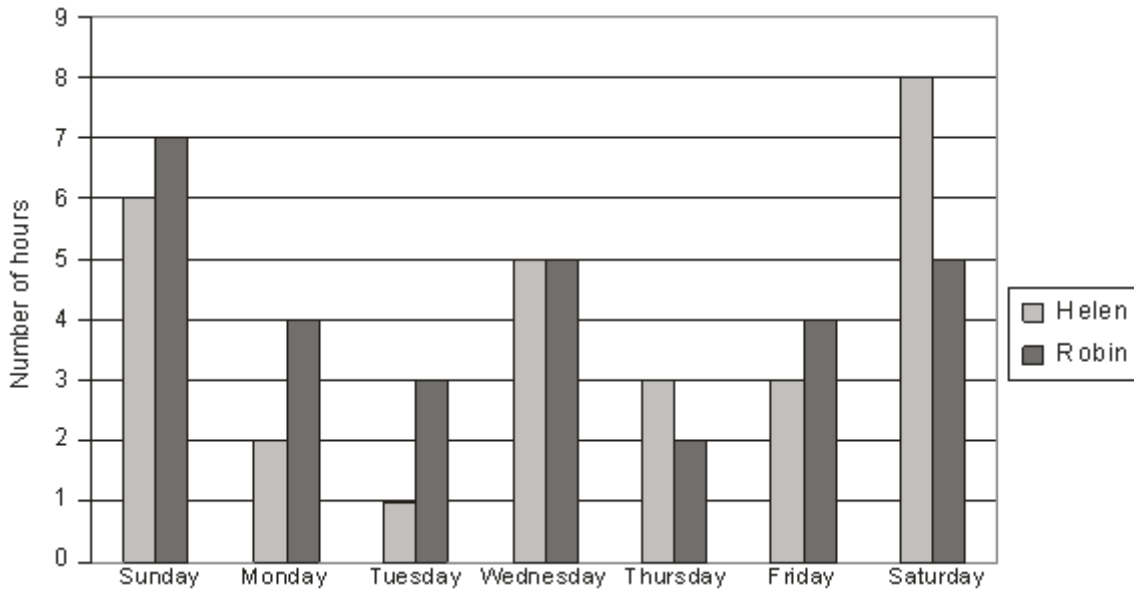


Q1. Here is a dual bar chart showing the number of hours of TV that Helen and Robin watched each day last week.



(a) Write down the number of hours of TV that Helen watched on Monday.

..... hours

(1)

(b) How many more hours of TV did Robin watch than Helen watch last week?

.....

(2)

(c) Find the median of the number of hours Robin watched TV last week.

.....

(2)

(d) On Saturday and Sunday Helen watched 7 programmes altogether.

Work out the average length of the programmes that she watched.

.....

(2)
(Total 7 marks)

Q2. Sarah works in a post office.
She recorded the number of parcels posted on each of 16 days.

Here are her results.

2 2 5 3 2 4 2 2
3 6 4 6 2 2 3 3

(a) Complete the frequency table to show Sarah's results.

| Number of parcels | Tally | Frequency |
|-------------------|-------|-----------|
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |

(2)

(b) Write down the mode.

.....

(1)

(c) Work out the range.

.....

(2)
(Total 5 marks)

Q3. Here are ten numbers.

7 6 8 4 5 9 7 3 6 7

(a) Work out the range.

.....

(2)

(b) Work out the mean.

.....

(2)

(Total 4 marks)

Q4. Callum watched 20 cars go onto a ferry.
He counted the number of people in each car.

Here are his results.

1 3 3 4 1 2 2 3 5 4
2 2 4 5 1 3 2 2 3 2

(a) Complete the frequency table.

| Number of people in a car | Tally | Frequency |
|---------------------------|-------|-----------|
|---------------------------|-------|-----------|

| | | |
|---|--|--|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

(2)

(b) Write down the mode.

.....

(1)

Fiona counted the number of cars going onto 6 ferries.

Here are her results.

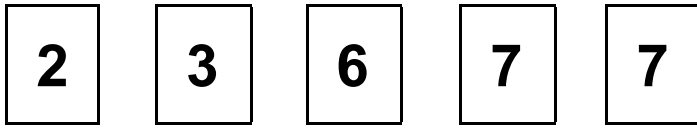
20 18 23 17 15 21

(c) Calculate the mean number of cars.

