

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

Statistics
Paper 2
(Calculator)
Higher Tier

Tuesday 16 June 2020 – Morning

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.

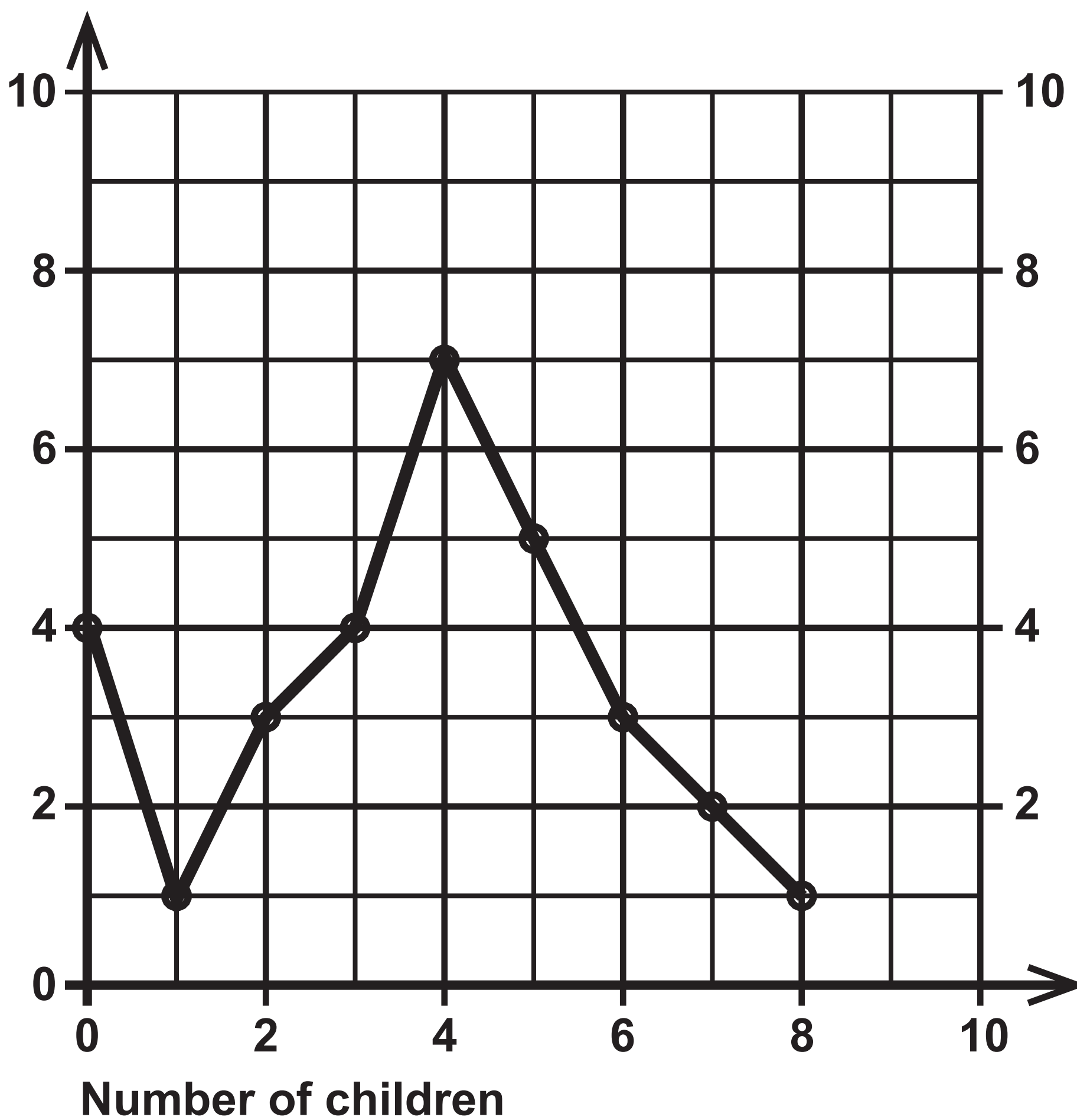
THIS DATA BOOK *MUST* BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

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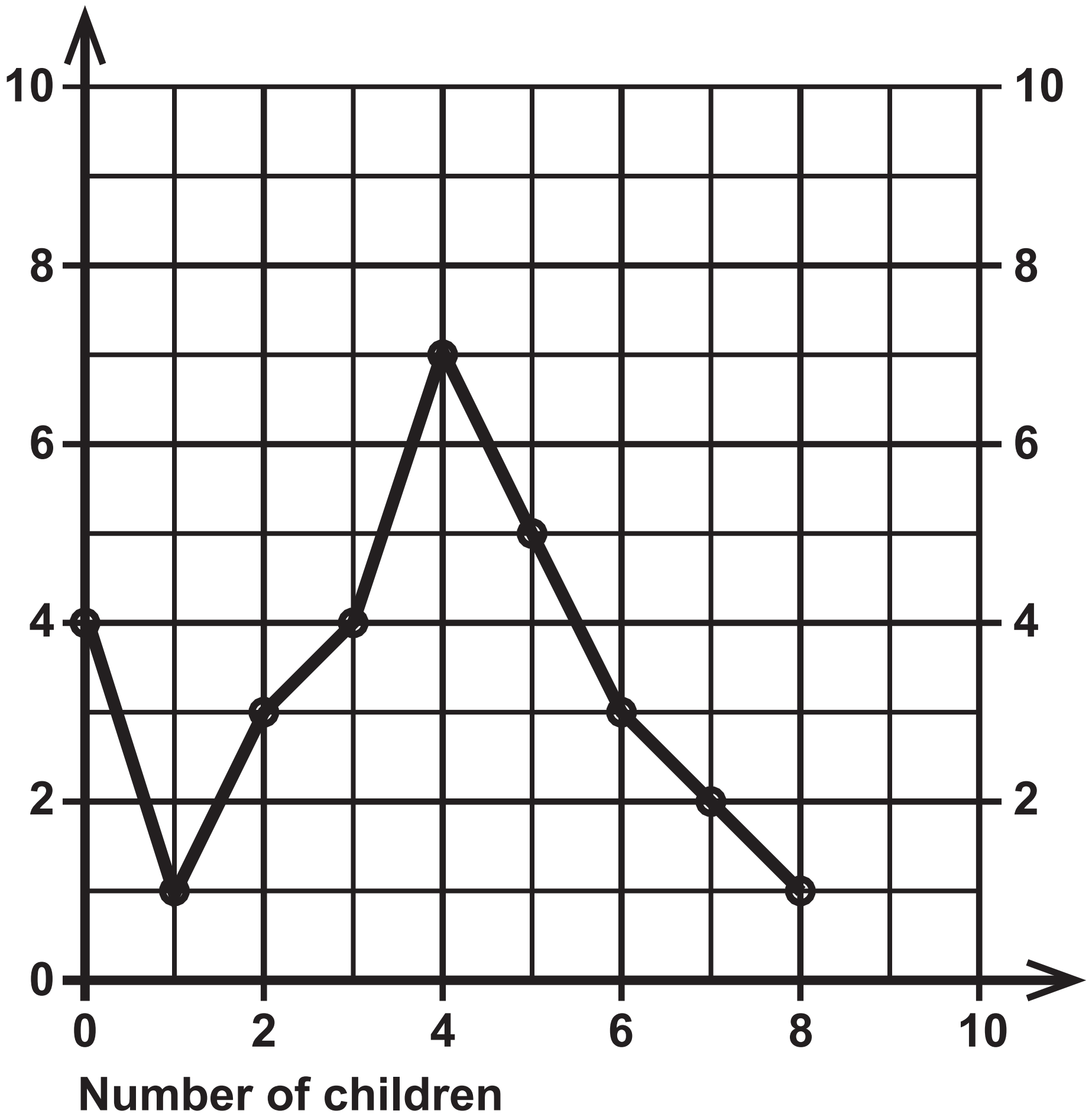
Question 1

