

AGENDA - Unit 10.7*Spheres*

Go over HW 10.6

- Quiz -
- Notes 10.7

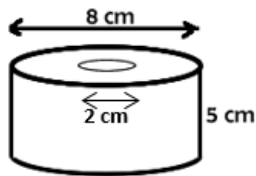
HW - 10.7 - Complete Worksheet

WORKSHEET 10-6 LAB

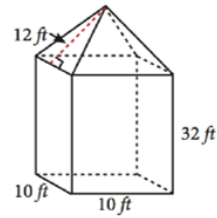
Name _____ Due _____ Section _____



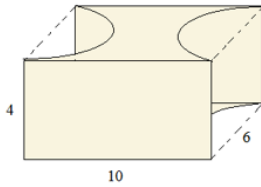
1. Determine the volume of the solid in terms of π .



2. Find the volume of the composite solid, to the nearest tenth.



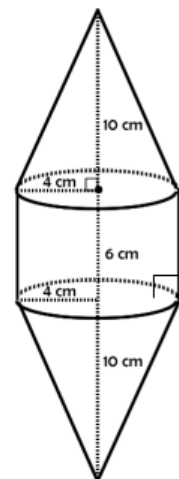
3. Find the volume of the composite solid in terms of π .



4. Given the right composite solid,

a. Draw the 2-D figure that could be rotated about the axis to create the composite solid:

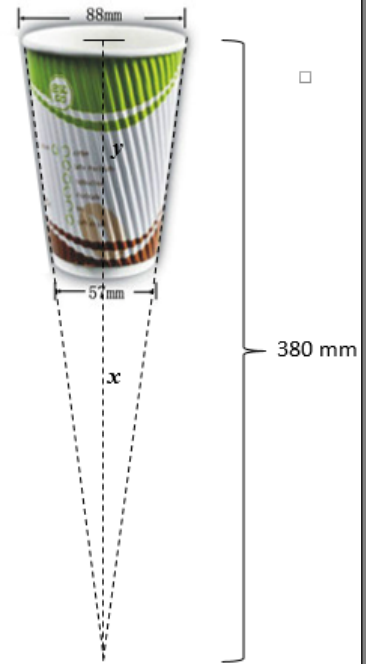
b. Find the total volume, in terms of π .



This was part of a 6-point Regents question!!

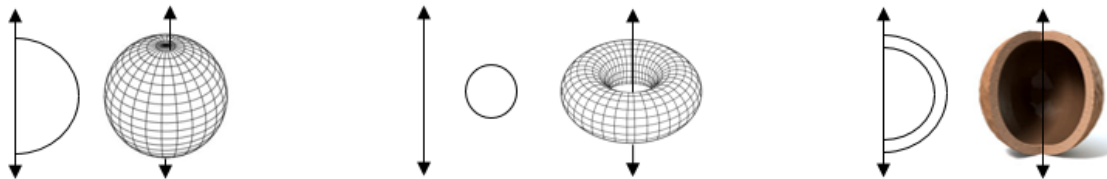
5. A Dixie cup is a truncated (cut off) cone with base diameters of 88 mm and 57 mm. In order to find the height of just the cup, the sides of the cup have been extended to locate the vertex of the cone. The height of the whole cone is 380 mm.
 - a. Why can you use similar triangles in this situation (what criteria is satisfied and why)?

 - b. Determine the height of just the cup, y , to the nearest tenth.



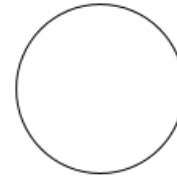
Geometry + LAB Name _____ Section _____ Date _____
 10-4R & 10-7L Notes: Spheres

Creation of Other Solids by Rotation:



What 2-D shape could be rotated to produce just the Northern Hemisphere? What role does the Equator play?

