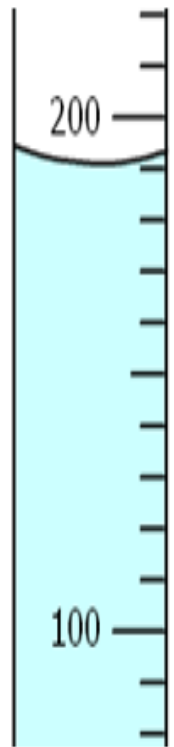


HOW TO CALCULATE THE VALUE OF GRADUATES

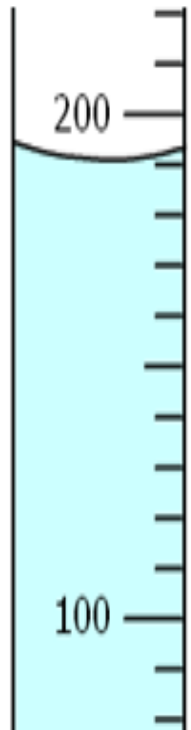
AND WORKING WITH SIGNIFICANT
FIGURES

How to calculate value of graduates:



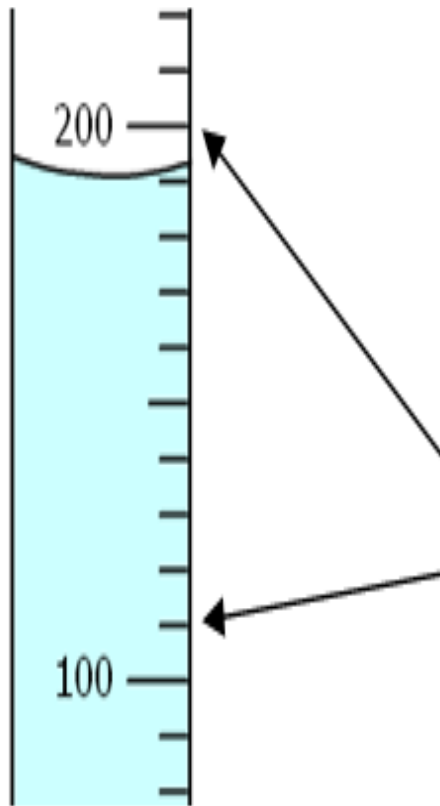
Step 1. Find the **difference** between numbered graduates by subtracting one graduate from the next highest graduate:

$$200 \text{ ml} - 100 \text{ ml} = \mathbf{100 \text{ ml}}$$



Step 2. Start at the lower of the 2 numbered graduates, and count the “lines” between it and the next numbered graduate. **DO NOT COUNT THE FIRST GRADUATE – START COUNTING AT THE FIRST LINE ABOVE IT!!!**

10 “lines” between the line ABOVE 100 and 200 (inclusive)

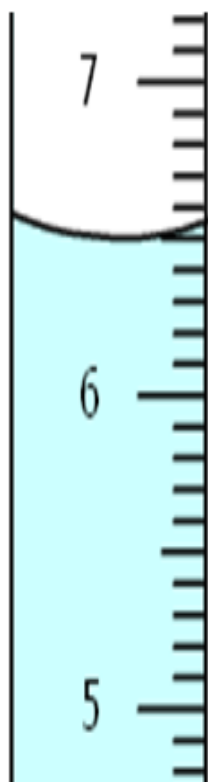


Step 3. Divide the difference between numbered graduates (your answer from step 1) by the number of lines between numbered graduates (your answer from step 2):

$$100 \text{ ml} \div 10 \text{ "lines"} = 10 \text{ ml} / \text{"line"}$$

So, each graduate ("line") on this graduated cylinder equals **10 milliliters**.

Use the method described above to calculate the value of each graduate on the cylinder below:



1). Difference between numbered graduates: _____

2). # of "lines" between numbered graduates: _____

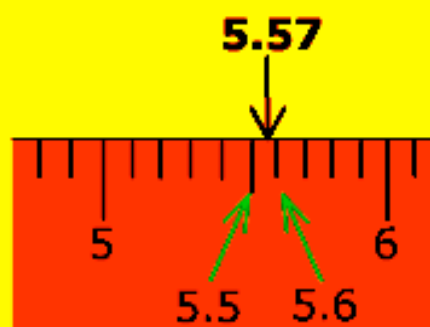
3). Value of each graduate (divide answer 1) by answer 2):

_____ = value of each graduate

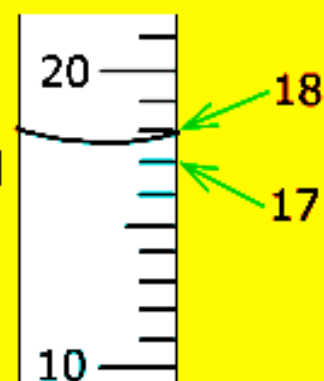


Rules for Measuring with Correct Precision:

- On any measuring scale there is some limit to how precisely you can measure something.
- This limit is defined by the value of the smallest marked measurement on the scale.
- You can **estimate only one digit between scale markings.**

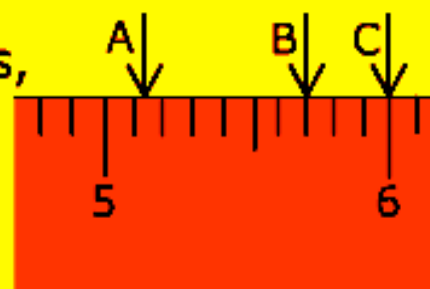


For liquids, measure from the bottom of the meniscus (curve formed by the liquid). The measurement to the right would be **17.6**



- If a measurement falls on one of the lines, use the same number of decimal places as if it fell between markings.

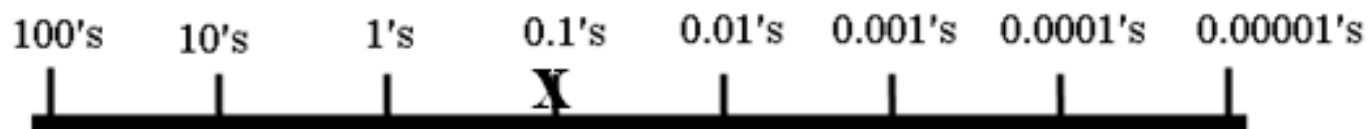
A = 5.13 B = 5.70 C = 6.00



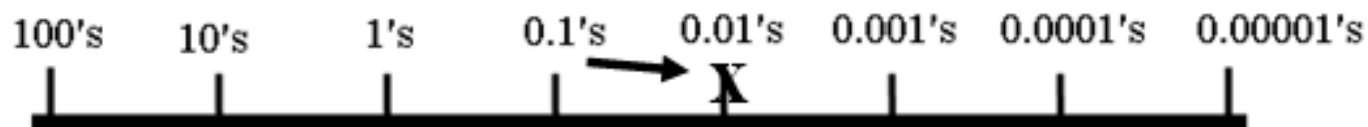
HELP WITH DETERMINING SIGNIFICANT FIGURES

1. Calculate the value of each graduate.
2. Put your pencil on the number line place that matches the values of the graduates.

Ex.: graduates = 0.1



3. Now, move your pencil 1 PLACE TO THE RIGHT:



4. This shows you how your final answer for the volume should be calculated – in this case, you should have **2 DECIMAL PLACES** in your answer, because **0.01 HAS 2 PLACES TO THE RIGHT OF THE DECIMAL.**