



MATHS

BOOKS - VGS BRILLIANT MATHS (TELUGU ENGLISH)

MENSURATION

Example

1. The radius of a conical tent is 7 metres and its height is 10 metres. Calculate the length of

canvas used in making the tent if width of canvas is 2m.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$



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2. An oil drum is in the shape of a cylinder having the following dimensions : diameter is 2 m. and height is 7m. The painter charges Rs. 3 per m^2 to paint the drum. Find the total charges to be paid to the painter for 20 drums.



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3. A sphere, a cylinder and a cone have the same radius and same height then the ratio of their curved surface areas is



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4. A company wanted to manufacture 1000 hemispherical basins from a thin steel sheet. If the radius of each basin is 21 cm., find the

required area of steel sheet required to manufacture the above hemispherical basins ?



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5. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

- i) Area of base or area of each end
- ii) Curved surface area
- iii) Total surface area and
- iv) Volume of the right circular cylinder.



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6. Find the volume and surface area of a sphere of radius 2.1 cm. $\left(\pi = \frac{22}{7}\right)$



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7. Find the volume and the total surface area of a hemisphere of radius 3.5 cm. $\left(\pi = \frac{22}{7}\right)$



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8. A right triangle, whose base and height are 15 cm and 20 cm. respectively is made to revolve about its hypotenuse. Find the volume and surface area of the double cone so formed.

(use $\pi = 3.14$)



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9. A wooden toy rocket is in the shape of a cone mounted on a cylinder as shown in the adjacent figure. The height of the entire rocket

is 26 cm, while the height of the conical part is 6 cm. The base of the conical position has a diameter of 5 cm, while the base diameter of the cylindrical portion is 3 cm. If the conical portion is to be painted orange and the cylindrical portion is to be painted yellow, find the area of the rocket painted with each of these colour.

(Take $\pi = 3.14$)



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10. A solid toy is in the form of a right circular cylinder with hemispherical shape at one end and a cone at the other end. Their common diameter is 4.2 cm and the height of the cylindrical and conical portions are 12 cm and 7 cm respectively. Find the volume of the solid toy.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$



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11. A cylindrical container is filled with ice-cream whose diameter is 12 cm and height is 15 cm. The whole ice-cream is distributed to 10 children in equal cones having hemispherical tops. If the height of the conical portion is twice the diameter of its base, find the diameter of the ice-cream cone.



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12. A solid consisting of a right circular cone standing on a hemisphere, is placed up-right in a right circular cylinder full of water and touches the bottom. Find the water and touches the bottom. Find the volume of water left in the cylinder, given that the radius of the cylinder is 3 cm. and its height is 6 cm. The radius of the hemisphere is 2 cm. and the height of the cone is 4 cm. $\left[\text{Take } \pi = \frac{22}{7} \right]$



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13. A cylindrical pencil is sharpened to produce a perfect cone at one end with no over all loss of its length. The diameter of the pencil is 1 cm and the length of the conical portion is 2 cm. Calculate the volume of the shavings. Give your answer correct to two places if it is in decimal. $\left[\text{Use } \pi = \frac{355}{113} \right]$



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14. A cone of height 24 cm and radius of base 6 cm is made up of modelling clay. A child

reshapes it in the form of a sphere. Find the radius of the sphere.



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15. The diameter of the internal and external surfaces of a hollow hemispherical shell are 6 cm. and 10 cm. respectively. It is melted and recast into a solid cylinder of diameter 14 cm. Find the height of the cylinder.



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16. A hemispherical bowl of internal radius is 15 cm. contains a liquid. The liquid is to be filled into cylindrical bottles of diameter 5 cm. and height 6 cm. How many bottles are necessary to empty the bowl ?



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17. The diameter of a metallic sphere is 6 cm. It is melted and drawn into a long wire having a circular cross section of diameter as 2 cm. Find the length of the wire.



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18. How many spherical balls can be made out of a solid cube of lead whose edge measures 44 cm and each ball being 4 cm. in diameter ?



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19. A women self help group (DWARCA) is supplied a rectangular solid (cuboid shape) of wax with diameters 66 cm., 42 cm., 21., to

prepare cylindrical candles each 4.2 cm. in diameter and 28 cm. of height. Find the number of candles.



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20. The radius of a conical tent is 7 metres and its height is 10 metres. Calculate the length of canvas used in making the tent if width of canvas is 2m.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$



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21. An oil drum is in the shape of a cylinder having the following dimensions : diameter is 2 m. and height is 7m. The painter charges Rs. 3 per m^2 to paint the drum. Find the total charges to be paid to the painter for 20 drums.



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23. A company wanted to manufacture 1000 hemispherical basins from a thin steel sheet. If the radius of each basin is 21 cm., find the required area of steel sheet required to manufacture the above hemispherical basins ?



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24. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

- i) Area of base or area of each end
- ii) Curved surface area
- iii) Total surface area and
- iv) Volume of the right circular cylinder.



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25. Find the volume and surface area of a sphere of radius 2.1 cm. $\left(\pi = \frac{22}{7} \right)$





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26. Find the volume and the total surface area of a hemisphere of radius 3.5 cm. $\left(\pi = \frac{22}{7}\right)$



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27. A right triangle, whose base and height are 15 cm and 20 cm. respectively is made to revolve about its hypotenuse. Find the volume and surface area of the double cone so formed.

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28. A wooden toy rocket is in the shape of a cone mounted on a cylinder as shown in the adjacent figure. The height of the entire rocket is 26 cm, while the height of the conical part is 6 cm. The base of the conical position has a diameter of 5 cm, while the base diameter of the cylindrical portion is 3 cm. If the conical portion is to be painted orange and the cylindrical portion is to be painted yellow, find the area of the rocket painted with each of

these colour.

(Take $\pi = 3.14$)



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29. Find the volume of right circular cone with radius 6 cm. and height 14 cm.



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30. A cylindrical container is filled with ice-cream whose diameter is 12 cm and height is

15 cm. The whole ice-cream is distributed to 10 children in equal cones having hemispherical tops. If the height of the conical portion is twice the diameter of its base, find the diameter of the ice-cream cone.



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31. A solid consisting of a right circular cone standing on a hemisphere, is placed up-right in a right circular cylinder full of water and touches the bottom. Find the water and

touches the bottom. Find the volume of water left in the cylinder, given that the radius of the cylinder is 3 cm. and its height is 6 cm. The radius of the hemisphere is 2 cm. and the height of the cone is 4 cm. $\left[\text{Take } \pi = \frac{22}{7} \right]$



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32. A cylindrical pencil is sharpened to produce a perfect cone at one end with no over all loss of its length. The diameter of the pencil is 1 cm and the length of the conical

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33. A cone of height 24 cm and radius of base 6 cm is made up of modelling clay. A child reshapes it in the form of a sphere. Find the radius of the sphere.

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34. The internal and external diameter of a hollow hemispherical shell are 6 cm and 10 cm respectively. If it is melted and recast into a solid cylinder of diameter 14 cm, then find the height of the cylinder.



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35. A hemispherical bowl of internal radius is 15 cm. contains a liquid. The liquid is to be filled into cylindrical bottles of diameter 5 cm.

and height 6 cm. How many bottles are necessary to empty the bowl ?



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36. The diameter of a metallic sphere is 6 cm. It is melted and drawn into a long wire having a circular cross section of diameter as 2 cm. Find the length of the wire.



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37. How many spherical balls can be made out of a solid cube of lead whose edge measures 44 cm and each ball being 4 cm. in diameter ?



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38. A women self help group (DWARCA) is supplied a rectangular solid (cuboid shape) of wax with diameters 66 cm., 42 cm., 21., to prepare cylindrical candles each 4.2 cm. in

diameter and 2.8 cm. of height. Find the number of candles.



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Exercise 10 1

1. A joker's cap is in the form of right circular cone whose base radius is 7 cm and height is 24 cm. Find the area of the sheet required to make 10 such caps.



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2. A sports company was ordered to prepare 100 paper cylinders without caps for shuttle cocks. The required dimensions of the cylinder are 35 cm length / height and its radius is 7 cm. Find the required area of the thin paper sheet needed to make 100 cylinders.



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



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4. The lateral surface area of a cylinder is equal to the curved surface area of a cone. If their base be the same, find the ratio of the height of the cylinder to slant height of the cone.



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5. A self help group wants to manufacture joker's caps (conical caps) of 3 cm radius and 4

cm height. If the available colour paper sheet is 1000 cm^2 , then how many caps can be manufactured from that paper sheet ?



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6. A cylinder and cone have bases of equal radii and are of equal heights, then their volumes are in the ratio



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7. A solid iron has cylindrical shape. Its height is 11 cm. and base diameter is 7 cm. Then find the total volume of 50 rods ?



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8. A heap of rice is in the form of a cone of diameter 12 m. and height 8 m. Find its volume ? How much canvas cloth is required to cover the heap ?

(Use $\pi = 3.14$)





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9. CSA of a cone is 4070 cm^2 and its diameter is 70 cm then slant height is cm .



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10. A Joker's cap is in the form of right circular cone, which base radius is 7 cm and height is 24 cm. Find the area of sheet required to make 10 such caps.



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11. A sports company was ordered to prepare 100 paper cylinders without caps for shuttle cocks. The required dimensions of the cylinder are 35 cm length / height and its radius is 7 cm. Find the required area of the thin paper sheet needed to make 100 cylinders.



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12. Find the volume of right circular cone with radius 5 cm. and height 7 cm.



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13. The lateral surface area of a cylinder is equal to the curved surface area of a cone. If their base be the same, find the ratio of the height of the cylinder to slant height of the cone.



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14. A self help group wants to manufacture joker's caps (conical caps) of 3 cm radius and 4 cm height. If the available colour paper sheet is 1000 cm^2 , then how many caps can be manufactured from that paper sheet ?



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(Use $\pi = 3.14$)



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18. The curved surface area of a cone is 4140 cm^2 and its diameter is 70 cm . What is its slant height ?



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Exercise 10 2

1. A toy is in the form of a cone mounted on a hemisphere. The diameter of the base and the height of the cone are 6 cm and 4 cm respectively. Determine the surface area of the toy.

[Use $\pi = 3.14$]



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2. A solid is in the form of a right circular cylinder with a hemisphere at one end and a cone at the other end. The radius of the

common base is 8 cm and the heights of the cylindrical and conical portions are 10 cm and 6 cm respectively. Find the total surface area of the solid. [Use $\pi = 3.14$]



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3. A medicine capsule is in the shape of a cylinder with two hemispheres stuck to each of its ends. The length of the capsule is 14 mm. and the width is 5 mm. Find its surface area.



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4. Two cubes each of volume 64 cm^3 are joined end to end together. Find the surface area of the resulting cuboid.



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5. A storage tank consists of a circular cylinder with a hemisphere stuck on either end. If the external diameter of the cylinder be 1.4 m. and its length be 8 m. Find the cost of painting it on the outside at rate of Rs. 20 per m^2 .



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6. A hemisphere is cut out from one face of a cubical wooden block such that the diameter of the hemisphere is equal to the edge of the cube. Determine the surface area of the remaining solid.



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7. A wooden article was made by scooping out a hemisphere from each end of a solid cylinder, as shown in the figure. If the height of the cylinder is 10 cm and its base radius is 3.5 cm, find the total surface area of the article.



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8. A toy is in the form of a cone mounted on a hemisphere. The diameter of the base and the height of the cone are 6 cm and 4 cm

respectively. Determine the surface area of the toy.

[Use $\pi = 3.14$]



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9. A solid is in the form of a right circular cylinder with a hemisphere at one end and a cone at the other end. The radius of the common base is 8 cm and the heights of the cylindrical and conical portions are 10 cm and

6 cm respectively. Find the total surface area of the solid. [Use $\pi = 3.14$]



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Exercise 10 3

1. An iron pillar consists of a cylindrical portion of 2.8 m. height and 20 cm. in diameter and a

cone of 42 cm. height surmounting it. Find the weight of the pillar if 1 cm^3 of iron weighs 7.5 g.



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2. A toy is made in the form of hemisphere surmounted by a right cone whose circular base is joined with the plane surface of the hemisphere. The radius of the base of the cone is 7 cm. and its volume is $\frac{3}{2}$ of the hemisphere. Calculate the height of the cone

and the surface area of the toy correct to 2 places of decimal.

$$\left(\text{Take } \pi = 3\frac{1}{7} \right)$$



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3. Find the volume of the largest right circular cone that can be cut out a cube whose edge is 7 cm.



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4. A cylindrical tub of radius 5 cm and length 9.8 cm is full of water. A solid in the form of right circular cone mounted on a hemisphere is immersed into the tub. The radius of the hemisphere is 3.5 cm and height of cone outside the hemisphere is 5 cm. Find the volume of water left in the tub.

$$\left(\text{Take } \pi = \frac{22}{7} \right)$$



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5. In the adjacent figure, the height of a solid cylinder is 10 cm and diameter is 7 cm. Two equal conical holes of radius 3 cm and height 4 cm are cut off as shown in the figure. Find the volume of the remaining solid.



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6. Spherical marbles of diameter 1.4 cm. are dropped into a cylindrical beaker of diameter 7 cm., which contains some water. Find the

number of marbles that should be dropped into the beaker, so that water level rises by 5.6 cm.



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7. A pen stand is made of wood in the shape of cuboid with three conical depressions to hold the pens. The dimensions of the cuboid are 15 cm by 10 cm by 3.5 cm. The radius of each of the depression is 0.5 cm and the depth is 1.4

cm. Find the volume of wood in the entire stand.



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



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are 15 cm by 10 cm by 3.5 cm. The radius of each of the depression is 0.5 cm and the depth is 1.4 cm. Find the volume of wood in the entire stand.



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Exercise 10 4

1. A metallic sphere of radius 4.2 cm. is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder.



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2. Three metallic spheres of radii 6 cm., 8 cm. and 10 cm. respectively are melted together to form a single solid sphere. Find the radius of the resulting sphere.



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3. A 20 m deep well with diameter 7 m. is dug and the earth got by digging is evenly spread

out to form a rectangular platform of base $22\text{m.} \times 14\text{m.}$ Find the height of the platform.



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4. A well of diameter 14m. is dug 15m. deep. The earth taken out of it has been spread evenly all around it in the shape of a circular ring of width 7 m to form an embankment. Find the height of the embankment.