Look at other slices as well:

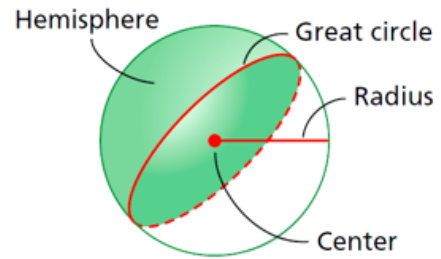


Definition of a Sphere:

The set of all points equidistant from a central point. A solid sphere therefore is the set of all points less than or equal to the radius.

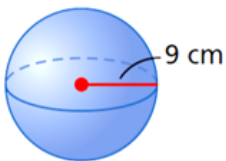
Surface Area Formula

Volume Formula



Practice:

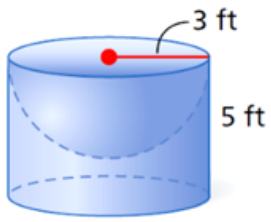
- 1) Find the volume of the sphere in terms of π :



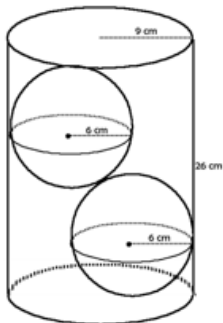
- 2) Find the radius of the sphere with a volume of 125π in³.

- 3) Find the volume of the sphere with a great circle that has an area of 49π in².

4) Find the volume of the composite solid to the nearest tenth of a cubic foot:



5) Find the fraction of the can's volume taken up by the two spheres:



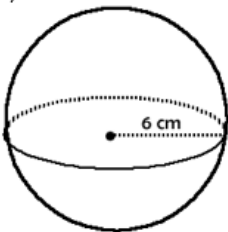
- 6) The radius of a sphere is tripled. Will this produce a similar sphere? Describe the effect on the
- a. Volume
 - b. Surface Area

WORKSHEET 10-4R & 10-7L

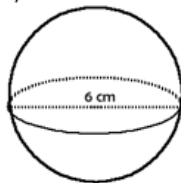
Name _____ Due _____ Section _____

1. Determine the volume of the solid in terms of π .

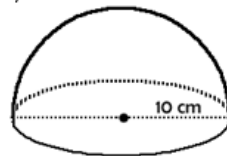
a)



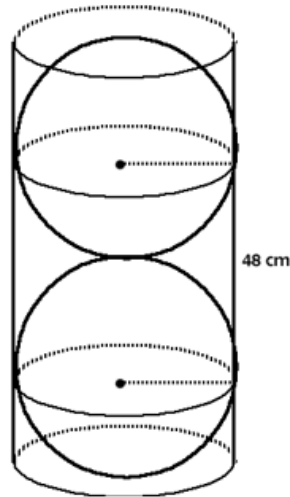
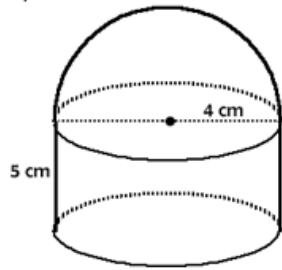
b)



c)



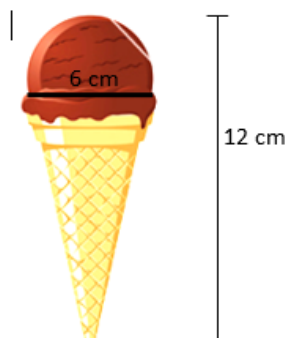
d)



e) Two tennis balls fit exactly in the 48 cm tall cylindrical can. What is the volume of air in the can?

2. Surface Area of a sphere = $4\pi r^2$. If the surface area of a sphere is 16π , then what is its volume?

3. Yum. Find the volume of a full perfect scoop of ice cream (in and on top of the cone), to the nearest tenth of a cubic centimeter. State the assumptions you used in your modeling.



4. A jeweler is making a bracelet. Each bead is with a diameter of 10 mm approximately spherical, with a cylindrical hole with a diameter of 2 mm drilled through it. Find the volume of a single bead in terms of π . Bonus: find the total volume.

