



# MATHS

## BOOKS - VGS PUBLICATION-BRILLIANT

### SURFACE AREAS AND VOLUMES

#### Exercise

1. Take a cube of edge 'l' cm. and cut it as we did in the previous activity and find total surface area and lateral surface area of cube.



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2. Each edge of a cube is increased by 50%.  
Find the percentage Increase In the surface area.



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3. Find the edge of a cube whose volume is  $1000\text{cm}^3$



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4. Find the volume of cuboid if  $l=12$  cm ,  $b = 10$  cm . And  $h=8$ cm.



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5. Find the volume of cube if,its edge is 10 cm.



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6. Find the volume of a pyramid whose square base is 10 cm. and height 8 cm.



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7. The volume of cube is 1728 cubic cm. Find the volume of square pyramid of the same height.



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**8.** The total surface area of a cube is 1350 sq.m

Find its volume.



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**9.** Find the area of four walls of a room

(Assume that there are no doors or windows )

if its length 12m. Breadth 10 m. and height 7.5

m.



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**10.** The volume of a cuboid is  $1200\text{cm}^3$  The length 15 cm .and breadth is 10 cm , Find its height



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**11.** How does the total surface area of a box change if

(i) Each dimension is doubled?

(ii) Each dimension is tripled?

Express in words .Can you find the total

surface area of the box if each dimension is raised to  $n$  times?



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**12.** How does the total surface area of a box change if

(i) Each dimension is doubled?

(ii) Each dimension is tripled?

Express in words .Can you find the total surface area of the box if each dimension is raised to  $n$  times?



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**13.** The base of prism. Is triangular in shape with sides 3cm , 4cm , and 5cm , Find the volume of the prism if its height is 10 cm .



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**14.** A regular square pyramid is 3m. Height and the perimeter of its base is 16 m. Find the volume of the pyramid.



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**15.** An Olympic swimming pool is in the shape of a cuboid of dimensions 50m. Long and 25 m. wide. If it is 3m . Deep throughout , how many liters of water does it hold?  
( $1\text{cu. m} = 1000\text{liters}$ )



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**16.** Find CSA. Of each of the following cylinders:

$R = x \text{ cm}, h = y \text{ cm}$



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**17.** Find CSA. Of the following cylinder:  $d = 7\text{cm}$ ,  
 $h = 10\text{ cm}$



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**18.** Find CSA. Of of the cylinder:  $r = 3\text{ cm}$ ,  $h = 14$   
 $\text{cm}$



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19. A Rectangular paper of width 14 cm is folded along its width and a cylinder of radius 20 cm is formed. Find the volume of the cylinder (Take  $\pi = \frac{22}{7}$ )



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20. A Rectangular piece of paper  $11\text{cm} \times 4\text{cm}$  is folded without overlapping to make a cylinder of height 4 cm. Find the volume of the cylinder.



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21. A rectangular sheet of paper  $44\text{cm} \times 18\text{cm}$  is rolled along the length to form a cylinder. Assuming that the cylinder is solid (Completely filled), find its radius and the total surface area.



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22. Circular discs 5 mm thickness, are placed one above the other to form a cylinder of

curved surface area  $462\text{cm}^2$  . Find the number of discs, if the radius is 3.5 cm



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**23.** A hollow cylinder having external radius 8 cm and height 10 cm has a total surface area of  $338\pi\text{cm}^2$  Find the thickness of the hollow metallic cylinder.



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**24.** If the radius of a cylinder is doubled keeping its lateral surface area the Same, then what is its height ?



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**25.** A hot water system (Geyser) consists of a cylindrical pipe of length 14 m and diameter 5 cm. Find the total radiating surface of hot water system.



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**26.** A closed cylindrical tank of height 1.4 m. and radius of the base is 56 cm. is made up of a thick metal sheet. How much metal sheet is required (Express in square meters)



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**27.** The volume of a cylinder is  $308\text{cm}^3$ . Its heights is 8cm . Find its lateral surface area and total surface area.



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**28.** A metal cuboid of dimensions  $22\text{cm} \times 15\text{cm} \times 7.5\text{cm}$  was melted and cast into a cylinder of height 14 cm. What is its radius ?



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**29.** An overhead water tanker is in the shape of a cylinder has capacity of 61.6 cu.mts. The



diameter of the tank is 5.6 m. Find the height of the tank.