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5. A container shaped like a right circular cylinder having diameter 12 cm. and height 15 cm. is full of ice-cream. The ice-cream is to be filled into cones of height 12 cm. and diameter 6 cm., having a hemispherical shape on the top. Find the number of such cones which can be filled with ice-cream.



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6. How many silver coins, 1.75 cm in diameter and thickness 2mm., need to be melted to

form a cuboid of dimensions $5.5 \text{ cm} \times 10 \text{ cm} \times 3.5 \text{ cm}$?



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7. A vessel is in the form of an inverted cone. Its height is 8 cm. and the radius of its top is 5 cm. It is filled with water up to the rim. When lead shots, each of which is a sphere of radius 0.5 cm are dropped into the vessel, $\frac{1}{4}$ of the water flows out. Find the number of lead shots dropped into the vessel.



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8. A solid metallic sphere of diameter 28 cm is melted and recast into a number of smaller cones, each of diameter $4\frac{2}{3}$ and height 3 cm.

Find the number of cones so formed.



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9. A metallic sphere of radius 4.2 cm. is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder.



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10. Three metallic spheres of radii 6 cm., 8 cm. and 10 cm. respectively are melted together to form a single solid sphere. Find the radius of the resulting sphere.



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11. A 20 m deep well with diameter 7 m. is dug and the earth got by digging is evenly spread

out to form a rectangular platform of base $22\text{m.} \times 14\text{m.}$ Find the height of the platform.



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16. A solid metallic sphere of diameter 28 cm is melted and recast into a number of smaller cones, each of diameter $4\frac{2}{3}$ cm and height 3 cm. Find the number of cones so formed.



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Optional Exercise

1. A golf ball has diameter equal to 4.1 cm. Its surface has 150 dimples each of radius 2mm. Calculate total surface which is exposed to the surroundings. (Assume that the dimples are all hemispherical) $[\pi = 22/7]$



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2. A cylinder of radius 12 cm. contains water to a depth of 20 cm. A spherical iron ball is dropped into the cylinder and thus the level of

water is raised by 6.75 cm. Find the radius of the ball.

$$\left[\pi = \frac{22}{7} \right]$$



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3. A solid toy is in the form of a right circular cylinder with a hemispherical shape at one end and a cone at the other end. Their common diameter is 4.2 cm. and height of the cylindrical and conical portion are 12 cm. and

7 cm. respectively. Find the volume of the solid toy. $[\pi = 22/7]$



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4. Three metal cubes with edges 15 cm., 12 cm. and 9 cm. respectively are melted together and formed into a simple cube. Find the diagonal of this cube.



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5. A hemispherical bowl of internal diameter 36 cm. contains a liquid. This liquid is to be filled in cylindrical bottles of radius 3 cm. and height 6 cm. How many bottles are required to empty the bowl ?



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Try This

1. Consider the following situations. In each find out whether you need volume or area and why ?

i) Quantity of water inside a bottle.

ii) Canvas needed for making a tent.

iii) Gas filled in a cylinder.



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2. State 5 more such examples and ask your friends to choose volume or area. what they need?



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3. Break the pictures in the previous figure into solids of known shapes.



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4. Think of 5 more objects around you that can be seen as a combination of shapes. Name the shapes that combined to make them.



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5. Use known solid shapes and make as many objects (by combining more than two) as possible that you come across in your daily life.

[Hint : Use clay, or balls, pipes, paper cones, boxes likes cube, cuboid etc]



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6. If the diameter of the cross - section of a wire is decreased by 5%, by what percentage should the length be increased so that the volume remains the same ?



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7. Surface area of a sphere and cube are equal.

Then find the ratio of their volumes.



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8. Consider the following situations. In each find out whether you need volume or area and why ?

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Think Discuss

1. A sphere is inscribed in a cylinder. Is the surface of the sphere equal to the curved surface fo the cylinder ? If yes, explain how.



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2. Which barrel shown in the below figure can hold more water? Discuss with your friends.



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Do This

1. A copper rod of diameter 1 cm. and length 8 cm. is drawn into a wire of length 18 m of uniform thickness. Find the thickness of the wire.



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2. Parvali house has a water tank in the shape of a cylinder on the roof. This is filled by pumping water from a sump (an underground

tank) which is in the shape of a cuboid. The sump has dimensions $1.57 \text{ m} \times 1.44 \text{ m} \times 9.5 \text{ cm}$. The water tank has radius 60 cm . and height 95 cm . Find the height of the water left in the sump after the water tank has been completely filled with water from the sump which had been full of water. Compare the capacity of the tank with that of the sump. ($\pi = 3.14$)



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sump has dimensions $1.57 \text{ m} \times 1.44 \text{ m} \times 9.5$ cm. The water tank has radius 60 cm. and height 95 cm. Find the height of the water left in the sump after the water tank has been completely filled with water from the sump which had been full of water. Compare the capacity of the tank with that of the sump. ($\pi = 3.14$)



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Observation Material

1. Find the volume of a sphere of radius 21 cm.

(Take $\pi=22/7$)



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2. Find the total surface area of a hemisphere, whose radius is 7 cm.



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3. Find the volume of right circular cone with radius 3 cm. and height 14 cm.



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4. If a cylinder and cone are of the same radius and height, then how many cones full of milk can fill the cylinder ? Answer with reasons.



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5. If the radius of the hemisphere is 21 cm, then find its volume.



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6. A conical solid block is exactly fitted inside the cubical box of side 'a' then the volume of conical solid block is $\frac{4}{3}\pi a^3$. If this statement true. Justify.



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7. If the surface area of a hemisphere is 'S' then express 'r' interms of 'S'.



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8. Find the curved surface area of a cylinder of radius 14 cm and height 21 cm.

$$(\pi = 22/7)$$



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9. Write the formula to find curved surface area of a cone and explain each term in it.



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10. If a cone is inscribed in a cylinder, what is the ratio of their volumes ?



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11. The vertex angle of a cone is 60° . Find the ratio of diameter with the height of the cone.



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12. "Cuboid is one of right prism". Is it true?

Justify.



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13. Find the curved surface area of cylinder, whose radius is 7cm. And height is 10 cm.



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14. Find the volume and total surface area of a hemisphere whose radius is 35 cm?



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15. A solid iron has cylindrical shape. Its height is 11 cm. and base diameter is 7 cm. Then find the total volume of 50 rods ?



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16. Two cubes each of volume 125cm^3 are joined end to end together. Find the total surface area of the resulting cuboid.



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17. The base area of a cone is 616 sq.cm and its height is 48 cm . Find its total surface area.



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18. The radius of a spherical balloon increases from 7 cm to 14 cm as air is pumped into it. Find the ratio of volumes of balloon before and after pumping the air.



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19. Find the volume and surface area of a sphere of radius 42 cm.



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20. A solid metallic ball of volume 64 cm^3 is melted and made into a solid cube. Find the side of solid cube.



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21. A toy is in the form of a cone mounted on a hemisphere. The radius of the base and the height of the cone are 7 cm and 8 cm respectively. Find the surface area of the toy.
($\pi = 22/7$)



[Watch Video Solution](#)

22. The diameter of a solid sphere is 6 cm. It is melted and recast into a solid cylinder of height 4 cm. Find the radius of cylinder.



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23. The height and the base radius of a Cone and a Cylinder are equal to the radius of a Sphere. Find the ratio of the their volumes.



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24. The radius of a conical tent is 5m and its height is 12m. Calculate the length of the canvas used in making the tent if width of canvas is 2cm.



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25. How many spherical balls can be made out of a solid cube of lead whose edge measures 66 cm. and each ball being 3 cm in radius ?



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26. A medicine capsule is in the shape of a cylinder with two hemispheres stuck to each of its ends. If the length of cylinder part is 14mm and the diameter of hemisphere is 6 mm. then find the volume of medicine capsule.



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27. The area of a sector-shaped canvas cloth is 264 m^2 . With this canvas cloth, If a right

circular conical tent is erected with the radius of the base as 7 m, then find the height of the tent.

(use $\pi = 22/7$)



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28. DWARCA is supplied cuboidal shaped wax block with measurements 88 cm \times 42 cm \times 35 cm. From this how many number of cylindrical candles of 2.8 cm diameter and 8 cm of height can be prepared ?



[Watch Video Solution](#)

29. How many spherical balls each 7 cm in diameter can be made out of a solid lead cube whose edge measures 66 cm ?



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30. The length of cuboid is 12 cm, breadth and height are equal in measurements and its volume is 432cm^3 . The cuboid is cut into 2

cubes. Find the lateral surface area of each cube.



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31. How many silver coins of diameter 5 cm and thickness 4 mm have to be melted to prepare a cuboid of 12 cm \times 11 cm \times 5 cm dimension ?



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32. An oil drum is in the shape of cylinder , whose diameter is 2m and height is 7m. The painter charges Rs 5 per m^2 to paint the drum. Find the total charges to be paid to the painter for 10 drums.



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Creative Questions For Cce Model Examination

1. What is area of required cloth to make 10 conical hats having 7 cm ground radius and 24 cm height ?



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2. A circle having 21 cm radius is cut into 3 equal parts to make 3 equal circular cones. Then what will be the radius of such cone ?



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3. Define "Regular cone". Deduce formula for slant height of a regular cone.



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4. Draw a cone and label them.



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5. Which kind of cones are formed by rotating on their axis of following triangles ?

a) Equilateral b) Right angled

c) Scalene



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6. A sphere, a cylinder and a cone have the same radius and same height. Find the ratio of their volumes.

[Hint : Diameter of the sphere is equal to the heights of the cylinder and the cone.]



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7. What is area of required cloth to make 10 conical hats having 7 cm ground radius and 24 cm height ?



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[Hint : Diameter of the sphere is equal to the heights of the cylinder and the cone.]



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Observation Bits To Solve Various Bits

1. The total surface area of a cube is 54 cm^2
then its side is cm.

A. 6

B. 9

C. 12

D. 3

Answer: D



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2. Base area of a regular cylinder is 154 cm^2
then its radius is

A. 49 cm

B. 7 cm

C. 22 cm

D. 14 cm

Answer: B



Watch Video Solution

3. If the height and radius of a cone are 1.5 and 8 cm then its slant height = cm.

A. 2.5

B. 7.5

C. 8.14

D. 10

Answer: C



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4. Curved surface area of a hemisphere =

.....

A. πr^2

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

C. $3\pi r^2$

D. $2\pi r^2$

Answer: D



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5. Volume of a cube having 1 cm side is

A. 1 cm^3

B. 3 cm^3

C. 1 cm^2

D. 3 cm^2

Answer: A



Watch Video Solution

6. Ratio of volumes of two spheres is 8:27 then ratio of their curved surface areas is

A. 2:3

B. 4:27

C. 8:9

D. 4:9

Answer: C



Watch Video Solution

7. Football is an example of

A. circle

B. cylinder

C. sphere

D. cone

Answer: C



Watch Video Solution

8. The volume of a cube is 216 cm^3 then edge is cm.

A. 6

B. 4

C. 8

D. 16

Answer: A



Watch Video Solution

9. the curved surface area of a right circular cylinder is sq. units.

A. $\pi r^2 h$

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

C. $2\pi r h$

D. $\pi r l$

Answer: C



Watch Video Solution

10. The curved surface area of a sphere will be, whose radius is 10 cm.

A. 239π

B. 400π

C. 221π

D. 129π

Answer: B



Watch Video Solution

11. The volume of a cube will be
(in cm^3), whose total surface area is 216
 cm^2 .

A. 216

B. 196

C. 212

D. 144

Answer: A



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12. A famous book written by ancient mathematician Aryabhata is

A. Arya Tharkram

B. Aryabhatteeyam

C. Siddhantha Siromani

D. Karana Kuthuhalam

Answer: B



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13. Which of the following vessel can be filled with more water (A, B are in cylindrical shape)

? 

A. A

B. B

C. both are equal

D. cannot be determined

Answer: B



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14. The volume of right circular cylinder with radius 6 cm and height 7 cm is cm^3 .

A. 642

B. 927

C. 264

D. 792

Answer: D



Watch Video Solution

15. A sphere of radius ' r ' inscribed in a cylinder.

The surface area of the sphere of the cylinder.

A. total surface area

B. curved surface area

C. volume

D. none of these

Answer: B



Watch Video Solution

16. The maximum length of the stick that can be placed in a cuboid, whose measurements are $8 \times 4 \times 1$, is

A. 8

B. 9

C. 12

D. 13

Answer: B



Watch Video Solution

17. A cylinder and cone have bases of equal radii and are of equal heights, then their volumes are in the ratio

A. 1 : 1

B. 1 : 3

C. 3 : 1

D. 1 : 9

Answer: C



Watch Video Solution

18. Total surface area of a solid hemisphere of radius 7 cm. is cm^2 .

A. 21π

B. 49π

C. 147π

D. 98π

Answer: C



Watch Video Solution

19. Radius of a cone is 'r', height is 'h' and its slant height is 'l' then which of the following is false ?

A. always $l > h$

B. always $l > r$

C. always $r > l$

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

Answer: C



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20. Radius, height, slant height of a cone are r , h , l , then ' l ' value in terms of r and h is

A. $\sqrt{h^2 - r^2}$

B. $\sqrt{r^2 + h^2}$

C. $\sqrt{r^2 - h^2}$

D. $\sqrt{4r^2 + h^2}$

Answer: B



Watch Video Solution

21. Ratio of volumes of two spheres is 8:27
then ratio of their curved surface areas is

A. 2:3

B. 4:3

C. 2:9

D. 4:9

Answer: D



Watch Video Solution

22. A solid ball is exactly fitted inside the cubical box of side 'a'. The volume of the ball is

...

