# Report No. (1)

## Evaluation of Error, Accuracy and Precision

**The objective of the experiment:**

**……..**

**Part one: Evaluation of percent error**

- A student determines the mass of a rock to be 196 g, but the actual mass of the rock is 200 g. Calculate the experimental error (Δx), Error % and precision?

| $X_0$ | X |
|---|---|
| 200 | 196 |

1- Experimental error ( Δx ) =

2- Error % =

3- Precision =

**Part two: Determination of accuracy and precision**

Calculate the average $\bar{m}$, the experimental error (Δm), the percent error (m%), and the Accuracy of the mass values using Graduated cylinder and Burette.

$m_{\text{empty beaker}} = \ldots\ldots\ldots\ldots\ldots\ldots$ $m_{\text{water}} = m_{\text{beaker and water}} - m_{\text{empty beaker}}$

A. Graduated cylinder

| | $m_1$ | $m_2$ | $m_3$ |
|---|---|---|---|
| $m_{\text{beaker and water}}$ | | | |
| $m_{\text{water}}$ | | | |

$\bar{m}$ =

Δm =

m% =

Accuracy =

B- Burette

| | $m_1$ | $m_2$ | $m_3$ |
|---|---|---|---|
| $m_{\text{beaker and water}}$ | | | |
| $m_{\text{water}}$ | | | |

$\bar{m}$ =

Δm =

m% =

Accuracy =

- State which is more accurate the graduated cylinder or the graduated burette.