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**30.** A cylindrical pillar has a diameter of 56 cm and is of 35 m high. There are 16 pillars around the building. Find the cost of painting the curved surface area of all the pillars at the rate of ₹5.50 per  $1\text{ m}^2$



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**31.** The diameter of a roller is 84 cm and its length is 120 cm. It takes 500 complete revolutions to roll once over the play ground to level. Find the area Of the play ground in  $m^2$



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**32.** The inner diameter of a circular well is 3.5 m. It is 10 m deep. Find ( i ) its inner curved surface area ( ii ) the cost of plastering this curved surface at the rate of Rs. 40 per  $m^2$



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**33.** Find the total surface area of a closed cylindrical petrol storage tank whose diameter 4.2 m and height 4.5 m.



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**34.** Find How much steel sheet was actually Used, if  $\frac{1}{12}$  of the steel was wasted in making the tank ?



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**35.** A one side open cylindrical drum has inner radius 28 cm and height 2.1 m. How much water you can store in the drum? Express in litres. (1 litre = 1000 c.c)



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**36.** The curved surface area of the cylinder is  $1760\text{cm}^2$ . And its volume is  $12320\text{cm}^3$  Find its height.



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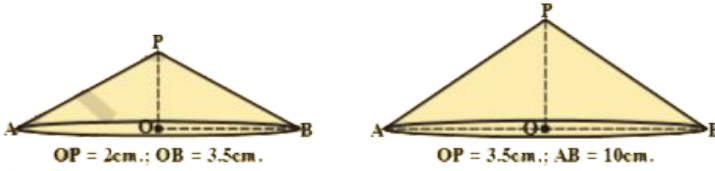
**37.** A sector with radius  $r$  and length of its arc  $l$  is cut from a circular sheet of paper. Fold it as a cone. How can you derive the formula of its curved surface area  $A = \pi r l$



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**38.** Find the curved surface area and total surface area of the each following Right

# Circular Cones



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**39.** Find the slant height and vertical height of a Cone with radius  $5.6\text{ cm}$  and curved surface area  $158.4\text{cm}^2$ .



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**40.** A tent is in the shape of a cylinder surmounted by a conical top. If the height and diameter of the cylindrical part are 2.1 m and 4 m, and slant height of the top is 2.8 m, find the area of the canvas used for making the tent. Also, the cost of canvas of the tent at the rate of *Rs. 500perm<sup>2</sup>*.



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**41.** A conical tent was erected by army at a base camp with height 3 m and base diameter 8 m Find, The cost of canvas required for making the tent, if the canvas cost ₹70 per 1 sq.m.



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**42.** A conical tent was erected by army at a base camp with height 3 m and base diameter 8 m Find, The cost of canvas required for



making the tent, if the canvas cost ₹70 per 1 sq.m.



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**43.** The base area of a cone is  $38.5\text{cm}^2$ . Its volume is  $77\text{cm}^3$ . Find its height.



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**44.** The volume of a cone is  $462\text{m}^3$ . Its base radius is 7m. Find its height.



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**45.** Curved surface area of a cone is  $308\text{cm}^2$  and its slant height is 14 cm Find.

(i) radius of the base (ii) Total surface area of the cone.



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**46.** Curved surface area of a cone is  $308\text{cm}^2$  and its slant height is 14 cm Find.

(i) radius of the base (ii) Total surface area of the cone.



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**47.** The cost of painting the total surface area of a cone at 25 paise per  $cm^2$  is rupees 176 .Find the volume of the cone ,If its slant height is 25 cm.



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**48.** From a circle of radius 15cm . A sector with angle  $216^\circ$  is cut out and its bounding radius are bent so as to form a cone . Find its volume.



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**49.** The height of a tent is 9m. Its base diameter is 24m. What is its slant height? Find the cost of canvas cloth required if it costs rupees 14 per sq.m.



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**50.** The curved surface area of a cone is  $1159\frac{5}{7}cm^2$ . Area of its base is  $254\frac{4}{7}cm^2$  Find its volume.



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**51.** A tent is cylindrical to a height of 4.8 m .and conical above it. The radius of the base is 4.5 m. and total height of the tent is 10.8 m . Find the canvas required for the tent in square meters.



