

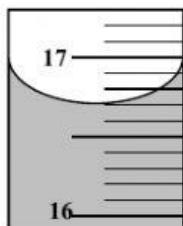
Name: \_\_\_\_\_

Date: \_\_\_\_\_

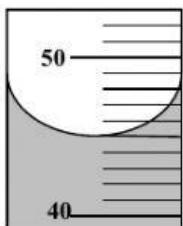
Period: \_\_\_\_\_

## Homework: Calculating Density

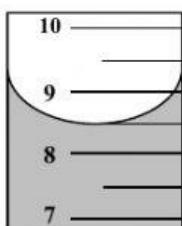
Read the volumes on the graduated cylinders below:



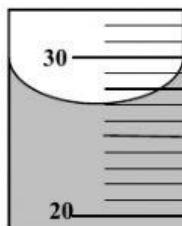
A volume of  
\_\_\_\_\_ mL



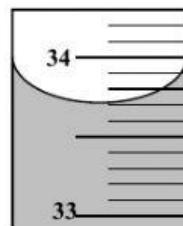
A volume of  
\_\_\_\_\_ mL



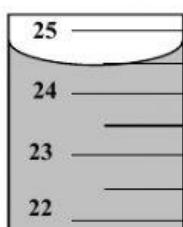
A volume of  
\_\_\_\_\_ mL



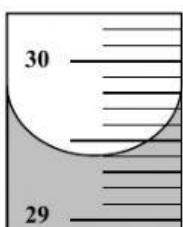
A volume of  
\_\_\_\_\_ mL



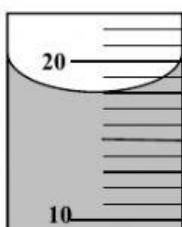
A volume of  
\_\_\_\_\_ mL



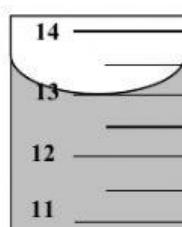
A volume of  
\_\_\_\_\_ mL



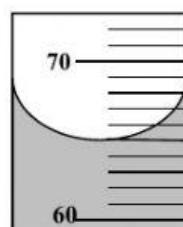
A volume of  
\_\_\_\_\_ mL



A volume of  
\_\_\_\_\_ mL

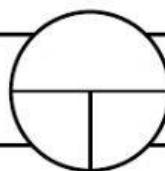


A volume of  
\_\_\_\_\_ mL



A volume of  
\_\_\_\_\_ mL

**Density**  
Equation:  $D = \text{Mass}/\text{Volume}$



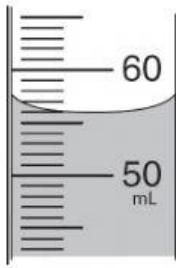
The units of density are  
\_\_\_\_\_ g/mL or \_\_\_\_\_ g/cm<sup>3</sup>.

1. What is the density of a liquid at 25°C that has a mass of 4.5 grams and a volume of 12.0 milliliters? (Show your work to receive credit.)

2. A student is doing a lab over the rock cycle and he has been given a rock sample to analyze. He is told that the density of the rock is 4.5 g/cm<sup>3</sup> and determines that the volume of the rock is 8 cm<sup>3</sup>. Based on this information, calculate the mass of the rock sample. (Show your work to receive credit.)

3. What is the density of marble that has a mass of 4.3 g and a volume of 2.7 cm<sup>3</sup>? (Show your work to receive credit.)

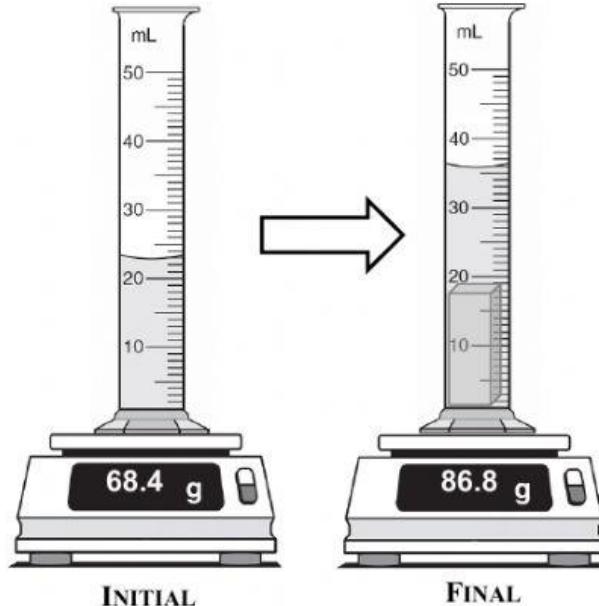
4. What is the mass of liquid at 30°C that has a density of 2.3 g/mL and the volume shown in the graduated cylinder? (Show your work to receive credit.)



5. A student uses a rubber stopper to close off the end of a test tube. What is the density of this rubber stopper if it has a mass of 3.4 g and a volume of 6.1 cm<sup>3</sup>? (Show your work to receive credit.)

### Density Experiment with a Magnetic Steel Alloy

Mass of weighing bottle (g):	<u>22.35</u>
Mass of weighing bottle + alloy (g):	<u>161.02</u>
Mass of alloy (g):	<u>138.67</u>
Volume of water in graduated cylinder (mL):	<u>40.3</u>
Volume of water in graduated cylinder after alloy submerged (mL):	<u>60.4</u>
Volume of alloy (mL):	<u>20.1</u>
Density of alloy (g/mL):	<u>6.88</u>



1. Use the information already in the data table above to fill in the missing blanks.

2. The figure shows the lab setup used to determine the density of a solid object before and after the object was submerged. According to the figure, what is the density of the object?

DENSITY = \_\_\_\_\_