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

Curved Surface Area = πrl

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

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

$= 66.(60)$

$= 3960$

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

Curved Surface Area = πrl

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

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

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

$= \sqrt{25 + 144}$

$= \sqrt{169}$

$l = 13$ 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,

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

$= \frac{1430}{7}$

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

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

Curved Surface Area = πrl

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,

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

$= 8$

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

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