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52. What length of tarpaulin 3 m wide will be required to make a conical tent of height 8 m and base radius 6 m ? Assume that extra length of material that will be required for stitching margins and wastage in cutting is approximately 20 cm (use  $\pi = 3.14$ ) [Note : Take 20 cm as  $0.6 \text{ m}^2$ ]



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**53.** A Joker's cap is in the form of a right circular cone of base radius 7cm and height 27 cm. Find the area of the sheet required to make 10 such caps.



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**54.** Two similar cones have volumes  $12\pi$  cu units and  $96\pi$  cu. Units. If the curved surface area of smaller cone is  $15\pi$  sq.units, what is the curved surface area of the larger one ?

Hint : For similar cones

$$\frac{r_1}{r_2} = \frac{h_1}{h_2} = \frac{I_1}{I_2} = \left(\frac{A_1}{A_2}\right)^3 = \left(\frac{V_1}{V_2}\right)^2$$



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55. Can you find the surface area of sphere in any other way?



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56. Find the volume of sphere of radius 6.3 cm.



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57. If the surface area of a sphere is  $154\text{cm}^2$ ,  
find its radius



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58. A hemispherical bowl is made up of stone  
whose thickness is 5 cm. If the inner radius is  
35 cm, find the total surface area of the bowl.



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59. The hollow sphere, in which the circus motor cyclist performs his stunts ,has a diameter of 7m. Find the area available to the motor cyclist for riding.



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60. A shotput is a metallic sphere of radius 4.9 cm .If the density of the metal is 7.8g. Per  $cm^3$  find the mass of the shotput.



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**61.** A hemispherical bowl has a radius of 3.5 cm  
What would be the volume of water it would  
contains?



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**62.** The radius of sphere is  $3.5\text{cm}$  Find its  
surface area and volume .



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**63.** The surface area of sphere is  $1018\frac{2}{7}$ . Sq.cm  
. What is its volume?



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**64.** The length of equator of the globe is 44cm  
. Find its surface area



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**65.** The diameter of a spherical ball is 21cm .  
How much leather is required to prepare 5  
such balls.



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**66.** The ratio of radii of two spheres is 2: 3.  
Find the ratio of their surface areas and  
volumes.



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**67.** Find the total surface area of hemi sphere of radius 10 cm. (Use  $\pi = 3.14$ )



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**68.** The diameter of a spherical balloon increases from 14 cm. to 28 cm. as air is being pumped into it. Find the ratio of surface areas of the balloons in the two cases.



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**69.** A hemispherical bowl is made of brass .0.25 cm. thickness .The inner radius of the bowl is 5cm. Find the ratio of outer surface area to inner surface area.



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**70.** The diameter of a lead ball is 2.1 cm The density of the lead used is  $11.34g/c^3$  What is the weight of the ball ?



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71. A metallic cylinder of diameter 5cm. And height  $3\frac{1}{3}cm$  is melted and cast into a sphere.

What is its diameter.



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72. How many litres of milk can a hemispherical bowl of diameter 10.5 cm . Hold ?



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**73.** A hemispherical bowl has diameter 9 cm. The liquid is poured into cylindrical bottles of diameter 3 cm and height 3 cm. If a full bowl of liquid is filled in the bottles, find how many bottles are required ?



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**74.** Find the surface area of a cuboid with dimensions 10 cm, 6 cm and 4 cm.



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**75.** Find the lateral surface area of a cuboid with dimensions 8 cm, 5 cm, 3 cm.



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**76.** Find the total surface area of the cube with side 7.5 cm.



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77. If the volume of a cube is  $1728 \text{ cm}^3$ , find the edge of the cube.



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78. The base of a right prism is an equilateral triangle of side 4 cm. Find the volume of the prism if its height is 9 cm.



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**79.** The base of a prism is square in shape whose side is 8 cm. Find the volume of the prism if its height is 15 cm.



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**80.** The volume of a cuboid is  $900 \text{ cm}^3$ . The length is 15 cm and breadth is 10 cm. Find its height.



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**81.** Find CSA. Of of the cylinder:  $r = 3$  cm,  $h = 14$  cm



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**82.** Find the TSA of the cylinder whose radius is 7 cm and height is 10 cm.



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**83.** Find the volume of a cylinder of radius 3.5 cm and height 8 cm.



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**84.** The C.S.A. of a cylinder is  $792 \text{ cm}^2$ . Find its height if its radius is 7 cm.



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**85.** The volume of a cylinder is  $1540 \text{ cm}^3$ . Find its radius if its height is  $10 \text{ cm}$ .



