

MEASURES OF CENTER

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(Class Lecture in Statistics)

Part 3

Notation

- Σ Greek letter sigma used to denote the sum of a set of values.
- x is the **variable** usually used to represent the data values.
- n represents the **number of data values** in a **sample**.

Determine the sum

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$$\sum_{i=1}^{12} 2i^2 = 2 \sum_{i=1}^{12} i^2$$

$$= 2 \left[\frac{12(12+1)(2(12)+1)}{6} \right]$$

$$= 2 \left[\frac{12(13)(25)}{6} \right]$$

$$= 1300$$

Example of Sample Mean

- data

21, 25, 32, 48, 53, 62, 62, 64

Then:

$$\begin{aligned}\bar{x} &= \frac{21 + 25 + 32 + 48 + 53 + 62 + 62 + 64}{8} \\ &= \frac{367}{8} = 45.875 \approx 45.9\end{aligned}$$

Median

❖ Median

the measure of center which is the **middle value** when the original data values are arranged in order of increasing (or decreasing) magnitude

- ❖ often denoted by $\tilde{x}$ (pronounced 'x-tilde')
- ❖ is not affected by an extreme value - is a resistant measure of the center

❖ **Mode**

the value that occurs with the greatest frequency

❖ **Data set can have one, more than one, or no mode**

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