A. $\frac{1}{3}\pi a^3$

B. $\frac{1}{6}\pi a^3$

C. $\frac{4}{3}\pi a^3$

D. $\frac{8}{3}\pi a^3$

Answer: B



Watch Video Solution

23. If the total surface area of cube is 96 cm^2 , then side of cube is

A. 3 cm

B. 5 cm

C. 6 cm

D. 4 cm

Answer: D



Watch Video Solution

24. Base area of the prism is 30 cm^2 and its height is 10 cm. Then the volume of the prism is

A. 300cm^3

B. 300cm^2

C. 150cm^2

D. 150cm^3

Answer: A



Watch Video Solution

25. The volume of a cone with base radius 7 cm is 462 c.c., its height is

A. 9 cm

B. 18 cm

C. 3 cm

D. 27 cm

Answer: A



Watch Video Solution

26. If total surface area of a cube is 96 cm^2 , then its volume is

A. 32cm^3

B. 64cm^3

C. 128cm^3

D. 256cm^3

Answer: B



Watch Video Solution

27. The volume of cone, whose radius is 3 cm and height is 8 cm, is cm^3 .

A. 6π

B. 12π

C. 18π

D. 24π

Answer: D



Watch Video Solution

Creative Bits For Cce Model Examination

1. Find the total surface area of a hemisphere, whose radius is 7 cm.

A. $239\pi cm^2$

B. $449\pi cm^2$

C. $221\pi cm^2$

D. $129\pi cm^2$

Answer: A



Watch Video Solution

2. The curved surface area of a right circular cone of height 15 cm and base diameter 16 cm is

A. $144\pi cm^2$

B. $136\pi cm^2$

C. $105\pi cm^2$

D. $120\pi cm^2$

Answer: B



Watch Video Solution

3. A conical flask is full of water. The flask has base radius r and height h . The water is poured into a cylindrical flask of base radius m . Find the height of water in the cylindrical flask

A. $\frac{h}{3m^2}$

B. $\frac{h}{4m^2}$

C. $\frac{3m^2}{h^2}$

D. $\frac{m}{3h}$

Answer: A



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4. The surface areas of two spheres are in the ratio 1:4 then, ratio of their volumes is

A. 1 : 4

B. 2 : 8

C. 1 : 16

D. 1 : 8

Answer: D



Watch Video Solution

5. The volume of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is

A. $19.4cm^3$

B. $74.6cm^3$

C. $9.7cm^3$

D. $8.4cm^3$

Answer: A



Watch Video Solution

6. The diameter of a metallic sphere is 6 cm and melted to draw a wire of diameter 0.2 cm, then the length of the wire is

A. 48 cm

B. 12 cm

C. 36 cm

D. 24 cm

Answer: C



Watch Video Solution

7. A solid sphere of radius r melted and recast into the shape of a solid cone of height r , then radius of the base of the cone is (of equal volume)

A. $2r$

B. r

C. $3r$

D. $4r$

Answer: A



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8. The ratio of volume of a cone and cylinder of equal diameter and height is

A. $3:1$

B. $1:2$

C. $2:1$

D. 1:3

Answer: D



Watch Video Solution

9. A solid iron cuboid of dimensions $49 \times 33 \times 24\text{cm}$ is melted to form a solid sphere then its radius is

A. 24 cm

B. 21 cm

C. 18 cm

D. 13 cm

Answer: B



Watch Video Solution

10. If the radii of circular ends of a frustum of a cone are 20 cm and 12 cm and its height is 6 cm, then the slant height of the frustum is cm.

A. 10

B. 6

C. 9

D. 8

Answer: A



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11. The number of balls, each of radius 1 cm that can be made from a solid sphere of radius 8 cm is

A. 64

B. 216

C. 16

D. 512

Answer: D



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12. An iron cylindrical rod has a height 4 times its radius is melted and cast into spherical

balls of the same radius. The number of balls cast is

A. 4

B. 3

C. 2

D. 1

Answer: B



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13. The ratio of volume of two cones is 4:5 and the ratio of the radii of their base is 2:3 then ratio of their vertical heights is

A. 4:5

B. 9:5

C. 3:5

D. 2:5

Answer: B



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14. A cone and a hemisphere have equal bases and equal volumes then the ratio of their heights is

A. 2 : 1

B. 3 : 1

C. 4 : 1

D. 1 : 1

Answer: A



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15. The volume of a vessel in the form of a right circular cylinder is $448\pi \text{ cm}^3$ and its height is 7 cm, then the radius of the base is

A. 2 cm

B. 8 cm

C. 6 cm

D. 4 cm

Answer: B



Watch Video Solution

16. The volume of the greatest cylinder that can be cut from a solid wooden cube of length of edge 14 cm is

A. 2156cm^3

B. 1078^3

C. 539^3

D. 428^3

Answer: A



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17. The volume of a cube will be
(in cm^3), whose total surface area is 216
 cm^2 .

A. 216

B. 196

C. 212

D. 144

Answer: A



Watch Video Solution

18. A shuttle cock is a combination of

A. Cylinder, sphere

B. Sphere, cone

C. Cylinder, hemisphere

D. Hemisphere, frustum cone

Answer: D



Watch Video Solution

19. Find the total surface area of a hemisphere, whose radius is 7 cm.

A. 327π

B. 144π

C. 147π

D. 189π

Answer: C



Watch Video Solution

20. If the radius of base of a cylinder is doubled and the height remains unchanged, its C.S.A becomes

A. double

B. 3 times

C. half

D. no change

Answer: A



Watch Video Solution

21. The number of cubes of side 2 cm which can be cut from a cube of side 6 cm is

A. 3

B. 18

C. 27

D. 9

Answer: C



Watch Video Solution

22. The volume and surface area of a sphere are numerically equal. Then the volume of the smallest cylinder in which the sphere is exactly kept

A. 54π

B. 27π

C. 36π

D. 9π

Answer: A



Watch Video Solution

23. If the diameter of a sphere is 'd' then its volume is

A. $\frac{1}{6}\pi d^3$

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

C. $\frac{1}{24}\pi d^3$

D. $\frac{1}{3}\pi d^3$

Answer: A



Watch Video Solution

24. If the ratio of radii of two spheres is 2:3 then the ratio of their surface areas is

A. 3:2

B. 27:8

C. 8:27

D. 4:9

Answer: D



Watch Video Solution

25. A cylinder, a cone and a hemisphere are of equal base and have the same height, then the ratio of their volumes is

A. 3 : 1 : 2

B. 3 : 2 : 1

C. 1 : 2 : 3

D. 1 : 3 : 2

Answer: A



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26. If a cone is cut into two parts by a horizontal plane passing through the mid point of the axis, the ratio of the volumes of the upper part and the cone is

A. 1 : 2

B. 1 : 4

C. 1 : 6

D. 1 : 8

Answer: D



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27. The height of a cylinder is doubled and radius is tripled then its curved surface area will become times.

A. 7

B. 6

C. 9

D. 12

Answer: B



Watch Video Solution

28. Diameter of a sphere which can inscribe a cube of edge x cm is

A. $\frac{x}{3}$

B. $\frac{x^2}{3}$

C. $x\sqrt{3}$

D. x

Answer: D



Watch Video Solution

29. Ratio of volumes of a cone, a cylinder and a hemisphere of same base, radius and equal heights is

A. 1 : 3 : 2

B. 2 : 1 : 7

C. 1 : 2 : 3

D. none

Answer: A



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30. Total surface area of hemisphere of radius r is

A. πr^2

B. $2\pi r^2$

C. $3\pi r^2$

D. none

Answer: C



Watch Video Solution

31. Volume of a frustrum of a cone is

A. $\frac{\pi h}{3} (R^2 + r^2 + R \cdot r)$

B. $\frac{\pi}{3} (R^2 + r^2)$

C. $\frac{\pi h}{3} (R^2 + r^2)$

D. none

Answer: A



Watch Video Solution

32. If the length of each diagonal of a cube is doubled, then its volume become times.

A. 7

B. 8

C. 9

D. none

Answer: B



Watch Video Solution

33. If a right angled triangle is revolved about its hypotenuse then it will form a

A. double cone

B. triple cone

C. only cone

D. none

Answer: A



Watch Video Solution

34. A solid sphere of radius 10 cm is moulded into 8 spherical solid balls of equal radius, then radius of small spherical balls is cm.

A. 10

B. 9

C. 6

D. 5

Answer: D



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35. In a hollow cuboid box of size $4 \times 3 \times 2$ m, the number of solid iron spherical balls of radius 0.5 m that can be packed

A. 71

B. 45

C. 22

D. 16

Answer: B



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36. If the external and internal radii of a hollow hemispherical bowl are R and r , then its total surface area is

A. $\pi r^2 + R^2$

B. $\pi R^2 + r^2$

C. $\pi R^2 + r$

D. $\pi(3R^2 + r^2)$

Answer: D



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37. Volume of cylinder is cu. units.

A. $\pi r^2 h$

B. πr^2

C. π / r

D. none

Answer: A



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38. Volume of cone is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

C. $\pi r^2 h$

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

Answer: D



Watch Video Solution

39. Volume of sphere is cu. units.

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

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

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

D. none

Answer: B



Watch Video Solution

40. Volume of hemisphere is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

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

D. none

Answer: C



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41. Volume of cuboid = cu. units.

A. l^2b

B. lbh^2

C. lbh

D. none

Answer: C



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42. Total surface area of cylinder is sq. units.

A. $2\pi r^2 + 2\pi rh$

B. $\pi r^2 + \pi r$

C. $\pi r^2 + \pi l$

D. none

Answer: A



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43. Total surface area of hemisphere is
sq. units.

A. $\pi r h + \pi r^2$

B. $2\pi r + \pi$

C. $2\pi r h^2$

D. $2\pi r h + 2\pi r^2$

Answer: D



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44. Total surface area of hemisphere is
sq. units.

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

B. $4\pi r^2$

C. $8\pi r^2 h$

D. none

Answer: D



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45. Surface area of a sphere is sq. units.

A. $\pi r^2 / 2$

B. $4\pi r^2$

C. $8\pi r^2$

D. none

Answer: B



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46. Total surface area of cube issq. units.

A. $6l^2$

B. $4l^2$

C. $3l^2$

D. $9l^2$

Answer: A



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47. Volume of a cube is cu. units.

A. $3a^3$

B. a^2h

C. a^3

D. none

Answer: C



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48. CSA of hemisphere issq. units.

A. $2\pi r^2$

B. πr^2

C. $3\pi r^2$

D. $64\pi r^2$

Answer: A



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49. CSA of cylinder is sq. units.

A. $2\pi r h$

B. $\pi r h$

C. $\pi r / h$

D. none

Answer: A



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50. The volume of a cube is 216 cm^3 then edge is cm.

A. 9

B. 10

C. 16

D. 6

Answer: D



Watch Video Solution

51. CSA of cone = sq. units.

A. $\pi^2 r^2 l$

B. $\pi r l^2$

C. πr^2

D. $\pi r l$

Answer: D



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52. In a cone, $r=7$ cm, $h=10$ cm then $l=$ cm.

A. 12.2

B. 9.2

C. 10.1

D. none

Answer: A



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53. Laddu is an example of

A. circle

B. cone

C. sphere

D. none

Answer: C



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54. $\pi = \dots\dots\dots$

A. $22/7$

B. $2/7$

C. $22/3$

D. none

Answer: A



Watch Video Solution

55. The volume of a hemisphere of radius 3.5 cm is cm^3 .

A. 70.73

B. 189.83

C. 98.14

D. 89.83

Answer: D



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56. In a cube, $a = 4$ cm then

TSA = cm^2 .



Watch Video Solution

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

A. 462

B. 264

C. 486

D. none

Answer: B



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58. In the above problem $a_5 = \dots$

A. 1

B. 2

C. 3

D. none

Answer: D



Watch Video Solution

59. A heap of rice is in the form of a cone of diameter 12 m and height 8 m then volume is m^3 .

A. 110.53

B. 301.71

C. 310.51

D. none

Answer: B



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60. In a cylinder, $r = 8$ cm, $h = 10$ cm, CSA =
..... cm^3 .

A. $\frac{3520}{7}$

B. $\frac{1520}{9}$

C. $\frac{3310}{41}$

D. none

Answer: A



61. A sphere, a cylinder and a cone have the same radius and same height then the ratio of their curved surface areas is

A. $1 : 3 : 4$

B. $4 : 4 : 1$

C. $1 : 5 : \sqrt{3}$

D. $4 : 4 : \sqrt{5}$

Answer: D



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62. In a hemisphere, $r = 1.75$ cm then CSA =
..... cm^2 .

A. 19.25

B. 48.5

C. 93.5

D. none

Answer: A



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63. Volume of cone if $r = 2$ cm, $h = 4$ cm is

.....

A. $\frac{16}{3}\pi$

B. $\frac{6}{7}\pi$

C. $\frac{18}{31}\pi$

D. none

Answer: A



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64. Surface area of a sphere and cube are equal. Then find the ratio of their volumes.

A. $\sqrt{\pi} : 1$

B. $\sqrt{\pi} : \sqrt{6}$

C. $\pi : \sqrt{6}$

D. none

Answer: B



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65. In a hemisphere, $r=7$ cm then $CSA = cm^2$.

A. 210

B. 308

C. 114

D. 112

Answer: B



Watch Video Solution

66. In a cylinder, $r = 7\text{m}$, $h = 15\text{ m}$ then $V =$
..... m^3 .

A. 1170

B. 1120

C. 2310

D. 1320

Answer: C



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67. Diagonals of a cuboid is units.

A. $\sqrt{l^2 + b^2 + h^2}$

B. $l\sqrt{b^2 + h^2}$

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

D. none

Answer: A



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68. Heap of stones is an example of

A. cylinder

B. cone

C. circle

D. none

Answer: B



Watch Video Solution

69. In the figure, $l^2 = \dots\dots\dots$



A. $h^2 + r^2$

B. $\sqrt{l^2 + h^2}$

C. $h^2 + r$

D. $h + r^2$

Answer: A



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70. Area of equilateral triangle of side 'a' units is sq. units.

A. $\frac{1}{\sqrt{3}}a^2$

B. $\frac{4}{\sqrt{3}}a^2$

C. $\frac{\sqrt{3}}{4}a$

D. $\frac{\sqrt{3}}{4}a^2$

Answer: D



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71. Perimeter of square is 20 cm then A =
*cm*².

A. 12

B. 16

C. 25

D. none

Answer: C



Watch Video Solution

72. Diagonal of rectangle is units.

A. $\sqrt{l^2 + b^2}$

B. $\sqrt{l + b}$

C. $l + \sqrt{b}$

D. $\sqrt{l} + b$

Answer: A



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73. Diagonal of a cube is units.

A. $3\sqrt{a}$

B. $\sqrt{3}a^2$

C. $\frac{\sqrt{3}}{a}$

D. $a\sqrt{3}$

Answer: D



Watch Video Solution

74. $10^3 (cm)^3 = \dots\dots\dots$ litre.

