MLL

Class: IX

 **Surface area and volume**

1 A plastic box 5m long,4 m wide and 3 m deep,is to be made.Ignoring the thickness of the plastic sheet, determine the area of the sheet required for making the box.

2.Acubical box has each edge 10 cm and another cuboidal box is 12.5 cm long,10 cm wide

 and 8 cm high.Which box has greater lateral surface area and by how much.

3.A cylindrical piller is 50 cm in diameter and 3.5 m in height.Find the cost of painting the curved surface of the piller at the rate of Rs 12.50 per sq.m.

4.It is required to make a closed cylindrical tank of height 1 m and base diameter 140 cm

 from a metal sheet.How many square metres of the sheet is required for the same.

5.A conical tent is 10 m high and the radius of its base is 24 m. Find

 (i) slant height of the tent,

 (ii)cost of the convas required to make the tent,if the cost of 1 sq.m. convas is Rs 70.

6. A joker’s cap is in the form of a right circular cone of base radius 7 cm and height 24 cm

 Find the area of the sheet required to make 10 such caps.

7 Find the surface area of a sphere of diameter 14 cm.

8. A hemispherical bowl made of brass has 10.5 cm . Find the cost of tin-plating it on the

 Inside at the rate of Rs 16 per 100 sq.cm.

9. Find the total surface area of a hemisphere of radius 10 cm.( use π = 3.14)

10. A matchbox measures 4 cm $×2.5 cm×1.5 cm$. What will be the volume of a packet

 containing 12 such boxes.

11.A godown measures 40 m $×25 m×$ 15 m.Find the maximum number of wooden crates

 each measuring 1.5$m ×$ 1.25 m$×0.5 m $that can be stored in the godown.

12. The circumference of the base of a cylindrical vessel is 132 cm and its height is 25 cm.

 How many litre of water can it hold? (1000 $cm^{3}$ = 1 litre)

13. If the lateral surface of a cylinder is 94.2 $cm^{2}$ and its height is 5 cm, then find (i) radius

 of its base (ii) its volume.(use π = 3.14)

14.A patient in a hospital is given soup daily in a cylindrical bowl of diameter 7 cm .

 If the bowl is filled with soup to a height of 4 cm,how much soup the hospital has to prepare daily to serve 250 patients ?

15. Find the volume of a right circular cone with radius 6 cm and height 7 cm.

16.The height of a cone is 15 cm. If its volume is 1570 $cm^{3}$,find the radius of the base.

(use π= 3.14)

17.A heap of wheat is in the form of a cone whose diameter is 10.5 m and height is

 3 m. Find its volume. The heap is to be covered by canvas to protect it from rain.

 Find the area of the canvas required.

18.Find the volume of a sphere whose radius is 7 cm.

19.How many litres of milk can a hemispherical bowl of diameter 10.5 cm hold?

20.Find the volume of a sphere whose surface area is 154 $cm^{2}$.

Answers:

(1)94 sq.m. ( 2) Cubical box ,40 sq.cm. (3) Rs 68.75 (4) 7.48 sq. m. (5) 26 m, Rs 137280

(6) 5500 sq.m. (7) 616 sq. cm. (8) Rs 27.72 (9) 942 sq.cm. (10) 180 $cm^{3}$ (11) 16000

(12) 34.65 litre (13) 3 cm, 141.3 $cm^{3}$ (14) 38500 $cm^{3}$ (15) 264 $cm^{3}$ (16) 10 cm

(17) 99.825 sq.m. (18) 1437.33 $cm^{3} $(19) ) 0.303 litre (20) 179$\frac{2}{3}$ $cm^{3}$