



S04-30min Types of Data: 30-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1 Classify the variable 'number of buttons on a coat' as discrete or continuous.

(Total for Question 1 is 1 mark)

- 2 Quantitative data can be further described as discrete or continuous.

(a) Define what is meant by discrete data. (1)

(b) Define what is meant by continuous data. (1)

(c) For each variable, write down whether it is discrete or continuous. (5)

Variable	Discrete or continuous
Shoe size	
Height of a plant (cm)	
Number of siblings	
Time taken to run 100 m (seconds)	
Mass of a bag of sugar (kg)	

(Total for Question 2 is 7 marks)

- 3** A student downloads average rainfall figures from the Met Office website. State whether this is primary or secondary data.

(Total for Question 3 is 1 mark)

- 4** For each variable, write down whether it is discrete or continuous.
- (a) The number of pages in a book.
 - (b) The volume of water in a bottle, in litres.

(Total for Question 4 is 2 marks)

5 Complete each sentence using one word from the box. Each word may be used once, more than once, or not at all.

qualitative, quantitative, discrete, continuous, primary, secondary

- (a) Data that describes a quality and cannot be measured numerically is called _____ data. (1)
- (b) Data that is numerical and can be counted or measured is called _____ data. (1)
- (c) _____ data can only take exact, separate values, such as the number of cars in a car park. (1)
- (d) _____ data can take any value within a range, such as the exact time taken to complete a race. (1)
- (e) Data collected first-hand, for a specific purpose, is called _____ data. (1)
- (f) Data that has already been collected by someone else, for a different purpose, is called _____ data. (1)

(Total for Question 5 is 6 marks)

6 Amir wants to find the average monthly rainfall in the UK over the last 20 years, to use in a geography project.

(a) State whether Amir should collect primary data or use secondary data for this investigation. **(1)**

(b) Give two reasons to justify your answer to part (a). **(2)**

(c) State one disadvantage of Amir using secondary data for this project. **(1)**

(Total for Question 6 is 4 marks)

7 Primary and secondary data both have advantages and disadvantages.

(a) Give one advantage of using primary data. **(1)**

(b) Give one disadvantage of using primary data. **(1)**

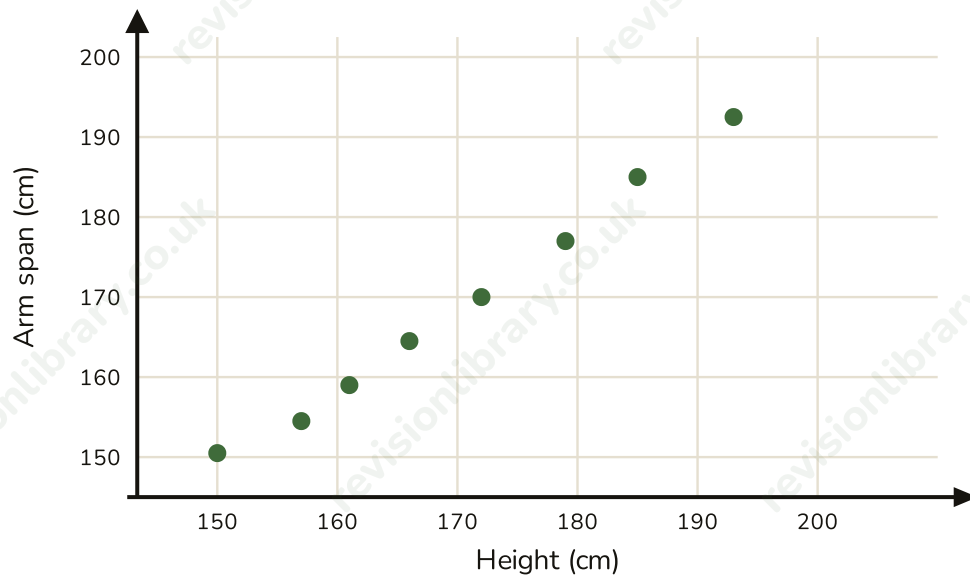
(c) Give one advantage of using secondary data. **(1)**

(d) Give one disadvantage of using secondary data. **(1)**

(e) A company wants to compare its own weekly sales figures against sales trends for the whole of the UK retail sector. State whether the company needs primary or secondary data to find out about UK-wide retail trends, and explain your answer. **(2)**

(Total for Question 7 is 6 marks)

- 8** Bivariate data is data in which two variables are recorded for each individual or item, so that any relationship between them can be investigated. The scatter graph shows the height and arm span of 8 students in a class.



