

1 The Mean

Definition

The **mean (arithmetic mean)** is one of the most common measures of center of a data set in statistics. The mean of a data set representing an entire population is called a **population mean** and is denoted μ .

The mean can be calculated by the formula

$$\mu = \frac{1}{N} \sum x_i$$

where the sum is taken over the entire data set and N represents the population size. The mean of a data set representing a sample from a population is called a **sample mean** and is denoted \bar{x} . The formula for sample mean is identical to the formula for population mean

$$\bar{x} = \frac{1}{n} \sum x_i$$

except that the sum is taken over the sample data set and n represents the sample size.