

INTERNATIONAL INDIAN SCHOOL

BURAIDAH

Worksheet For The Academic Year 2024-25

CLASS: IX SUBJECT: Mathematics DATE: 03/11/2024

LESSON-13 Surface Areas & Volumes

- 1) Find the CSA of a cone of slant height 32cm and base radius 14cm.
- 2) Find the CSA of a cone whose base area is 154cm^2 and height is 24cm.
- 3) A joker's cap is in the form of a right circular cone of base radius 8cm and height 15cm. Find the area of sheet required to make 25 such caps.
- 4) Find the volume of a cone of: a) $l = 24\text{cm}$ & $h = 21\text{cm}$ b) $r = 5\text{cm}$ & $h = 3\text{cm}$
- 5) A right $\triangle ABC$ of sides 6cm, 8cm and 10cm is revolved about the side 8cm. Find the volume of solid so obtained.
- 6) The height and volume of a cone are 15cm and $500\pi \text{ cm}^3$ respectively. Find the radius of the base of the cone.
- 7) Find the surface area of a sphere of diameter 30cm.
- 8) A toy is in the form of a hemisphere of radius 3.5cm. Find its CSA & TSA.
- 9) A hemispherical bowl is made of steel of thickness 0.35cm. The inner radius is 6.65cm. Find the cost of tin plating the outer side at the rate of Rs 25 per 100cm^2 .
- 10) A shopkeeper has a laddoo of diameter 10cm. With the same material how many laddoos of diameter 5cm can be made?
- 11) The circumference of the edge of a hemispherical bowl is 132cm. Find the volume of the bowl.
- 12) The volume of two hemispheres are in the ratio 27:125. Find the ratio of their radii.
- 13) If the radius of a sphere is doubled then find the ratio of the volumes of the new sphere to the original sphere.

- 14) A capsule in the form of a sphere of diameter 4.2mm has medicine inside it.
How much medicine in mm^3 is needed to fill the capsule?
- 15) The radius and height of a right circular cone are in the ratio 5:12. If its volume is 314m^3 , find its slant height and radius.
- 16) The diameter of two cones are equal. If their slant heights are in the ratio 5:4, find the ratio of their CSA.
- 17) Find the CSA & TSA of a hemisphere of radius 28m.
- 18) A hemispherical dome of a building needs to be painted. If the circumference of the base of the dome is 17.6m then find the cost of painting it at Rs 5 per 100cm^2 .
- 19) How many balls each of 2cm can be made by melting a big ball whose radius is 8cm.
- 20) A hemispherical bowl has radius 8.4cm. What would be the volume of water it would contain?

ANSWERS

1) 1408cm^2	7) 2828.57cm^2	14) 38.80mm^3
2) 550cm^2	8) 77cm^2 , 115.5cm^2	15) 13m, 5m
3) 10686cm^2	9) Rs 77	16) 5:4
4) a) $945\pi\text{ cm}^3$	10) 8	17) 4928cm^2 , 7392cm^2
b) $25\pi\text{ cm}^3$	11) 19404cm^3	18) Rs 24640
5) $96\pi\text{ cm}^3$	12) 3:5	19) 64
6) 10cm	13) 8:1	20) 1241.85cm^3