

JSUNIL TUTORIAL

Class 9th

Mensuration

1. The total surface area of a cuboid is 63200cm^2 and its length, breadth and height are in the ratio 8:5:3. Find the dimensions of the cuboid.
2. How many planks of dimensions $5\text{m}\times 25\text{cm}\times 10\text{cm}$ can be stored in a pit which is 20 m long, 6m wide and 80 cm deep?
3. A solid cylinder has total surface area of 462 cm^2 . Its curved surface area is one-third of its total surface area. Find the radius and height of the cylinder.
4. 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 metal every where is 8mm thick. Calculate the volume of the metal.
5. A well of inner diameter 14m is dug to a depth of 15m. Earth taken out of it has been evenly spread all around to a width of 7m to form the embankment. Find the height of the embankment so formed.
6. How many meters of a cloth, 2.5m wide, will be required to make a conical tent whose base radius is 7m and height 24 m.
7. From a solid right circular cylinder with height 10cm and radius of the base 6 cm, a right circular cone of the same height and base is removed. Find the volume of the remaining solid.
8. The radius and slant height of a cone are in the ratio of 4:7. If it's curved surface area is 792 cm^2 . Find its radius.
9. Assuming the earth to be a sphere of radius 6370 km, how many square kilometers is area of the land, if three fourths of the earth's surface is covered by water?
10. The diameter of a sphere is decreased by 25%. By what percent its surface area decreases?
11. A wall 15m long, 30cm wide and 4m high is made of bricks, each measuring $22\text{cm}\times 12.5\text{cm}\times 7.5\text{cm}$. If $1/12$ of the total volume of the wall consists of mortar, how many bricks are there in the wall?
12. How many persons can be accommodated in a dining hall of dimensions $20\text{m}\times 16\text{m}\times 4.5\text{m}$, assuming that each person requires 5cubic meter of air?
13. Two cylindrical cans have bases of same size. The diameter of each is 14cm. One of the cans is 10cm high and the other is 20cm high. Find the ratio of their volumes.
14. The volume and curved surface area of a cylinder are 1650 cm^3 and 660 cm^2 respectively. Find the radius and height of the cylinder.
15. A hollow cylindrical copper pipe is 21dm long. Its outer and inner diameters are 10 cm and 6 cm respectively. Find the volume of copper used in making the pipe.
16. A tent is in the form of a right circular cylinder surmounted by a cone. The diameter of the cylinder is 24 m. The height of the cylindrical portion is 11m, while the vertex of the cone is 16 m above the ground. Find the area of the canvas required for the tent.
17. Water flows at the rate of 10m/min through a cylindrical pipe 5mm in diameter. How long would it take to fill a conical vessel whose diameter at the surface is 40 cm and depth is 24 cm.
18. Eight metallic spheres, each of radius 2 mm, are melted and cast into a single sphere. Calculate the radius of the new sphere.
19. A hollow spherical shell is made of a metal of density 4.5g/cm^3 . If it's internal and external diameters are 8cm and 9cm respectively, find the weight of the shell.
20. A cylindrical bucket with base radius 15cm filled with water up to a height of 20 cm. A heavy iron spherical ball of radius 9cm is dropped into the bucket to submerge completely in the water. Find the increase in the level of water.
($\pi = \frac{22}{7}$).

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