Measures of Central Tendency

Mode

- Most common value
- Can have more than one mode
- Can have no mode
- For grouped data is called the 'modal' class
- The only average that can be use for qualitative data (non-numerical values)

Median

- Middle value when the data is in order
- Is known as the 'middle quartile' or Q_2
- Can be found from raw or tabulated data
- Can only be 'estimated' from grouped data using a cumulative frequency graph or interpolation (see separate notes)

Mean of raw data

For discrete data ...

- Add together all of the data values then divide by how many data values there are
- The mean of a ***population*** is known as μ (pronounced myoo)
- The mean of a ***sample*** is known as $\bar{x}$ (ex bar)

$$\frac{\sum x}{n}$$

Mean of data in a frequency table

For discrete data ...

- Multiply each x value in the table by its frequency
- Add these together and divide by the total frequency

$$\frac{\sum fx}{\sum f}$$

Mean of data in a grouped frequency table

For continuous data ...

- Find the 'mid-point' of each group in the table
- Multiply each 'mp' value in the table by its frequency
- Add these together and divide by the total frequency
- THIS IS AN ESTIMATE OF THE MEAN

$$\frac{\sum fx}{\sum f}$$

where x is the midpoint of each class