



Surface Area and volume of A Right Circular cylinder Ex 19.2 Q17

Answer :

Given data is as follows:

$$h = 10.5 \text{ m}$$

$$3(\pi r^2 + \pi r^2) = 2(2\pi rh)$$

We have to find the volume of the cylinder.

From the given data, we have

$$3(\pi r^2 + \pi r^2) = 2(2\pi rh)$$

$$6\pi r^2 = 4\pi rh$$

$$3r = 2h$$

But we know from the given data, that $h = 10.5 \text{ m}$

Therefore,

Since we know r and h , we can easily find the volume of the cylinder.

$$\text{Volume} = \pi r^2 h$$

$$= \frac{22}{7} \times 7 \times 7 \times 10.5$$

$$\text{Volume} = 1617 \text{ m}^3$$

Therefore, the volume of the cylinder is 1617 m^3 .

Surface Area and volume of A Right Circular cylinder Ex 19.2 Q18

Answer :

Given data is as follows:

$$h = 21 \text{ m}$$

$$\text{Diameter} = 6 \text{ m}$$

$$\text{Plastering rate} = \text{Rs. } 9.50/\text{m}^2$$

We have to find the volume and the cost of plastering the inner surface of this well.

Given is the diameter, which is 6 m. Therefore,

$$r = \frac{6}{2}$$

$$r = 3$$

We know that,

$$\text{Volume} = \pi r^2 h$$

$$= \frac{22}{7} \times 3 \times 3 \times 21$$

$$\text{Volume} = 594 \text{ m}^3$$

We know that,

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

$$= 2 \times \frac{22}{7} \times 3 \times 21$$

$$\text{Curved Surface Area} = 396 \text{ m}^2$$

$$\text{Total cost of plastering} = (\text{Curved Surface Area}) \times (\text{Plastering rate})$$

$$= 396 \times 9.50$$

$$= 3762$$

Therefore, the volume of this well is 594 m^3 and cost of plastering its inner surface is Rs.3762.

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