Frequency



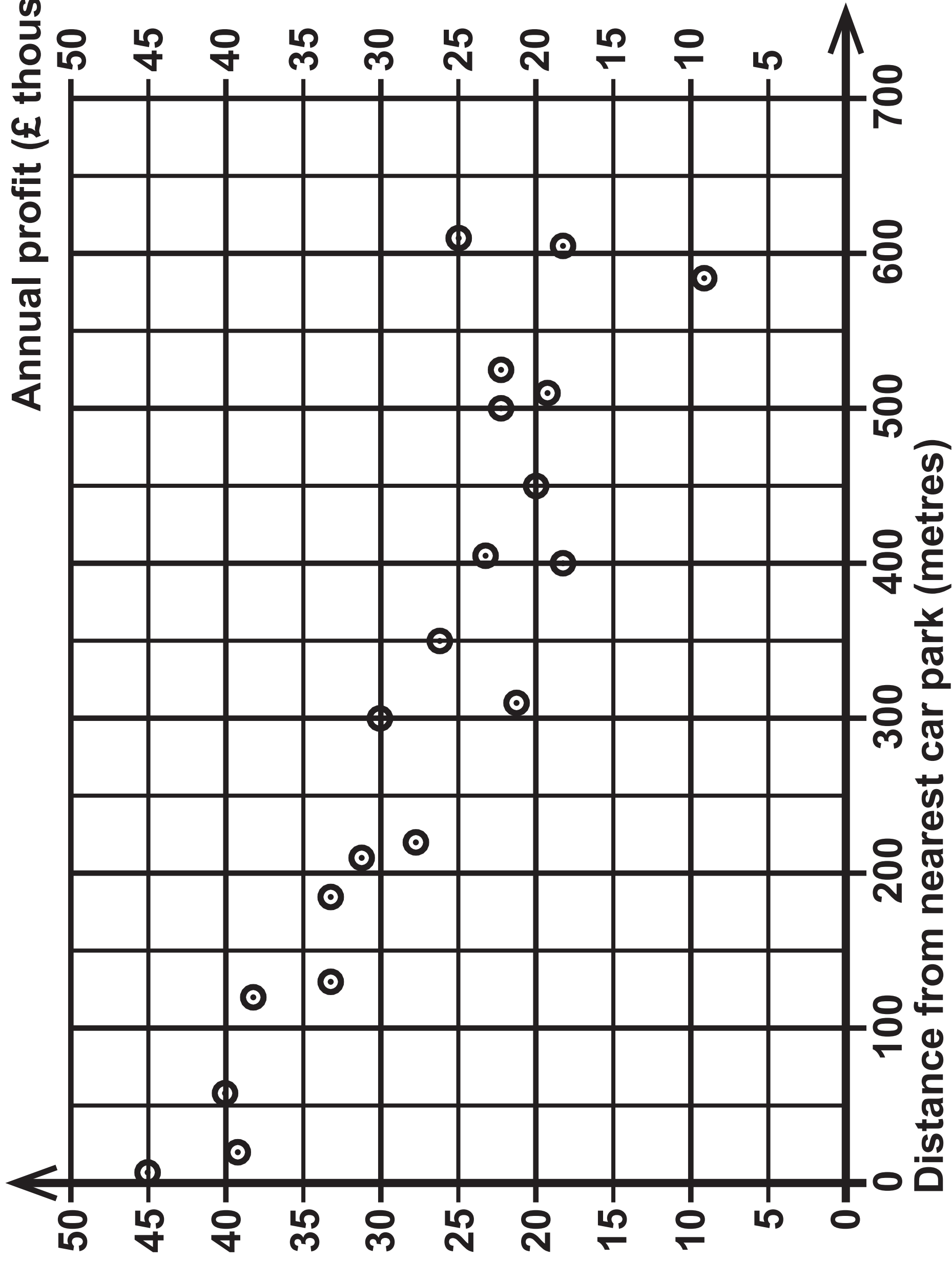
Question 1

Frequency



Question 2

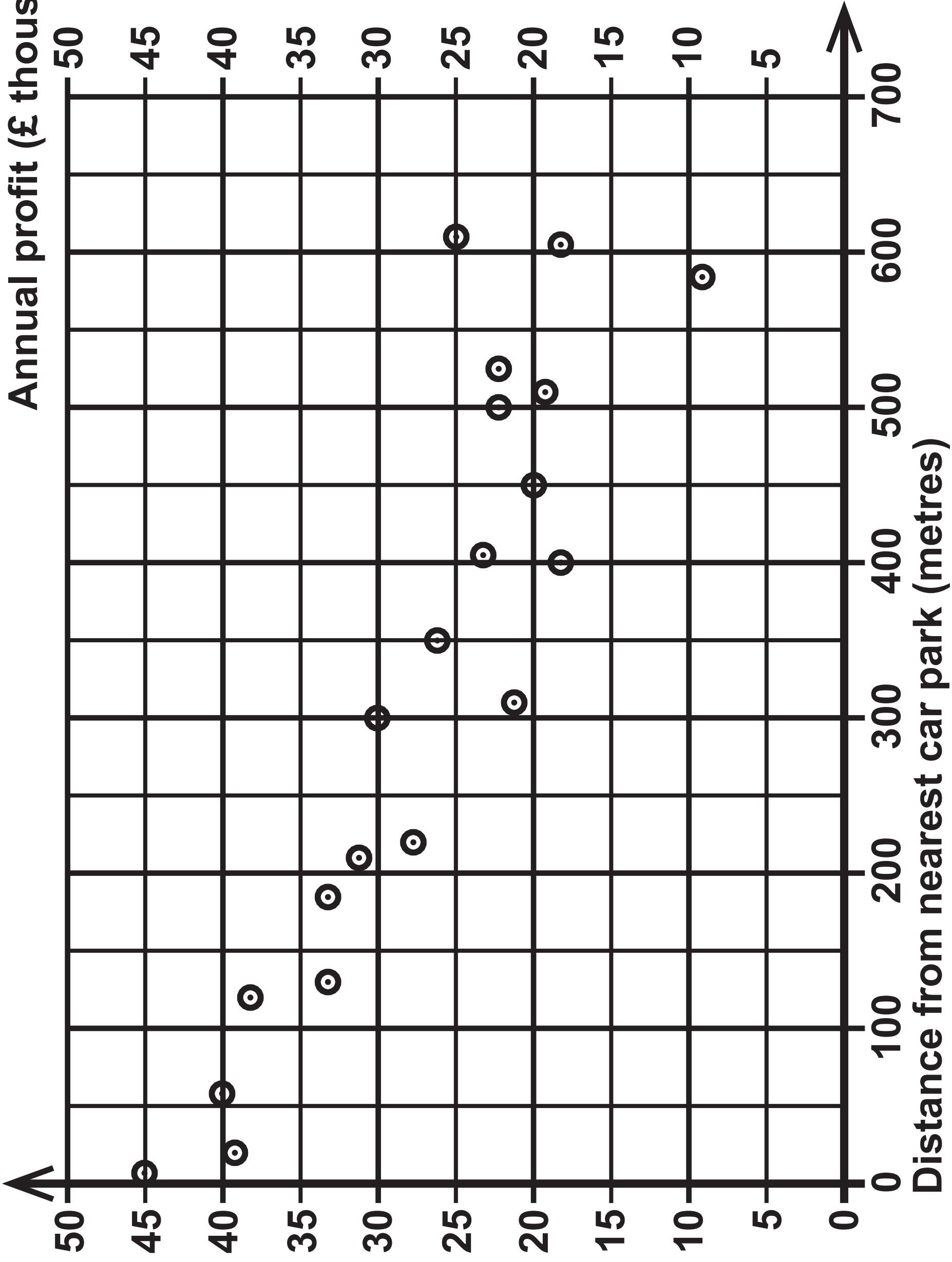