A. 1

B. 2

C. 4

D. 5

Answer: A



Watch Video Solution

75. Volume of hollow cylinder is ...

A. $\pi R - r$

B. $\pi r^2 - R$

C. $\pi R^2 - r$

D. $\pi(R^2 - r^2)$

Answer: D



Watch Video Solution

76. gave the symbol π .

A. Euler

B. Pepe

C. Mount

D. None

Answer: A



Watch Video Solution

77. In a cone, $(l+r)(l-r) = \dots\dots\dots$

A. h^2

B. $2h$

C. h

D. none

Answer: A



Watch Video Solution

78. A cuboid has dimensions $10 \times 8 \times 6\text{cm}$ then its volume is cm^3 .

A. 190

B. 780

C. 680

D. 480

Answer: D



Watch Video Solution

79. CSA of a cone is 4070 cm^2 and its diameter is 70 cm then slant height is cm .

A. 27

B. 17

C. 37

D. 16

Answer: C



Watch Video Solution

80. The sphere is of radius 2.1 cm then its volume is cm^3 .

A. 38.80

B. 381.2

C. 83.01

D. none

Answer: A



Watch Video Solution

81. In $l^2 = h^2 + r^2$, $h = 15$, $r = 8$ then $l =$

.....

A. 20

B. 17

C. 16

D. 19

Answer: B



Watch Video Solution

82. The surface area of a sphere is 616 sq.cm.

then its radius is cm.

A. 16

B. 12

C. 9

D. 7

Answer: D



Watch Video Solution

83. Base circumference of a cylinder is 220 cm and height is 63 cm then

CSA= cm^2 .

A. 11810

B. 11680

C. 13860

D. 18360

Answer: C



Watch Video Solution

84. In a cone, $d = 14$ cm, $l = 10$ cm then

CSA = cm^2 .

A. 220

B. 140

C. 160

D. none

Answer: A



Watch Video Solution

85. In a cube, $a = 4$ cm then

TSA = cm^2 .

A. 12

B. 70

C. 96

D. none

Answer: C



Watch Video Solution

86. Number of edges of a cuboid is

A. 11

B. 16

C. 10

D. 12

Answer: D



Watch Video Solution

87. If the diagonals of a rhombus are 10 cm and 24 cm then area is cm^2 .

A. 120

B. 160

C. 180

D. none

Answer: A



Watch Video Solution

88. Volume of cone with d as diameter and h as height is $units^3$.

A. $\frac{\pi d^2}{6}$

B. $\frac{\pi d^2 h}{12}$

C. $\frac{\pi d h^2}{12}$

D. none

Answer: B



Watch Video Solution

89. The area of the base of a right circular cone is 78.5 cm^2 . If its height is 12 cm then its volume is cm^3 .

A. 110

B. 814

C. 413

D. 314

Answer: D



Watch Video Solution

90. In a cube $a=5$ cm TSA=..... cm^2



Watch Video Solution

91. The volume of cone is $462cm^3$, $r = 7cm$

then $h =$ cm.

A. 9

B. 10

C. 11

D. none

Answer: A



Watch Video Solution

92. In a cylinder, $h = 14$ cm, $V = 176$ cm^3 , $r =$
..... cm.

A. 1

B. 10

C. 6

D. 2

Answer: D



Watch Video Solution

93. The area of equilateral triangle is $36\sqrt{3}cm^2$
then the perimeter is cm.

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97. Volume of hemisphere is 19404 cm^3 then
its TSA = cm^2 .

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B. 3158

C. 1459

D. 4158

Answer: D



Watch Video Solution

98. If the diagonal of a cube is 2.5 m then volume is m^3 .

A. 3.01

B. 4.01

C. 8.1

D. none

Answer: D



Watch Video Solution

99. $r^3 = 1728$ then $r = \dots\dots\dots$

A. 13

B. 19

C. 10

D. 12

Answer: D



Watch Video Solution

100. Football is an example of

A. circle

B. sphere

C. cone

D. none

Answer: B



Watch Video Solution

101. Number of faces of a cuboid is

A. 9

B. 10

C. 6

D. 8

Answer: C



Watch Video Solution

102. Total surface area of a solid hemisphere of radius 7 cm. is cm^2 .

A. $239\pi cm^2$

B. $449\pi cm^2$

C. $221\pi cm^2$

D. $129\pi cm^2$

Answer: A



Watch Video Solution

103. The curved surface area of a right circular cone of height 15 cm and base diameter 16 cm is



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104. A conical flask is full of water. The flask has base radius r and height h . The water is poured into a cylindrical flask of base radius mr . Find the height of water in the cylindrical flask

A. $\frac{h}{3m^2}$

B. $\frac{h}{4m^2}$

C. $\frac{3m^2}{h^2}$

D. $\frac{m}{3h}$

Answer: A



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105. The surface areas of two spheres are in the ratio 1:4 then, ratio of their volumes is



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106. The volume of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is



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107. The diameter of a metallic sphere is 6 cm and melted to draw a wire of diameter 0.2 cm, then the length of the wire is



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108. A solid sphere of radius r melted and recast into the shape of a solid cone of height r , then radius of the base of the cone is (of equal volume)

A. $2r$

B. r

C. $3r$

D. $4r$

Answer: A



Watch Video Solution

109. The ratio of volume of a cone and cylinder of equal diameter and height is

A. 3 : 1

B. 1 : 2

C. 2 : 1

D. 1 : 3

Answer: D



110. A solid iron cuboid of dimensions $49 \times 33 \times 24\text{cm}$ is melted to form a solid sphere then its radius is

A. 24 cm

B. 21 cm

C. 18 cm

D. 13 cm

Answer: B



Watch Video Solution

111. If the radii of circular ends of a frustum of a cone are 20 cm and 12 cm and its height is 6 cm, then the slant height of the frustum is cm.

A. 10

B. 6

C. 9

D. 8

Answer: A



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112. The number of balls, each of radius 1 cm that can be made from a solid sphere of radius 8 cm is



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113. An iron cylindrical rod has a height 4 times its radius is melted and cast into spherical

balls of the same radius. The number of balls cast is

A. 4

B. 6

C. 2

D. 1

Answer: B



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114. The ratio of volume of two cones is 4:5 and the ratio of the radii of their base is 2:3 then ratio of their vertical heights is

A. 4:5

B. 9:5

C. 3:5

D. 2:5

Answer: B



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115. A cone and a hemisphere have equal bases and equal volumes then the ratio of their heights is

A. 2 : 1

B. 3 : 1

C. 4 : 1

D. 1 : 1

Answer: A



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116. The volume of a vessel in the form of a right circular cylinder is $448\pi \text{ cm}^3$ and its height is 7 cm, then the radius of the base is



[Watch Video Solution](#)

117. The volume of the greatest cylinder that can be cut from a solid wooden cube of length of edge 14 cm is

A. 2156cm^3

B. 1078^3

C. 539^3

D. 428^3

Answer: A



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118. Total surface area of a cube is 216cm^2
then its volume is cm^3 .



Watch Video Solution

119. A shuttle cock is a combination of

A. Cylinder, sphere

B. Sphere, cone

C. Cylinder, hemisphere

D. Hemisphere, frustum cone

Answer: D



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120. T.S.A of a solid hemisphere whose radius is 22 cm is cm^2 .



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121. If the radius of base of a cylinder is doubled and the height remains unchanged, its C.S.A becomes

A. double

B. 3 times

C. half

D. no change

Answer: A



Watch Video Solution

122. The volume of a right circular cone with radius 9 cm and height 14 cm is



Watch Video Solution

123. The volume and surface area of a sphere are numerically equal. Then the volume of the smallest cylinder in which the sphere is exactly kept

A. 54π

B. 27π

C. 36π

D. 9π

Answer: A



Watch Video Solution

124. If the diameter of a sphere is 'd' then its volume is

A. $\frac{1}{6}\pi d^3$

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

C. $\frac{1}{24}\pi d^3$

D. $\frac{1}{3}\pi d^3$

Answer: A



Watch Video Solution

125. If the ratio of radii of two spheres is 3:4 then the ratio of their surface areas is



Watch Video Solution

126. A cylinder, a cone and a hemisphere are of equal base and have the same height, then the ratio of their volumes is

A. 3 : 1 : 2

B. 3 : 2 : 1

C. 1 : 2 : 3

D. 1 : 3 : 2

Answer: A



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127. If a cone is cut into two parts by a horizontal plane passing through the mid point of the axis, the ratio of the volumes of the upper part and the cone is

A. 1 : 2

B. 1 : 4

C. 1 : 6

D. 1 : 8

Answer: D



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128. The height of a cylinder is doubled and radius is tripled then its curved surface area will become times.

A. 7

B. 6

C. 9

D. 12

Answer: B



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129. Diameter of a sphere which can inscribe a cube of edge x cm is

A. $\frac{x}{3}$

B. $\frac{x^2}{3}$

C. $\frac{x}{\sqrt{3}}$

D. x

Answer: D



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130. Ratio of volumes of a cylinder and a hemisphere of equal radius and heights is

.....



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131. Total surface area of hemisphere of radius r is

A. πr^2

B. $2\pi r^2$

C. $3\pi r^2$

D. none

Answer: C



132. Volume of a frustrum of a cone is

A. $\frac{\pi h}{3} (R^2 + r^2 + R \cdot r)$

B. $\frac{\pi}{3} (R^2 + r^2)$

C. $\frac{\pi h}{3} (R^2 + r^2)$

D. none

Answer: A



133. If the length of each diagonal of a cube is doubled, then its volume become times.

A. 7

B. 8

C. 9

D. none

Answer: B



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134. If a right angled triangle is revolved about its hypotenuse then it will form a

A. double cone

B. triple cone

C. only cone

D. none

Answer: A



Watch Video Solution

135. A solid sphere of radius 10 cm is moulded into 8 spherical solid balls of equal radius, then radius of small spherical balls is cm.

A. 10

B. 9

C. 6

D. 5

Answer: D



Watch Video Solution

136. In a hollow cuboid box of size $4 \times 3 \times 2$ m, the number of solid iron spherical balls of radius 0.5 m that can be packed



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137. If the external and internal radii of a hollow hemispherical bowl are R and r , then its total surface area is

A. $\pi r^2 + R^2$

B. $\pi R^2 + r^2$

C. $\pi R^2 + r$

D. $\pi(3R^2 + r^2)$

Answer: D



Watch Video Solution

138. Volume of cylinder is cu. units.

A. $\pi r^2 h$

B. πr^2

C. π / r

D. none

Answer: A



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139. Volume of cone is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

C. $\pi r^2 h$

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

Answer: D



Watch Video Solution

140. Volume of sphere is cu. units.

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

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

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

D. none

Answer: B



Watch Video Solution

141. Volume of hemisphere is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

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

D. none

Answer: C



Watch Video Solution

142. Volume of cuboid = cu. units.

A. l^2b

B. lbh^2

C. lbh

D. none

Answer: C



Watch Video Solution

143. Total surface area of cylinder is sq. units.

A. $\pi r^2 + \pi r l$

B. $\pi r^2 + \pi r$

C. $\pi r^2 + \pi l$

D. none

Answer: A



Watch Video Solution

144. Total surface area of hemisphere is
sq. units.

A. $\pi r h + \pi r^2$

B. $2\pi r + \pi$

C. $2\pi r h^2$

D. $2\pi r h + 2\pi r^2$

Answer: D



Watch Video Solution

145. Total surface area of hemisphere is

sq. units.

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

B. $4\pi r^2$

C. $8\pi r^2 h$

D. none

Answer: D



Watch Video Solution

146. Surface area of a sphere is sq. units.

A. $\pi r^2 / 2$

B. $4\pi r^2$

C. $8\pi r^2$

D. none

Answer: B



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147. Total surface area of cube issq. units.

A. $6l^2$

B. $4l^2$

C. $3l^2$

D. $9l^2$

Answer: A



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148. Volume of a cube is cu. units.

A. $3a^3$

B. a^2h

C. a^3

D. none

Answer: C



Watch Video Solution

149. CSA of hemisphere issq. units.

A. $2\pi r^2$

B. πr^2

C. $3\pi r^2$

D. $64\pi r^2$

Answer: A



Watch Video Solution

150. CSA of cylinder is sq. units.

A. $2\pi r h$

B. $\pi r h$

C. $\pi r / h$

D. none

Answer: A



Watch Video Solution

151. The volume of a cube is 343 cm^3 . Find its total surface area.

A. 9

B. 10

C. 16

D. 7

Answer: D



Watch Video Solution

152. CSA of cone = sq. units.

A. $\pi^2 r^2 l$

B. $\pi r l^2$

C. πr^2

D. $\pi r l$

Answer: D



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153. In a cone, $r=8$ cm, $h=11$ cm then $l= \dots\dots\dots$ cm.



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154. Laddu is an example of

A. circle

B. cone

C. sphere

D. none

Answer: C



Watch Video Solution

155. $\pi = \dots\dots\dots$

A. $22/7$

B. $2/7$

C. $22/3$

D. none

Answer: A



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156. The volume of a hemisphere of radius 4.5 cm is cm^3 .



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157. In a cube, $a = 8$ cm then TSA = cm^2 .



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158. The volume of a right circular cone with radius 6 cm and height 14 cm is cm^3 .



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159. In the above problem $l = \dots cm$.

A. 1

B. 2

C. 3

D. none

Answer: D



View Text Solution

160. A heap of rice is in the form of a cone of diameter 12 m and height 8 m then volume is m^3 .



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161. In a cylinder, $r = 8$ cm, $h = 10$ cm, CSA = cm^3 .



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162. A sphere, a cylinder and a cone have the same radius and same height then the ratio of their curved surface areas is

A. 1 : 3 : 4

B. 4 : 4 : 1

C. $1 : 5 : \sqrt{3}$

D. $4 : 4 : \sqrt{5}$

Answer: D



Watch Video Solution

163. In a hemisphere, $r = 1.75$ cm then CSA =
..... cm^2 .



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164. Volume of cone if $r = 2$ cm, $h = 4$ cm is

.....



Watch Video Solution

165. Surface area of a sphere and cube are equal. Then find the ratio of their volumes.

A. $\sqrt{\pi} : 1$

B. $\sqrt{\pi} : \sqrt{6}$

C. $\pi : \sqrt{6}$

D. none

Answer: B



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166. In a hemisphere, $r=7$ cm then $CSA = cm^2$.



