Volume and cm essay

AREA (i) The area of a rhombus is equal to the area of a triangle whose base and the corresponding altitude are 24. 8 cm and 16. 5 cm respectively. If one of the diagonal of the rhombus is 22 cm, find the length of the other diagonal. (ii) The floor of a rectangular hall has a perimeter 250m. If the cost of paining the four walls at the rate of Rs 10 per m2 is Rs 1500. Find the height of the hall. (iii) A room is half as long again as it is broad. The cost of carpeting the room at Rs 3. 25 per m2 is Rs 175. 50 and the cost of papering the walls at Rs 1. 40 per m2 is Rs 240. 80.

If 1 door and 2 windows occupy 8m2, find the dimensions of the room. (iv) A river 2m deep and 45m wide is flowing at the rate of 3 km per hour. Find the volume of water that runs into the sea per minute. (v) A closed cylinder has diameter 8cm and height 10cm. Find its total surface area and volume. (vi) The volume of a metallic cylinder pipe is 748cm3 . Its length is 14 cm and external diameter 18cm. Find its thickness. (vii) A cylindrical bucket, 28cm in diameter 72cm high is full of water. The water is emptied into a rectangular tank, 66cm long and 28cm wide. Find the height of the water level in the tank. viii) A cylindrical tube, open at both ends, is made of metal. The internal diameter of the tube is 10. 4cm and its length is 25cm. The thickness of the metal is 8mm everywhere. Calculate the volume of the metal. (ix) The difference between outside and inside surface of a cylindrical metallic pipe 14cm long is 44cm2 . If the pipe is made of 99 cm3 . Find the outside and inner radii of the pipe. Volume and surface area. 1. A hollow cylindrical pipe is 21 dm long. Its outer and inner diameters are 10cm and 6cm respectively. Find the volume of copper used in making the pipe. 2.

The height of a right circular cylinder is 10. 5m. Three times the sum of the areas of its two circular faces is twice the area of the curved surface. Find the volume of the cylinder. 3. The circumference of the base of a 10m high conical tent is 44m. Calculate the length of canvas used in making the tent if width of canvas is 2m. 4. The radius and height of a cone are in the ratio 4: 3 the area of the base is 154cm2. find the area of the curved surface. 5. The volume of a metallic cylindrical pipe is 748cm3 . Its length is 14 cm and its external radius is 9 cm. Find its thickness. . A well of inner diameter 14m is dug to a depth of 15m. Earth taken out of it has been evenly spread all around it to a width of 7m to form an embankment. Find the height of the embankment. 7. A cloth having an area of 165m is shaped into a cylindrical tent of radius 5m. How many students can sit in the tent if a student occupies 5/7 m2 ? Find the volume of air for each student. 8. The difference between inside and outside surfaces of cylindrical tube 14cm long is 88 sq. cm. If the volume of the tube is 176 cubic cm. find the inner and outer radii of the tube. 9.

The area of three adjacent faces of a cuboidal box are 120cm2, 72cm2 and 60cm2 respectively. Find the volume of the box. 10. The total surface area of a hollow cylinder which is open from both sides is 4620cm2, area of base ring is 15. 5cm2 and height 7cm. Find the thickness of the cylinder. Questions for Homework assignment 1. An underground water tank is in the shape of cube of side 7 m. What will be its volume? 2. What will be volume of a box whose length 16 m, breadth 8 m and height is 5 m? 3. The length, breadth and height of a room are 12 m, 10 m, and 9m respectively. Find the area of our walls of room? . The volume of a cube is 27a3 . Find the length of

its edge? 5. How much Aluminium sheet will be required to make a container with lid whose length is 13 m, breadth is 8 m and height is 4 m? 6. The volume of a cube is 1331 cm3 . Find the length of its edge? 7. The length of diagonal of a cube is 17. 32 cm. Find the volume of that cube? 8. Three cubes whose sides are 6 cm, 8 cm and 10 cm. They are melted and form a cube. Find the volume of that cube? 9. Two cubes have edge 10 m. Their edges have been joined and form a cuboid. What will be the surface area of cuboid thus formed? 0. The total volume of a cube is 512 cubic cm. Find the side of a cube? 11. A rectangular box 14 cm long, 10 cm wide and 5 cm high is to be made with card-board. Find the area of card-board to make that box? 12. What will be the volume of a cylindrical tank whose radius is 7 cm and height is 5 cm? 13. How many solid spheres of 2/3 cm radius can be made from a solid sphere of 2 cm radius? 14. If the volume and surface area of a sphere is numerically same then what will be its radius? 15. The volume of a right circular cylinder is 392 ? cm3 and its height is 8 cm. Find the radius?