

Paper Reference 1ST0/1H  
Pearson Edexcel  
Level 1/Level 2 GCSE (9–1)

Statistics  
Paper 1  
(Calculator)  
Higher Tier

Thursday 13 June 2019 – Afternoon

Data Book

In the boxes below, write your name, centre number and candidate number.

|                  |  |  |  |  |  |
|------------------|--|--|--|--|--|
| Surname          |  |  |  |  |  |
| Other names      |  |  |  |  |  |
| Centre Number    |  |  |  |  |  |
| Candidate Number |  |  |  |  |  |

## INSTRUCTIONS

There may be spare copies of some data sheets in case you need them.

**THIS DATA BOOK *MUST* BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.**

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Question 1

Key:

Number of children

9 or more

6 – 8

3 – 5


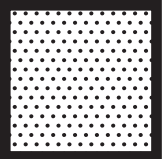


0 – 2

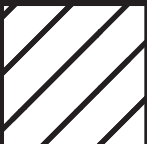
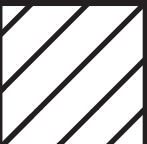

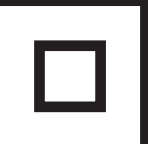

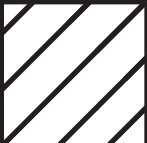
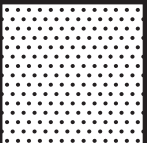
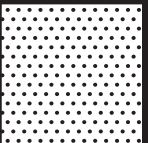


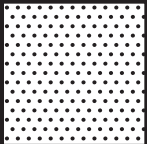
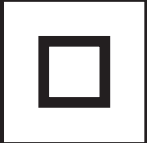
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Question 1

