

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q11

Answer:

Data given is as follows:

$$\frac{\text{Curved Surface Area}}{\text{Total Surface Area}} = \left(\frac{1}{2}\right)$$

Total Surface Area=616 cm2

We have to find the volume of the cylinder.

From the given data we have,

$$\frac{\text{Curved Surface Area}}{\text{Total Surface Area}} = \left(\frac{1}{2}\right)$$

Curved Surface Area 
$$=$$
  $\left(\frac{1}{2}\right) \times$  Total Surface Area

$$=\left(\frac{1}{2}\right) \times 616 \text{ cm}^2$$

$$=308 \text{ cm}^2$$

Also.

$$\frac{\text{Curved Surface Area}}{\text{Total Surface Area}} = \left(\frac{1}{2}\right)$$

$$\frac{2\pi rh}{2\pi rh + 2\pi r^2} = \frac{1}{2}$$

$$\frac{h}{h+r} = \frac{1}{2}$$

$$2h = h+r$$

$$h = r$$

$$2 \times \frac{22}{7} \times r^2 = 308$$

We have found out the Curved Surface Area of the cylinder which is  $308\ cm^2$ 

Curved Surface Area = 308 cm<sup>2</sup>

 $2\pi rh = 308$ 

Now, let us replace h with r in the above equation since in the previous step we have found that

h = r

$$2\pi r^2 = 308$$

$$2 \times \frac{22}{7} \times r^2 = 308$$

r = 7

Since h = r, h is also equal to 7

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

$$=\frac{22}{7}\times7\times7\times7$$

Volume=1078cm<sup>3</sup>

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q12  $\,$ 

## Answer:

Given data is as follows:

Curved Surface Area = 1320 cm<sup>2</sup>

Diameter=21cm

We have to find the height and volume of the cylinder.

First of all, we have been given the diameter so let us find out the radius.

$$r = \frac{21}{2}$$
 cm

We know that,

Curved Surface Area =  $2\pi rh$ 

Therefore,

$$2\pi rh = 1320$$

$$2 \times \frac{22}{7} \times \frac{21}{2} \times h = 1320$$

$$h = 20 \text{ cm}$$

Now that we know both r and h, we can easily find out the volume.

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

$$=\frac{22}{7}\times\frac{21}{2}\times\frac{21}{2}\times20$$

Volume = 
$$6930 \text{ cm}^3$$

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