Annual profit (£ thousands)



Annual profit (£ thousands)

Question 2

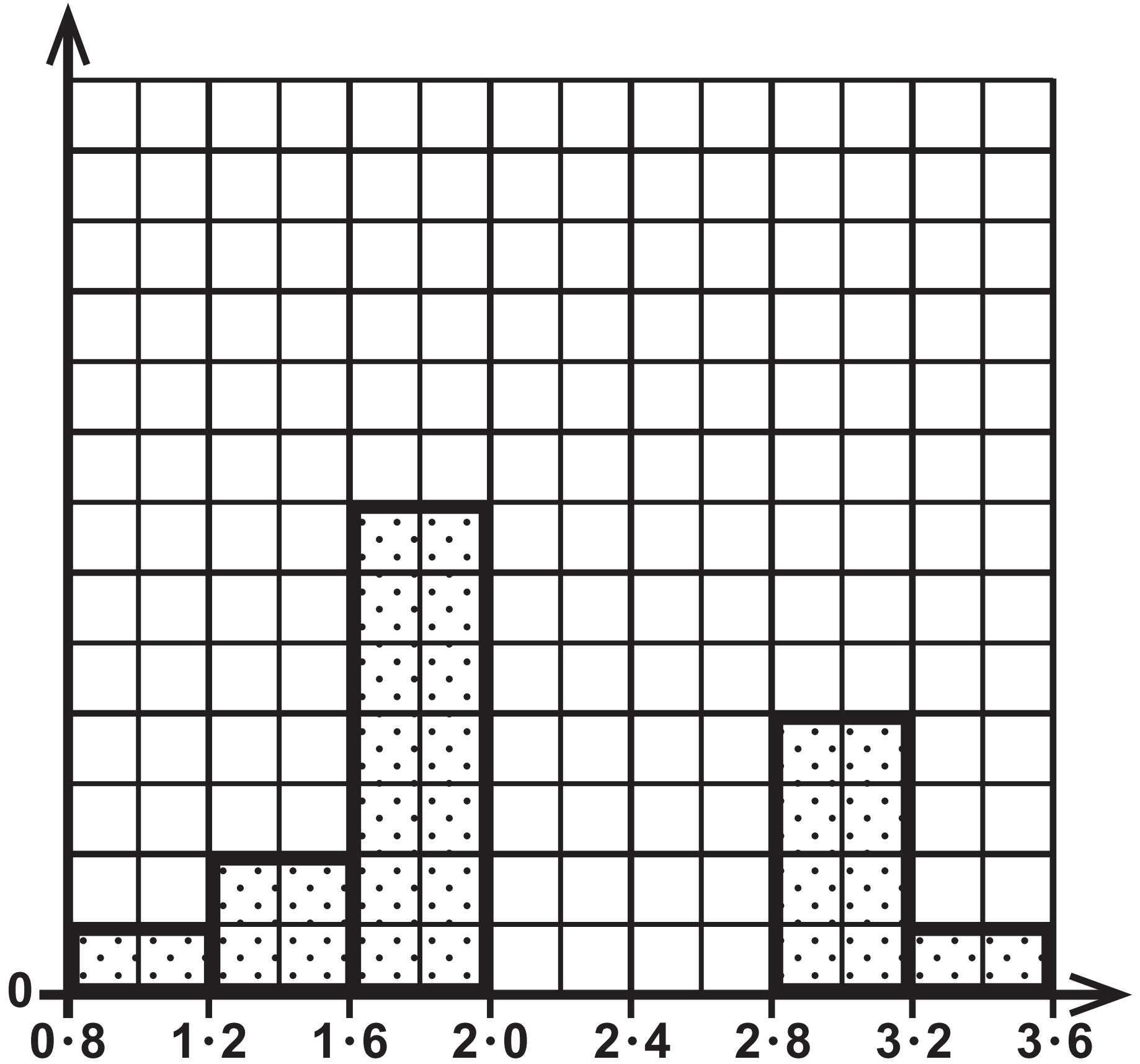
Annual profit (£ thousands)