**Key:**

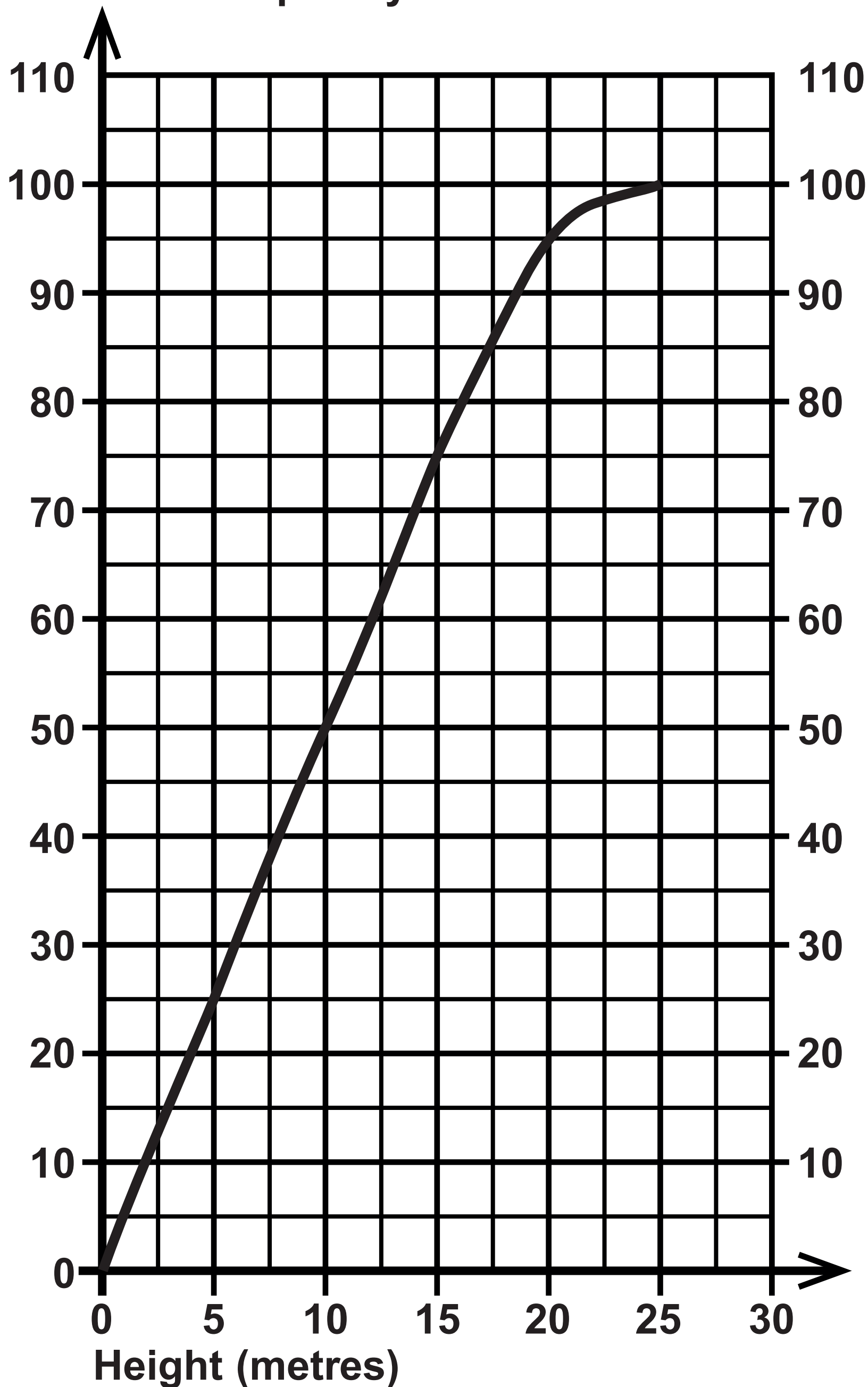
**Number of children**

|   |                  |
|---|------------------|
|    | <b>9 or more</b> |
|   | <b>6 – 8</b>     |
|  | <b>3 – 5</b>     |
|  | <b>0 – 2</b>     |

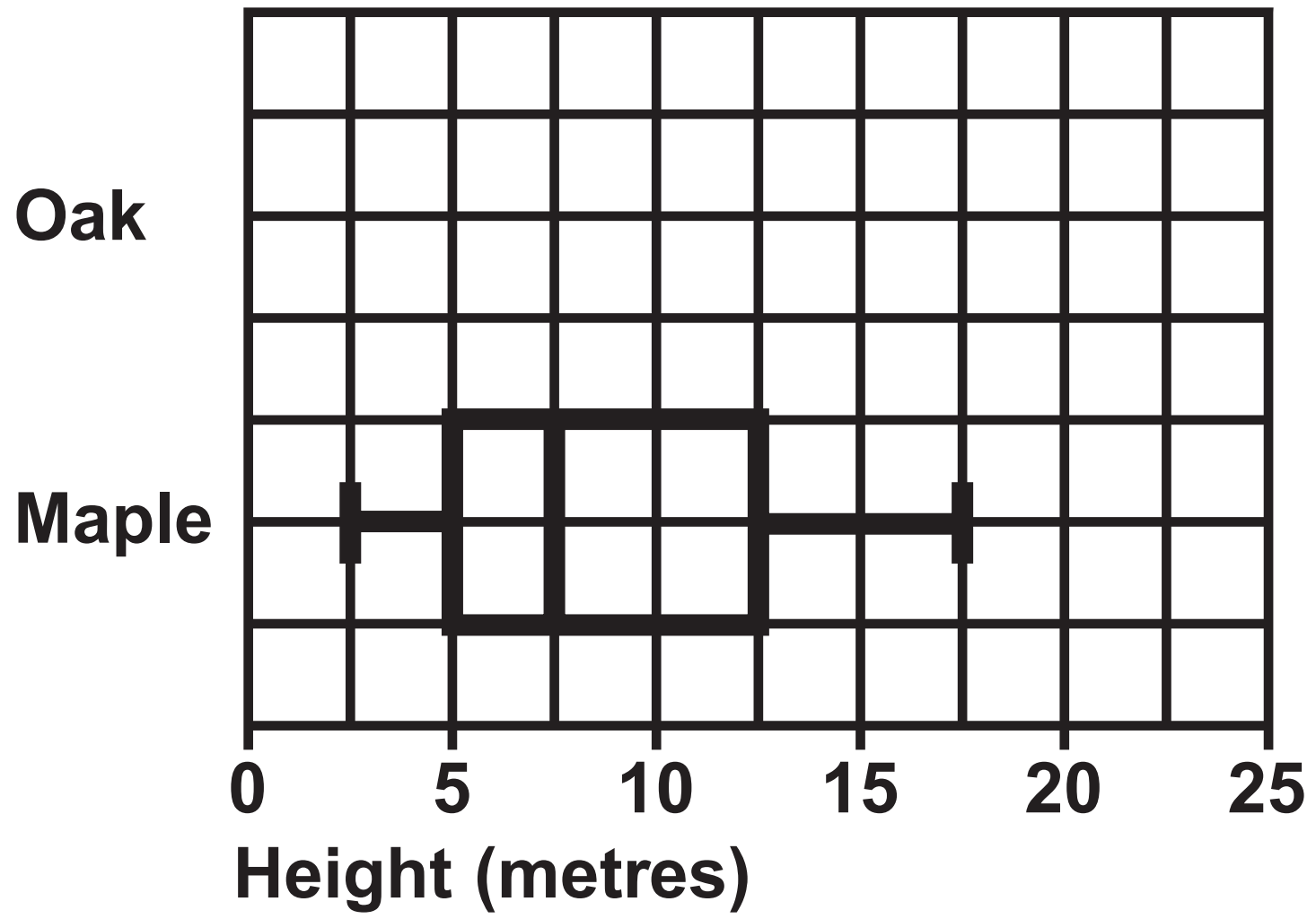
|   |   |  |   |   |
|---|---|--|---|---|
|  |  |  |  |  |
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## Question 2