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**86.** A conical tent was erected by an army at a base camp with height  $3 \text{ m}$  and diameter  $8 \text{ m}$ . Find the slant height of the tent.



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**87.** The volume of a cone is  $462m^3$  . Its base radius is 7m. Find its height.



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**88.** The base area of a cone is  $38.5cm^2$  .Its volume is  $77cm^3$  Find its height .



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**89.** Find the volume of a sphere of radius 2 cm.





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90. If the surface area of a sphere is  $154\text{cm}^2$  ,  
find its radius



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91. The volume of a hemisphere of radius 3.5  
cm is .....  $\text{cm}^3$ .



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**92.** The total surface area of hemisphere is  $462 \text{ cm}^2$ . Find its radius.



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**93.** If the volume of a hemisphere is  $\frac{396}{7} \text{ cm}^3$ , find its radius.



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**94.** Find the surface area of a hemisphere whose radius is 10.5 cm.



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**95.** Describe a right circular cylinder.



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**96.** Describe a right circular cone.



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**97.** What is a sphere ?



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**98.** What is a hemisphere?



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**99.** Each edge of a cube is increased by 50%.

Find the percentage Increase In the surface

area.



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**100.** Find the edge of a cube whose volume is  $42.875 \text{ cm}^3$ .



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**101.** Find the height of the square pyramid whose base perimeter is 36 cm and volume  $405 \text{ cm}^3$ .



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**102.** The curved surface area and volume of a cylinder are  $44 \text{ cm}^2$  and  $38.5 \text{ cm}^3$ . Find the radius of the cylinder.



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**103.** A hemispherical bowl is made up of stone whose thickness is 3 cm. If the outer radius is 14 cm, find the volume of the bowl.



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**104.** The dimensions of a rectangular iron sheet are 20 cm and 14 cm. Squares of side 2 cm each are cut from each corner of the sheet and the remaining sheet is bent into a cuboid. What would be the volume of water it would contain?



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**105.** A shotput is a metallic sphere of radius 1 cm and It weighs 26.4 kg. Find the density of the metal.



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**106.** Surface area of a cuboid whose length, breadth and height are 10 cm, 8cm and 8cm is

A.  $640 \text{ cm}^2$

B.  $224 \text{ cm}^2$



C.  $448 \text{ cm}^2$

D.  $288 \text{ cm}^2$

**Answer:**



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**107.** Lateral Surface area of a cube whose edge is 3.5 cm is

A.  $12 \times 25 \text{ cm}^2$

B.  $42 \times 875 \text{ cm}^2$

C.  $73 \times 5 \text{ cm}^2$

D.  $49 \text{ cm}^2$

**Answer:**



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**108.** Volume of a right prism is

A.  $lbh$

B. Base area  $\times$  height

C.  $2(lb + bh + lh)$

D. None

**Answer:**



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**109.** The volume of a cube whose side 8 cm is

A.  $144 \text{ cm}^3$

B.  $216 \text{ cm}^3$

C.  $512 \text{ cm}^3$

D.  $384 \text{ cm}^3$

**Answer:**



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**110.** The volume of a pyramid is

A.  $\frac{1}{3} \times \text{Area of base} \times \text{height}$

B.  $\frac{1}{2} \times \text{Area of base} \times \text{height}$

C.  $\text{Area of base} \times \text{height}$

D.  $\text{Perimeter of base} \times \text{height}$

**Answer:**



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111. The volume of isosceles right angled triangular prism where the equal sides are 6 cm and 6 cm and height is 4 cm

A.  $144 \text{ cm}^3$

B.  $48 \text{ cm}^3$

C.  $72 \text{ cm}^3$

D.  $60 \text{ cm}^3$

**Answer:**



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**112.** The volume of a square pyramid whose base area is 16 cm and height 8 cm is

A.  $128 \text{ cm}^3$

B.  $144 \text{ cm}^3$

C.  $64 \text{ cm}^3$

D.  $256 \text{ cm}^3$

**Answer:**



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**113.** The volume of a cube is  $729 \text{ cm}^3$ , then its side is

A. 27 cm

B. 9 cm

C. 7 cm

D. 36 cm

**Answer:**



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**114.** The volume, length and breadth of a cuboid are  $60 \text{ cm}^3$ , 5 cm, 4 cm then its height is

A. 3 cm

B. 4 cm

C. 5 cm

D. 1.5 cm

**Answer:**



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**115.** If each dimension of a cuboid is increased by 4 times, then the total surface area becomes.....times the original area.

