## INTERNATIONAL INDIAN SCHOOL <br> BURAIDAH

Worksheet For The Academic Year 2023-24

## CLASS: IX SUBJECT: Mathematics DATE: 12/11/2023

## LESSON-13 Surface Areas \& Volumes

1) Find the CSA of a cone of radius 5 cm and height 12 cm .
2) The radius of a cone is 7 cm and area of curved surface is $176 \mathrm{~cm}^{2}$. Find its slant height.
3) Find the TSA of a cone of radius 6 cm and height 8 cm .
4) If the height and slant height of a cone are 21 cm and 28 cm respectively, find Its volume.
5) Find the area of canvas required for a conical tent of height 24 m and base radius 7 m .
6) The height of a conical vessel is 3.5 cm . If the capacity of the vessel is 3.3 litres of milk, find the diameter of its base.
7) Find the surface area of a sphere of radius 7 cm .
8) Find the CSA and TSA of a hemisphere of radius 21 cm .
9) The sides of a right triangle are $7 \mathrm{~cm}, 24 \mathrm{~cm}$ and 25 cm . If it is revolved about its side 7 cm to form a cone, find its volume.
10) Find the volume of a sphere of radius 11.2 cm .
11) A hemispherical bowl has a radius of 3.5 cm . What would be the volume of water it would contain?
12) Find the volume of the largest cone that can be fitted in a cube of side 14 cm .
13) A capsule of medicine is in the shape of a sphere of diameter 3.5 mm . How much medicine can be filled in the capsule?
14) The total surface area of a hemisphere is $5940 \mathrm{~cm}^{2}$. Find the diameter of the hemisphere.
15) How many litres of milk can a hemispherical bowl of diameter 10.5 cm hold?
16) A hemispherical bowl is 0.2 cm thick and its inner diameter is 8 cm . Find its outer CSA. Also find the cost of polishing its outer surface at Rs 2 per $\mathrm{cm}^{2}$.
17) The water for a industry is stored in a hemispherical tank of internal diameter 14 m . If the tank has $40 \mathrm{~m}^{3}(40 \mathrm{~kL})$ of water in it, how much of water is to be filled in the tank?
18) The circumference of the base of a cone 24 m high is 44 m . Find its CSA.
19) How many metres of cloth $1 \frac{4}{7} \mathrm{~m}$ wide will be required to make a conical tent whose base diameter is 10 m and height is 12 m ?
20) Find the volume of a sphere whose surface area is $154 \mathrm{~cm}^{2}$.

## ANSWERS

| 1) $204.28 \mathrm{~cm}^{2}$ | 8) $2772 \mathrm{~cm}^{2}, 4151 \mathrm{~cm}^{2}$ | 15) 0.303 litres |
| :--- | :--- | :--- |
| 2) 8 cm | 9) $1232 \mathrm{~cm}^{3}$ | 16) $110.88 \mathrm{~cm}^{2}$, Rs 221.76 |
| 3) $301.71 \mathrm{~cm}^{2}$ | 10) $5887.32 \mathrm{~cm}^{3}$ | 17) $678.67 \mathrm{~m}^{3}$ or KL |
| 4) $7539.14 \mathrm{~cm}^{3}$ | 11) $8.9 \mathrm{~cm}^{3}$ | 18) $550 \mathrm{~m}^{2}$ |
| 5) $550 \mathrm{~m}^{2}$ | 12) $718.67 \mathrm{~cm}^{3}$ | 19) 130 m |
| 6) 60 cm | 13) $22.458 \mathrm{~mm}^{3}$ | 20) $179.66 \mathrm{~cm}^{3}$ |
| 7) $616 \mathrm{~cm}^{2}$ | 14) $6 \sqrt{70} \mathrm{~cm}^{2}$ |  |