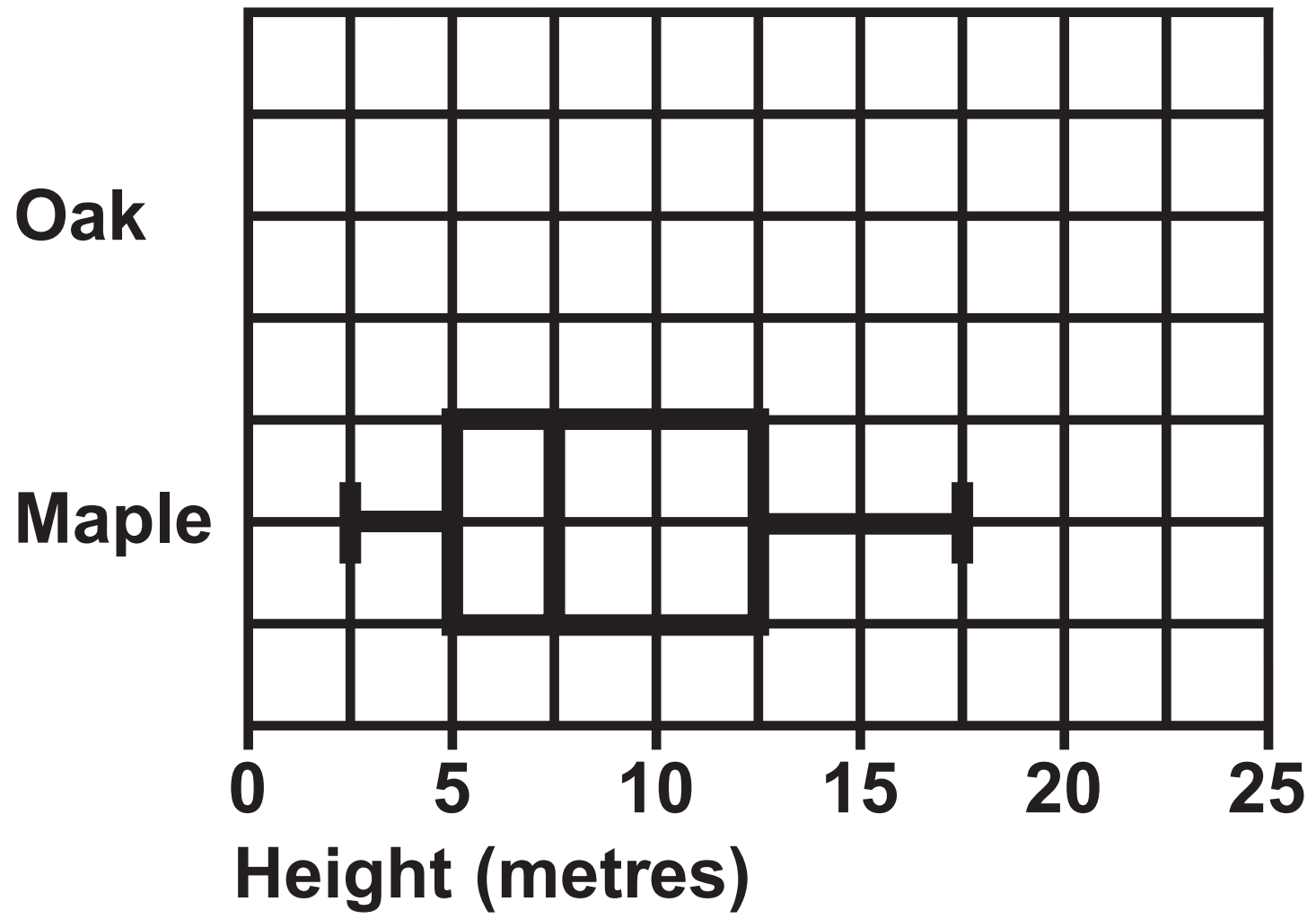
Cumulative frequency

(Adapted from: [opendata.camden.gov.uk](https://opendata.camden.gov.uk))

Question 2(b)



Question 2(b)





## Question 3

| Type of school     | Applications in 2016 |        |       |
|--------------------|----------------------|--------|-------|
|                    | Gender               |        | Total |
|                    | Male                 | Female |       |
| Maintained         | 3674                 | 2899   | 6573  |
| Independent        | 1510                 | 1268   | 2778  |
| Other and Overseas | 300                  | 312    | 612   |
| Total              | 5484                 | 4479   | 9963  |

