

• How to compute an “average” value?

- o First, “average” can mean different quantities, most often the mean and median (often, and erroneously, “average” and “mean” are considered synonymous)

- o Given a list of numbers, $x_i, i=1 \dots N$, their mean is

$$\bar{x} = \frac{1}{N} \sum_{i=1}^N x_i$$

- o “Everyone” knows that! We often take the mean of many measurements to improve the accuracy of the final result.

- o What is not known by everyone is why and when this “averaging” works, and how to estimate how good it is. These answers are provided by statistics.