

Name: \_\_\_\_\_

**GCSE (1 – 9)**  
**Cumulative Frequency**

**Instructions**

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

**Information**

- The marks for each question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

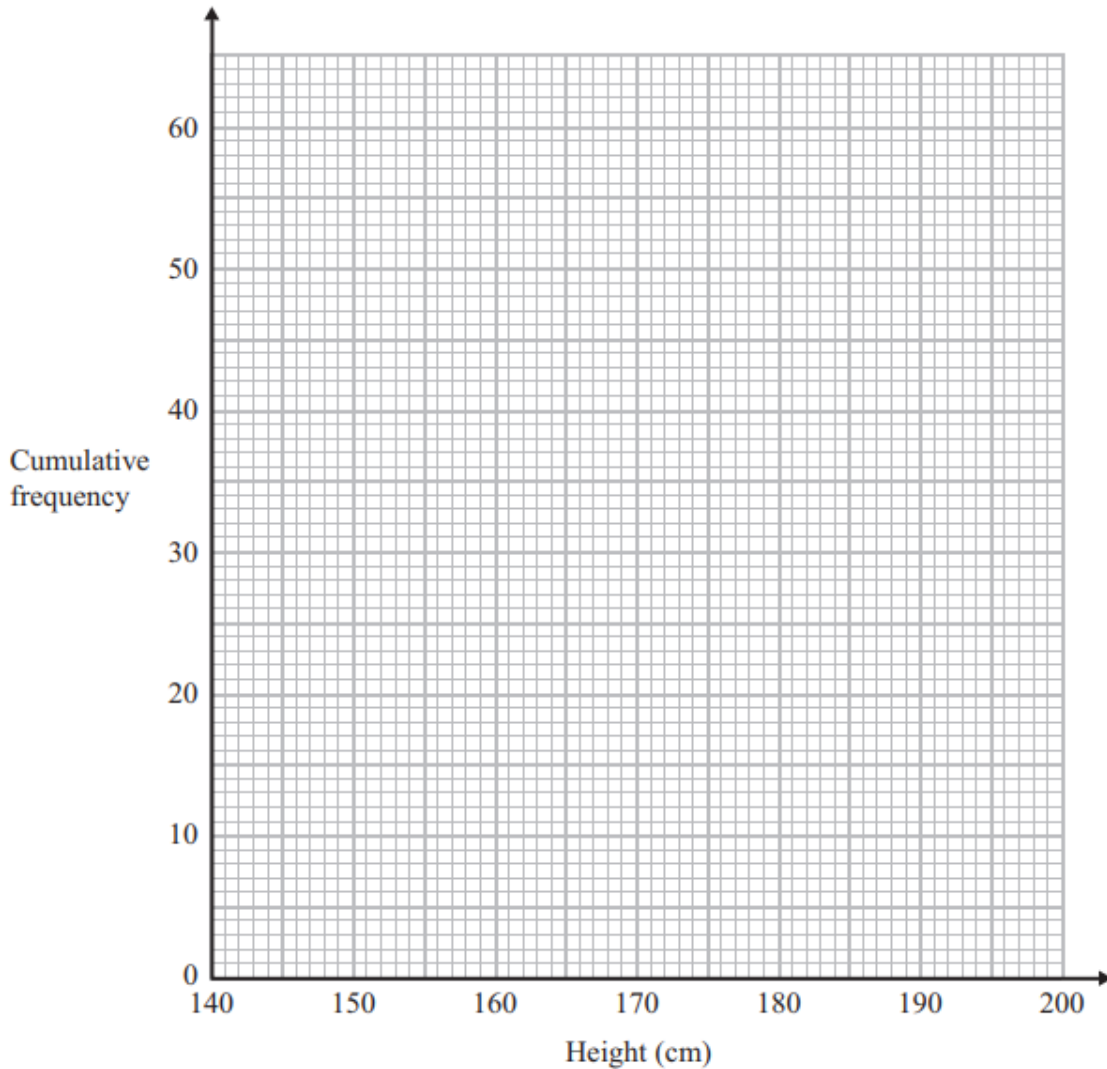
**Advice**

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end

1 The cumulative frequency table shows the height, in cm, of some tomato plants.

Height	Cumulative Frequency
$140 < h \leq 150$	7
$140 < h \leq 160$	17
$140 < h \leq 170$	32
$140 < h \leq 180$	51
$140 < h \leq 190$	57
$140 < h \leq 200$	60

(a) On the grid, plot a cumulative frequency graph for this information.



