SUB: Mathematics **CLASS: IX**

TOPIC: Surface Areas and volumes

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1. The curved surface area of a cylinder of height 21cm is 660cm^2 ,find its radius. (r = 5cm)
2. The Volume of a cylinder is 448 π cm^3 and height 7 cm. Find its total surface area. (754.28cm^2)
3. The volume of a sphere is 905 1/7 cm^3. Determine its diameter. (12cm)
4. If the volume of a sphere is 36 π cm^3, then find its radius (3 cm)
4. The outer diameter of a spherical shell is 10 cm and inner diameter is 9cm. Find the volume of the metal contained the shell (141.95cm^3)
5. the length, breadth and height of a room are 5 m, 4m and 3m. Find the cost of colour washing its four walls and ceiling at the rate of Rs 7.50 per square metre. (Rs 555)
6. Three cubes each of 5cm edge are joined end to end. Find the surface area of the resulting Cuboid (350 sqcm)
7. Two cubes of side 6 cm each joined end to end. Find the surface area of the resulting cuboid. (360cm^2)
8. The radii of two right circular cylinders are in the ratio 2:3 and their heights are in the ratio 5:4 Calculate the ratio of their curved surface area (5:6)
9. How many metres of cloth 5m wide will be required to make a conical tent, the radius of whose base 7m and height 24m? (110m)
10. The outer and inner diameters of a hemispherical bowl are 17cm and 15cm find the cost of polishing it over at 25 paise percm^2 (Rs 25.14)
11. A river 2m deep and 30m wide is flowing at the rate of 2km per hour. How much water will fall into the sea in a minute *(2 000m^3)*
12. The volume of a cube is 125cm^3. Find its surface area (150cm^2)
13. Find the length of the longest pole that can be put in a room of dimensions 6m x 6m x 3m (9m)
14. The surface area of a sphere is 5544cm^2, find its diameter. (42 cm)
15. The sum of the radius of the base and height of a cylinder is 37m. If the total surface area of the Solid cylinder is 1628m^2, find the volume of cylinder (4620m^3)
16) A hemispherical bowl is made of steel 0.25cm thick .The inner radius of the bowl is 5 cm. Find the outer curved surface area of the bowl. (173.25 cm^2)
17) The ratio of the CSA to the TSA of a right circular cylinder is 1: 3. Find the volume of the cylinder If its T S A is 1848 cm^2 (4312 cm^2)
18) The diameter of a roller, 120cm long is 84cm. It takes 500 complete revolutions to level a Playground. Find the cost of leveling it at the rate of Rs 25 per sq metre. (Rs 39,600)
19) The height of a cone is 15cm. If its volume is 1570 cm^3, find the radius of the base. (π = 3.14) (r = 10cm)
20) Find the surface area of a sphere whose volume is 99/7 cm^3 (r = 1.5cm, SA= 198/7 cm^2)
21) The total surface area of a solid hemisphere is 1848cm^2. Find the volume of the hemisphere. (5749.3 cm^3)
22) A hemispherical bowl of internal radius 9cm is full of a liquid. This liquid is to be filled into Small cylindrical bottles of diameter 3cm and height 4cm each. Find the minimum number Of bottles required to empty the bowl (54)
23) Curved surface area of a cylinder is 4400cm^2 the circumference of its base is 110 cm.Find the height of the cylinder (40 cm)
23. Base circumference of a cylinder is 132 m and its height is 2m. Find its curved surface area (264m^2)
24) Three solid spheres of iron whose diameters are 2cm, 12cm and 16cm respectively are melted Into sphere. Find the radius of the new sphere (9 cm)
25) The radius and height of a cylinder are in the ratio 2:3. If the volume of a cylinder is 1617cm^3 Find its radius and height (7 cm, 10.5 cm)
26) A solid cube of side 12 cm is cut into 8 cubes of equal volumes. Find the side of new cube (6 cm)
27) The paint in a certain container is sufficient to paint an area equal to 9.375 sqm. How many bricks of dimensions 22.5cm x 10cm x 7.5cm container can be painted out of this? (100)
28) Find the total surface area of the cone whose base radius is 8cm and sum of base radius and slant height is 21cm (528 sqcm)
29) The height of a rectangular room is 2.5m. The cost of painting its four walls at the rate of Rs. 20/m^2 is Rs.2500. Find the perimeter of the room (50m)
30) A cone and cylinder are having equal base radius. Find the ratio of the heights of cone and cylinder if their volume is equal
31) The radius of sphere is 5cm. If the radius is increased by 20%. Find how much percent volume is increased
32) The radius of a spherical balloon is inflated from 1.5 cm to 2.5 cm by pumping more air in it. Find the ratio of surface Area of resulting balloon to the original balloon
33) The curved surface area and volume of a cylindrical pillar are 264cm^3 and 396cm$^{3.}$. Find the diameter and height of the pillar
34) A right circular cone is 5.4cm high and radius of its base is 2cm. It is melted and recast into another right circular cone with radius of base as 1.5 cm. Find the height of the new cone formed
35) If the volume of a sphere is divided by its surface area then the result is 27. Find the radius of sphere
36) Total cost of making a cylindrical pipe is Rs 7040 at the rate of Rs 5 per cubic meter, if the height of cylindrical pipe is 7m then find its radius (8m)
37) A well of diameter 8 m is dug out up to 7 m. Calculate the volume of the earth dug out (392 m^3)