

# Measuring Liquid Volume

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

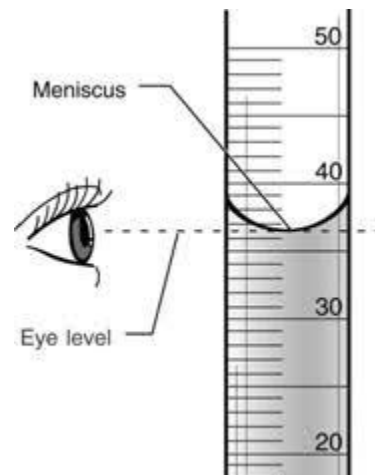
Date: \_\_\_\_\_

Hour: \_\_\_\_\_

## Information: Reading a Graduated Cylinder

There are two important things to keep in mind when reading a graduated cylinder:

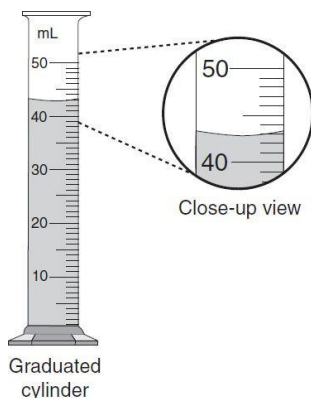
1. Always read the volume with your eye level to the “meniscus.” See the diagram to the right.
2. Estimate an extra digit. Notice in the diagram that the meniscus is between 36 mL and 37 mL. If it looks like it is right in the middle of 36 and 37 then you’d read the volume as 36.5 mL. If it’s a little closer to 36, maybe you’d read the volume as 36.4 mL.



## Practice Problems

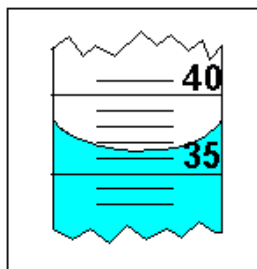
1. For reading the volume of the following graduated cylinder, explain why 42.8 mL is a better value than 43 mL.

You always need to estimate a digit more precise than the markings on the instrument. Here, the liquid is just below the 43 mL mark, and so a reading of 42.8 or 42.9 is more precise.



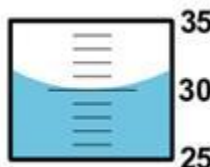
2. What's the volume of the following?

36.4 mL



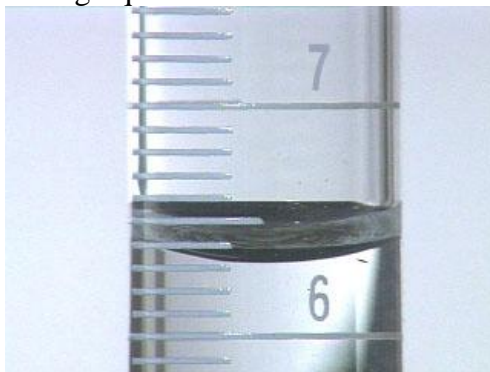
3. Explain why “30.0 mL” is a better way of expressing the volume than “30 mL” for the following:

You always need to estimate a digit more precise than the markings on the instrument. Here, the liquid appears to be right at 30 mL, so you indicate that by using 30.0 mL.



4. What is the volume of the following liquid?

6.32 mL, or  
something  
close.



### **Information: Measuring the Volume of an Object Using a Graduated Cylinder**

We know that when we put an object in water, the water level rises. We can find the volume (size) of an object by placing an object in water and then measuring how much the water level rises.

### **Practice Problems**

5. Use the following diagram to get the volume of the cylinder.

a) What is the volume of the water before the cylinder is placed in it?

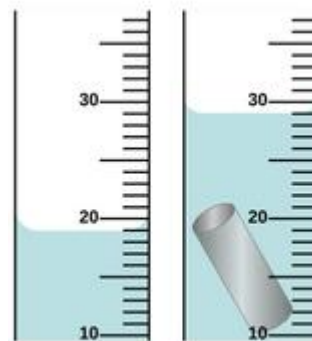
19.0 mL

b) What is the volume of the water after the cylinder is placed in it?

29.0 mL

c) Use your answers to a and b to find the volume of the cylinder.

10.0 mL



6. What is the volume of the ring?

4.0 mL, or  
something  
close.