(Source: [www.cam.ac.uk](http://www.cam.ac.uk))

| Variable | Type of variable             |          |            |
|----------|------------------------------|----------|------------|
|          | Explanatory                  | Response | Extraneous |
|          | Age                          |          |            |
|          | Left/Right handedness        |          |            |
|          | Gender                       |          |            |
|          | Number of objects remembered |          |            |

| Variable                     | Type of variable      |          |            |
|------------------------------|-----------------------|----------|------------|
|                              | Explanatory           | Response | Extraneous |
|                              | Age                   |          |            |
|                              | Left/Right handedness |          |            |
|                              | Gender                |          |            |
| Number of objects remembered |                       |          |            |

Question 6

Table 1

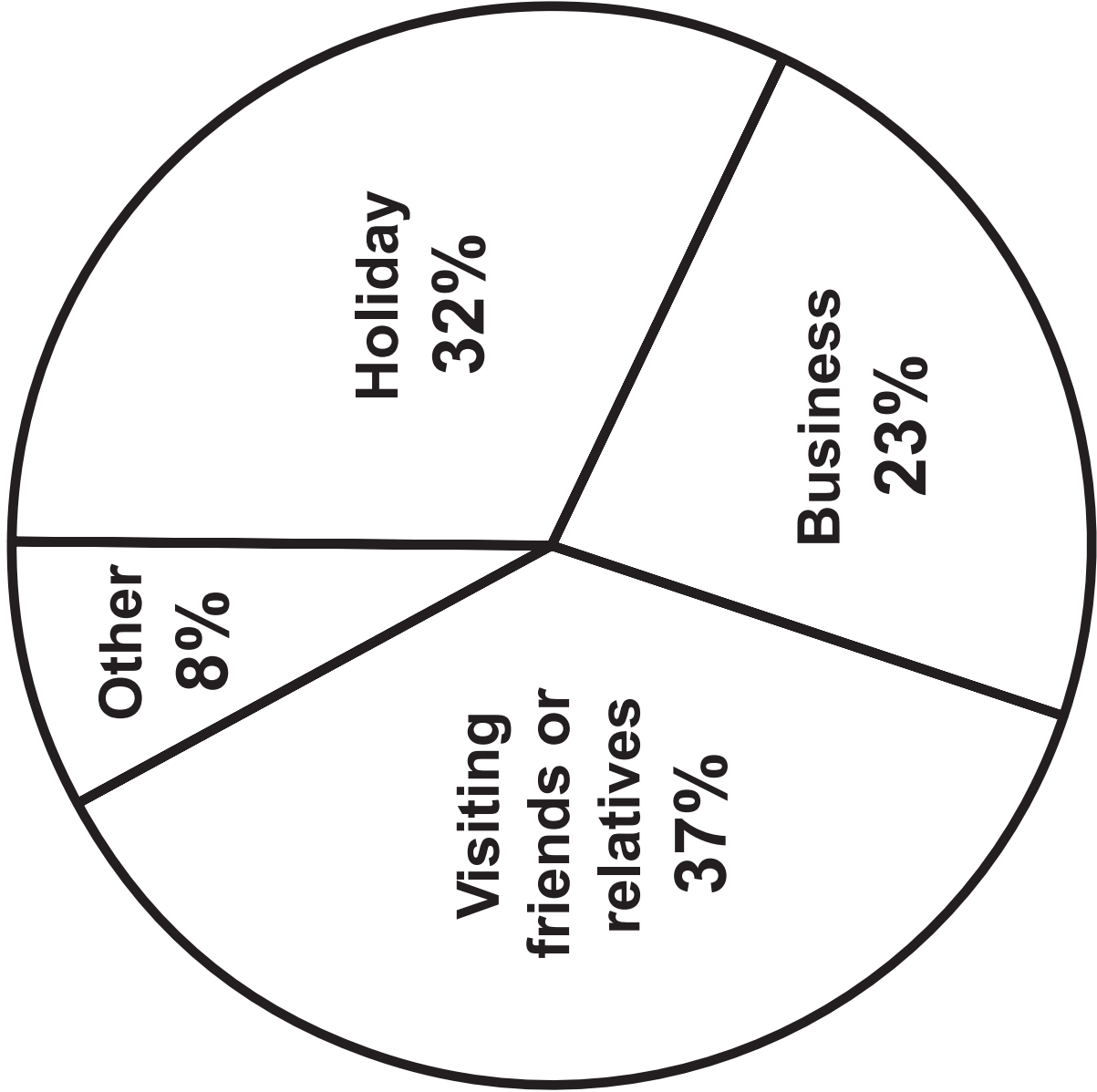
| Caribbean island | Crude birth rate | Crude death rate |
|------------------|------------------|------------------|
| Barbados         | 11·995           | 10·661           |
| Saint Lucia      | 12·239           | 7·472            |

(Source: [www.data.worldbank.org](http://www.data.worldbank.org))

