


8th Grade Assignment – Week #12

Group Assignment:

- *For Tuesday:* Do the following problems:
 1. Find the volume of a cylinder that has a diameter and a height equal to 6 cm.
 2. Find the volume of a cone that has a diameter and a height equal to 6 cm.
 3. Find the volume of a sphere that has a diameter equal to 6 cm. (Hint: use Archimedes' ratio.)
 4. Derive a formula for the volume of a cylinder where the height and the diameter are the same. (Hint: assign the radius of the cylinder to “r”, and the height of the cylinder to “2r”.)
 5. Derive a formula for the volume of a sphere. (Hint: given that “r” is the radius, Archimedes' ratio states that it should be $\frac{2}{3}$ of the volume of the above cylinder.)
- *For Thursday:* Together, do the following problems. Help each other out!
 - What is the area of a quarter circle with a radius of 6m? 
 - Mensuration Practice Sheet #3, problems #3, 4d
 - Mensuration Practice Sheet #4, problem #1b, 2
 - Mensuration Practice Sheet #3, problems #5e

Individual Work

- **Mensuration Practice Sheet #3.** Do as much as you can with problems #4 and #5.

Mensuration – Practice Sheet #3

1) The formula $V = A_{\text{Base}} \cdot H$ is used for what?

2) The formula $V = \frac{1}{3}A_{\text{Base}} \cdot H$ is used for what?

3) a) How many square feet are in a square yard?

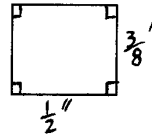
b) How many cubic feet are in a cubic yard?

c) How many square centimeters are in a square meter?

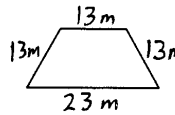
d) How many cubic centimeters are in a cubic meter?

4) Calculate the area.

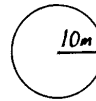
a)



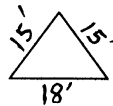
b)



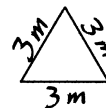
c)



d)

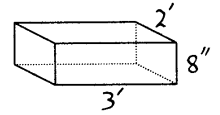


e)

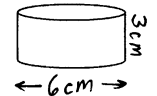


5) Calculate the volume.

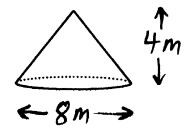
a)



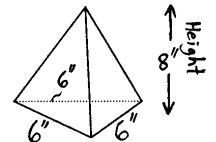
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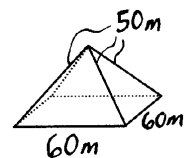
c)



d)



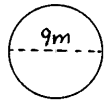
e) Challenge!



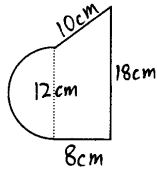
Mensuration – Practice Sheet #4

1) Calculate the area.

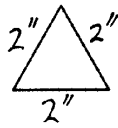
a)



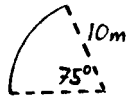
b)



c)



2) Given this portion of a circle.

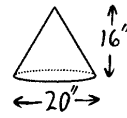


a) Calculate the arc length.

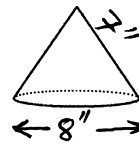
b) Calculate the area of the circle sector.

3) Calculate the volume.

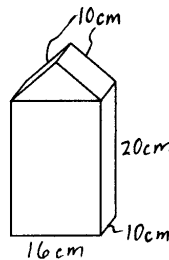
a)



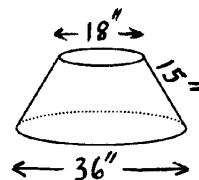
b)



c)

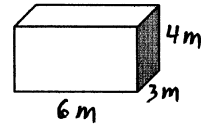


d) Challenge!

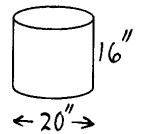


4) Calculate the volume and surface area.

a)



b)



c)