Annual profit (£ thousands)

Questions 3(a) and 3(b)

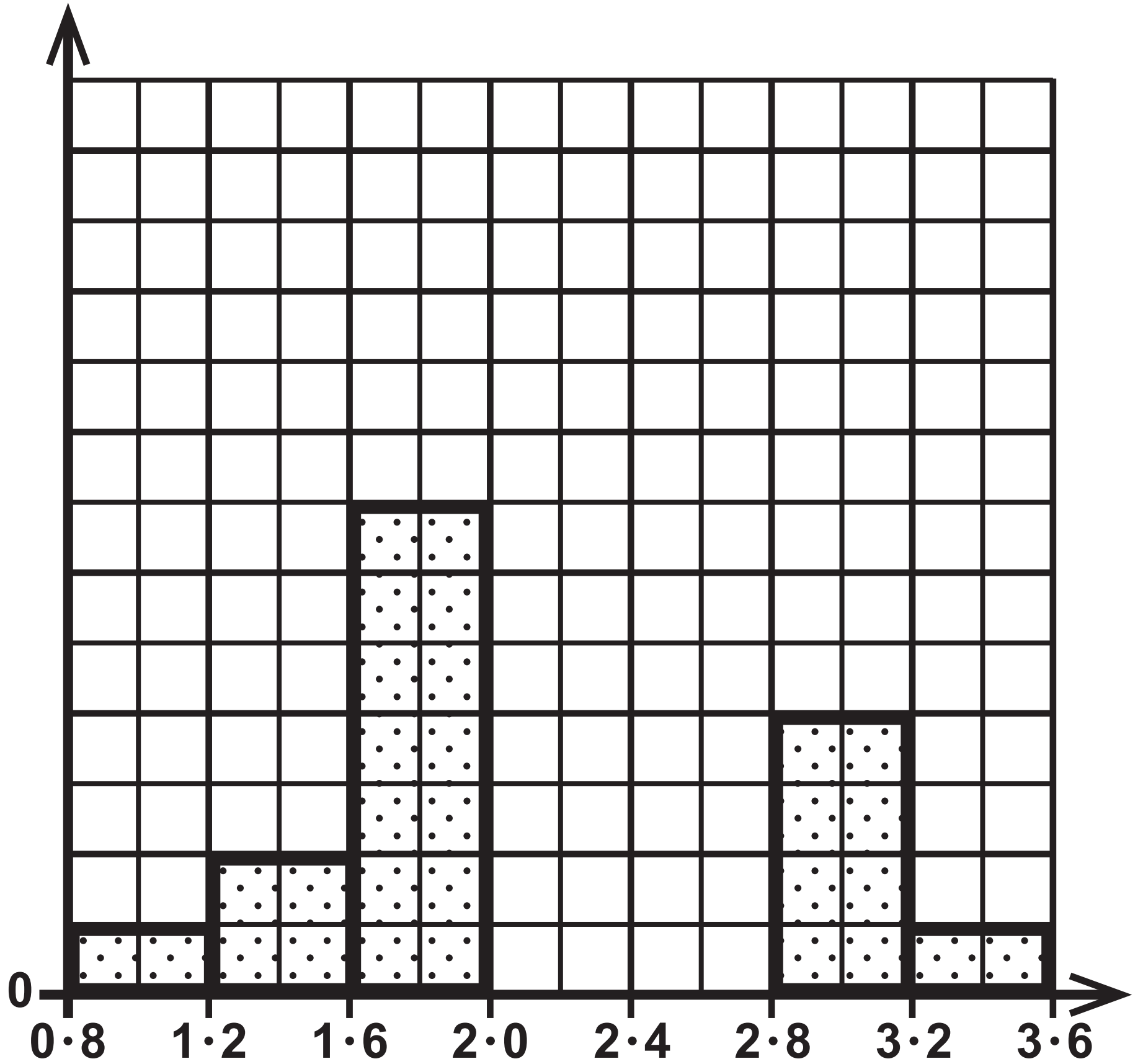
Frequency



Height (metres)

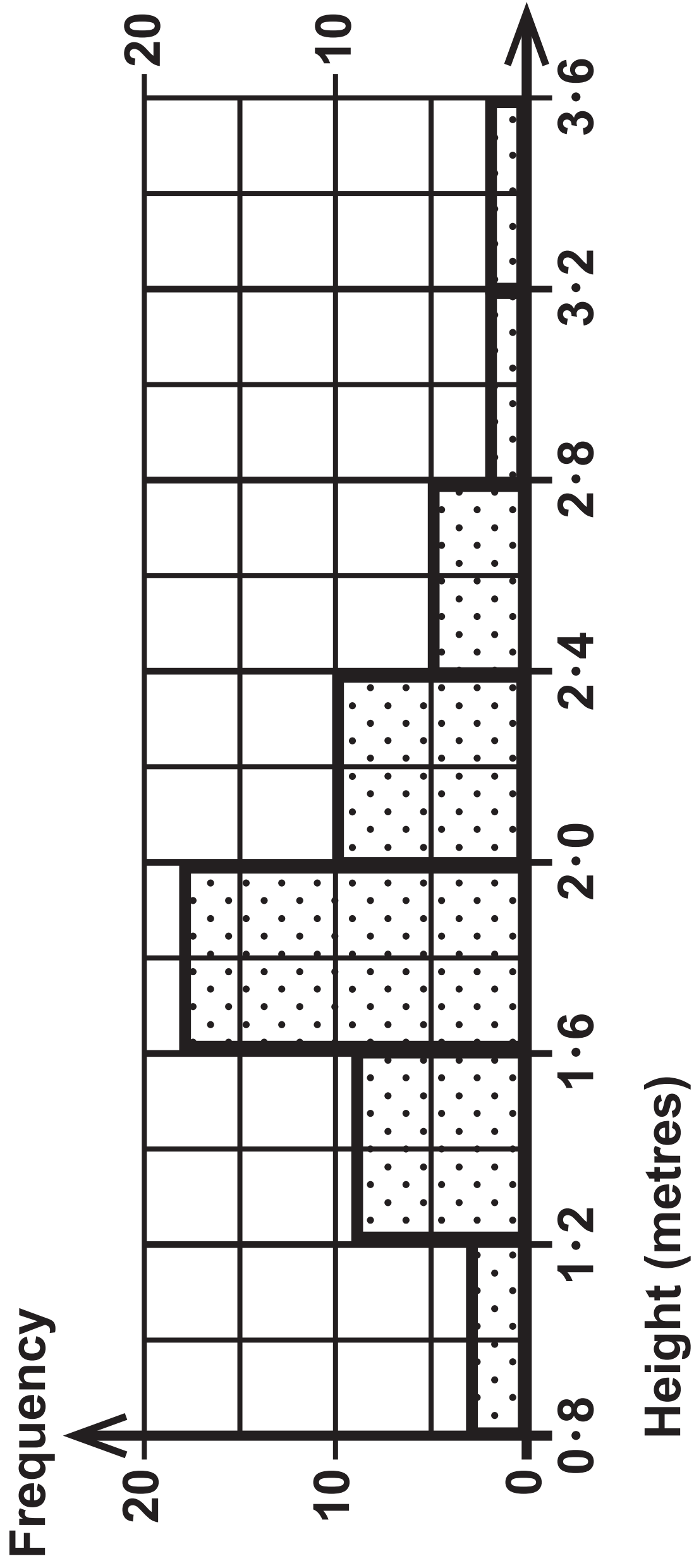
Questions 3(a) and 3(b)