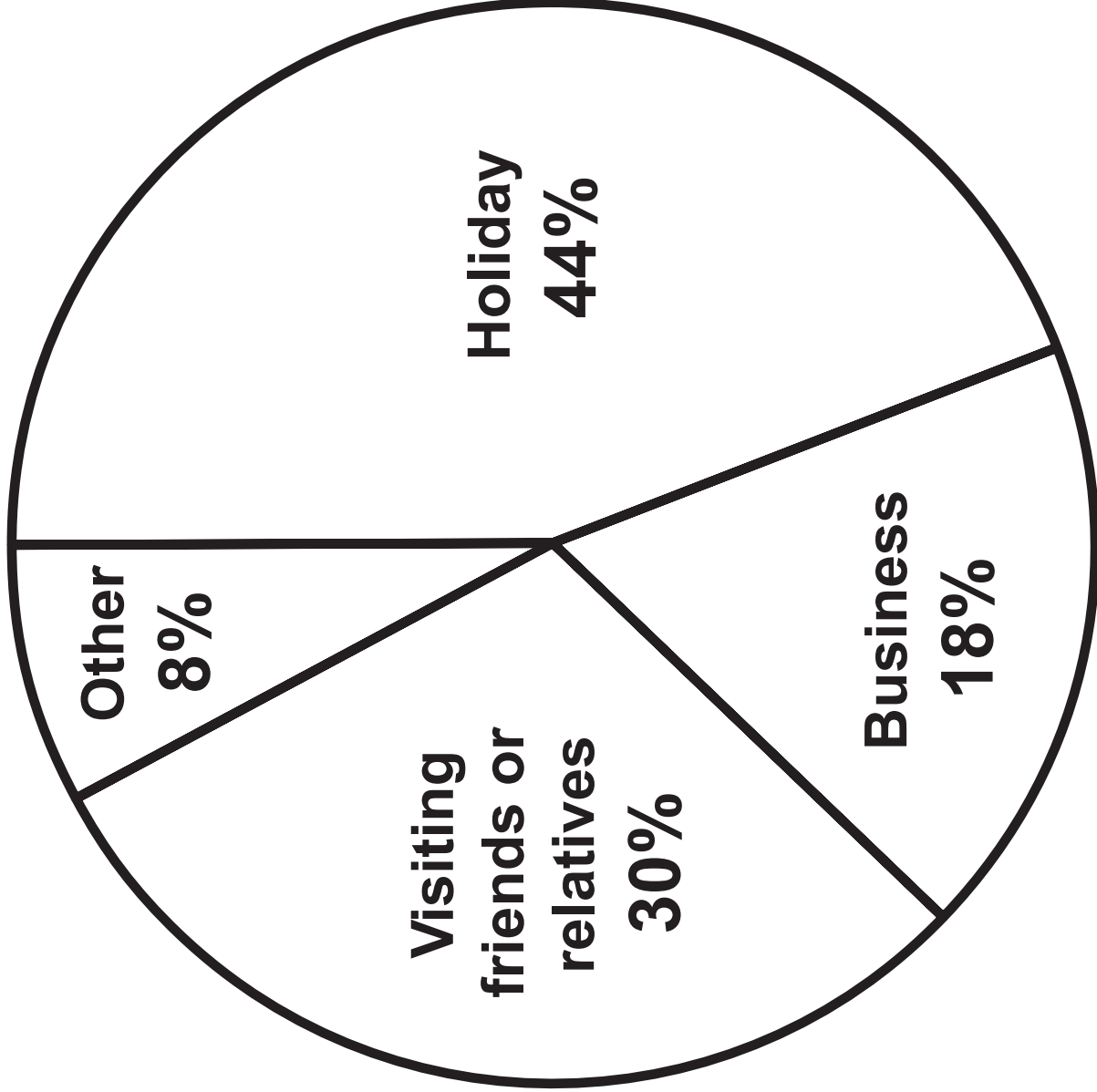
Table 2

| Standard population |             |
|---------------------|-------------|
| Age Group           | Saint Lucia |
| 60 to 69            | 64          |
| 70 to 79            | 39          |
| 80 and over         | 22          |

January 2017



July 2017



(Source: [www.ons.gov.uk](http://www.ons.gov.uk))

Question 7(c)

| Month        | Total number of visitors<br>(thousands) |
|--------------|---|
| January 2017 | 2931                                    |
| July 2017    | 4020                                    |

Question 8

| Weight (kg) for Boys (B) and Girls (G) |            |      |      |     |      |      |      |      |  |
|--|------------|------|------|-----|------|------|------|------|--|
| Age<br><br>(months)                    | Percentile |      |      |     |      |      |      |      |  |
|  | 9th        |      | 25th |     | 50th |      | 91st |      |  |
|  | B          | G    | B    | G   | B    | G    | B    | G    |  |
|  |            |      |      |     |      |      |      |      |  |
| 3                                      | 5·45       | 4·9  | 5·9  | 5·4 | 6·2  | 5·85 | 7·35 | 6·9  |  |
| 4                                      | 6·1        | 5·45 | 6·5  | 5·9 | 7    | 6·4  | 8·15 | 7·6  |  |
| 5                                      | 6·5        | 5·9  | 7    | 6·4 | 7·5  | 6·9  | 8·7  | 8·25 |  |
| 6                                      | 6·8        | 6·2  | 7·4  | 6·7 | 7·9  | 7·5  | 9·2  | 8·6  |  |

