

3. Rebecca records the shirt collar size, x , of the male students in her year. The results are shown in the table.

For the data, calculate:

- a) The mode

Collar Size	Number of Students
15	3
15.5	17
16	29
16.5	34
17	12

- b) The median

- c) The mean

- d) Explain why a shirt manufacturer might use the mode for setting their production quota

4. The length, x mm, to the nearest mm, of a random sample of pine cones is measured. The data is shown in the table to the right.

a) Write down the modal class

Cone length (mm)	Frequency
30-31	2
32-33	25
34-36	30
37-39	13

b) Estimate the mean

c) Find the median class

2C Quartiles & Interpolation

1. From the large data set, the daily maximum gust (knots) during the first 20 days of June 2015 is recorded in Hurn. The data is shown below:

14	15	17	17	18
18	19	19	22	22
23	23	23	24	25
26	27	28	36	39

Find the median and quartiles for this data.

2. The length of time (to the nearest minute) spent on the internet each evening by a group of students is shown in the table below.

Time spent on internet (mins)	Frequency
30-31	2
32-33	25
34-36	30
37-39	13

- a) Find an estimate for the upper quartile

- b) Find an estimate for the 10th percentile

2D IQR & Other Ranges

1. The table shows the masses (tonnes) of 120 African elephants.

Find estimates for:

- a) The range

Mass, m (t)	Frequency
$4.0 \leq m < 4.5$	13
$4.5 \leq m < 5.0$	23
$5.0 \leq m < 5.5$	31
$5.5 \leq m < 6.0$	34
$6.0 \leq m \leq 6.5$	19

- b) The interquartile range

- c) The 10th to 90th percentile range

2E Variance & Standard Deviation

1. The marks gained in a test by seven randomly selected students are:

x 3 4 6 2 8 8 5

Find the variance and standard deviation of the marks of the seven students.

2. Shamsa records the time spent out of school during the lunch hour to the nearest minute, x , of the female students in her year. The results are shown in the table.

Calculate the standard deviation of the time spent out of school.

Time (mins)	Frequency
35	3
36	17
37	29
38	34

3. Andy recorded the length, in minutes, of each telephone call he made for a month. The data is summarized in the table below.

Calculate an estimate of the standard deviation of the length of the phonecalls

Length of call (mins)	Frequency
$0 < l \leq 5$	4
$5 < l \leq 10$	15
$10 < l \leq 15$	5
$15 < l \leq 20$	2
$20 < l \leq 60$	0
$60 < l \leq 70$	1

2F Coding

1. A scientist measures the temperature, $x^{\circ}\text{C}$ at five different points in a nuclear reactor. Her results are given below:

332, 355, 306, 317, 340

- a) Use the coding $y = \frac{x-300}{10}$ to code this data

- b) Calculate the mean and standard deviation of the coded data

- c) Use your answer to b) to calculate the mean and standard deviation of the original data.

2. From the large data set, data on the maximum gust, g knots, is recorded in Leuchars during May and June 2015.

The data was coded using $h = \frac{g-5}{10}$ and the following statistics found:

$$S_{hh} = 43.58$$

$$\bar{h} = 2$$

$$n = 61$$

Calculate the mean and standard deviation of the maximum gust in knots.