A. 4

B. 8

C. 12

D. 16

**Answer:**



**116.** The base of a prism is a triangle with sides 5 cm, 12 cm, 13 cm the volume of the prism if its height is 6 cm

A.  $180 \text{ cm}^3$

B.  $60 \text{ cm}^3$

C.  $360 \text{ cm}^3$

D. Can't be determined

**Answer:**





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**117.** The C.S.A. of a right circular cylinder whose  $r = 21$  cm and  $h = 7$  cm

A.  $924 \text{ cm}^2$

B.  $6468 \text{ cm}^2$

C.  $9702 \text{ cm}$

D.  $67914 \text{ cm}^2$

**Answer:**



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**118.** Total surface area of a cylinder is

A.  $1848 \text{ cm}^2$

B.  $1884 \text{ cm}^2$

C.  $1488 \text{ cm}^2$

D.  $392 \text{ cm}^2$

**Answer:**



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**119.** Volume of a cylinder when  $d = 7$  cm and  $h = 3$  cm

A.  $118 \text{ cm}^3$

B.  $115.5 \text{ cm}^3$

C.  $155.5 \text{ cm}^3$

D.  $808.5 \text{ cm}^3$

**Answer:**



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**120.** A rectangular piece of length 12 cm and breadth 4 cm is folded to form a cylinder. Find its curved surface area.

A.  $16 \text{ cm}^2$

B.  $192 \text{ cm}^2$

C.  $48 \text{ cm}^2$

D.  $576 \text{ cm}^2$

**Answer:**



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121. C.S.A of a cone is

A.  $\frac{1}{3}\pi r^2 h$

B.  $\pi r^2 h$

C.  $\pi r h$

D.  $\pi r l$

**Answer:**



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**122.** The radius of the base and height of a cone are 5 cm and 12 cm then its slant height

A. 17 cm

B. 7 cm

C. 13 cm

D. 6 cm

**Answer:**



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**123.** The C.S.A of a cone whose  $d = 7$  cm,  $l = 4$  cm

A.  $34 \text{ cm}^2$

B.  $24 \text{ cm}^2$

C.  $54 \text{ cm}^2$

D.  $44 \text{ cm}^2$

**Answer:**



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124. The T.S.A of a cone whose  $d = 14$  cm,  $h = 24$  cm

A.  $504 \text{ cm}^2$

B.  $3696 \text{ cm}^2$

C.  $704 \text{ cm}^2$

D.  $528 \text{ cm}^2$

**Answer:**



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**125.** Volume of a cone whose base radius is 4.2 cm and height is 4 cm

A.  $73 \times 92 \text{ cm}^2$

B.  $52 \times 8 \text{ cm}^2$

C.  $48 \times 6 \text{ cm}^2$

D.  $40 \times 8 \text{ cm}^2$

**Answer:**



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**126.** Surface area of a sphere is

A.  $4\pi r^2$

B.  $3\pi r^2$

C.  $2\pi r^2$

D.  $5\pi r^2$

**Answer:**



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127. Volume of a sphere is

A.  $\frac{2}{3}\pi r^3$

B.  $\frac{4}{3}\pi r^3$

C.  $\pi r^3$

D.  $\frac{5}{6}\pi r^3$

**Answer:**



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128. Surface area of a hemisphere is

A.  $2\pi r^2$

B.  $3\pi r^2$

C.  $4\pi r^2$

D.  $\pi r^2$

**Answer:**



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**129.** The volume of a sphere whose radius is 7 cm

A.  $1437 \times 3 \text{ cm}^3$

B.  $4337 \text{ cm}^3$

C.  $2588 \text{ cm}^3$

D.  $4678 \text{ cm}^3$

**Answer:**



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**130.** Find the total surface area of a hemisphere, whose radius is 14 cm.

A.  $2156 \text{ cm}^2$

B.  $616 \text{ cm}^2$

C.  $1258 \text{ cm}^2$

D.  $1848 \text{ cm}^2$

**Answer:**



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**131.** Which of the following is not a 3-D object?

A. Cone

B. Circle

C. Sphere

D. Cylinder

**Answer:**



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**132.** Which of the following is a 3-D object?

