

3) Curved surface area of a cone, if its slant height is 14 cm. Find i) radius of the base and ii) total surface area of the cone

Ans: $CSA = 308 \text{ cm}^2$

Slant height (l) = 14 cm

Q1 To find Radius

$$CSA = \pi r l$$

$$308 = \pi r l$$

$$\pi r l = 308$$

$$\frac{22}{7} \times r \times 14 = 308$$

$$r = \frac{308}{\frac{22 \times 14}{7}} = \frac{154}{22}$$

$$\boxed{r = 7 \text{ cm}}$$

Q2 TSA of cone = $\pi r [r + l]$

$$= \frac{22}{7} \times 7 [7 + 14]$$

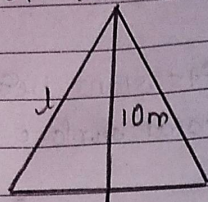
$$= \frac{22}{7} \times 7 \times 21$$

$$= 22 \times 21$$

$$= 462 \text{ cm}^2$$

4. A conical tent is 10m high and the radius of its base is 24m. Find its slant height of the tent.
If cost of the canvas required to make the tent, if the cost of 1m² canvas is ₹70

Ans: 1)



In a cone $r = 24m$

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

$$l^2 = (24)^2 + (10)^2$$

$$l^2 = 576 + 100$$

$$l^2 = 676$$

$$l = \sqrt{676}$$

$$l = 26m$$

CSA of the tent = πrl

$$= \frac{22}{7} \times 24 \times 26$$

$$= \frac{13728}{7} m^2$$

Cost of 1m² is ₹70

$$\text{Cost of } \frac{137280}{7} \text{ is } = \frac{10}{7} \times 13728$$

$$= ₹ 137280$$