.....

(2)
(Total 5 marks)

Q5. Matthew has five cards.
Each card has a number on it.

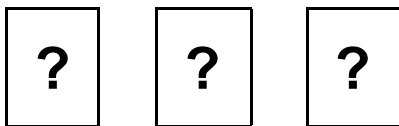


(a) Write down the median.

.....

(1)

James has three cards.
Each card has a number on it.
The numbers are hidden.



The mode of the three numbers is 4
The mean of the three numbers is 5

(b) Work out the three numbers on the cards.

.....,,

(2)
(Total 3 marks)

Q6. A rugby team played 7 games.

Here is the number of points they scored in each game.

3 5 8 9 12 12 16

(a) Work out the range.

.....

(2)

(b) Find the median.

.....

(1)

The rugby team played another game.
They scored 11 points.

(c) Find the median number of points scored in these 8 games.

.....

(1)
(Total 4 marks)

Q7. Here are fifteen numbers.

10 12 13 15 15
17 19 20 20 20

21 25 25 25 25

(a) Find the mode.

.....

(1)

(b) Find the median.

.....

(1)

(c) Work out the range.

.....

(2)
(Total 4 marks)

M1.

| | Working | Answer | Mark | Additional Guidance |
|------------------------------------|--|---------|------|--|
| (a) | | 2 | 1 | B1 cao |
| (b) | $7 + 4 + 3 + 5 + 2 + 4 + 5 = 30$ $6 + 2 + 1 + 5 + 3 + 3 + 8 = 28$ OR $1 + 2 + 2 + 0 - 1 + 1 - 3 = 2$ | 2 hours | 2 | M1 finds the totals of Robin and Helen. A1 cao OR M1 find the differences of Robin and Helen A1 cao |
| (c) | 2 3 4 4 5 5 7 | 4 hours | 2 | M1 orders the values A1 cao |
| (d) | $(6 + 8) \div 7$ | 2 | 2 | M1 attempts to find mean A1 2 cao |
| Total for Question: 7 marks | | | | |

M2.

| | Working | Answer | Mark | Additional Guidance |
|-----|---------|---------------|------|--|
| (a) | | 7, 4, 2, 1, 2 | 2 | M1 for at least one correct frequency or tally A1 for 7, 4, 2, 1, 2 cao (B2 for correct frequencies without the use of tallies) |
| (b) | | 2 | 1 | B1 for 2 or ft values in table NB: B0 if the 7 is given with the 2 |

| | | | | |
|------------------------------------|-----------|---|---|--|
| (c) | $6 - 2 =$ | 4 | 2 | M1 for identifying 6 and 2, eg 6-2, as long as 6 and 2 are not identified with any incorrect operation A1 cao |
| Total for Question: 5 marks | | | | |

M3.

| | Working | Answer | Mark | Additional Guidance |
|------------------------------------|---------------------------------|--------|------|--|
| (a) | | 6 | 2 | M1 for $9 - 3$ or $3 - 9$ A1 cao |
| (b) | $(7+6+8+4+5+9+7+3+6+7) \div 10$ | 6.2 | 2 | M1 for $(7 + 6 + 8 + 4 + 5 + 9 + 7 + 3 + 6 + 7) \div 10$ A1 cao |
| Total for Question: 2 marks | | | | |

M4.

| | Working | Answer | Mark | Additional Guidance |
|-----|---|---------------|------|---|
| (a) | | 3, 7, 5, 3, 2 | 2 | M1 for at least 1 correct frequency or 1 correct tally cell A1 all frequencies correct (with or without the tally column completed or incorrectly completed) |
| (b) | | 2 | 1 | B1 for 2 or ft from (a) |
| (c) | $20 + 18 + 23 + 17 + 15 + 21$ $114 \div 6$ | 19 | 2 | M1 for " $(20 + 18 + 23 + 17 + 15 + 21)$ " [= 114] $\div 6$ |

| | | | | |
|------------------------------------|--|--|--|---|
| | | | | A1 cao [SC: B1 for an answer of 96.5 if M0 scored] |
| Total for Question: 5 marks | | | | |