Frequency



Height (metres)

Question 3(c)



Question 3(d)

	Frequency	
Height (h centimetres)	Field Maple	Silverleaf Maple
$0 < h \leq 80$	1	1
$80 < h \leq 160$	14	4
$160 < h \leq 240$	27	32
$240 < h \leq 320$	21	13
Total	63	50

Question 5(b)

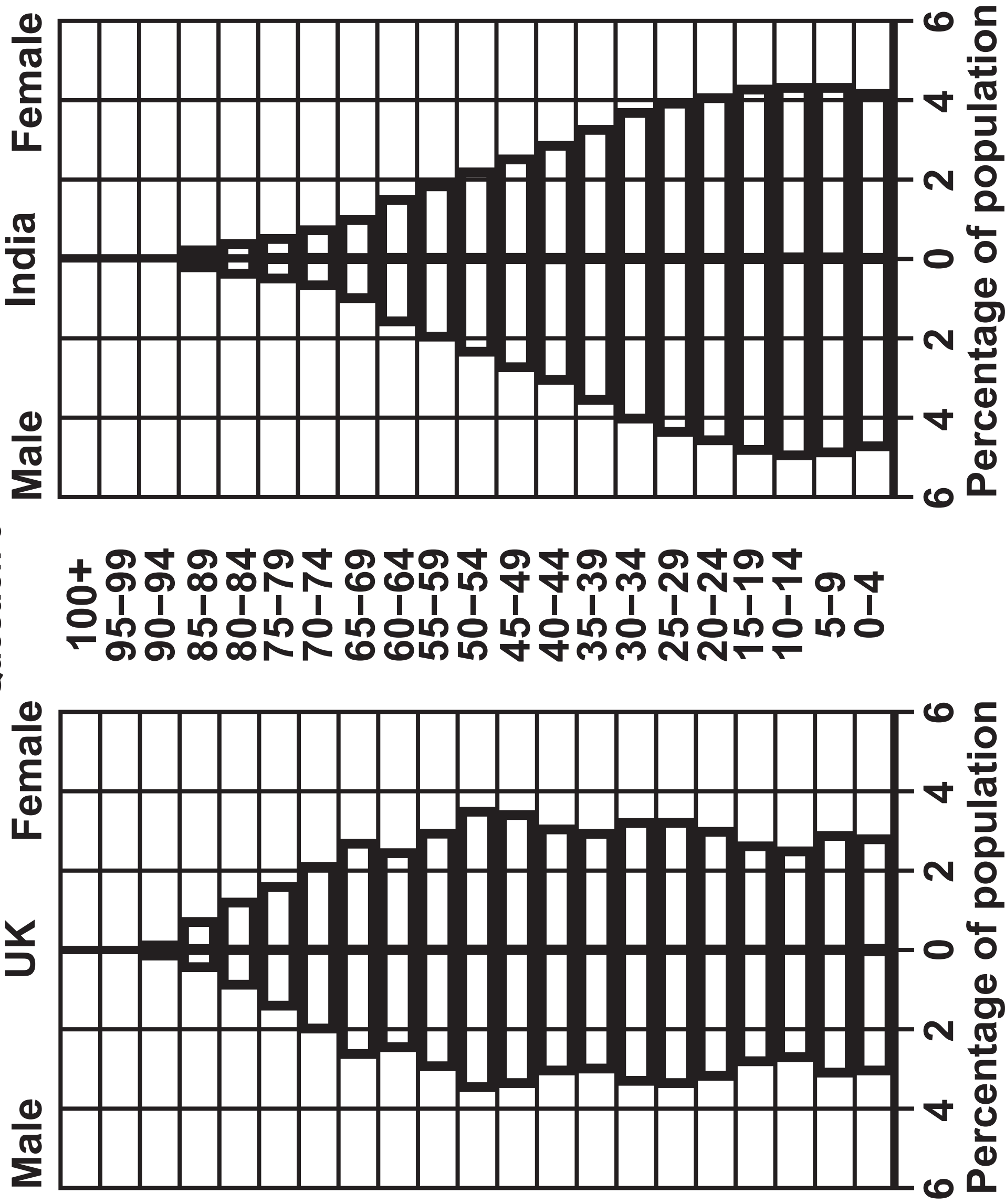
Table 1

Tea	Coffee	Hot chocolate
$\frac{2}{8}$	$\frac{5}{8}$	$\frac{1}{8}$

Table 2

Type of hot drink	Numbers
Tea	0, 1, 2
Coffee	3, 4, 5
Hot chocolate	6, 7, 8

Question 6



(Source: www.populationpyramid.net)

Question 6(b)