(Source adapted from: [www.rcpch.ac.uk](http://www.rcpch.ac.uk))

## Question 9

Giovani goes to the region of Ontario, captures a sample of **250** reindeer, attaches a tag to each reindeer and then releases the **250** reindeer back into the same region of Ontario.

Three days later, Giovani returns to the same region of Ontario and catches a sample of **98** reindeer.

He finds that **5** of these reindeer are tagged.

Giovani concludes that this information can be used to verify the estimate of **5000**



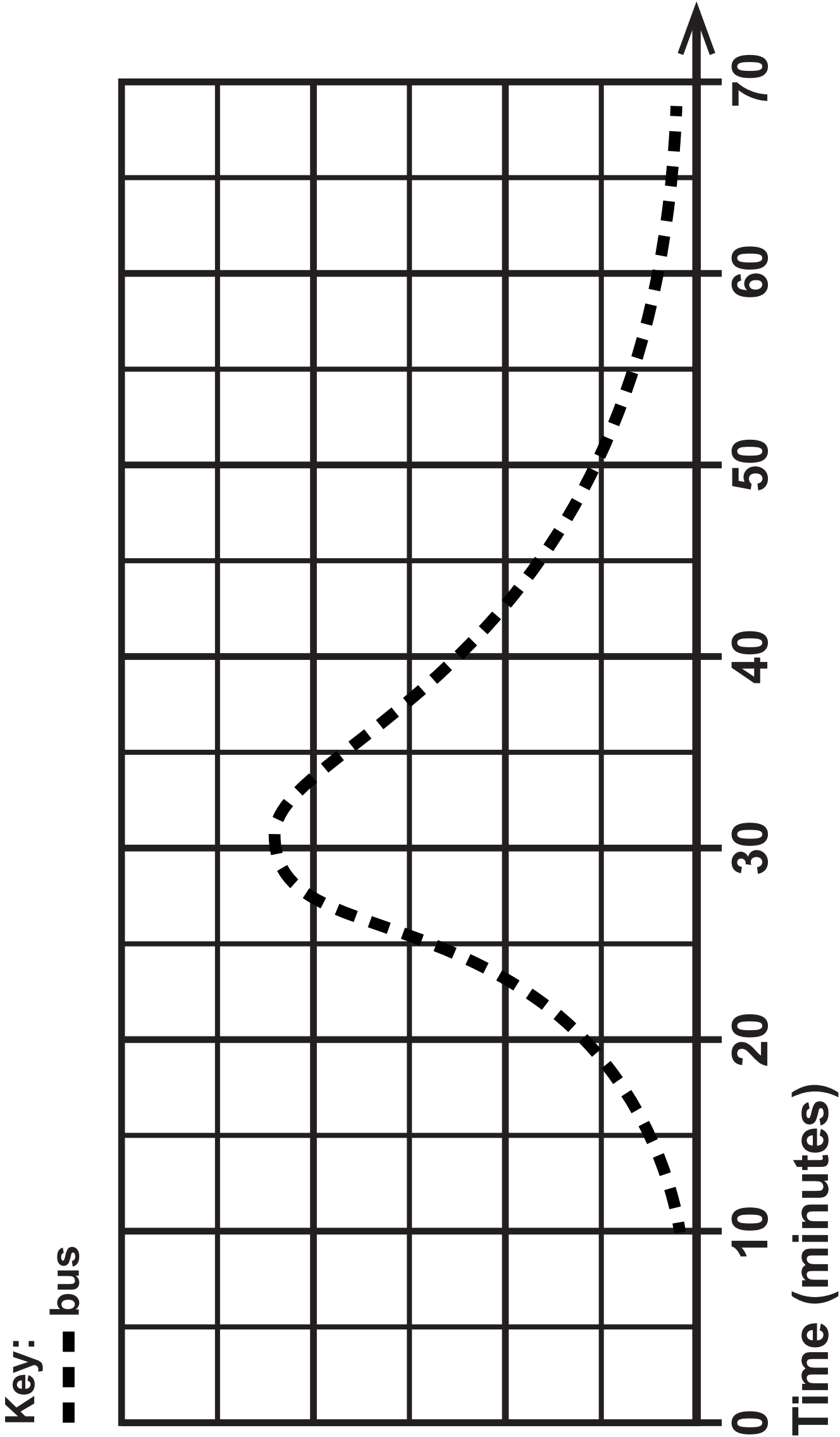
Question 10

| Time spent on social media<br>(t minutes) | Frequency |
|---|-----------|
| $0 \leq t < 50$                           | 1         |
| $50 \leq t < 100$                         | 4         |
| $100 \leq t < 150$                        | 8         |
| $150 \leq t < 200$                        | 17        |
| $200 \leq t < 300$                        | 16        |