A. Rectangle

B. Circle

C. Square

D. Cylinder

**Answer:**



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**133.** The number of surfaces of a cuboid is

A. 4

B. 8

C. 6

D. 2

**Answer:**



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**134.** The lateral surface area of a cuboid with dimensions 12 cm xx 9 cm xx 5 cm is

A.  $540 \text{ cm}^2$

B.  $210 \text{ cm}^2$

C.  $426 \text{ cm}^2$

D.  $213 \text{ cm}^2$

**Answer:**



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**135.** The total length of all the edges of a cube of side 15 cm is

A. 225 cm

B. 120 cm

C. 180 cm

D. 60 cm

**Answer:**



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**136.** Find the edge of a cube whose volume is  $1000\text{cm}^3$

A. 10 cm

B. 100 cm

C. 50 cm

D. 20 cm

**Answer:**



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**137.** The lateral surface area of cube with side 8 cm is

A.  $512 \text{ cm}^2$

B.  $64 \text{ cm}^2$

C.  $384 \text{ cm}^2$

D.  $256 \text{ cm}^2$

**Answer:**



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**138.** Total surface area of a cylinder is

A.  $2\pi r (r + h)$

B.  $\pi r l$

C.  $\pi r (l + r)$

D.  $2\pi r h$

**Answer:**



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139. Volume of a cone is

A.  $\pi r^2 h$

B.  $\frac{1}{3}\pi r^2 h$

C.  $\pi h (R^2 - r^2)$

D.  $3\pi r^2 h$

**Answer:**



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**140.** A cone whose height and radius are 6 cm and 8 cm respectively then its slant height is

A. 14 cm

B. 10 cm

C. 11 cm

D. 12 cm

**Answer:**



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**141.** The radius and slant height of a cone are 8 cm and 17 cm respectively. Then its height is

A. 15 cm

B. 12 cm

C. 9 cm

D. 16 cm

**Answer:**



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**142.** The height and slant height of a cone are 7 cm and 25 cm respectively. Then its radius is

A. 10 cm

B. 14 cm

C. 24 cm

D.  $12 \cdot 5$  cm

**Answer:**



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143. Volume of hemisphere is ..... cu. units.

A.  $\frac{4}{3}\pi r^2$

B.  $\frac{2}{3}\pi r^3$

C.  $\frac{1}{3}\pi r^2 h$

D.  $\pi r^2 h$

**Answer:**



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**144.** The ratio of two spheres is 1:2, then the ratio of their surface areas is

A. 1:1

B. 1:4

C. 1:6

D. 1:9

**Answer:**



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**145.** The horizontal cross-section of a cylinder is a

A. Circle

B. Triangle

C. Rectangle

D. Isosceles triangle

**Answer:**



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**146.** The vertical cross section of a cylinder is.....

A. Square

B. Rectangle

C. Circle

D. Sector

**Answer:**



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147. The vertical cross-section of a cone is

A. Triangle

B. Circle

C. Isosceles triangle

D. Right angled triangle

**Answer:**



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**148.** When a cone is opened along its slant height, it gets the shape of a

A. Sector

B. Rectangle

C. Square

D. Equilateral triangle

**Answer:**



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**149.** When a cylinder is opened along its height, it gets the shape of a

A. Square

B. Circle

C. Rectangle

D. Sphere

**Answer:**



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**150.** Area of an equilateral triangle whose side is 2 cm is

A.  $2\sqrt{3}\text{ cm}^2$

B.  $\sqrt{3}\text{ cm}^2$

C.  $4\text{ cm}^2$

D.  $8\text{ cm}^2$

**Answer:**



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**151.** Volume of a pyramid whose base area is  $18 \text{ cm}^2$  and height 8 cm is

A.  $48 \text{ cm}^3$

B.  $64 \text{ cm}^3$

C.  $72 \text{ cm}^3$

D.  $96 \text{ cm}^3$

**Answer:**



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152. A regular square pyramid has its base edge 6 cm and height 5 cm. Then its volume is

A.  $36 \text{ cm}^3$

B.  $25 \text{ cm}^3$

C.  $11 \text{ cm}^3$

D.  $60 \text{ cm}^3$

**Answer:**



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**153.** How does the total surface area of a box changed if each dimension is doubled?

A. T.S.A. of the box will become 4 times of original area.

B. T.S.A. of the box will become 3 times of original area.

C. T.S.A. of the box will become 6 times of original area.

D. T.S.A. of the box will become 8 times of original area.

**Answer:**



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**154.** A rectangular of length 44 cm is folded along with its breadth and formed a cylinder.

