

Surface Area and volume of A Right Circular cone Ex 20.1 Q4 Answer:

In a cone, the vertical height h is given as 21 cm and the slant height T is given as 28 cm, and the area of the base is asked. The base area is given as

Base area = πr^2

To find the base radius r we use the relation between r, l and h.

We know that in a cone

 $l^2 = r^2 + h^2$

 $r^2 = l^2 - h^2$

 $r = \sqrt{l^2 - h^2}$

 $= \sqrt{28^2 - 21^2}$

 $=\sqrt{784-441}$

 $=\sqrt{343}$

Therefore the base radius is, $r = \sqrt{343}$ cm.

Now, let us substitute the value of r in the formula for area of the base.

Base Area = πr^2

 $= \frac{(22).(\sqrt{343})(\sqrt{343})}{}$

= (22).(343)

= 107

Hence, the base area of the cone with the specified dimensions is 1078 cm^2

Surface Area and volume of A Right Circular cone Ex 20.1 Q5 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 = $\pi r(l+r)$

But we do not have the slant height. We are given that r = 6 cm and h = 8 cm. We find l using the relation

 $l^2 = r^2 + h^2$

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

 $=\sqrt{6^2+8^2}$

 $=\sqrt{36+64}$

 $=\sqrt{100}$

= 10.

Therefore, the slant height, l = 10 cm.

Substituting the values of r = 6 cm and l = 10 cm in the above equation and using $\pi = \frac{22}{7}$ in specified formula,

Total Surface Area = $\frac{(22).(6).(6+10)}{7}$

= 2112

 $=301\frac{5}{7}$

Therefore the total surface area of the given cone is $301\frac{5}{7}$ cm²

Surface Area and volume of A Right Circular cone Ex 20.1 Q6 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 = $\pi r l$

Substituting the values of r = 5.25 cm and l = 10 cm in the above equation and using $\pi = \frac{22}{7}$

Curved Surface Area = $\frac{(22).(5.25)(10)}{7}$

=(22).(7.5)

= 165

Therefore the Curved Surface Area of the cone with the specified dimensions is 165 cm²