

Delta 3

Unit 4 Review (Calculator)

Data Collection

How well did you do:

Collecting & Analysing Data	Score = $\frac{\quad}{44}$	
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Topics/skills which need to be revisited:	Questions from the review	Further Practice from Delta 3
Understand the difference between primary and secondary data	1	Learn key point P74
- Draw a stem-and-leaf diagram - Find/understand summary statistics from a stem-and-leaf diagram - Draw a frequency polygon - Compare two frequency polygons	2a 2bcd 3a 3b	- P91 Q2a - P91 Q2b - P91 Q4b - P91 Q5
- Calculate an estimate of the mean from a grouped frequency table - Find the class interval that contains the median in a grouped frequency table - Find the class interval that contains the mode in a grouped frequency table - Interpret/justify summary statistics	4a 4b 4c 4d	- P91 6defg - P92 Q7 - P80 Q4d - P93 Q1a
- Find the upper/lower quartiles from a list of data values - Draw a box plot from a list of data values	7a 7b	- P92 Q9a - P92 Q9b
- Complete cumulative frequency table - Draw a cumulative frequency graph - Estimate the median using a cumulative frequency graph - Estimate the inter-quartile range using a cumulative frequency graph - Interpret the cumulative frequency graph	5a 5b 5c 5d 5e	- P92 Q10a - P92 Q10b - P92 Q10ci - P92 Q10dii - P99 Q7ad
Complete a histogram and a grouped frequency table, when given a partly drawn histogram and a partly filled in grouped frequency table	6ab	P92 Q11, P93 Q12

1 Fill in the gaps in the sentences below with the most appropriate type of data.

a i I would use data to find out if the number of bees in Great Britain is decreasing.

ii I would use data to investigate which holidays were the most popular among members of my class.

b State one possible method of collecting primary data.

.....

(Total: 3 marks)

2 This information shows the number of boats moored in a marina over a fortnight.

12 38 25 27 8 26 33

33 16 47 36 24 27 41

a Draw an ordered stem and leaf diagram, with a key, to show this information.

(3 marks)

b What was the median number of boats moored during that period?

.....

(1 mark)

c What is the range of boats moored in the marina?

.....

(1 mark)

After the data was recorded, on the following day, the number of boats in the marina was 6 more than the previously recorded largest number of boats moored.

d If this value was added to the data in question 2, what **affect** would it have on;

i.) The median

.....

.....

.....

ii.) The range

.....

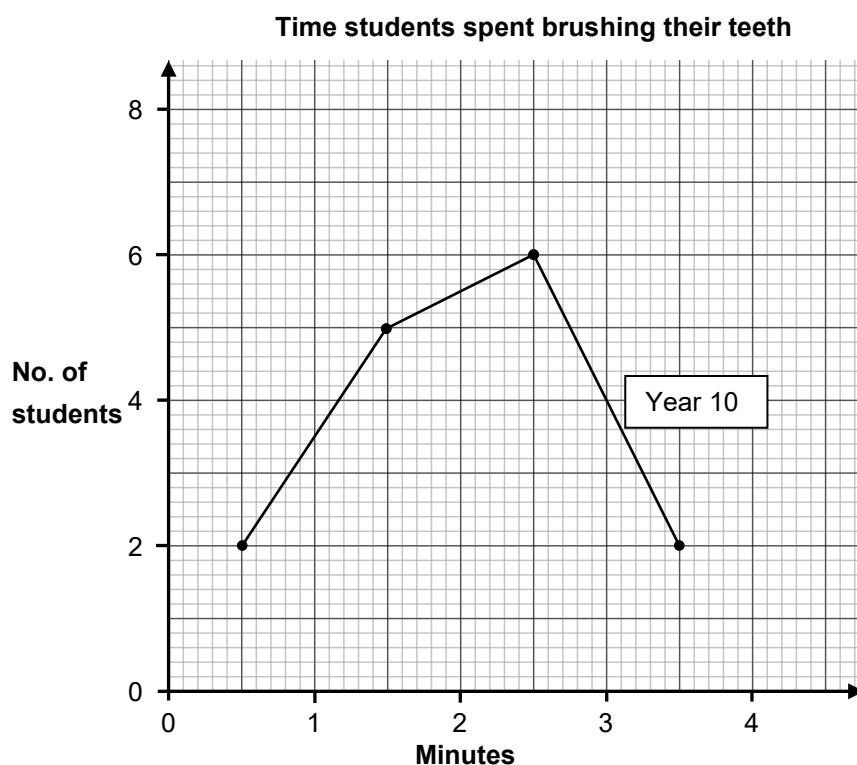
.....

.....

(4 marks)

(Total: 9 marks)

- 3 This frequency polygon shows how long a group of friends in Year 10 spent brushing their teeth in the evening.



The table shows how long 15 students in Year 7 spent brushing their teeth in the evening.

