

Percent Error

Accepted Value – the correct value from a reliable resource
This is what you call “the perfect answer”

Experimental Value – the value measured in the lab
This is your actual result or measurement.

Error = Accepted Value – Experimental Value
This is how far off you are from the accepted value.

$$\% \text{ Error} = \frac{V_{\text{accepted}} - V_{\text{measurement}}}{V_{\text{accepted}}} \times 100$$

1

Percent Error

Also can be written as:

$$\% \text{ Error} = \frac{A - E}{A} \times 100$$

Percent error can be positive or negative.

Positive → measure is less than the accepted

Negative → measure is more than the accepted

Many people just report the absolute value (positive)

2

Percent Error Example

Johnny Hotcakes measured the length of a football field from end zone to end zone to be 96 yards. The accepted value is 100 yards making him off by 12 whole feet!!

What is his percent error?

$$\% \text{ Error} = \frac{V_{\text{accepted}} - V_{\text{measurement}}}{V_{\text{accepted}}} \times 100$$

$$\% \text{ Error} = \frac{100 - 96}{100} \times 100 = 4\%$$

3