Watch Video Solution

167. In a cylinder, $r = 7m$, $h = 15$ m then $V =$
..... m^3 .



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168. Diagonals of a cuboid is units.

A. $\sqrt{l^2 + b^2 + h^2}$

B. $l\sqrt{b^2 + h^2}$

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

D. none

Answer: A



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169. Heap of stones is an example of

A. cylinder

B. cone

C. circle

D. none

Answer: B



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170. Area of equilateral triangle of side 'a' units is sq. units.

A. $\frac{1}{\sqrt{3}}a^2$

B. $\frac{4}{\sqrt{3}}a^2$

C. $\frac{\sqrt{3}}{4}a$

D. $\frac{\sqrt{3}}{4}a^2$

Answer: D



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171. Perimeter of square is 20 cm then A =
 cm^2 .

A. 12

B. 16

C. 25

D. none

Answer: C



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172. Diagonal of rectangle is units.

A. $\sqrt{l^2 + b^2}$

B. $\sqrt{l + b}$

C. $l + \sqrt{b}$

D. $\sqrt{l} + b$

Answer: A



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173. Diagonal of a cube is units.

A. $3\sqrt{a}$

B. $\sqrt{3}a^2$

C. $\frac{\sqrt{3}}{a}$

D. $a\sqrt{3}$

Answer: D



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A. 1

B. 2

C. 4

D. 5

Answer: A



Watch Video Solution

175. Volume of hollow cylinder is ...

A. $\pi R - r$

B. $\pi r^2 - R$

C. $\pi R^2 - r$

D. $\pi(R^2 - r^2)$

Answer: D



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A. Euler

B. Pepe

C. Mount

D. None

Answer: A



Watch Video Solution

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A. h^2

B. $2h$

C. h

D. none

Answer: A



Watch Video Solution

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A. 190

B. 780

C. 680

D. 480

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A. 27

B. 17

C. 37

D. 16

Answer: C



Watch Video Solution

180. The sphere is of radius 2.1 cm then its volume is cm^3 .

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B. 381.2

C. 83.01

D. none

Answer: A



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.....

A. 20

B. 17

C. 16

D. 19

Answer: B



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then its radius is cm.

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B. 12

C. 9

D. 7

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Watch Video Solution

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A. 220

B. 140

C. 160

D. none

Answer: A



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185. In a cube, $a = 4$ cm then

TSA = cm^2 .

A. 12

B. 70

C. 90

D. none

Answer: C



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A. 11

B. 16

C. 10

D. 12

Answer: D



Watch Video Solution

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188. Volume of cone with d as diameter and h as height is $units^3$.

A. $\frac{\pi d^2}{6}$

B. $\frac{\pi d^2 h}{12}$

C. $\frac{\pi d h^2}{12}$

D. none

Answer: B



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189. The area of the base of a right circular cone is 78.5 cm^2 . If its height is 12 cm then its volume is cm^3 .



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190. The volume of a cuboid is $3,60,000 \text{ cm}^3$. If its area is $5,600 \text{ cm}^2$ then

$h = \dots\dots\dots \text{cm}$.

A. 70

B. 64.2

C. 95.5

D. none

Answer: B



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then $h = \dots\dots$ cm.



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192. In a cylinder, $h = 14$ cm, $V = 176\text{ cm}^3$, $r =$
 $\dots\dots\dots$ cm.

A. 1

B. 10

C. 6

D. 2

Answer: D



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Answer: D



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B. 19

C. 10

D. 12

Answer: D



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200. Football is an example of

A. circle

B. sphere

C. cone

D. none

Answer: B



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201. Total number of faces of a cuboid is 4 (b)

6 (c) 8 (d) 12

A. 9

B. 10

C. 6

D. 8

Answer: D



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Observation Material To Solve Various Questions Given In The Public Examination


1. Find the volume of a sphere of radius 21 cm.

(Take $\pi=22/7$)



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2. Find the total surface area of a hemisphere, whose radius is 7 cm.





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3. The radius of the base of a cone is 14 cm and its height is 24 cm. Find the volume



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4. If a cylinder and cone are of the same radius and height, then how many cones full of milk can fill the cylinder ? Answer with reasons.





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5. If the radius of the hemisphere is 21 cm, then find its volume.



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6. A conical solid block is exactly fitted inside the cubical box of side 'a' then the volume of conical solid block is $\frac{4}{3}\pi a^3$. If this statement true. Justify.



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7. If the surface area of a hemisphere is S , then express 'r' in terms of 'S'.



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8. Find the curved surface area of a cylinder of radius 14 cm and height 21 cm.

$$(\pi = 22/7)$$



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9. Write the formula to find curved surface area of a cone and explain each term in it.



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10. If a cone is inscribed in a cylinder, what is the ratio of their volumes ?



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11. The vertex angle of a cone is 60° . Find the ratio of diameter with the height of the cone.



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12. "Cuboid is one of right prism". Is it true? Justify.



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13. Find the curved surface area of cylinder, whose radius is 7cm. And height is 10 cm.



Watch Video Solution

14. Find the volume and total surface area of a hemisphere whose radius is 35 cm?



Watch Video Solution

15. A solid iron has cylindrical shape. Its height is 11 cm. and base diameter is 7 cm. Then find the total volume of 50 rods ?



Watch Video Solution

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



Watch Video Solution

17. The base area of a cone is 616 sq.cm and its height is 48 cm . Find its total surface area.



Watch Video Solution

18. The radius of a spherical balloon increases from 7 cm to 14 cm as air is pumped into it. Find the ratio of volumes of balloon before and after pumping the air.



Watch Video Solution

19. Find the volume and surface area of a sphere of radius 42 cm.



Watch Video Solution

20. A solid metallic ball of volume 64 cm^3 is melted and made into a solid cube. Find the side of solid cube.



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21. A toy is in the form of a cone mounted on a hemisphere. The radius of the base and the height of the cone are 7 cm and 8 cm respectively. Find the surface area of the toy.

$$(\pi = 22/7)$$



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22. The diameter of a solid sphere is 6 cm. It is melted and recast into a solid cylinder of height 4 cm. Find the radius of cylinder.





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23. The height and the base radius of a Cone and a Cylinder are equal to the radius of a Sphere. Find the ratio of the their volumes.



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24. The radius of a conical tent is 5m and its height is 12m. Calculate the length of the canvas used in making the tent if width of canvas is 2m.



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25. How many spherical balls can be made out of a solid cube of lead whose edge measures 66 cm. and each ball being 3 cm in radius ?



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26. A medicine capsule is in the shape of a cylinder with two hemispheres stock to each of its ends. If the length of cylinder part is

14mm and the diameter of hemisphere is 6 mm. then find the volume of medicine capsule.



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27. The area of a sector-shaped canvas cloth is 264 m^2 . With this canvas cloth, If a right circular conical tent is erected with the radius of the base as 7 m, then find the height of the tent.

(use $\pi = 22/7$)



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28. DWARCA is supplied cuboidal shaped wax block with measurements $88 \text{ cm} \times 42 \text{ cm} \times 35 \text{ cm}$. From this how many number of cylindrical candles of 2.8 cm diameter and 8 cm of height can be prepared ?



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29. How many spherical balls each 7 cm in diameter can be made out of a solid lead cube whose edge measures 66 cm ?



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30. The length of cuboid is 12 cm, breadth and height are equal in measurements and its volume is 432cm^3 . The cuboid is cut into 2 cubes. Find the lateral surface area of each cube.



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31. How many silver coins of diameter 5 cm and thickness 4 mm have to be melted to prepare a cuboid of 12 cm × 11 cm × 5 cm dimension ?



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32. An oil drum is in the shape of cylinder , whose diameter is 2m and height is 7m. The painter charges Rs 5 per m^2 to paint the

drum. Find the total charges to be paid to the painter for 10 drums.



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Observation Bits To Solve Various Bits Given In The Public Examination

1. The total surface area of a cube is 54 cm^2 then its side is cm.

A. 6

B. 9

C. 12

D. 3

Answer: D



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2. Base area of a regular cylinder is 154 cm^2

then its radius is

A. 49 cm

B. 7 cm

C. 22 cm

D. 14 cm

Answer: B



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3. If the height and radius of a cone are 1.5 and 8 cm then its slant height = cm.

A. 2.5

B. 7.5

C. 5

D. 10

Answer: A



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4. Curved surface area of a hemisphere =

.....

A. πr^2

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

C. $3\pi r^2$

D. $2\pi r^2$

Answer: D



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5. Volume of a cube 8 cm^3 then side is

A. 1 cm

B. 2 cm

C. 1 cm^2

D. 2 cm^2

Answer: B



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6. Ratio of volumes of two spheres is 8:27 then ratio of their curved surface areas is

A. 2:3

B. 4:27

C. 8:9

D. 4: 9

Answer: C



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7. Football is an example of

A. circle

B. cylinder

C. sphere

D. cone

Answer: C



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8. The volume of a cube is 216 cm^3 then edge is cm.

A. 6

B. 4

C. 8

D. 16

Answer: A



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9. the curved surface area of a right circular cylinder is sq. units.

A. $\pi r^2 h$

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

C. $2\pi r h$

D. $\pi r l$

Answer: C



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10. The curved surface area of a sphere will be, whose radius is 10 cm.

A. 200π

B. 100π

C. 221π

D. 129π

Answer: B



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11. The volume of a cube will be
(in cm^3), whose total surface area is 216
 cm^2 .



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12. A famous book written by ancient
mathematician Aryabhata is

A. Arya Tharkram

B. Aryabhatteeyam

C. Siddhantha Siromani

D. Karana Kuthuhalam

Answer: B



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13. The volume of right circular cylinder with radius 6 cm and height 7 cm is cm^3 .



14. A sphere of radius ' r ' inscribed in a cylinder.
The surface area of the sphere of the cylinder.

- A. total surface area
- B. curved surface area
- C. volume
- D. none of these

Answer: B



Watch Video Solution

15. The maximum length of the stick that can be placed in a cuboid, whose measurements are $8 \times 4 \times 1$, is

- A. 8
- B. 5
- C. 12
- D. 13

Answer: B



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16. A cylinder and cone have bases of equal radii and are of equal heights, then their volumes are in the ratio

A. 1 : 1

B. 1 : 3

C. 3 : 1

D. 1 : 9

Answer: C



Watch Video Solution

17. Total surface area of a solid hemisphere of radius 7 cm. is cm^2 .

A. 21π

B. 49π

C. 147π

D. 98π

Answer: C



18. Radius of a cone is 'r', height is 'h' and its slant height is 'l' then which of the following is false ?

A. always $l > h$

B. always $l > r$

C. always $r > l$

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

Answer: A,B,D



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19. Radius, height, slant height of a cone are r , h , l , then ' l ' value in terms of r and h is

A. $\sqrt{h^2 - r^2}$

B. $\sqrt{r^2 + h^2}$

C. $\sqrt{r^2 - h^2}$

D. $\sqrt{4r^2 + h^2}$

Answer: B



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20. Volumes of two spheres are in the ratio of 27:64, the ratio of their curved surface areas is



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21. A solid ball is exactly fitted inside the cubical box of side 'a'. The volume of the ball is ...

A. $\frac{1}{3}\pi a^3$

B. $\frac{1}{6}\pi a^3$

C. $\frac{4}{3}\pi a^3$

D. $\frac{8}{3}\pi a^3$

Answer: B



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22. If the total surface area of cube is 102cm^2 , then side of cube is



Watch Video Solution

23. Base area of the prism is 30 cm^2 and its height is 10 cm. Then the volume of the prism is

A. 300cm^3

B. 300cm^2

C. 150cm^2

D. 150cm^3

Answer: A



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24. The volume of a cone with base radius 7 cm is 462 c.c., its height is

A. 9 cm

B. 18 cm

C. 3 cm

D. 27 cm

Answer: A



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25. If total surface area of a cube is 96 cm^2 , then its volume is

A. 32cm^3

B. 64cm^3

C. 128cm^3

D. 256cm^3

Answer: B



Watch Video Solution

26. The volume of cone, whose radius is 3 cm and height is 8 cm, is cm^3 .

A. 6π

B. 12π

C. 18π

D. 24π

Answer: D



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Exercise

1. Consider the following situations. In each find out whether you need volume or area and why ?

i) Quantity of water inside a bottle.

ii) Canvas needed for making a tent.

iii) Gas filled in a cylinder.



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2. Consider the following situations. In each find out whether you need volume or area and why ?

i) Quantity of water inside a bottle.

ii) Canvas needed for making a tent.

iii) Gas filled in a cylinder.



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3. Consider the following situations. In each find out whether you need volume or area and

why ?

- i) Quantity of water inside a bottle.
- ii) Canvas needed for making a tent.
- iii) Gas filled in a cylinder.



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4. Consider the following situations. In each find out whether you need volume or area and why ?

- i) Quantity of water inside a bottle.

ii) Canvas needed for making a tent.

iii) Gas filled in a cylinder.



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5. Consider the following situations. In each situation, find out whether you need to find volume or surface area and why?: Number of match sticks that can be put in the matchbox.



Watch Video Solution

6. Consider the following situations. In each situation, find out whether you need to find volume or surface area and why?: Paper for gift pack.



Watch Video Solution

7. State 5 more such examples and ask your friends to choose volume or area. what they need?



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8. Break the pictures in the previous figure into solids of known shapes.



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9. Think of 5 more objects around you that can be seen as a combination of shapes. Name the shapes that combined to make them.



Watch Video Solution

10. The radius of a conical tent is 7 metres and its height is 10 metres. Calculate the length of canvas used in making the tent if width of canvas is 2m.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$



Watch Video Solution

11. An oil drum is in the shape of a cylinder having the following dimensions : diameter is 2 m. and height is 7m. The painter charges Rs. 3 per m^2 to paint the drum. Find the total

charges to be paid to the painter for 20 drums.



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12. A sphere, a cylinder and a cone have the same radius and same height then the ratio of their curved surface areas is



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13. A company wanted to manufacture 1000 hemispherical basins from a thin steel sheet. If the radius of each basin is 21 cm., find the required area of steel sheet required to manufacture the above hemispherical basins ?



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14. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

i) Area of base or area of each end

ii) Curved surface area

iii) Total surface area and

iv) Volume of the right circular cylinder.



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15. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

i) Area of base or area of each end

ii) Curved surface area

iii) Total surface area and

iv) Volume of the right circular cylinder.