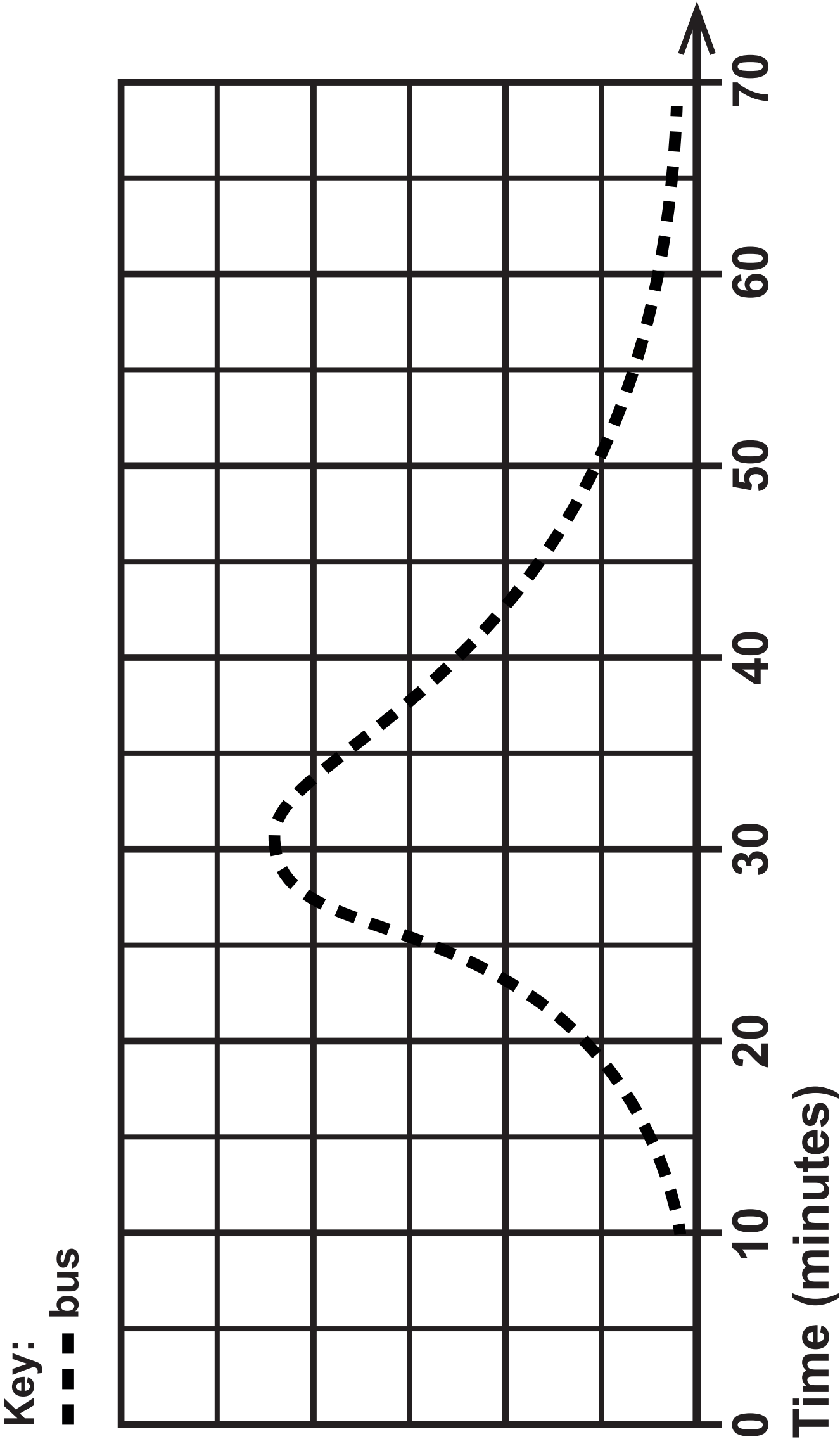
Question 10(b)

| Mean<br>(minutes) | Standard deviation<br>(minutes) | Median<br>(minutes) |
|-------------------|---------------------------------|---------------------|
| 125               | 25                              | 130                 |

Question 11(b)



Question 11(b)



Question 12

| Class | Number of students<br>in the class | Class mean<br>mark |
|-------|------------------------------------|--------------------|
| A     | 28                                 | 63                 |
| B     | 32                                 | 72                 |
| C     | n                                  | 55                 |

## Question 12(c)

The three classes have also taken a mathematics test.

