

To attain such goal

[Science](#), [Statistics](#)



outliers, values that significantly differ among others in the set of data [2].

Before doing the statistical calculations, suspect values, which are the lowest and highest data obtained are evaluated in terms of its acceptability through the Q-test.

It makes use of the tabulated critical values for different confidence levels in which the resultant value for the said test should not exceed, otherwise the datum is considered invalid and cannot be included in the course of the following calculations. Where X_q is the highest or the lowest datum, X_n is the closest numerical value to the suspect values and R is the range of the data set. The sample mean is considered as the most valid estimate of the true value that is considered in the course of the experiment.

It is considered as the norm in finding the probable location of the center of the data set since it is the value in between the extremes of the data. This is acquired by dividing the summation of the data within the set by the number of data added altogether [3]. Where \bar{x} is the mean value and represents the individual datum in the data set of replicate measurements. Standard deviation, in the other hand, is the measure of variation or the degree of the gathered measurements which implies that the measurements are less precise when a greater value is obtained. Otherwise, a lesser value should be calculated [3].

However, standard deviation is usually expressed in parts per thousand. That is, Standard deviation may only measure the variability of the true value. However, to identify the end values of a specific confidence interval, the confidence limit is calculated. It is the range where the true value lies at a

certain level of probability. It may also measure the precision of the gathered data. The narrower is the range, the more precise are the acquired data. To calculate the confidence limit, Where t is the tabulated value for the corresponding levels of probability, $n-1$.

In this experiment, it is crucial to be able to use the analytical balance properly and through gained knowledge on some concepts of statistical analysis, statistical concepts may then be applied throughout the course of analytical chemistry. METHODOLOGY Figure 1 . Flowchart of the general procedures of the experiment. Ten (10) samples of 25-centavo coins were collected, washed thoroughly and dried to be used as samples for the experiment. With the use of forceps, these samples were transferred to a small beaker. The use of forceps was to ensure that no additional moisture will be retained on the surface of the samples.

The weighing by difference technique was used in acquiring the mass of each sample. Before using the analytical balance, the on/tare button was pressed to calibrate the instrument. The beaker-sample system was then placed on top of the analytical balance. After the sides were properly closed, the reading was then recorded. After each reading, one 25-centavo coin is removed and a new reading was then obtained. This was repeated until there was no sample left in the beaker and so the last acquired reading was the mass of the beaker.