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16. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

- i) Area of base or area of each end
- ii) Curved surface area
- iii) Total surface area and
- iv) Volume of the right circular cylinder.



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17. A right circular cylinder has base radius 14 cm and height 21 cm. Find its :

- i) Area of base or area of each end
- ii) Curved surface area
- iii) Total surface area and
- iv) Volume of the right circular cylinder.



Watch Video Solution

18. Find the volume and surface area of a sphere of radius 2.1 cm. $\left(\pi = \frac{22}{7}\right)$



[Watch Video Solution](#)

19. Find the volume and the total surface area of a hemisphere of radius 3.5 cm. $\left(\pi = \frac{22}{7}\right)$



[Watch Video Solution](#)

20. A joker's cap is in the form of right circular cone whose base radius is 7 cm and height is 24 cm. Find the area of the sheet required to make 10 such caps.



[Watch Video Solution](#)

21. A sports company was ordered to prepare 100 paper cylinders without caps for shuttle cocks. The required dimensions of the cylinder are 35 cm length / height and its radius is 7 cm. Find the required area of the thin paper sheet needed to make 100 cylinders.



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



Watch Video Solution

23. The lateral surface area of a cylinder is equal to the curved surface area of a cone. If their base be the same, find the ratio of the height of the cylinder to slant height of the cone.



Watch Video Solution

24. A self help group wants to manufacture joker's caps (conical caps) of 3 cm radius and 4 cm height. If the available colour paper sheet is 1000 cm^2 , then how many caps can be manufactured from that paper sheet ?



Watch Video Solution

25. A cylinder and cone have bases of equal radii and are of equal heights, then their volumes are in the ratio



[Watch Video Solution](#)

26. A solid iron has cylindrical shape. Its height is 11 cm. and base diameter is 7 cm. Then find the total volume of 50 rods ?



[Watch Video Solution](#)

27. A heap of rice is in the form of a cone of diameter 12 m. and height 8 m. Find its volume ? How much canvas cloth is required to cover

the heap ?

(Use $\pi = 3.14$)



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28. The curved surface area of a cone is 4070 cm^2 and its diameter is 70 cm . What is its slant height ?



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29. Saniya prepared a toy. She mounted a cone on a cylinder whose circular radii are same. She told to Archana that the total surface area of the toy is the sum of the total surface area of the cone and cylinder. Do you agree with this? Justify your answer.



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30. A sphere is inscribed in a cylinder. Is the surface of the sphere equal to the curved

surface fo the cylinder ? If yes, explain how.



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31. What is the ratio of total surface areas of cylinder and sphere ?



[Watch Video Solution](#)

32. What is the ratio of volumes of cylinder and sphere ?



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33. What have you observed about the main groups?



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34. Use known solid shapes and make as many objects (by combining more than two) as possible that you come across in your daily life.

[Hint : Use clay, or balls, pipes, paper cones, boxes likes cube, cuboid etc]



[Watch Video Solution](#)

35. Koushik got a playing top as his birthday present, which surprisingly had no colour on it. He wanted to colour it with his crayons. The top is shaped like a cone surmounted by a hemisphere. The entire top is 5 cm. in height and the diameter of the top is 3.5 cm. Find the area he has to colour. (Take $\pi = \frac{22}{7}$)



36. A wooden toy rocket is in the shape of a cone mounted on a cylinder as shown in the adjacent figure. The height of the entire rocket is 26 cm, while the height of the conical part is 6 cm. The base of the conical position has a diameter of 5 cm, while the base diameter of the cylindrical portion is 3 cm. If the conical portion is to be painted orange and the cylindrical portion is to be painted yellow, find the area of the rocket painted with each of

these colour.

(Take $\pi = 3.14$)



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37. A toy is in the form of a cone mounted on a hemisphere. The diameter of the base and the height of the cone are 6 cm and 4 cm respectively. Determine the surface area of the toy.

[Use $\pi = 3.14$]



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38. A solid is in the form of a right circular cylinder with a hemisphere at one end and a cone at the other end. The radius of the common base is 8 cm and the heights of the cylindrical and conical portions are 10 cm and 6 cm respectively. Find the total surface area of the solid. [Use $\pi = 3.14$]



Watch Video Solution

39. A medicine capsule is in the shape of a cylinder with two hemispheres stuck to each of its ends. The length of the capsule is 14 mm. and the width is 5 mm. Find its surface area.



Watch Video Solution

40. Two cubes each of volume 64 cm^3 are joined end to end together. Find the surface area of the resulting cuboid.



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41. A storage tank consists of a circular cylinder with a hemisphere stuck on either end. If the external diameter of the cylinder be 1.4 m. and its length be 8 m. Find the cost of painting it on the outside at rate of Rs. 20 per m^2 .



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42. A sphere, a cylinder and a cone have the same radius and same height. Find the ratio of

their volumes.

[Hint : Diameter of the sphere is equal to the heights of the cylinder and the cone.]



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43. A hemisphere is cut out from one face of a cubical wooden block such that the diameter of the hemisphere is equal to the edge of the cube. Determine the surface area of the remaining solid.



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44. A wooden article was made by scooping out a hemisphere from each end of a solid cylinder, as shown in the figure. If the height of the cylinder is 10 cm and its base radius is 3.5 cm, find the total surface area of the article.



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45. If the diameter of the cross - section of a wire is decreased by 5%, by what percentage

should the length be increased so that the volume remains the same ?



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46. Surface area of a sphere and cube are equal. Then find the ratio of their volumes.



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47. A solid toy is in the form of a right circular cylinder with hemispherical shape at one end

and a cone at the other end. Their common diameter is 4.2 cm and the height of the cylindrical and conical portions are 12 cm and 7 cm respectively. Find the volume of the solid toy.

$$\left[\text{Use } \pi = \frac{22}{7} \right]$$



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48. A cylindrical container is filled with ice-cream whose diameter is 12 cm and height is 15 cm. The whole ice-cream is distributed to 10

children in equal cones having hemispherical tops. If the height of the conical portion is twice the diameter of its base, find the diameter of the ice-cream cone.



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49. A solid consisting of a right circular cone standing on a hemisphere, is placed up-right in a right circular cylinder full of water and touches the bottom. Find the water and touches the bottom. Find the volume of water

left in the cylinder, given that the radius of the cylinder is 3 cm. and its height is 6 cm. The radius of the hemisphere is 2 cm. and the height of the cone is 4 cm. $\left[\text{Take } \pi = \frac{22}{7} \right]$



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50. A cylindrical pencil is sharpened to produce a perfect cone at one end with no over all loss of its length. The diameter of the pencil is 1 cm and the length of the conical portion is 2 cm. Calculate the volume of the

shavings. Give your answer correct to two places if it is in decimal. $\left[\text{Use } \pi = \frac{355}{113} \right]$



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51. An iron pillar consists of a cylindrical portion of 2.8 m. height and 20 cm. in diameter and a cone of 42 cm. height surmounting it. Find the weight of the pillar if 1 cm^3 of iron weighs 7.5 g.



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52. A toy is made in the form of hemisphere surmounted by a right cone whose circular base is joined with the plane surface of the hemisphere. The radius of the base of the cone is 7 cm. and its volume is $\frac{3}{2}$ of the hemisphere. Calculate the height of the cone and the surface area of the toy correct to 2 places of decimal.

$$\left(\text{Take } \pi = 3\frac{1}{7} \right)$$



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53. Find the volume of the largest right circular cone that can be cut out a cube whose edge is 7 cm.



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54. A cylindrical tub of radius 5 cm and length 9.8 cm is full of water. A solid in the form of right circular cone mounted on a hemisphere is immersed into the tub. The radius of the hemisphere is 3.5 cm and height of cone outside the hemisphere is 5 cm. Find the

volume of water left in the tub.

$$\left(\text{Take } \pi = \frac{22}{7} \right)$$



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55. In the adjacent figure, the height of a solid cylinder is 10 cm and diameter is 7 cm. Two equal conical holes of radius 3 cm and height 4 cm are cut off as shown in the figure. Find the volume of the remaining solid.



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56. In the adjacent figure, the height of a solid cylinder is 10 cm and diameter is 7 cm. Two equal conical holes of radius 3 cm and height 4 cm are cut off as shown in the figure. Find the volume of the remaining solid.



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57. Spherical marbles of diameter 1.4 cm. are dropped into a cylindrical beaker of diameter 7 cm., which contains some water. Find the number of marbles that should be dropped

into the beaker, so that water level rises by 5.6 cm.



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58. A pen stand is made of wood in the shape of cuboid with three conical depressions to hold the pens. The dimensions of the cuboid are 15 cm by 10 cm by 3.5 cm. The radius of each of the depression is 0.5 cm and the depth is 1.4 cm. Find the volume of wood in the entire stand.



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59. Which barrel shown in the below figure can hold more water? Discuss with your friends.



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60. A copper rod of diameter 1 cm. and length 8 cm. is drawn into a wire of length 18 m of uniform thickness. Find the thickness of the wire.



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61. Parvali house has a water tank in the shape of a cylinder on the roof. This is filled by pumping water from a sump (an underground tank) which is in the shape of a cuboid. The sump has dimensions $1.57 \text{ m} \times 1.44 \text{ m} \times 9.5 \text{ cm}$. The water tank has radius 60 cm . and height 95 cm . Find the height of the water left in the sump after the water tank has been completely filled with water from the sump which had been full of water. Compare the

capacity of the tank with that of the sump. ($\pi = 3.14$)



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62. A cone of height 24 cm and radius of base 6 cm is made up of modelling clay. A child reshapes it in the form of a sphere. Find the radius of the sphere.



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63. The diameter of the internal and external surfaces of a hollow hemispherical shell are 6 cm. and 10 cm. respectively. It is melted and recast into a solid cylinder of diameter 14 cm. Find the height of the cylinder.



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64. A hemispherical bowl of internal radius is 15 cm. contains a liquid. The liquid is to be filled into cylindrical bottles of diameter 5 cm.

and height 6 cm. How many bottles are necessary to empty the bowl ?



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65. The diameter of a metallic sphere is 6 cm. It is melted and drawn into a long wire having a circular cross section of diameter as 2 cm. Find the length of the wire.



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66. How many spherical balls can be made out of a solid cube of lead whose edge measures 44 cm and each ball being 4 cm. in diameter ?



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67. A women self help group (DWARCA) is supplied a rectangular solid (cuboid shape) of wax with diameters 66 cm., 42 cm., 21., to prepare cylindrical candles each 4.2 cm. in

diameter and 2.8 cm. of height. Find the number of candles.



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68. A metallic sphere of radius 4.2 cm. is melted and recast into the shape of a cylinder of radius 6 cm. Find the height of the cylinder.



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69. Three metallic spheres of radii 6 cm., 8 cm. and 10 cm. respectively are melted together to form a single solid sphere. Find the radius of the resulting sphere.



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70. A 20 m deep well with diameter 7 m. is dug and the earth got by digging is evenly spread out to form a rectangular platform of base 22m. \times 14m. Find the height of the platform.





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71. A well of diameter 14m. is dug 15m. deep. The earth taken out of it has been spread evenly all around it in the shape of a circular ring of width 7 m to form an embankment. Find the height of the embankment.



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72. A container shaped like a right circular cylinder having diameter 12 cm. and height 15

cm. is full of ice-cream. The ice-cream is to be filled into cones of height 12 cm. and diameter 6 cm., having a hemispherical shape on the top. Find the number of such cones which can be filled with ice-cream.



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73. How many silver coins, 1.75 cm in diameter and thickness 2mm., need to be melted to form a cuboid of dimensions 5.5 cm \times 10 cm \times 3.5 cm ?



[Watch Video Solution](#)

74. A vessel is in the form of an inverted cone. Its height is 8 cm. and the radius of its top is 5 cm. It is filled with water up to the rim. When lead shots, each of which is a sphere of radius 0.5 cm are dropped into the vessel, $\frac{1}{4}$ of the water flows out. Find the number of lead shots dropped into the vessel.



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75. A solid metallic sphere of diameter 28 cm is melted and recast into a number of smaller cones, each of diameter $4\frac{2}{3}$ and height 3 cm. Find the number of cones so formed.



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76. A golf ball has diameter equal to 4.1 cm. Its surface has 150 dimples each of radius 2mm. Calculate total surface which is exposed to the

surroundings. (Assume that the dimples are all hemispherical) $[\pi = 22/7]$



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77. A cylinder of radius 12 cm. contains water to a depth of 20 cm. A spherical iron ball is dropped into the cylinder and thus the level of water is raised by 6.75 cm. Find the radius of the ball.

$$\left[\pi = \frac{22}{7} \right]$$



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78. A solid toy is in the form of a right circular cylinder with a hemispherical shape at one end and a cone at the other end. Their common diameter is 4.2 cm. and height of the cylindrical and conical portion are 12 cm. and 7 cm. respectively. Find the volume of the solid toy. $[\pi = 22/7]$



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79. Three metal cubes with edges 15 cm., 12 cm. and 9 cm. respectively are melted together and formed into a simple cube. Find the diagonal of this cube.



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80. A hemispherical bowl of internal diameter 36 cm. contains a liquid. This liquid is to be filled in cylindrical bottles of radius 3 cm. and

height 6 cm. How many bottles are required to empty the bowl ?



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81. If a cylinder and cone are of the same radius and height, then how many cones full of milk can fill the cylinder ? Answer with reasons.



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82. If the radius of the hemisphere is 21 cm, then find its volume.



Watch Video Solution

83. A conical solid block is exactly fitted inside the cubical box of side 'a' then the volume of conical solid block is $\frac{4}{3}\pi a^3$. If this statement true. Justify.



Watch Video Solution

84. If the surface area of a hemisphere is S , then express 'r' in terms of 'S'.



Watch Video Solution

85. Find the curved surface area of a cylinder of radius 14 cm and height 21 cm.

$$(\pi = 22/7)$$



Watch Video Solution

86. Write the formula to find curved surface area of a cone and explain each term in it.



Watch Video Solution

87. If a cone is inscribed in a cylinder, what is the ratio of their volumes ?



Watch Video Solution

88. The vertex angle of a cone is 60° . Find the ratio of diameter with the height of the cone.



Watch Video Solution

89. "Cuboid is one of right prism". Is it true? Justify.



