

# GCSE Mathematics

**F**

## Collecting Data & Sampling Methods

Foundation Tier | Grades 2-4

| Total Marks | Time   | Questions |
|-------------|--------|-----------|
| 36          | 36 min | 20        |

**Instructions:**

- Do not use a calculator when you see: 
- Answer all questions in the spaces provided.
- Show all your working - marks are awarded for method as well as final answers.
- Cross through any work you do not want to be marked.
- Check your answers if you have time at the end.

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## Edexcel-style questions

**Q1** 

Grade 2

Edexcel style

State whether the following data is qualitative or quantitative: the number of pets owned by each student in a class.

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Answer 

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teachably

[1 mark]

**Q2** 

Grade 3

Edexcel style

A researcher selects every 10th name from an alphabetical list of employees to survey. What sampling method is this?

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Answer 

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teachably

[1 mark]

**Q3** 

Grade 3

Edexcel style

A survey question asks: 'Don't you agree that the new park is a great addition to the town?' Give one criticism of this question.

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Answer 

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teachably

[2 marks]

**Q4** 

Grade 4

Edexcel style

A researcher wants to find out the most popular sport in a town. She surveys people leaving a football stadium after a match. Explain why this sample may be biased.

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Answer \_\_\_\_\_

teachably

**[2 marks]****Q5** 

Grade 4

Edexcel style

A school has 180 Year 10 students and 220 Year 11 students. A stratified sample of 40 students is taken. How many Year 10 students should be sampled?

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Answer \_\_\_\_\_

teachably

**[3 marks]**

**AQA-style questions****Q6** 

Grade 2

AQA style

State whether the following data is qualitative or quantitative: the eye colour of each student in a class.

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Answer 

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teachably

**[1 mark]****Q7** 

Grade 3

AQA style

A researcher uses a random number generator to select 20 students from a numbered list of all students in a school. What sampling method is this?

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Answer 

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teachably

**[1 mark]****Q8** 

Grade 3

AQA style

A survey question asks: 'How many hours of TV do you watch a week: 0-5, 5-10, 10+?' Give one criticism of this question.

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Answer 

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teachably

**[2 marks]**

**Q9** 

Grade 4

AQA style

A company wants to know if people prefer their new product. They only survey customers who complete a card sent with the product. Explain why this sample may be biased.

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Answer \_\_\_\_\_

teachably

**[2 marks]****Q10** 

Grade 4

AQA style

A company has 150 male employees and 250 female employees. A stratified sample of 80 employees is taken. How many female employees should be sampled?

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Answer \_\_\_\_\_

teachably

**[3 marks]**

**OCR-style questions****Q11** 

Grade 2

OCR style

State whether the following data is discrete or continuous: the height of each plant in a garden, measured in cm.

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Answer 

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teachably

**[1 mark]****Q12** 

Grade 3

OCR style

A school has 300 boys and 200 girls. A researcher samples students so that the proportion of boys and girls in the sample matches the proportion in the school. What sampling method is this?

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Answer 

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teachably

**[1 mark]****Q13** 

Grade 3

OCR style

A survey question asks: 'Do you exercise regularly?' Give one criticism of this question.

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Answer 

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teachably

**[2 marks]**

**Q14** 

Grade 4

OCR style

A researcher surveys people's shopping habits by only asking people in a shopping centre on a weekday morning. Explain why this sample may be biased.

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Answer 

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teachably

**[2 marks]****Q15** 

Grade 4

OCR style

A library has 320 fiction books and 480 non-fiction books. A stratified sample of 40 books is taken for a survey. How many fiction books should be sampled?

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Answer 

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teachably

**[3 marks]**

## Teachably-style questions

### Q16

Grade 2

Teachably style

State whether the following data is discrete or continuous: the number of goals scored in a football match.

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Answer 

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teachably

[1 mark]

### Q17

Grade 3

Teachably style

A researcher stands outside a supermarket and asks the first 50 people who walk past to complete a survey. What sampling method is this?

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Answer 

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teachably

[1 mark]

### Q18

Grade 3

Teachably style

A survey question asks: 'How many books do you read?' Give one criticism of this question.

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Answer 

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teachably

[2 marks]

**Q19** 

Grade 4

Teachably style

A school wants to find out students' opinions on the school canteen. They only survey students in the canteen at lunchtime. Explain why this sample may be biased.

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Answer \_\_\_\_\_

teachably

[2 marks]

**Q20** 

Grade 4

Teachably style

A town has 900 households in area A and 600 households in area B. A stratified sample of 50 households is taken. How many households from area B should be sampled?

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Answer \_\_\_\_\_

teachably

[3 marks]

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