Then the radius of the cylinder (cms) is

A. 44

B. 22

C. 11

D. 7



**Answer:**



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**155.** Find curved surface area of a cylinder having  $r = x$  cm and  $h = y$  cm.

A.  $2\pi x(x+y)$

B.  $\pi x^2 y$

C.  $\pi xy$

D.  $2\pi xy$

**Answer:**



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**156.** The ratio of volumes of cylinder and cone having same radii and heights is

A. 0.0430555555555556

B. 0.04375

C. 0.125694444444444

D. 0.084027777777778

**Answer:**



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**157.** Total surface area of the cylinder whose radius is  $3.5$  cm and height  $2.1$  cm.

A.  $123.2 \text{ cm}^2$

B.  $46.2^2$

C.  $73.5 \text{ cm}^2$

D.  $7.35 \text{ cm}^2$

**Answer:**



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**158.** Formula to find the slant height of a cone is

A.  $l = h^2 + r^2$

B.  $l^2 = h + r$

C.  $l = \sqrt{h^2 + r^2}$

D.  $l = h + r$

**Answer:**



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**159.** Surface area of a sphere whose radius is 1 unit and height is 1 unit.

A.  $2\pi$

B.  $4\pi$

C.  $4\pi r^2$

D.  $2\pi r^2$

**Answer:**



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**160.** In a cylinder, if radius is halved and height is doubled, then volume will be

- A. Doubled
- B. Halved
- C. Four times
- D. Same

**Answer:**



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**161.** The length of the longest flag pole that can be put in a store room of dimension` 10 m xx 10 m xx 5 m` is

A. 16 m

B. 10 m

C. 12 m

D. 15 m

**Answer:**



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**162.** The radius of the sphere is  $2x$ , then its volume will be

A.  $4\pi x^3$

B.  $\frac{8\pi}{3}x^3$

C.  $\frac{32}{3}\pi x^3$

D.  $\frac{4}{3}\pi x^3$



**Answer:**



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**163.** A pyramid is a three dimensional figure  
the base of which is

- A. Only a square
- B. Only a rectangle
- C. Any polygon
- D. Only a triangle

**Answer:**



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**164.** The steps from solids to point are

- A. Solids - lines – surface – points
- B. Lines – points – surface – solids
- C. Lines – surface – points – solids
- D. Solids – surface – lines – points

**Answer:**



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**165.** On a particular day, the rainfall recorded in a terrace of dimensions 6 m and 5 m is 15 cm. The quantity of water collected in terrace is

A. A.) 450 litres

B. B.) 3000 litres

C. C.) 4500 litres

D. D.) 300 litres

**Answer:**



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**166.** The cost of construction of a wall 8 m long, 4 m height and 20 cm thick at the rate of ₹ 25 per  $\text{m}^3$  is

A. 80

B. 160

C. 320

D. 16

**Answer:**



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**167.** Which of the following is the solid combination of cylinder and cone?

A. Capsule 

B. Ice cream 

C. Rocket 

D. Top 

**Answer:**



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**168.** If the surface area of a sphere is  $154\text{cm}^2$ ,  
find its radius

- A. 7
- B. 14
- C. 21
- D.  $7/2$

**Answer:**



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**169.** If total surface area of a cube is  $96 \text{ cm}^2$ , then its volume is .....

A.  $27 \text{ cm}^3$

B.  $64 \text{ cm}^3$

C.  $512 \text{ cm}^3$

D.  $8 \text{ cm}^3$

**Answer:**



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**170.** A hemispherical bowl has a radius of 3.5 cm, then its curved surface area is

A.  $77 \text{ cm}^2$

B.  $231/2 \text{ cm}^2$

C.  $539/6 \text{ cm}^2$

D.  $77/2 \text{ cm}^2$



**Answer:**



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**171.** A designer wanted to make a design with iron rod. He has a rod of length 68 cm. He can do a rhombus of diagonals 16 cm, 30 cm and also a square. Which is a better option to cover more area with the given length?

A. Always both square & Rhombus

B. Square only

C. Rhombus only

D. Sometimes square and sometimes rhombus

**Answer:**



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**172.** A toy rocket is like a cone exactly mounted on a cylinder the vertical cross-section of the to

A. Hexagon

B. Parallelogram

C. Rhombus

D. Trapezium

**Answer:**



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