Test - Charts, averages and cumulative frequency

Year: Year 11 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Averages

The number of goals scored by a team in 9 matches was: 2, 0, 1, 3, 1, 4, 1, 0, 2.

a. Find the mode, the median and the range. (3 marks)
b. Work out the mean. (1 mark)

Question 2 (4 marks)

Question 2 – Frequency table

A shop recorded how many items 25 customers bought.

Items	1	2	3	4	5
Customers	6	8	5	4	2

a. Work out the mean number of items. (3 marks)
b. Find the median. (1 mark)

Question 3 (4 marks)

Question 3 – Grouped data

The table shows the masses of 40 parcels.

Mass, m (kg)	$0 < m \leq 2$	$2 < m \leq 4$	$4 < m \leq 6$	$6 < m \leq 10$
Frequency	8	14	12	6

a. Write down the modal class. (1 mark)
b. Work out an estimate of the mean mass. (3 marks)

Question 4 (4 marks)

Question 4 – Histogram (Higher)

The table shows the ages of people in a choir.

Age, a (years)	$10 < a \leq 20$	$20 < a \leq 40$	$40 < a \leq 70$
Frequency	12	30	45

a. Work out the frequency density for each class. (3 marks)
b. Estimate how many people are aged between 30 and 50. (1 mark)

Question 5 (4 marks)

Question 5 – Problem: cumulative frequency (Higher)

The cumulative frequency of the heights of 60 plants is: up to 10 cm: 4, up to 20 cm: 15, up to 30 cm: 40, up to 40 cm: 56, up to 50 cm: 60.

a. Estimate the median height. (2 marks)
b. Estimate the number of plants taller than 35 cm. (2 marks)