M5.

| | Answer | Mark | Additional Guidance |
|------------------------------------|---------|------|--|
| (a) | 6 | 1 | B1 cao |
| (b) | 4, 4, 7 | 2 | M1 for identifying two of the numbers as 4 or the sum as 15 (may be implied by three numbers that sum to 15) A1 for 4, 4 and 7 in any order |
| Total for Question: 3 marks | | | |

M6.

| | Working | Answer | Mark | Additional Guidance |
|------------------------------------|---------|--------|------|---|
| (a) | 16 – 3 | 13 | 2 | M1 for 16 – 3 A1 cao [3 to 16, 3 – 16 oe gets B1 if M0 scored] |
| (b) | | 9 | 1 | B1 cao (take care that this is not the result of an attempt to find the mean) |
| (c) | | 10 | 1 | B1 cao (take care that this is not the result of an attempt to find the mean) |
| Total for Question: 4 marks | | | | |

M7.

| | Working | Answer | Mark | Additional Guidance |
|-----|---------|--------|------|--|
| (a) | | 25 | 1 | B1 cao |
| (b) | | 20 | 1 | B1 cao |
| (c) | 25-10 | 15 | 2 | M1 for sight of 10 and 25 together A1 cao |
| | | | | Total for Question: 4 marks |

E2. Parts (a) & (b) were well answered. There were a few minor slips in tallying, and the frequency column was sometimes misplaced, but rarely inaccurate. Part (c) was poorly answered. Many misunderstood the term “range”, whilst a significant minority calculated this from the frequency (7-1).

E3. Both parts were done quite well on the whole. Quite a few candidates reversed the answers for the two parts scoring no marks. Others tried to find the median or the mode in one of the parts. In part (a) quite a few candidates realised that you needed to pick the end points for the range but then wrote $8 - 3$. In part (b) it was not uncommon to find an answer of 62, where the candidate found the total of all the numbers but then failed to divide by 10. Around 40% of the candidates got both parts fully correct with around a third not scoring any marks at all.

##

Most candidates were able to gain at least 1 mark in part (a) for partially completing the tally chart. Full marks were often denied because of carelessness in transferring the given data. Other common errors included frequency columns of 3 (1×3), 14 (2×7), etc. and 3, 10 ($3 + 7$), 15 ($3 + 7 + 5$), etc. and $3/20$, $7/20$, etc.

In part (b), a common mistake was to give an answer of 7, the frequency of the mode 2, or 3 since in the frequency column the number 3 appeared more times than any other number.

Part (c) was well answered by the more able candidate. However many candidates merely added the 6 numbers to give an answer of 114. 96.5 was also a common answer to part (c), by candidates failing to apply the correct order of operations. This did however gain 1 mark. Very many candidates actually found the median, which was also 19. This gained no credit. However an answer alone of 19 with no working did gain full credit. Clearly some candidates may have been very fortunate in this respect.

##

This question was accessible to most candidates. The vast majority gave the correct answer in

part (a) and some felt the need to rewrite the numbers even though they were already in the correct order.

Part (b) was more difficult but many candidates were able to score for either two 4's or a working showing a sum of 15.

E6. This question was well understood by most of the candidature though inevitably some candidates mixed up the concepts of range and median with many candidates also trying to calculate the mean instead of the range and the median.

In part (a) 63 % gained full marks for writing 13 whilst partial success of one mark was gained by 1.7% who wrote the highest and lowest number of points with some idea it was between them.

In part (b) the mark for the median was gained by 80% of candidates with many candidates writing 9.2, which was the mean.

The mark for part(c) was only gained by 41% of candidates and it was quite normal to see responses such as 9 – 11 or 9 – 12 with an answer of 10.5 for those candidates who forgot to put the 11 in the correct place in the ranking.

E7. Parts (a) and (b) of this question were done well by the majority of the candidates. A common error in part (a) was 20, and a common error in part (b) was 19.5.

In part (c), many candidates were able to score both marks for 15, but those candidates who just wrote, for example, 35 or 5 (presumably from $25 - 10 = 5$) on the answer line without working, were unable to access the mark for the sight of 10 and 25 together. Candidates should be encouraged to show all their working- even to relatively simple calculations.