Median – Interpolation

The median is the **middle** value in a list **when the data is in numerical order**

When data is grouped in a grouped frequency table, we cannot find the median value, we can only find the *median class* (the group within which the median lies).

We can then use *interpolation* to estimate the median within the median class which uses a similar method to the cumulative frequency graph to find this estimate.

5 Step process:

1. Find the cumulative frequency and n (total)
2. Divide n by 2 to find the **position** of the median
   (note here how we don't need to use n+1 as this is only an estimate)
3. Find the median class
4. Divide the width of the median class by its frequency - this will tell you, if evenly spread out, how much taller each person is than the last within the class
5. Use this information to find an estimate for the median

Estimation

This method works on the basis that the values within the median class are all the same width apart which is both highly unlikely and often impossible.

This is, therefore, the reason this can only be an *estimate* of the median.