



Surface Area and volume of A Right Circular cone Ex 20.1 Q1

Answer :

The formula of the curved surface area of a cone with base radius ' r ' and slant height ' l ' is given as

$$\text{Curved Surface Area} = \pi r l$$

Substituting the values of $r = 21$ cm and $l = 60$ cm in the above equation and using $\pi = \frac{22}{7}$

$$\text{Curved Surface Area} = \frac{(22) \cdot (21) \cdot (60)}{7}$$

$$= 66 \cdot (60)$$

$$= 3960$$

Therefore the Curved Surface Area of the cone with the specified dimensions is $\boxed{3960 \text{ cm}^2}$.

Surface Area and volume of A Right Circular cone Ex 20.1 Q2

Answer :

The formula of the curved surface area of a cone with base radius ' r ' and slant height ' l ' is given as

$$\text{Curved Surface Area} = \pi r l$$

But, here we're given only that the base radius $r = 5$ cm and vertical height $h = 12$ cm.

To find the slant height ' l ' to be used in the formula for Curved Surface Area we use the following relation

$$\text{Slant height, } l = \sqrt{r^2 + h^2}$$

$$= \sqrt{5^2 + 12^2}$$

$$= \sqrt{25 + 144}$$

$$= \sqrt{169}$$

$$l = 13 \text{ cm}$$

Now, substituting the values of $r = 5$ cm and slant height $l = 13$ cm and using $\pi = \frac{22}{7}$ in the formula of C.S.A,

$$\text{We get Curved Surface Area} = \frac{(22) \cdot (5) \cdot (13)}{7}$$

$$= \frac{1430}{7}$$

$$= 204 \frac{2}{7}$$

Therefore the Curved Surface Area of the cone with the specified dimensions is $\boxed{204 \frac{2}{7} \text{ cm}^2}$.

Surface Area and volume of A Right Circular cone Ex 20.1 Q3

Answer :

It is given that the curved surface area (C.S.A) of the cone is 176 cm^2 and that the base radius is 7 cm. The formula of the curved surface area of a cone with base radius ' r ' and slant height ' l ' is given as

$$\text{Curved Surface Area} = \pi r l$$

$$\text{Hence, slant height, } l = \frac{(C.S.A)}{\pi r}$$

Substituting the values of C.S.A and the base radius and using $\pi = \frac{22}{7}$ in the above equation,

$$\text{Slant height, } l = \frac{(7) \cdot (176)}{(22) \cdot (7)}$$

$$= 8$$

Hence the slant height of the cone with the mentioned dimensions is $\boxed{8 \text{ cm}}$.

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