

L4 Continuous Quantitative Data

Continuous quantitative data is numerical data that can be any real number.

- When there is a large amount of raw data and the numbers are distinct (very few repeating data values). We can't do a frequency table, instead we group the data into classes.
- Each class will be defined by an interval such as: [0,10[then [10,20[... etc.
- All classes should have equal amplitude (length) and leave no gaps.
- This is called a grouped data table.

1

1. Mode (M_o): the most frequent value in the data.

Ex 1:

Age	Frequency
[10,14[	7
[14,18[	4
[18,22[	9
[22,26[	4

2

2. Median (M_d): the middle value in an ordered group of data.

Ex 2:

Class of marks	Frequency
[0,20[	4
[20,40[	8
[40,60[	10
[60,80[	7
[80,100]	1
Total	30

n = 30 (even) so M_d is average of 15th and 16th entries

3. Mean ($\bar{x}$): /average the sum of the data divided by the number of data.

Ex 3: Find the mean height

Height	Frequency	Midpoint	Total height
[100,110[	8	105	8(105)=840
[110,120[	2	115	2(115)=230
[120,130[	7	125	7(125)=875
Total	17		1945

Ex 4: Consider the marks that 15 students got on a quiz

Raw data: ~~63, 72, 58, 80, 67, 63, 58, 92, 80, 80,~~
~~72, 76, 63, 63, 92~~

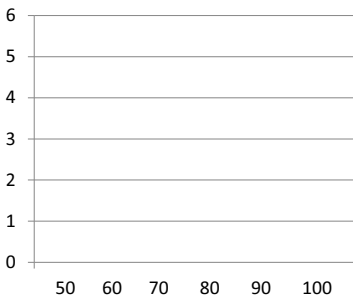
Marks	Tally	Frequency	Relative frequency
[50,60[			
[60,70[			
[70,80[			
[80,90[			
[90,100]			
Total	15	15	100

5

Continuous data can be represented by a Histogram

It looks almost like the bar graph, but the intervals are connected

Marks	Frequency
[50,60[	2
[60,70[	5
[70,80[	3
[80,90[	3
[90,100]	2
Total	15



7