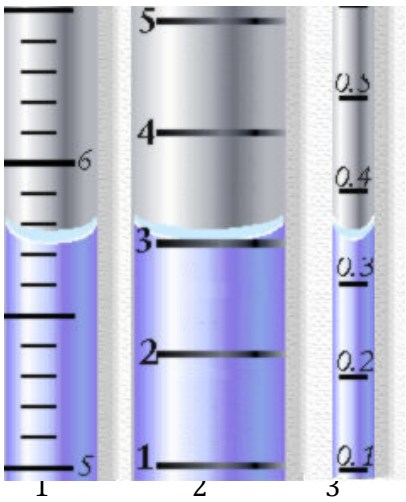
Practice Worksheet 2.2 – Measurements and Uncertainty

Make measurements for each of the situations shown in the diagrams. Include uncertainty with each measurement.



Example 1. Determine the volume in each of the three pipettes shown.

From left to right:

Pipette 1 : 5.75 ± 0.05 mL

Pipette 2 : 3.0 ± 0.3 mL

Pipette 3 : 0.35 ± 0.05 mL

All are **acceptable** measurements.

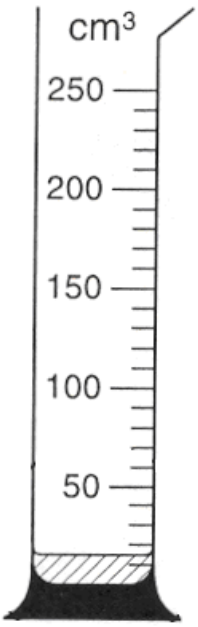
Example 2. What is the diameter of this penny?

Answer: Around 1.9 ± 0.2 cm

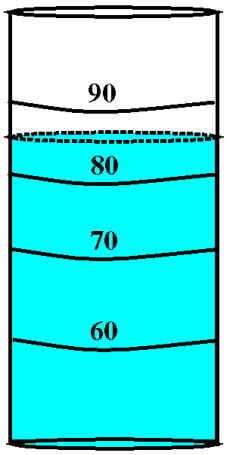
This is not a realistic measurement because in the lab the ruler would be placed across the penny. However, if such a situation arose in the lab you might use an uncertainty greater than half the smallest division (0.05 cm) since the ruler cannot be placed across the penny. Write the measurements below for each example, including the uncertainty.

Write in the values for the measurements with their absolute uncertainties below:

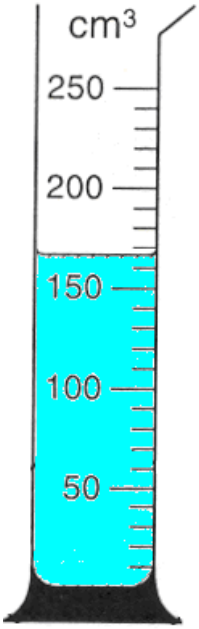
Cylinder 1



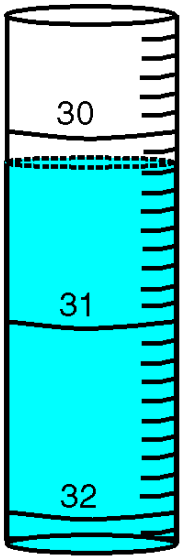
Cylinder 2



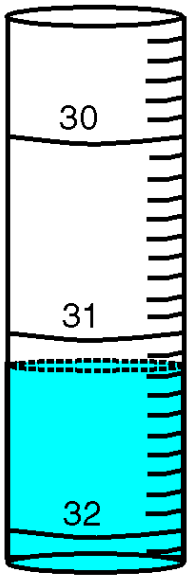
Cylinder 3



Burette 1 (initial volume)

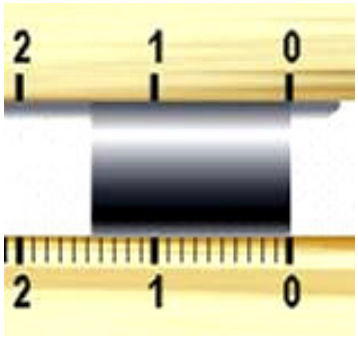


Burette 2 (final volume)



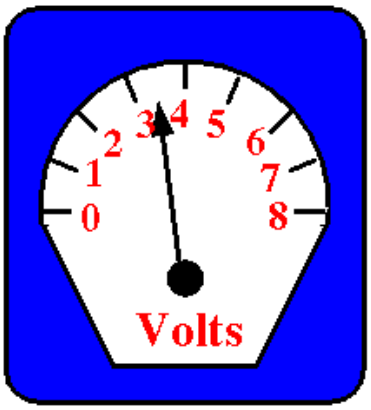
Temperature 1

Length 1 (scale in cm)

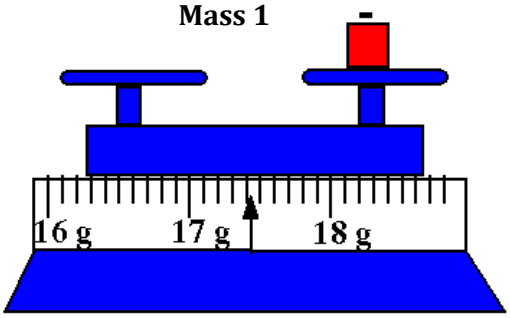


Length 2

Voltage 1



Mass 1



Length 3 (scale in cm)