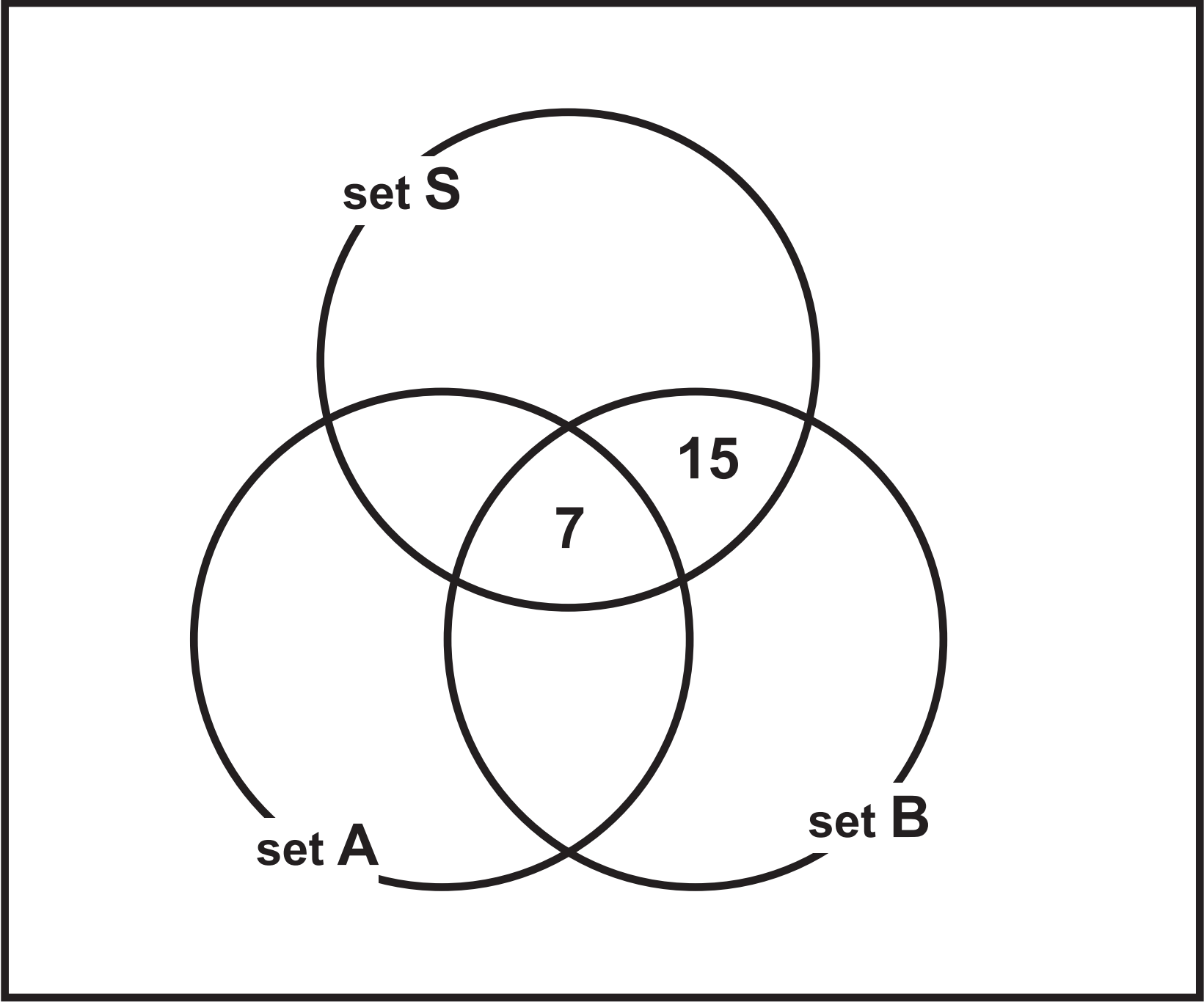
general fertility rate =

$$\frac{\text{total number of live births in the year to women aged 15 to 49}}{\text{number of women aged 15 to 49}} \times 1000$$

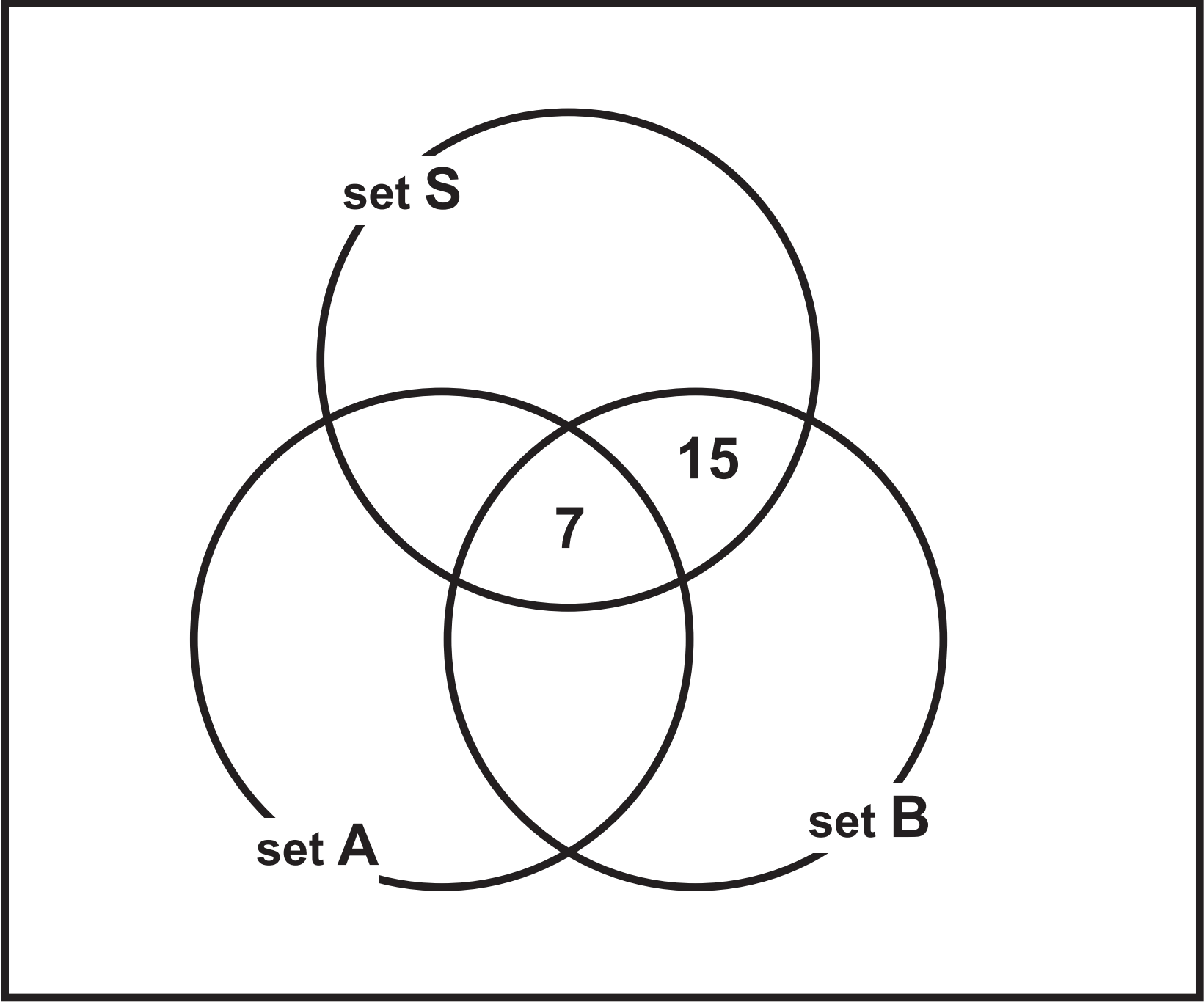
UK females aged 0–54

Age Group	% of population
50–54	3·6%
45–49	3·5%
40–44	3·2%
35–39	3·3%
30–34	3·4%
25–29	3·4%
20–24	3·1%
15–19	2·8%
10–14	2·7%
5–9	3·0%
0–4	3·0%