Watch Video Solution

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



Watch Video Solution

91. If the metallic cylinder of height 4 cm and
radius 3 cm is melted and recast into a sphere,
then find the radius of the sphere.



Watch Video Solution

92. Write the formula for finding lateral surface area of a cylinder and explain each term in it.



Watch Video Solution

93. Write the formula to find the volume of a cone and explain each term in it.



Watch Video Solution

94. Find the volume of liquid that hemispherical bowl can hold, where radius of the bowl is 4.2 cm.



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95. The radius of a spherical balloon increases from 7 cm to 14 cm as air is pumped into it. Find the ratio of volumes of balloon before and after pumping the air.



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96. Find the volume and surface area of a sphere of radius 42 cm.



Watch Video Solution

97. A solid metallic ball of volume 64 cm^3 is melted and made into a solid cube. Find the side of solid cube.



Watch Video Solution

98. A toy is in the form of a cone mounted on a hemisphere. The radius of the base and the height of the cone are 7 cm and 8 cm respectively. Find the surface area of the toy.

$$(\pi = 22/7)$$



Watch Video Solution

99. The diameter of a solid sphere is 6 cm. It is melted and recast into a solid cylinder of height 4 cm. Find the radius of cylinder.



Watch Video Solution

100. The height and the base radius of a Cone and a Cylinder are equal to the radius of a Sphere. Find the ratio of the their volumes.



[Watch Video Solution](#)

101. A right circular cylinder has radius 3.5 cm and height 14 cm. Find curved surface area.



[Watch Video Solution](#)

102. The diameter of the base of a right circular cone is 12 cm and volume 376.8cm^3 . Find the height ($\pi = 3.14$).



Watch Video Solution

103. A medicine capsule is in the shape of a cylinder with two hemispheres stuck to each of its ends. If the length of cylinder part is 14mm and the diameter of hemisphere is 6 mm. then find the volume of medicine capsule.



Watch Video Solution

104. The area of a sector-shaped canvas cloth is 264 m^2 . With this canvas cloth, If a right circular conical tent is erected with the radius of the base as 7 m, then find the height of the tent.

(use $\pi = 22/7$)



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105. DWARCA is supplied cuboidal shaped wax block with measurements $88 \text{ cm} \times 42 \text{ cm} \times 35 \text{ cm}$. From this how many number of cylindrical candles of 2.8 cm diameter and 8 cm of height can be prepared ?



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106. How many spherical balls each 7 cm in diameter can be made out of a solid lead cube whose edge measures 66 cm ?





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107. The length of cuboid is 12 cm, breadth and height are equal in measurements and its volume is 432cm^3 . The cuboid is cut into 2 cubes. Find the lateral surface area of each cube.



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108. How many silver coins of diameter 5 cm and thickness 4 mm have to be melted to

prepare a cuboid of $12\text{ cm} \times 11\text{ cm} \times 5\text{ cm}$
dimension ?



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109. A toy is made with seven equal cubes of sides $\sqrt{7}\text{ cm}$. Six cubes are joined to six faces of a seventh cube. Find the total surface area of the toy.



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110. A metallic sphere of diameter 30 cm is melted and recast into a cylinder of radius 10 cm. Find the height of the cylinder.



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111. Draw a cone and label them.



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112. A cylindrical tank of radius 7 m has water to some level. If 110 cubes of side 7 cm are completely immersed in it, then find the rise in water level.



Watch Video Solution

113. A solid iron has cylindrical shape. Its height is 11 cm. and base diameter is 7 cm. Then find the total volume of 50 rods ?



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114. Find the volume of a sphere of radius 21 cm. (Take $\pi=22/7$)



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115. State the relation between r and l (slant height) of a cone.



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116. What is area of required cloth to make 10 conical hats having 7 cm ground radius and 24 cm height ?



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117. Which kind of cones are formed by rotating on their axis of following triangles ?

- a) Equilateral
- b) Right angled
- c) Scalene



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118. Find the volume and total surface area of a hemisphere whose radius is 35 cm?



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119. A circle having 21 cm radius is cut into 3 equal parts to make 3 equal circular cones. Then what will be the radius of such cone ?



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120. Define "Regular cone". Deduce formula for slant height of a regular cone.



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121. The radius of a conical tent is 5m and its height is 12m. Calculate the length of the canvas used in making the tent if width of canvas is 2m.



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122. Radius of a cone is 'r', height is 'h' and its slant height is 'l' then which of the following is false ?

A. always $l > h$

B. always $l > r$

C. Always $r > p$

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

Answer:



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123. Lateral surface area of a right circular cone = $\pi r l$, where 'l' is

- A. height of the cone
- B. diameter of the cone
- C. Slant height of the cone
- D. None of these

Answer:



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124. Radius, height, slant height of a cone are r , h , l , then ' l ' value in terms of r and h is

A. $\sqrt{h^2 - r^2}$

B. $\sqrt{r^2 + h^2}$

C. $\sqrt{r^2 - h^2}$

D. $\sqrt{4r^2 + h^2}$

Answer:



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125. Ratio of volumes of two spheres is 8:27

then ratio of their curved surface areas is

A. 0.085416666666667

B. 0.16875

C. 0.089583333333333

D. 0.172916666666667

Answer:



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126. A solid ball is exactly fitted inside the cubical box of side 'a'. The volume of the ball is

...

A. $\frac{1}{3}\pi a^3$

B. $\frac{1}{6}\pi a^3$

C. $\frac{4}{3}\pi a^3$

D. $\frac{8}{3}\pi a^3$

Answer:



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127. If the total surface area of cube is 96 cm^2 , then side of cube is

A. 3 cm

B. 5 cm

C. 6 cm

D. 4 cm

Answer:



Watch Video Solution

128. Base area of the prism is 30 cm^2 and its height is 10 cm. Then the volume of the prism is

A. 300cm^3

B. 300cm^2

C. 150cm^2

D. 150cm^3

Answer:



Watch Video Solution

129. The volume of a cone with base radius 7 cm is 462 c.c., its height is

A. 9 cm

B. 18 cm

C. 3 cm

D. 27 cm

Answer:



Watch Video Solution

130. A cylinder and a cone have equal radii and equal heights. If the volume of cylinder is 27 cu. units, then the volume of cone is

A. 27 cu. units

B. 18 cu. units

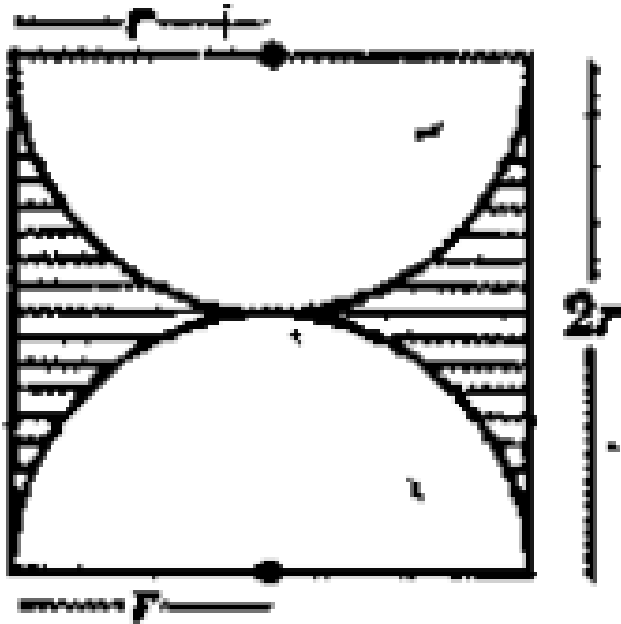
C. 9 cu. units

D. 36 cu. units

Answer:



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131.

Area of the shaded region is

A. $r^2(2 - \pi)$

B. $r^2(4 - \pi)$

C. $r^2(5 - \pi)$

D. $r^2(6 - \pi)$

Answer:



Watch Video Solution

132. Side of a cube and diameter of sphere are equal, then the ratio of their volume will be

A. $4 : \pi$

B. $6 : \pi$

C. $3 : \pi$

D. $2 : \pi$

Answer:



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133. A metallic sphere of radius 'r' is melted and recast into the shape of solid cylinder of radius 'r', the height of the cylinder is

A. $3r$

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

C. $\frac{4}{3}r$

D. $4r$

Answer:



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134. The volume of a cylinder is given by the formula $\pi r^2 h$, here “h” represents

- A. diameter
- B. Height
- C. Radius
- D. Slant height

Answer:



Watch Video Solution

135. Total surface area of a solid hemisphere of radius 7 cm. is cm^2 .

A. $293\pi cm^2$

B. $499\pi cm^2$

C. $221\pi cm^2$

D. $129\pi cm^2$

Answer:



Watch Video Solution

136. The curved surface area of a right circular cone of height 15 cm and base diameter 16 cm is

A. $144\pi cm^2$

B. $136\pi cm^2$

C. $105\pi cm^2$

D. $120\pi cm^2$

Answer:



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137. A conical flask is full of water. The flask has base radius r and height h . The water is poured into a cylindrical flask of base radius mr . Find the height of water in the cylindrical flask

A. $\frac{h}{3m^2}$

B. $\frac{h}{4m^2}$

C. $\frac{3m^2}{h^2}$

D. $\frac{m}{3h}$

Answer:



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138. The surface areas of two spheres are in the ratio 1:4 then, ratio of their volumes is

A. 0.04444444444444444

B. 0.08888888888888889

C. 0.0861111111111111

D. 0.0861111111111111

Answer:



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139. The volume of the largest right circular cone that can be cut out from a cube of edge 4.2 cm is

A. 19.4cm^3

B. 74.6cm^3

C. 9.7cm^3

D. 8.4cm^3

Answer:



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140. The diameter of a metallic sphere is 6 cm and melted to draw a wire of diameter 0.2 cm, then the length of the wire is

A. 48 cm

B. 12 cm

C. 36 cm

D. 24 cm

Answer:



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141. A solid sphere of radius r melted and recast into the shape of a solid cone of height

r , then radius of the base of the cone is (of equal volume)

A. $2r$

B. r

C. $3r$

D. $4r$

Answer:



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142. The ratio of volume of a cone and cylinder of equal diameter and height is

A. 0.125694444444444

B. 0.043055555555556

C. 0.084027777777778

D. 0.04375

Answer:



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143. A solid iron cuboid of dimensions $49 \times 33 \times 24\text{cm}$ is melted to form a solid sphere then its radius is

A. 24 cm

B. 21 cm

C. 18 cm

D. 13 cm

Answer:



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144. If the radii of circular ends of a frustum of a cone are 20 cm and 12 cm and its height is 6 cm, then the slant height of the frustum is cm.

A. 10

B. 6

C. 9

D. 8

Answer:



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145. The number of balls, each of radius 1 cm that can be made from a solid sphere of radius 8 cm is

A. 64

B. 216

C. 16

D. 512

Answer:



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146. An iron cylindrical rod has a height 4 times its radius is melted and cast into spherical balls of the same radius. The number of balls cast is

A. 4

B. 3

C. 2

D. 1

Answer:



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147. The ratio of volume of two cones is 4:5 and the ratio of the radii of their base is 2:3 then ratio of their vertical heights is

A. 0.170138888888889

B. 0.378472222222222

C. 0.128472222222222

D. 0.086805555555556

Answer:



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148. A cone and a hemisphere have equal bases and equal volumes then the ratio of their heights is

A. 0.0840277777777778

B. 0.1256944444444444

C. 0.1673611111111111

D. 0.0423611111111111

Answer:



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149. The volume of a vessel in the form of a right circular cylinder is $448\pi \text{ cm}^3$ and its height is 7 cm, then the radius of the base is

A. 2 cm

B. 8 cm

C. 6 cm

D. 4 cm

Answer:



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150. The volume of the greatest cylinder that can be cut from a solid wooden cube of length of edge 14 cm is

A. $2156cm^3$

B. $1078cm^3$

C. $539cm^3$

D. $428cm^3$

Answer:



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151. Total surface area of a cube is 216cm^2
then its volume is cm^3 .

A. 216

B. 196

C. 212

D. 144

Answer:



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152. A shuttle cock is a combination of

- A. Cylinder, sphere
- B. Sphere, cone
- C. Cylinder, hemisphere
- D. Hemisphere, frustum cone

Answer:



Watch Video Solution

153. Total surface area of a solid hemisphere of radius 7 cm. is cm^2 .

A. 327π

B. 144π

C. 147π

D. 189π

Answer:



154. If the radius of base of a cylinder is doubled and the height remains unchanged, its C.S.A becomes

A. Double

B. 3 times

C. Half

D. no change

Answer:



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155. The number of cubes of side 2 cm which can be cut from a cube of side 6 cm is

A. 3

B. 18

C. 27

D. 9

Answer:



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156. The volume and surface area of a sphere are numerically equal. Then the volume of the smallest cylinder in which the sphere is exactly kept

A. 54π

B. 27π

C. 36π

D. 9π

Answer:



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157. If the diameter of a sphere is 'd' then its volume is

A. $\frac{1}{6}\pi d^3$

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

C. $\frac{1}{4}\pi d^3$

D. $\frac{1}{3}\pi d^3$

Answer:



158. If the ratio of radii of two spheres is 2:3 then the ratio of their surface areas is

A. 0.12638888888889

B. 1.1305555555556

C. 0.35208333333333

D. 0.17291666666667

Answer:



159. A cylinder, a cone and a hemisphere are of equal base and have the same height, then the ratio of their volumes is

A. 0.12569444444444

B. 0.12640046296296

C. 0.043055555555556

D. 0.043773148148148

Answer:



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160. If a cone is cut into two parts by a horizontal plane passing through the mid point of the axis, the ratio of the volumes of the upper part and the cone is

A. 0.0430555555555556

B. 0.0444444444444444

C. 0.0458333333333333

D. 0.0472222222222222

Answer:



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161. The height of a cylinder is doubled and radius is tripled then its curved surface area will become times.

A. 7

B. 6

C. 9

D. 12

Answer:



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162. Diameter of a sphere which can inscribe a cube of edge x cm is

A. $\frac{x}{3}$

B. $\frac{x^2}{3}$

C. $\frac{x}{\sqrt{3}}$

D. x

Answer:



163. Ratio of volumes of a cone, a cylinder and a hemisphere of same base, radius and equal heights is

A. 0.043773148148148

B. 0.084108796296296

C. 0.043090277777778

D. none

Answer:



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164. Total surface area of hemisphere of radius r is

A. πr^2

B. $2\pi r^2$

C. $3\pi r^2$

D. none

Answer:



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165. Volume of a frustrum of a cone is

A. $\frac{\pi h}{3} (R^2 + r^2 + R \cdot r)$

B. $\frac{\pi}{3} (R^2 + r^2)$

C. $\frac{\pi h}{3} (R^2 + r^2)$

D. none

Answer:



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166. If the length of each diagonal of a cube is doubled, then its volume become times.

