

Class Test 2 »



Answer all questions. Show your working clearly.

1. During a quality control check in a factory line, the masses of a batch of bags of potato chips are recorded, in grams.

178	180	181	180	178
179	183	182	180	177
179	181	181	x	182
178	183	179	180	180
179	182	179	181	183

- (a) If the mean mass is 180.16 g, find x . [2]
 (b) Construct a dot diagram to illustrate the data above. [1]
 (c) Find
 (i) the median mass, [1]
 (ii) the modal mass. [1]
 (d) Any bag of potato chips under 179 g is rejected. Find the percentage of this batch of potato chips that are rejected. [1]
2. The number of goals scored by a football team over a series of matches is recorded in the table below.

Number of goals	0	1	2	3	4	5
Number of matches	17	32	n	26	7	3

- (a) If the mean number of goals is 1.83, find n . [2]
 (b) (i) State the median number of goals. [1]
 (ii) State the modal number of goals. [1]
 (c) Find the ratio of the number of matches in which 3 goals or more were scored to the total number of matches played. [1]

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3. The table shows the amount of money which some families spent on groceries over a period of time.

Spending (\$x)	Frequency
$60 \leq x < 100$	4
$100 \leq x < 140$	41
$140 \leq x < 180$	40
$180 \leq x < 220$	12
$220 \leq x < 260$	3

- (a) Draw a histogram to illustrate the data. [2]
 (b) Find the ratio of the number of families who spent less than \$140 to the total number of families. [1]
 (c) Describe the distribution of the amount of money families spent on groceries. [1]
4. The masses of some boys are listed below.

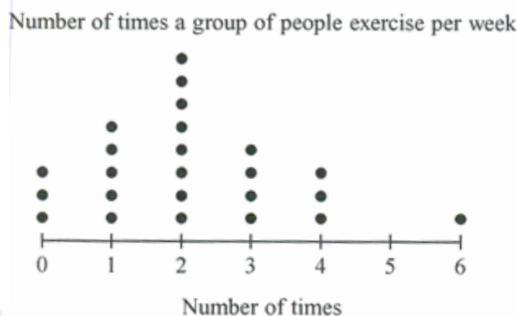
53	57	55	53	53	52	55	50
49	52	52	54	56	53	53	52
50	51	53	51	55	54	57	50

- (a) Draw a dot diagram to illustrate this data. [2]
 (b) Find the percentage of boys with mass 51 kg and below. [1]
 (c) Another boy's mass is added to the data. The new mean mass is 52.68 kg. What is the mass of the new boy? [2]

5. The amount of time some runners take to complete a half-marathon is shown in the table below.

Time (x min)	Frequency
$100 \leq x < 110$	14
$110 \leq x < 120$	19
$120 \leq x < 130$	26
$130 \leq x < 140$	21
$140 \leq x < 150$	17
$150 \leq x < 160$	23

- (a) Draw a histogram to illustrate the data. [2]
 (b) Calculate an estimate for the mean time taken to run the half-marathon. [2]
 (c) Runners who complete the half-marathon in less than 2 hours are eligible to join a national marathon competition. What percentage of the runners are eligible? [1]
6. The dot diagram shows the number of times a group of people exercise per week.



- (a) Find the modal number of times they exercise per week. [1]
 (b) Calculate the mean number of times they exercise per week. [1]
 (c) Find the percentage of people who do not exercise more than twice per week. [1]

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7. Some apples are weighed. The following table shows their masses, in grams.

138	142	143	140	139	143	145
151	149	149	150	142	145	143
148	133	159	155	143	148	146
153	148	141	142	144	139	144

- (a) Construct a stem-and-leaf diagram using the data above. [2]
- (b) Find the difference in mass between the heaviest and the lightest apples. [1]
- (c) (i) State the modal mass. [1]
 (ii) State the median mass. [1]
- (d) Apples with masses less than 140 g or more than 150 g are rejected. Find the percentage of apples that are accepted in this group. [1]

8. The table shows the daily temperatures in a city over a period of time.

Temperature (°C)	25	26	27	28	29	30	31
Number of days	7	8	9	10	11	9	4

- (a) Draw a dot diagram to illustrate the data. [2]
- (b) (i) Find the mean temperature. [1]
 (ii) State the modal temperature. [1]
 (iii) State the median temperature. [1]
- (c) Find the percentage of days with temperatures measuring 29°C and above. [1]