Number of minutes	$0 < m \leq 1$	$1 < m \leq 2$	$2 < m \leq 3$	$3 < m \leq 4$
Number of students	4	8	2	1

- a On the diagram above, draw a frequency polygon for this data. (3 marks)
- b From your diagram make two comparisons of the times spent brushing their teeth by the Year 10 and Year 7 students.

.....

.....

.....

.....

(2 marks)
(Total: 5 marks)



- 4 An Indian take-away service advertised that it delivered food on average within 30 minutes. (The average used was the mean.)

The table shows the delivery times recorded last Saturday evening.

Time taken in minutes	Frequency		
$0 < m \leq 10$	0		
$10 < m \leq 20$	10		
$20 < m \leq 30$	28		
$30 < m \leq 40$	23		
$40 < m \leq 50$	4		
Total	65		

- a Work out the mean delivery time from this table. Give your answer to 2 decimal places.

..... mins.

(5 marks)

- b In which time interval does the median lie?

.....

(2 marks)

- c Find the modal class.

.....

(1 mark)

- d Was the restaurant's claim justified?

YES/NO

Give a reason for your answer.

.....

.....

(1 mark)

(Total: 9 marks)



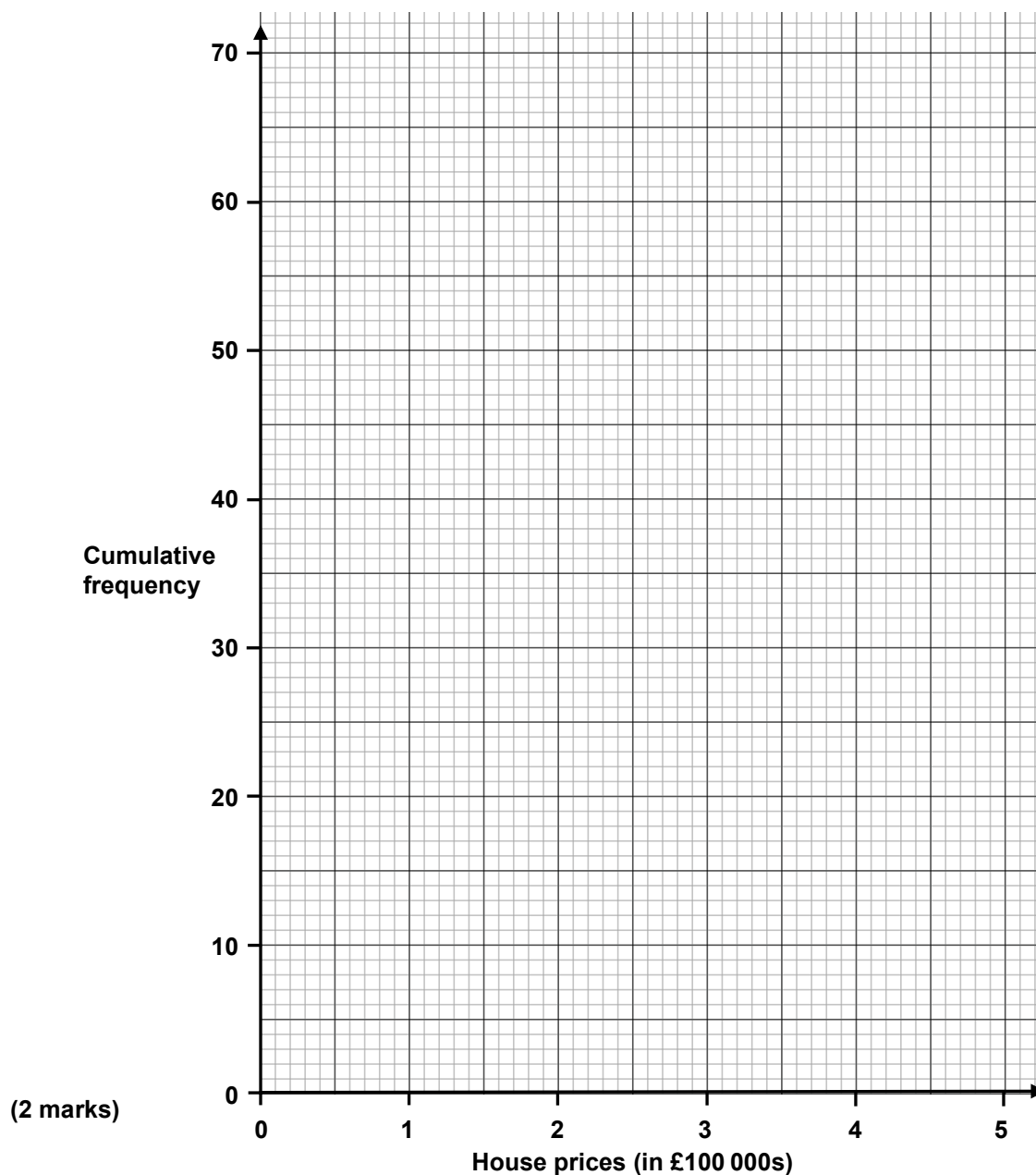
5 The table shows the prices of 70 houses below £500 000 advertised for sale in the local paper.

a Complete the cumulative frequency table.

