

Symbols

- μ Mean of population
- \overline{x} Mean of sample
- σ^2 Variance of population data
- s^2 Variance of sample data, unbiased
- s_n^2 Variance of sample data, biased

- σ Standard deviation of population data
- *s* Standard deviation of sample

 $N(\mu, \sigma^2)$

Normal distribution with specified μ and σ^2

Definitions

First Quartile (Q1)	The median of all values lower than the population median
Third Quartile (Q3)	.The median of all values higher than the population median
Interquartile Range (IQR)	The difference between the 3rd and 1st quartiles; <i>i.e.</i> , Q3 – Q1
Outlier	A data value that lies more than $1.5 \times IQR$ above Q3 or below Q1. The outlier is extreme if it lies more that $3 \times IQR$ from the closest Q and <i>mild</i> otherwise

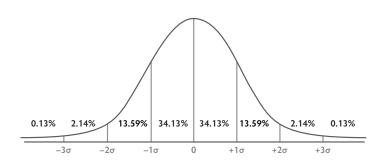
Normal Distribution

To Calculate Standard Deviation

- 1 Calculate the mean (μ)
- 2 Calculate the distance of each data value from the mean (value $-\mu$)

This is the *deviation* of each data point

3 Square each deviation



- 4 Calculate the "unbiased average" of the squares by adding them up and dividing by n-1. This is the *variance* of the data (σ^2)
- 5 Take the square root of the variance The result is the standard deviation