

End of Topic Test – Chapter 1 (Test 1: Topics 1–3)

Answer all questions in the spaces provided.

1. Types of data

A fitness centre records the following information about its members:

- Age
- Membership type (Basic / Plus / Premium)
- Weekly number of gym visits
- Resting heart rate

- (a) (2 points) Identify two variables that are *categorical*.
- (b) (2 points) Identify one variable that is *discrete* and one that is *continuous*.
- (c) (2 points) Explain why age could be treated as either discrete or continuous depending on the context.

2. Averages and spread

A small business records the number of customer enquiries received each day over a week:

12, 18, 15, 21, 14, 19, 16

- (a) (2 points) Calculate the mean number of enquiries.

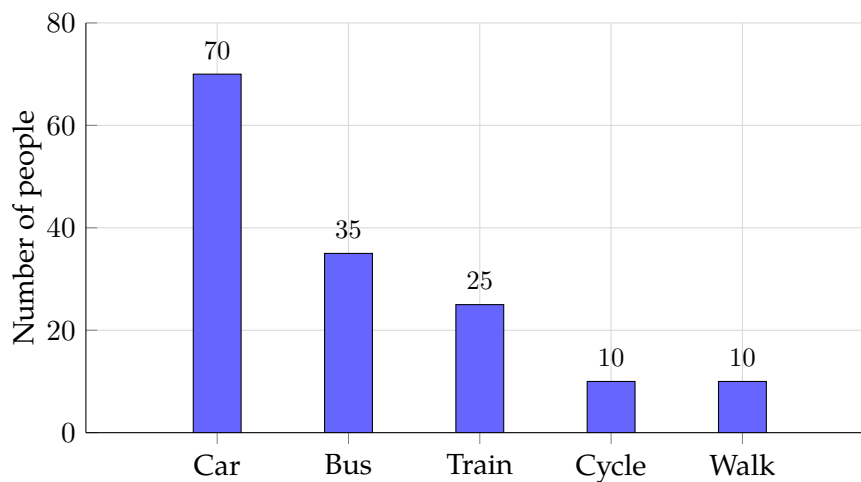
- (b) (2 points) Find the median.

- (c) (2 points) Calculate the range.

- (d) (2 points) Explain why the median might be more appropriate than the mean for skewed data.

3. Interpreting a bar chart

A survey asked 150 people which type of transport they used most often for commuting. The results are shown in the bar chart below.



- (a) (2 points) Which transport method was most common?
- (b) (2 points) What percentage of respondents used the train?
- (c) (2 points) Give one limitation of using a bar chart for this data.

4. Stem-and-leaf diagram

A group of 15 students recorded the number of hours they revised last week. The results are shown in the stem-and-leaf diagram.

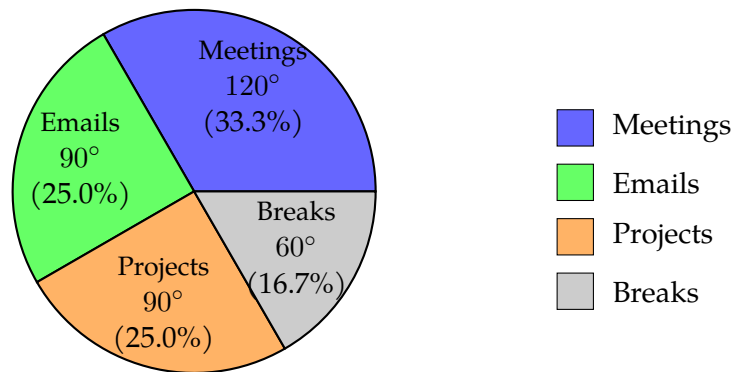
Stem	Leaves
1	2 4 5 8
2	0 1 3 7
3	1 4 5
4	0 2

Key: 1|4 means 14 hours.

- (a) (2 points) Write down the median number of hours revised.
- (b) (2 points) Find the modal class.
- (c) (2 points) Give one advantage of using a stem-and-leaf diagram instead of a bar chart.

5. Pie chart interpretation

A company analysed how employees spent their working day. The pie chart below summarises the results.



- (a) (2 points) What fraction of the working day was spent on meetings?
- (b) (2 points) If an employee works an 8-hour day, how many hours were spent on projects?
- (c) (2 points) Give one reason why a pie chart is suitable for this data.