Price range	Frequency	Cumulative frequency
$0 < p \leq 100\,000$	4	
$100\,000 < p \leq 200\,000$	10	
$200\,000 < p \leq 300\,000$	16	
$300\,000 < p \leq 400\,000$	22	
$400\,000 < p \leq 500\,000$	18	

(1 mark)

b Draw the cumulative frequency graph.



c From your graph estimate the median price of these houses.

£.....
(1 mark)

d Estimate the interquartile range of these prices. You **must** show your working out.

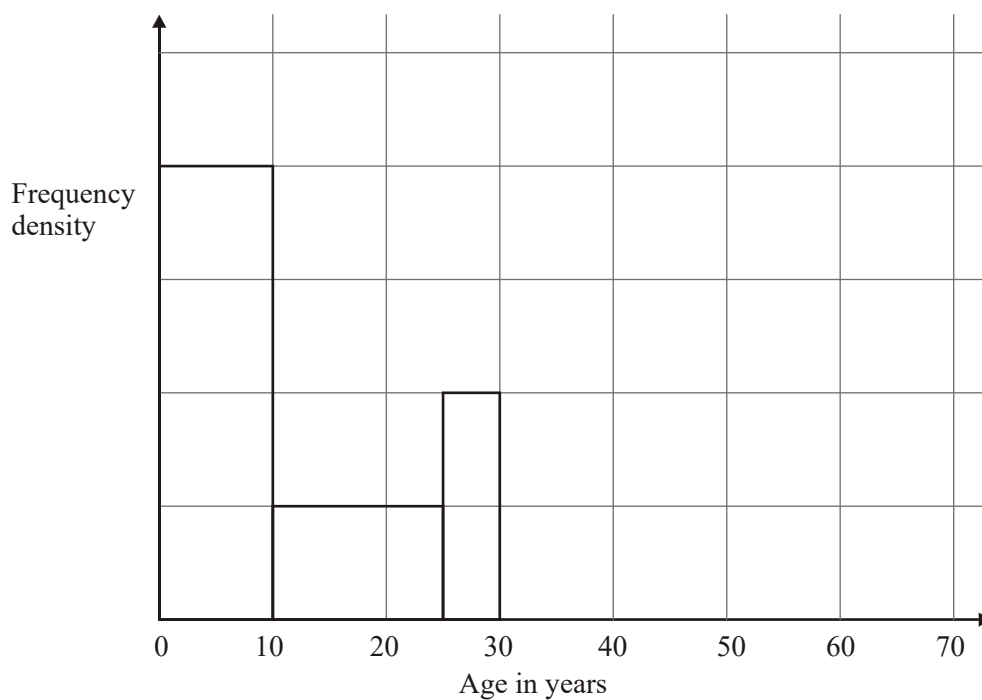
£.....
(3 marks)

e Use your graph to estimate how many houses cost more than £450 000.

.....
(2 marks)

(Total: 9 marks)

6. The incomplete table and histogram give some information about the ages of the people who live in a village.



- (a) Use the information in the histogram to complete the frequency table below.

Age (x) in years	Frequency
$0 < x \leq 10$	160
$10 < x \leq 25$	
$25 < x \leq 30$	
$30 < x \leq 40$	100
$40 < x \leq 70$	120

(2 marks)

- (b) Complete the histogram.

(2 marks)

(Total: 4 marks)

7. Mary recorded the heights, in centimetres, of the girls in her class.

She put the heights in order.

132	144	150	152	160	162	162	167
167	170	172	177	181	182	182	

a Find

i) the lower quartile,

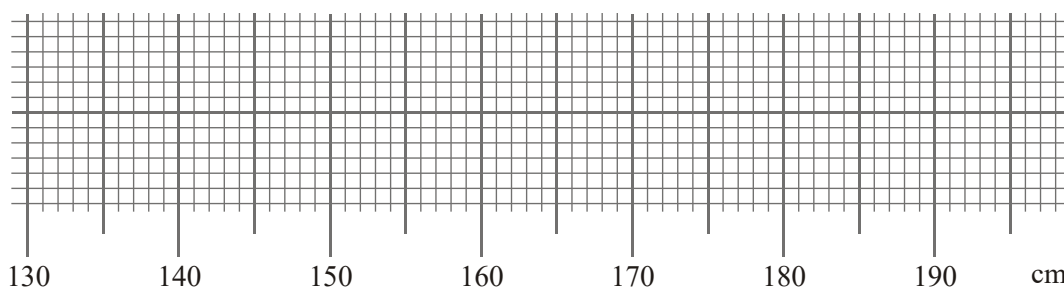
..... cm

ii) the upper quartile.

..... cm

(2 marks)

b On the grid, draw a box plot for this data.



(3 marks)

(Total: 5 marks)

[END of REVIEW