O/N/2008/Q1

Rachel measured the lengths in millimetres of some of the leaves on a tree. Her results are recorded below.

32 35 45 37 38 44 33 39 36 45

Find the mean and standard deviation of the lengths of these leaves. [3]

O/N/2001/Q1

The following are the times, in minutes, taken by 11 runners to complete a 10 km run.

48.3 55.2 59.9 67.7 60.5 75.6 62.5 57.4 53.4 49.2 64.1

Find the mean and standard deviation of these times. [3]

M/J/2018/Q1

Each of a group of 10 boys estimates the length of a piece of string. The estimates, in centimetres, are as follows.

37 40 45 38 36 38 42 38 40 39

(i) Find the mode. [1]

(ii) Find the median and the interquartile range. [3]

O/N/2019/Q1

Twelve tourists were asked to estimate the height, in metres, of a new building. Their estimates were as follows.

50 45 62 30 40 55 110 38 52 60 55 40

(i) Find the median and the interquartile range for the data. [3]

(ii) Give a disadvantage of using the mean as a measure of the central tendency in this case. [1]

120 people were asked to read an article in a newspaper. The times taken, to the nearest second, by the people to read the article are summarised in the following table.

Time (seconds)	1 – 25	26 – 35	36 – 45	46 – 55	56 – 90
Number of people	4	24	38	34	20

Calculate estimates of the mean and standard deviation of the reading times. [5]

The following table shows the results of a survey to find the average daily time, in minutes, that a group of schoolchildren spent in internet chat rooms.

Time per day (t minutes)	Frequency
$0 \leqslant t < 10$	2
$10 \leqslant t < 20$	f
$20 \leqslant t < 40$	11
$40 \leqslant t < 80$	4

The mean time was calculated to be 27.5 minutes.

(i) Form an equation involving f and hence show that the total number of children in the survey was 26. [4]

(ii) Find the standard deviation of these times. [2]