Surface Area and volume of A Right Circular cone Ex 20.1 Q7

Answer :

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

Total Surface Area = $\pi r(l+r)$

The diameter of the base is given as 24 m. The radius of the base is half of the diameter and hence r = 12 m.

Substituting the values of r = 12 m and l = 21 cm in the above equation and using $\pi = \frac{22}{7}$ in specified formula,

Total Surface Area = $\frac{(22).(12).(12+21)}{7}$

$= \frac{8712}{7}$

$= 1244\frac{4}{7}$

Therefore the total surface area of the given cone is $\boxed{1244\frac{4}{7}\ \text{m}^2}$.

Surface Area and volume of A Right Circular cone Ex 20.1 Q8

Answer :

It is given that the curved surface area (C.S.A) of the cone is 60π cm^2 and that the slant height is 8 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, $r = \frac{(C.S.A)}{\pi l}$

Substituting the values of C.S.A and the slant height in the above equation,

Slant height, $r = \frac{60\pi}{8\pi}$

$= 7.5$

Hence the base radius of the cone with the mentioned dimensions is $\boxed{7.5\ \text{cm}}$.

Surface Area and volume of A Right Circular cone Ex 20.1 Q9

Answer :

It is given that the curved surface area (C.S.A) of the cone is 4070 cm^2 and that the base diameter is 70 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, $l = \frac{(C.S.A)}{\pi r}$

The base radius is half of the base diameter. And since the base diameter is given as 70 cm we can find out the base radius as, r = 35 cm.

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

Slant height, $l = \frac{(7).(4070)}{(22).(35)}$

$= \frac{370}{(2).(5)}$

$= 37$

Hence the slant height of the cone with the mentioned dimensions is $\boxed{37\ \text{cm}}$.

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