Mr Singh thinks that there is a relationship between the science marks and the mathematics marks.

He draws a scatter diagram for each of the three classes.

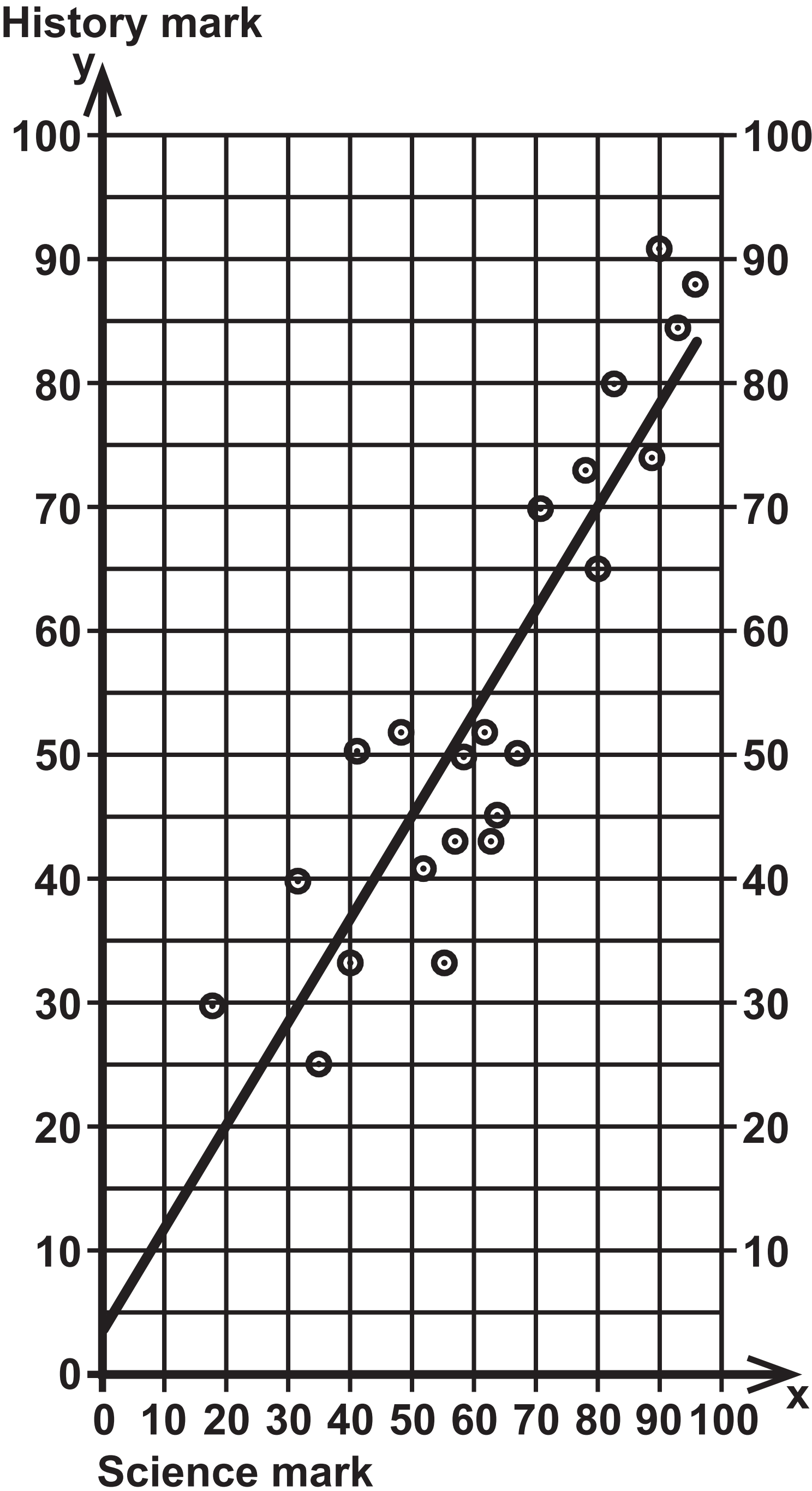
For each diagram, he used the science mark,  $X$ , for each student in the class as the explanatory variable and the corresponding mathematics mark,  $m$ , as the response variable.

Mr Singh then used statistical software to find the equation of the regression line for the data in each scatter diagram.

Here are the equations.

| Class | Equation of regression line |
|-------|-----------------------------|
| A     | $m = 1.4x - 1$              |
| B     | $m = 1.2x + 5$              |
| C     | $m = -1.3x + 4$             |

Question 12(d)



## Question 13

Roll a fair dice.

If you get 1, 2, 3 or 4 tick box **A**

If you get 5 or 6 answer this question.

Have you ever taken a sick day off work when you weren't really sick?

If yes, tick box **A**

If no, tick box **B**

**A**

☐

**B**

☐