

The variance of a collection of  $n$  equally likely values can be written as

$$\text{Var}(X) = \frac{1}{n} \sum_{i=1}^n (x_i - \mu)^2 = \left( \frac{1}{n} \sum_{i=1}^n x_i^2 \right) - \mu^2,$$

where  $\mu$  is the average value. That is,

$$\mu = \frac{1}{n} \sum_{i=1}^n x_i.$$