- (a) Define what is meant by bivariate data. (1)
- (b) State the two variables that have been recorded to create this scatter graph. (2)
- (c) Give one other example of a pair of variables that would produce bivariate data if recorded for the same group of people. (1)

(Total for Question 8 is 4 marks)

Mark scheme · S04-30min Types of Data: 30-minute Pack

Question 1

- **B1** Discrete cao
- **Answer: Discrete**

Question 2

- (a) **B1** data that can only take specific, separate values (often whole numbers obtained by counting) oe
- **(a) Answer: Discrete data can only take specific, separate values, often whole numbers obtained by counting.**
- (b) **B1** data that can take any value within a range and is usually obtained by measuring oe
- **(b) Answer: Continuous data can take any value within a range and is usually obtained by measuring.**
- (c) **B1** Shoe size: discrete
- (c) **B1** Height of a plant (cm): continuous
- (c) **B1** Number of siblings: discrete
- (c) **B1** Time taken to run 100 m (seconds): continuous
- (c) **B1** Mass of a bag of sugar (kg): continuous
- **(c) Answer: Shoe size - discrete; Height of a plant - continuous; Number of siblings - discrete; Time to run 100 m - continuous; Mass of a bag of sugar - continuous.**

Question 3

- **B1** Secondary cao
- **Answer: Secondary**

Question 4

- **B1** (a) Discrete cao
- **B1** (b) Continuous cao
- **Answer: (a) Discrete (b) Continuous**

Question 5

- (a) **B1** qualitative
- **(a) Answer: qualitative**
- (b) **B1** quantitative
- **(b) Answer: quantitative**
- (c) **B1** discrete
- **(c) Answer: discrete**
- (d) **B1** continuous
- **(d) Answer: continuous**
- (e) **B1** primary
- **(e) Answer: primary**
- (f) **B1** secondary
- **(f) Answer: secondary**

Question 6

- (a) **B1** secondary data
- **(a) Answer: Secondary data.**
- (b) **B1** collecting 20 years of rainfall data himself would take far too long and is impractical
- (b) **B1** reliable rainfall records already exist (e.g. from the Met Office), so there is no need to collect it again
- **(b) Answer: It would take Amir far too long to record rainfall himself for 20 years, and reliable records already exist (e.g. from the Met Office), so he should use those instead.**
- (c) **B1** the data may have been collected in a different way, for a different region, or for a different purpose, so it may not exactly match what Amir needs
- **(c) Answer: The secondary data may not exactly match what Amir needs, for example if it covers different regions or was recorded in a different way to what his project requires.**

Question 7

- (a) **B1** collected for the exact purpose needed and the researcher controls how it is collected
- **(a) Answer: Primary data is collected for the exact purpose needed, and the researcher has control over how it is collected.**
- (b) **B1** can take a long time and cost more to collect
- **(b) Answer: Collecting primary data can take a long time and cost more than using data that already exists.**
- (c) **B1** usually quicker and cheaper to obtain, since it already exists
- **(c) Answer: Secondary data already exists, so it is usually quicker and cheaper to obtain than primary data.**
- (d) **B1** may not exactly match the purpose needed, may be out of date, or its reliability cannot be checked
- **(d) Answer: Secondary data may not exactly match the purpose it is being used for, may be out of date, or its reliability cannot always be checked.**
- (e) **B1** secondary data
- (e) **B1** because it would be impractical, too costly and too time-consuming for the company to survey the whole UK retail sector itself
- **(e) Answer: Secondary data - the company cannot realistically survey every retailer in the UK itself, so it should use existing published sales figures for the sector.**

Question 8

- (a) **B1** data in which two variables are recorded for each individual or item, so a relationship between them can be studied
- **(a) Answer: Bivariate data is data in which two variables are recorded for each individual or item, so that a relationship between them can be investigated.**
- (b) **B1** height (of each student)
- (b) **B1** arm span (of each student)
- **(b) Answer: Height and arm span.**
- (c) **B1** any sensible related pair of variables recorded for the same items/people, e.g. age and shoe size, or hours of revision and test score
- **(c) Answer: For example, age and shoe size, or hours spent revising and test score.**