**Percent Difference – Percent Error**

Sometimes scientists will want to compare their results with those of others, or with a theoretically derived prediction. Each of these types of comparisons call for a different type of analysis, percent difference and percent error respectively.

**Percent Difference:** Applied when comparing two experimental quantities, \( E_1 \) and \( E_2 \), neither of which can be considered the “correct” value. The percent difference is the absolute value of the difference over the mean times 100.

\[
\% \text{ Difference} = \frac{|E_1 - E_2|}{\frac{1}{2}(E_1 + E_2)} \times 100
\]

**Percent Error:** Applied when comparing an experimental quantity, \( E \), with a theoretical quantity, \( T \), which is considered the “correct” value. The percent error is the absolute value of the difference divided by the “correct” value times 100.

\[
\% \text{ Error} = \frac{|T - E|}{T} \times 100
\]