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

Lab # 2 Measurement Precision

**Minutes:** \_\_\_

**Aim:** To be able to properly read and record measurements to precision appropriate to equipment being used.

**PreLab Questions (20 points):**

**Why do you measure?**

**What do you measure?**

**How often do you measure?**

**What tools do you use to measure?**

**Vocabulary (10 points):**

**Precision:**

**Accuracy:**

**Method:**

1. **Lab groups move to starting station.** 
   1. **Each student in the lab group must independently read and record his/her measurement of the sample at the station.**
   2. **Record the measurements of each of the other group member on data table.**
   3. **After recording all data, the group must come to a single consensus (agreement) as to the measurement and enter the measurement on the line provided.**
2. **When directed, lab groups rotate to next station and repeat step 1, until all six stations have been visited.**

**Data (30 points):**

**Volume in a 10mL Graduated Cylinder**

|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Volume in a 100mL Graduated Cylinder**

|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Volume in a Beaker**

|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Length with a Meter Stick**

|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Temperature with a Celcius Thermometer**

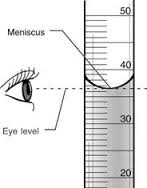
|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Mass on Electric Balance**

|  |  |
| --- | --- |
| **Student Name** | **Measurement (w/ units)** |
|  |  |
|  |  |
|  |  |
|  |  |
| **Consensus** |  |

**Analysis (20 points):**

1. **How did you come to an agreement within the group as to what the consensus measurement should be?**
2. **On volume, which tool gave you the most precision? Why?**
3. **Which is the correct measurement based on the diagram below (only one is correct)? For each value shown below, explain why it is or is not the correct measurement.**

**a) 36.0mL Correct? Explain:**

**b) 36.5mL Correct? Explain:**

**c) 36mL Correct? Explain:**

**Questions:** **(20 points)**