pi rh = 94.2$$

$$2 \times 3.14 \times r \times 5 = 94.2$$

$$31.4r = 94.2$$

$$\boxed{r = 3 \text{ cm}}$$

$$\text{(ii) Volume of a cylinder} = \pi r^2 h$$

$$= 3.14 \times 3 \times 3 \times 5$$

$$\boxed{\text{Volume of the cylinder} = 141.3 \text{ cm}^3}$$

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q5

Answer :

Given data is as follows:

Volume of the cylinder = 15.4 litres

$h = 1\text{m}$

We have to find the area of the sheet required to make this cylinder.

We know that 1 liter = 1000 cm^3

Therefore, 15.4 liters = 15400 cm^3

Also, $h = 1\text{m}$

$= 100\text{cm}$

We know that,

Volume = $\pi r^2 h$

Therefore,

$$\pi r^2 h = 15400$$

$$\frac{22}{7} \times r^2 \times 100 = 15400$$

$$r = 7\text{cm}$$

Now, using this radius we have to find the Total Surface Area.

$$\text{Total Surface Area} = 2\pi r h + 2\pi r^2$$

$$= 2 \times \frac{22}{7} \times 7 \times 100 + 2 \times \frac{22}{7} \times 7 \times 7$$

$$\boxed{\text{Total surface area} = 4708\text{cm}^2}$$

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q6

Answer :

Given data is as follows:

Diameter = 7cm

$h = 4\text{cm}$

Number of patients = 250

We have to find the total volume of soup required to serve all 250 patients.

Given is the diameter, which is equal to 7cm. Therefore, $r = \frac{7}{2}\text{cm} = 3.5\text{cm}$

Volume of soup given to each patient = $\pi r^2 h$

$$= \frac{22}{7} \times 3.5 \times 3.5 \times 4$$

$$= 154\text{ cm}^3$$

Volume of soup for all 250 patients = 154×250

$$= 38500\text{ cm}^3$$

We know that, $1000\text{ cm}^3 = 1\text{ litre}$.

Therefore,

Volume of soup for all 250 patients = 38.5 litres

$$\boxed{\text{Volume of soup for all 250 patients} = 38.5\text{ litres}}$$

***** END *****