Question 7(a)



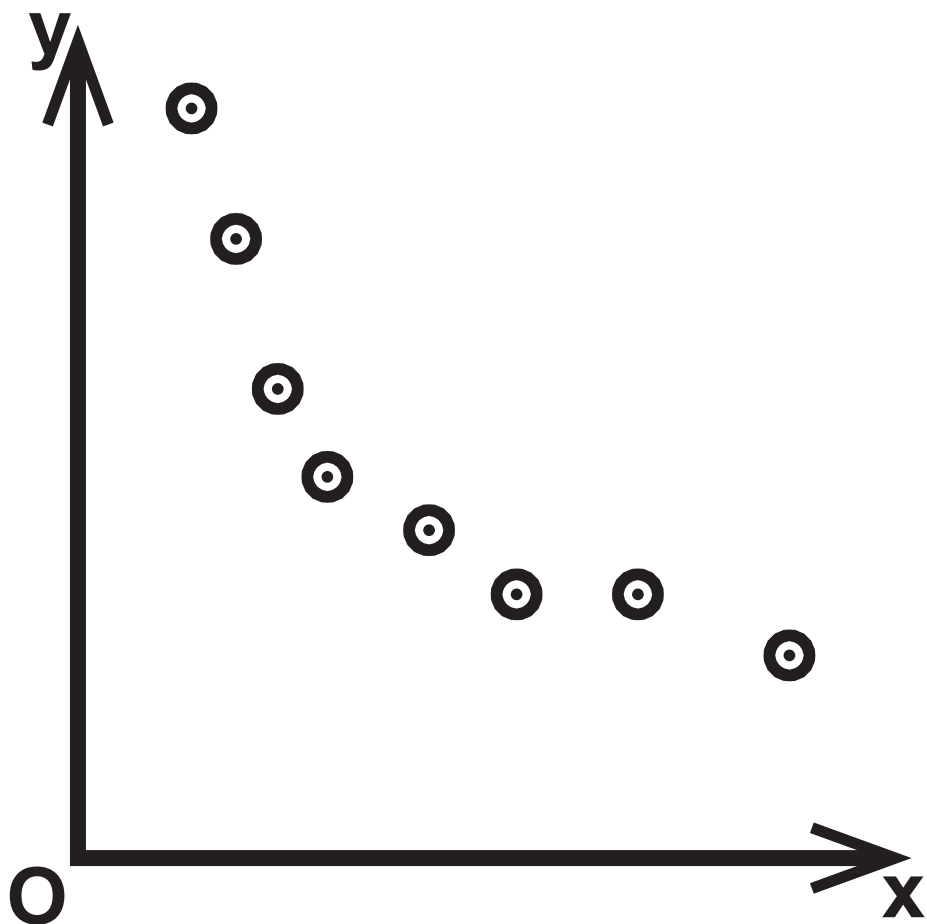
Question 7(a)



Question 7(c)

	Number of cars sold	Number of cars breaking down in the first year
With a full service history	440	22
Without a full service history	710	71

Question 8(a)



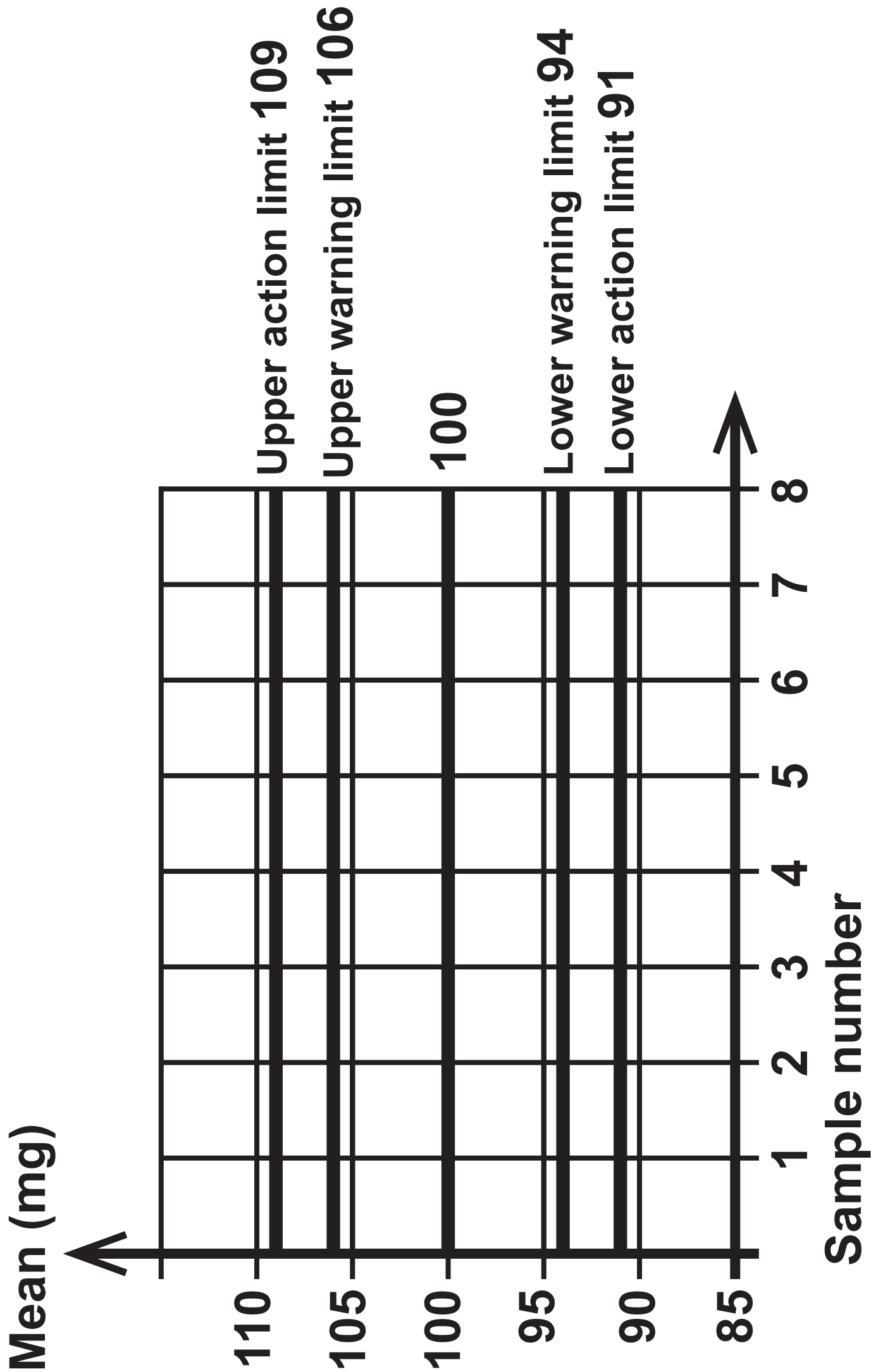
Question 8(b)

