

### Cumulative Frequency.

Given the data below, draw its cumulative frequency graph and determine the ..

- (i) Median height
- (ii) Inter quartile range and
- (iii) Number of students taller than 135cm

Height (cm)	Frequency
$90 < h \leq 100$	5
$100 < h \leq 110$	22
$110 < h \leq 120$	30
$120 < h \leq 130$	31
$130 < h \leq 140$	18
$140 < h \leq 150$	6

### Questionnaires.

Chloe wants to collect information about the amount of sleep the students in her class get.

Design a suitable question and data collection sheet she could use.

### Probability.

Dan chooses one book from the Library each week. He chooses a crime novel or a horror story or a non-fiction book. The probability that he chooses a horror story is 0.4, the probability that he chooses a non-fiction book is 0.15. Work out the probability that Mr Dan chooses a crime novel.

### \*Averages from a table.

Homes visited	Frequency
0 – 9	3
10 – 19	8
20 – 29	24
30 – 39	60
40 – 49	21

Estimate the mean.  
Determine the modal group and location of the median.  
Plot the frequency polygon of this data.

### \*Averages.

Joel takes four tests and scores the following marks. 65, 72, 58, 77

- (i) What are his median and mean scores?

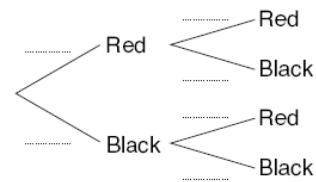
If he scores 70 on his next test,

- (ii) Does his mean score increase or decrease?
- (iii) Find his new mean score
- (iv) Which has increased most, his mean or median score?

### Probability – Tree diagrams.

A bag contains 10 coloured discs. 4 of the discs are red and 6 of the discs are black. Luke is going to pick 2 discs at random, without replacement.

- (i) Copy and complete the tree diagram.
- (ii) Calculate the probability that Luke gets two black discs.
- (iii) Calculate the probability that Luke takes two discs of the same colour.



### Scatter Graphs.

Plot this data

Birth rate	25	28	30	31	34	38
Life expectancy (years)	68	65	62	61	65	61

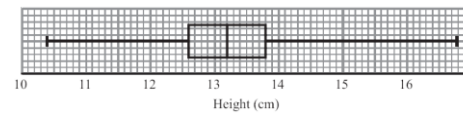
- (i) What type of correlation does it show?

Draw a line of best fit.

- (ii) If the birth rate is 42, estimate the life expectancy.
- (iii) If the life expectancy is 66, estimate the birth rate.

### Box plots.

From the box plot below determine



Determine the

- (i) Min and max values
- (ii) UQ and LQ values
- (iii) Median
- (iv) Range
- (v) Interquartile range

### Two Way Table.

Esme asks 100 students if they like biology or chemistry or physics best.

- 38 of the students are girls.
- 21 of these girls like biology best.
- 18 boys like physics best.
- 7 out of the 23 students who like chemistry best are girls.

Work out the number of students who like biology best.

### Stem and leaf diagrams.

Here are the ages, in years, of 15 teachers.

35, 52, 42, 27, 36,  
23, 31, 41, 50, 34,  
44, 28, 45, 45, 53.

Draw an ordered stem and leaf diagram to show this information.

You must include a key.

### Probability – expectation.

Meg has a biased coin. When she spins the coin the probability that it will come down heads is 0.4.

Meg is going to spin the coin 350 times. Work out an estimate for the number of times it will come down heads.