A. 7

B. 8

C. 9

D. none

Answer:



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167. If a right angled triangle is revolved about its hypotenuse then it will form a

A. double cone

B. Triple cone

C. Only cone

D. none

Answer:



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168. A solid sphere of radius 10 cm is moulded into 8 spherical solid balls of equal radius, then radius of small spherical balls is cm.

A. 10

B. 9

C. 6

D. 5

Answer:



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169. In a hollow cuboid box of size $4 \times 3 \times 2$ m, the number of solid iron spherical balls of radius 0.5 m that can be packed

A. 71

B. 24

C. 22

D. 16

Answer:



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170. If the external and internal radii of a hollow hemispherical bowl are R and r , then its total surface area is

A. $\pi r^2 + R^2$

B. $\pi r^2 + r^2$

C. $\pi R^2 + r$

D. $\pi(3R^2 + r^2)$

Answer:



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171. Volume of cylinder is cu. units.

A. $\pi r^2 h$

B. πr^2

C. $\frac{\pi}{r}$

D. none

Answer:



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172. Volume of cone is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

C. $\pi r^2 h$

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

Answer:



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173. Volume of sphere is cu. units.

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

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

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

D. none

Answer:



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174. Volume of hemisphere is cu. units.

A. $\frac{1}{7}\pi r^2 h$

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

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

D. none

Answer:



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175. Volume of cuboid = cu. units.

A. l^2b

B. lbh^2

C. lbh

D. none

Answer:



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176. Total surface area of cube issq. units.

A. $\pi r^2 + \pi r l$

B. $\pi r^2 + \pi r$

C. $\pi r^2 + \pi l$

D. none

Answer:



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177. Total surface area of cylinder is sq. units.

A. $\pi r h + \pi r^2$

B. $2\pi r + \pi$

C. $2\pi r h^2$

D. $2\pi r h + 2\pi r^2$

Answer:



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178. Total surface area of hemisphere is
sq. units.

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

B. $4\pi r^2$

C. $8\pi r^2 h$

D. none

Answer:



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179. Surface area of a sphere is sq. units.

A. $\pi r^2 / 2$

B. $4\pi r^2$

C. $8\pi r^2$

D. none

Answer:



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180. Total surface area of cube issq. units.

A. $6l^2$

B. $4l^2$

C. $3l^2$

D. $9l^2$

Answer:



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181. Volume of a cube is cu. units.

A. $3a^3$

B. a^2h

C. a^3

D. none

Answer:



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182. CSA of hemisphere issq. units.

A. $2\pi r^2$

B. πr^2

C. $3\pi r^2$

D. $64\pi r^2$

Answer:



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183. CSA of cylinder is sq. units.

A. $2\pi rh$

B. πrh

C. $\pi r / h$

D. none

Answer:



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184. The volume of a cube is 216 cm^3 then edge is cm.

A. 9

B. 10

C. 16

D. 6

Answer:



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185. CSA of cone = sq. units.

A. $\pi^2 r^2 l$

B. $\pi r l^2$

C. πr^2

D. $\pi r l$

Answer:



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186. In a cone, $r=7$ cm, $h=10$ cm then $l= \dots\dots\dots$ cm.

A. 12.2

B. 9.2

C. 10.1

D. none

Answer:



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187. Laddu is an example of

A. circle

B. Cone

C. Sphere

D. none

Answer:



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188. π

A. $22/7$

B. $22/7$

C. $22/3$

D. none

Answer:



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189. The volume of a hemisphere of radius 3.5 cm is cm^3 .

A. 70.73

B. 189.83

C. 189.83

D. 89.83

Answer:



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190. In a cube, $a = 4$ cm then

TSA = cm^2 .

A. 125

B. 115.5

C. 115.5

D. 810

Answer:



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191. The volume of a right circular cone with radius 6 cm and height 14 cm is cm^3 .

A. 462

B. 264

C. 486

D. none

Answer:



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192. In the above problem $a_5 = \dots$

A. 1

B. 2

C. 3

D. none

Answer:



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193. A heap of rice is in the form of a cone of diameter 12 m and height 8 m then volume is m^3 .

A. 110.53

B. 301.71

C. 310.51

D. none

Answer:



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194. In a cylinder, $r = 8$ cm, $h = 10$ cm, CSA =
..... cm^3 .

A. $\frac{3520}{7}$

B. $\frac{1520}{9}$

C. $\frac{3310}{41}$

D. none

Answer:



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195. A sphere, a cylinder and a cone have the same radius and same height then the ratio of their curved surface areas is

A. 0.043796296296296

B. 0.16945601851852

C. $1:5:\sqrt{3}$

D. $4:4:\sqrt{5}$

Answer:



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196. In a hemisphere, $r = 1.75$ cm then CSA =
..... cm^2 .

A. 38.5

B. 48.5

C. 93.5

D. none

Answer:



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197. Volume of cone if $r = 2$ cm, $h = 4$ cm is

.....

A. $\frac{16}{3}\pi$

B. $\frac{6}{7}\pi$

C. $\frac{18}{31}\pi$

D. none

Answer:



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198. Surface area of a sphere and cube are equal. Then find the ratio of their volumes.

A. $\sqrt{\pi : 1}$

B. $\sqrt{\pi} : \sqrt{6}$

C. $\pi : \sqrt{6}$

D. none

Answer:



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199. In a hemisphere, $r = 1.75$ cm then CSA =
..... cm^2 .

A. 210

B. 308

C. 114

D. 112

Answer:



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200. In a cylinder, $r = 7\text{m}$, $h = 15\text{ m}$ then $V =$

..... m^3 .

A. 1170

B. 1120

C. 2310

D. 1320

Answer:



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201. Diagonals of a cuboid is units.

A. $\sqrt{l^2 + b^2 + h^2}$

B. $l\sqrt{b^2 + h^2}$

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

D. none

Answer:



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202. Heap of stones is an example of

A. cylinder

B. cone

C. Circle

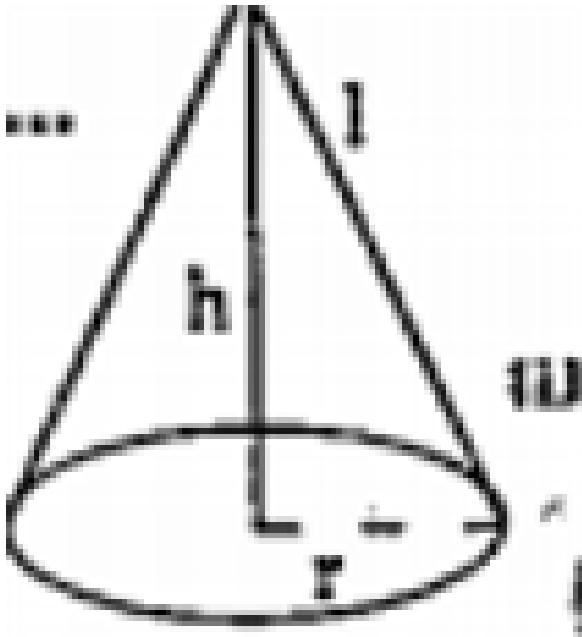
D. none

Answer:



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203. In the figure, $l^2 = \dots\dots\dots$



A. $h^2 + r^2$

B. $\sqrt{l^2 + h^2}$

C. $h^2 + r$

D. $h + r^2$

Answer:



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204. Area of equilateral triangle of side 'a' units is sq. units.

A. $\frac{1}{\sqrt{3}}a^2$

B. $\frac{4}{\sqrt{3}}a^2$

C. $\frac{\sqrt{3}}{4}a$

D. $\frac{\sqrt{3}}{4}a^2$

Answer:



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205. Perimeter of square is 20 cm then A =
*cm*².

A. 12

B. 16

C. 25

D. none

Answer:



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206. Diagonal of rectangle is units.

A. $\sqrt{l^2 + b^2}$

B. $\sqrt{l + b}$

C. $l + \sqrt{b}$

D. $\sqrt{l} + b$

Answer:



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207. Diagonal of a cube is units.

A. $3\sqrt{a}$

B. $\sqrt{3}a^2$

C. $\frac{\sqrt{3}}{a}$

D. $a\sqrt{3}$

Answer:



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208. $10^3 (cm)^3 = \dots\dots\dots$ litre.

A. 1

B. 2

C. 4

D. 5

Answer:



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209. Volume of hollow cylinder is ...

A. $\pi r - r$

B. $\pi r^2 - R$

C. $\pi R^2 - r$

D. $\pi(R^2 - r^2)$

Answer:



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210. gave the symbol π .

A. Euler

B. Pepe

C. Mount

D. None

Answer:



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211. In a cone, $(l+r)(l-r) = \dots\dots\dots$

A. h^2

B. $2h$

C. h

D. None

Answer:



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212. A cuboid has dimensions $10 \times 8 \times 6\text{cm}$ then its volume is cm^3 .

A. 190

B. 780

C. 680

D. 480

Answer:



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213. CSA of a cone is 4070 cm^2 and its diameter is 70 cm then slant height is
cm.

A. 27

B. 17

C. 37

D. 16

Answer:



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214. The sphere is of radius 2.1 cm then its volume is cm^3 .

A. 38.08

B. 381.2

C. 83.01

D. None

Answer:



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215. In $l^2 = h^2 + r^2$, $h = 15$, $r = 8$ then $l =$

.....

A. 20

B. 17

C. 16

D. 19

Answer:



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216. The surface area of a sphere is 616 sq.cm.
then its radius is cm.

A. 16

B. 12

C. 9

D. 7

Answer:



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217. Base circumference of a cylinder is 220 cm and height is 63 cm then

CSA= cm^2 .

A. 11810

B. 11680

C. 13860

D. 18360

Answer:



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218. In a cone, $d = 14$ cm, $l = 10$ cm then

CSA = cm^2 .

A. 220

B. 140

C. 160

D. None

Answer:



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219. In a cube, $a = 4$ cm then

TSA = cm^2 .

A. 12

B. 70

C. 90

D. None

Answer:



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220. Number of edges of a cuboid is

A. 11

B. 16

C. 10

D. 12

Answer:



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221. If the diagonals of a rhombus are 10 cm and 24 cm then area is cm^2 .

A. 120

B. 160

C. 180

D. None

Answer:



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222. Volume of cone with d as diameter and h as height is $units^3$.

A. $\frac{\pi d^2}{6}$

B. $\frac{\pi r^2 h}{12}$

C. $\frac{\pi d h^2}{12}$

D. None

Answer:



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223. The area of the base of a right circular cone is 78.5 cm^2 . If its height is 12 cm then its volume is cm^3 .

A. 110

B. 814

C. 413

D. 314

Answer:



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224. The volume of a cuboid is $3,60,000 \text{ cm}^3$.

If its area is $5,600 \text{ cm}^2$ then

$h = \dots\dots\dots \text{cm}$.

A. 70

B. 60

C. 95.5

D. None

Answer:



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225. The volume of cone is 462cm^3 , $r = 7\text{cm}$
then $h = \dots\dots$ cm.

A. 9

B. 10

C. 11

D. None

Answer:



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226. In a cylinder, $h = 14$ cm, $V = 176$ cm^3 , $r =$
..... cm.

A. 1

B. 10

C. 6

D. 2

Answer:



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227. The area of equilateral triangle is $36\sqrt{3}cm^2$ then the perimeter is cm.

A. 36

B. 63

C. 16

D. 10

Answer:



Watch Video Solution

228. TSA of cylinder is 1188cm^2 , $h = 20$ cm then its volume is cm.

A. 1080

B. 3080

C. 1480

D. 9023

Answer:



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229. Surface area of a cube of side 27 cm is
..... cm^3 .

A. 1474

B. 8174

C. 1374

D. 4374

Answer:



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230. The perimeter of an equilateral triangle is 60 cm then its area is cm^2 .

A. 149.3

B. 170.1

C. 137.4

D. 173.2

Answer:



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231. Volume of hemisphere is 19404 cm^3 then
its TSA = cm^2 .

A. 4118

B. 3158

C. 1459

D. 4158

Answer:



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232. If the diagonal of a cube is 2.5 m then volume is m^3 .

A. 3.01

B. 4.01

C. 8.1

D. None

Answer:



Watch Video Solution

233. $r^3 = 1728$ then $r = \dots\dots\dots$

A. 13

B. 19

C. 10

D. 12

Answer:



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234. Football is an example of

A. circle

B. Sphere

C. Cone

D. None

Answer:



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235. Number of faces of a cuboid is

A. 9

B. 10

C. 6

D. 8

Answer:



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236. The total surface area of a cube is 54 cm^2
then its side is cm.

A. 6

B. 9

C. 12

D. 3

Answer:



Watch Video Solution

237. Base area of a regular cylinder is 154 cm^2

then its radius is

A. 49 cm

B. 7 cm

C. 22 cm

D. 14 cm

Answer:



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238. If the height and radius of a cone are 1.5 and 8 cm then its slant height = cm.

A. 2.5

B. 7.5

C. 5

D. 10

Answer:



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239. Curved surface area of a hemisphere =

.....

A. πr^2

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

C. $3\pi r^2$

D. $2\pi r^2$

Answer:



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240. Volume of a cube having 1 cm side is

.....

A. 1cm^3

B. 3cm^3

C. 1cm^2

D. 3cm^2

Answer:



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241. Ratio of volumes of two spheres is 8:27
then ratio of their curved surface areas is

A. 0.085416666666667

B. 0.185416666666667

C. 0.339583333333333

D. 0.172916666666667

Answer:



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242. Football is an example of

A. circle

B. cylinder

C. Sphere

D. Cone

Answer:



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243. The volume of a cube is 216 cm^3 then edge is cm.

A. 6

B. 4

C. 8

D. 16

Answer:



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244. the curved surface area of a right circular cylinder is sq. units.

A. $\pi r^2 h$

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

C. $2\pi r h$

D. $\pi r l$

Answer:



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