Explanatory variable (x)	Response variable (y)	Pearson's product moment correlation coefficient	Regression equation
Wheat yield (t/ha)	Barley yield (t/ha)	0.79	$y = 1.24x - 0.30$
Wheat yield (t/ha)	Oats yield (t/ha)	0.51	$y = 1.52x - 1.05$

(Source: grdc.com.au)

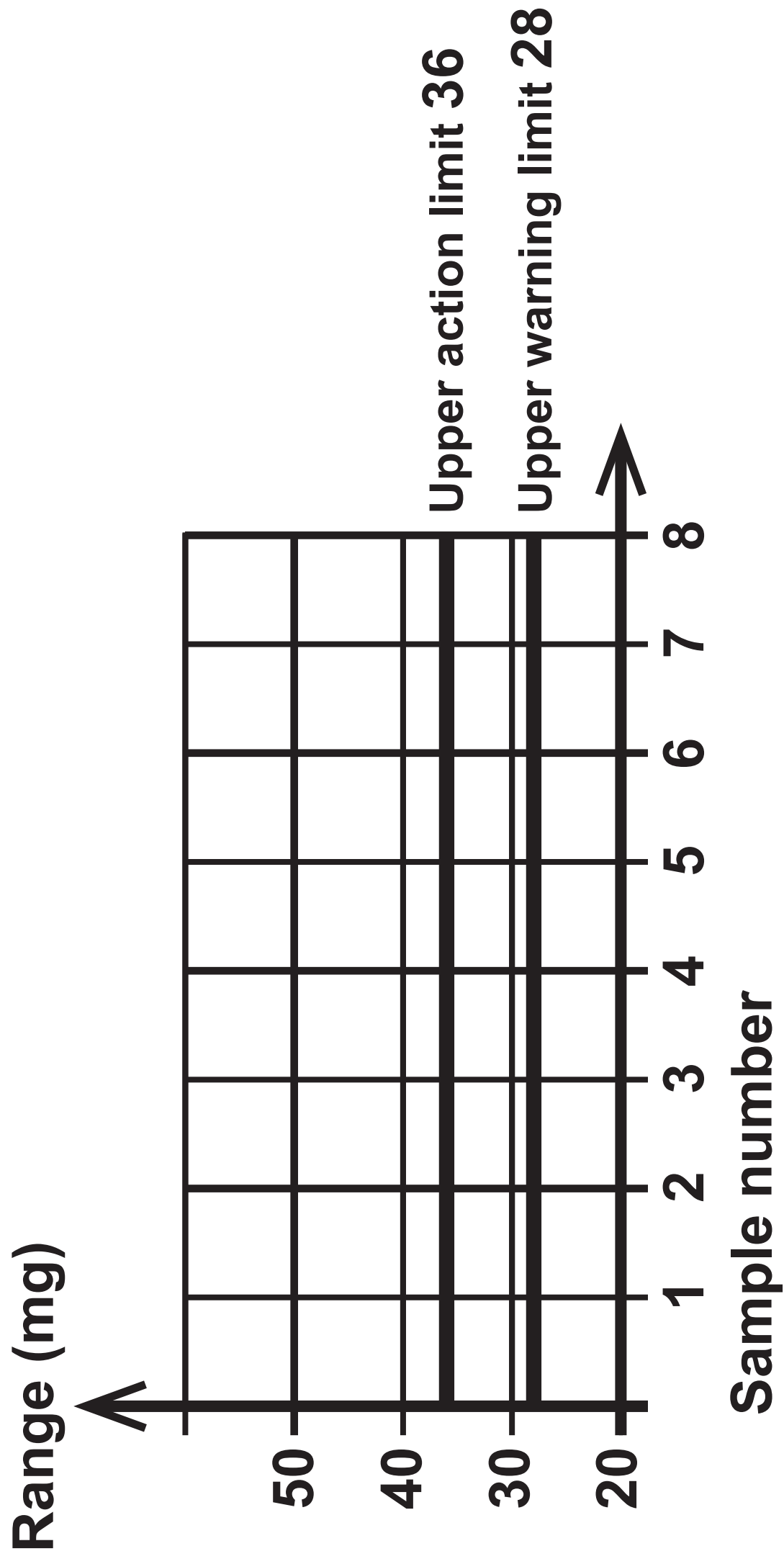
Question 9(c) – Diagram 1

Control chart for means



Question 9(c) – Diagram 2

Control chart for ranges



Question 10(a)

Length (L cm)	Frequency
$0 < L \leq 5$	
$5 < L \leq 10$	
$10 < L \leq 20$	
$20 < L \leq 30$	
$30 < L \leq 35$	
$35 < L \leq 40$	

Question 10(b) – Table

Length of time lived (days)	Frequency
0–5	5
6–10	8
11–15	12
16–17	13
18–19	18
20–21	15
22–25	9

Question 10(b) – Information

Using the data collected I will draw a histogram.

To do this I will need to calculate the frequency densities.

Here is an example of a frequency density calculation for my data:

Class interval 6–10

Frequency 8

$$\text{Frequency density} = \frac{8}{10 - 6} = 2$$

I will then use the mean and standard deviation of the data to work out the amount of data within 1 standard deviation of the mean and the amount of data within 2 standard deviations of the mean.

Question 11

Number of athletes = 39

$$\sum x = 4171$$

Median = 97 minutes

$$\sum x^2 = 469\,657$$

(Source: <http://results-2018.virginmoneylondonmarathon.com>)