INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet For The Academic Year 2025-26

CLASS: IX   SUBJECT: <u>Mathematics</u>   DATE: <u>25/11/2025</u>

<u>LESSON-11   Surface Areas & Volumes</u>

1) A cone has _____ faces , a sphere has _ face and a hemisphere has ___ faces.

2) The CSA of a cone is πrl , where l is the _____ of the cone.

3) Find the CSA of a cone whose slant height is 32cm and base radius is 14cm.

4) The diameters of two cones are equal whereas their slant heights are in the ratio 5:4. Find the ratio of their surface areas.

5) A conical tent is 12m high and the radius of its base is 16m. Find

   (i) slant height of the tent (ii) cost of canvas required to make the tent at Rs 70 per m^2.

6) 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.

7) Find the volume of right circular cone of radius 2.5cm and height 5cm.

8) If the height of a cone is 15cm and volume is 500π cm^3, then find the radius of the cone.

9) If the base area of a cone is 12π cm^2 and the volume is 48π cm^3, find the height of the cone.

10) If the height and radius of a cone is tripled, find the ratio of the volume of new cone to that of the original cone.

11) A right ∆ABC of sides 6cm,8cm and 10cm is revolved about the 8cm side. Find the volume of solid so obtained.

12) Find the surface area of a sphere of diameter 22m.

13) Find the volume of a sphere of diameter 32m.

14) Find the volume of a hemisphere of diameter 25m.

15) The radius of moon is one-fifth radius of a planet. Find the ratio of their surface areas.

16) Find the CSA and TSA of a hemisphere of radius 3.5cm.

17) A shopkeeper has one laddoo of diameter 10cm. With the same material how many laddoos of 5cm can be made?

18) A shotput is a metallic sphere of radius 5.4cm. If the density of metal is 8.4g per cm^3 , find the mass of shotput.

19) The circumference of the edge of a hemispherical bowl is 132cm. Find the volume of the bowl.

20) A hemispherical bowl is made of steel 0.35cm thick. The inner radius of the bowl is 6.65cm. Find the cost of tin plating it on the outer side at the rate of Rs 25 per $100cm^2$.

21) The volume of two hemispheres are in the ratio 8:27. Find the ratio of their Radii.

22) If the radius of a sphere is 2r , then its volume will be _____.

23) If the radius of a sphere is doubled , then its surface area will be _____ times.

24) The TSA of a cone of radius $\frac{r}{2}$ and slant height $2l$ is _____.

25) A metallic sphere of radius 10.5cm is melted to make small cones of radius 3.5cm and height 3cm. Find how many cones are obtained.

Answers

3) $1408cm^2$ 4) 5:4   5) (i) 20m (ii) Rs 70400   6) $10686cm^2$ 7) $19.625cm^2$

8) 10cm   9) 12cm   10) 27:1   11) $301.44cm^3$ 12) 1521.14

13) $17164.19cm^3$ 14) $4092.26m^3$ 15) 25:1   16) $77cm^2$, $115.5cm^2$

17) 8   18) 5542.74g   19) $19404cm^3$ 20) Rs 77   21) 2:3   22) $\frac{32\pi r^3}{3}$

23) 4   24) $\pi r(l + \frac{r}{4})$ 25) 126