(2)

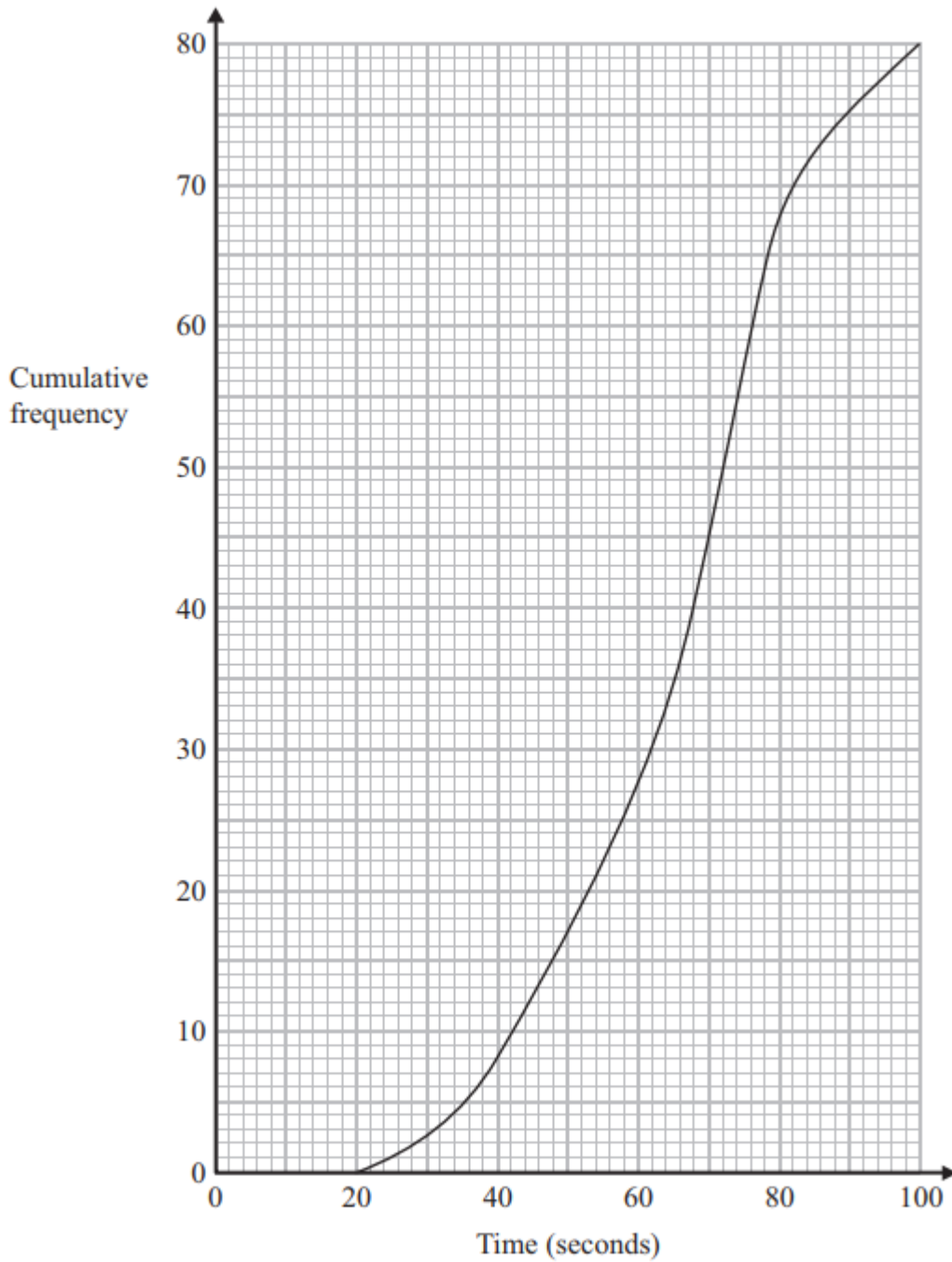
(b) Find the median height.

.....cm

(1)

**(Total for question 1 is 3 marks)**

2 The cumulative frequency graph gives some information the times it took people to complete a challenge.



(a) Find the median time.

.....seconds  
(1)

(b) Find the number of people who took longer than 80 seconds to complete the challenge.

.....  
(1)

**(Total for question 2 is 2 marks)**

3 The frequency table shows the weight, in kg, of some cats.

Weight (kg)	Frequency
$0 < w \leq 1$	8
$1 < w \leq 2$	10
$2 < w \leq 3$	21
$3 < w \leq 4$	19
$4 < w \leq 5$	13
$5 < w \leq 6$	9

(b) Complete the cumulative frequency table

(1)

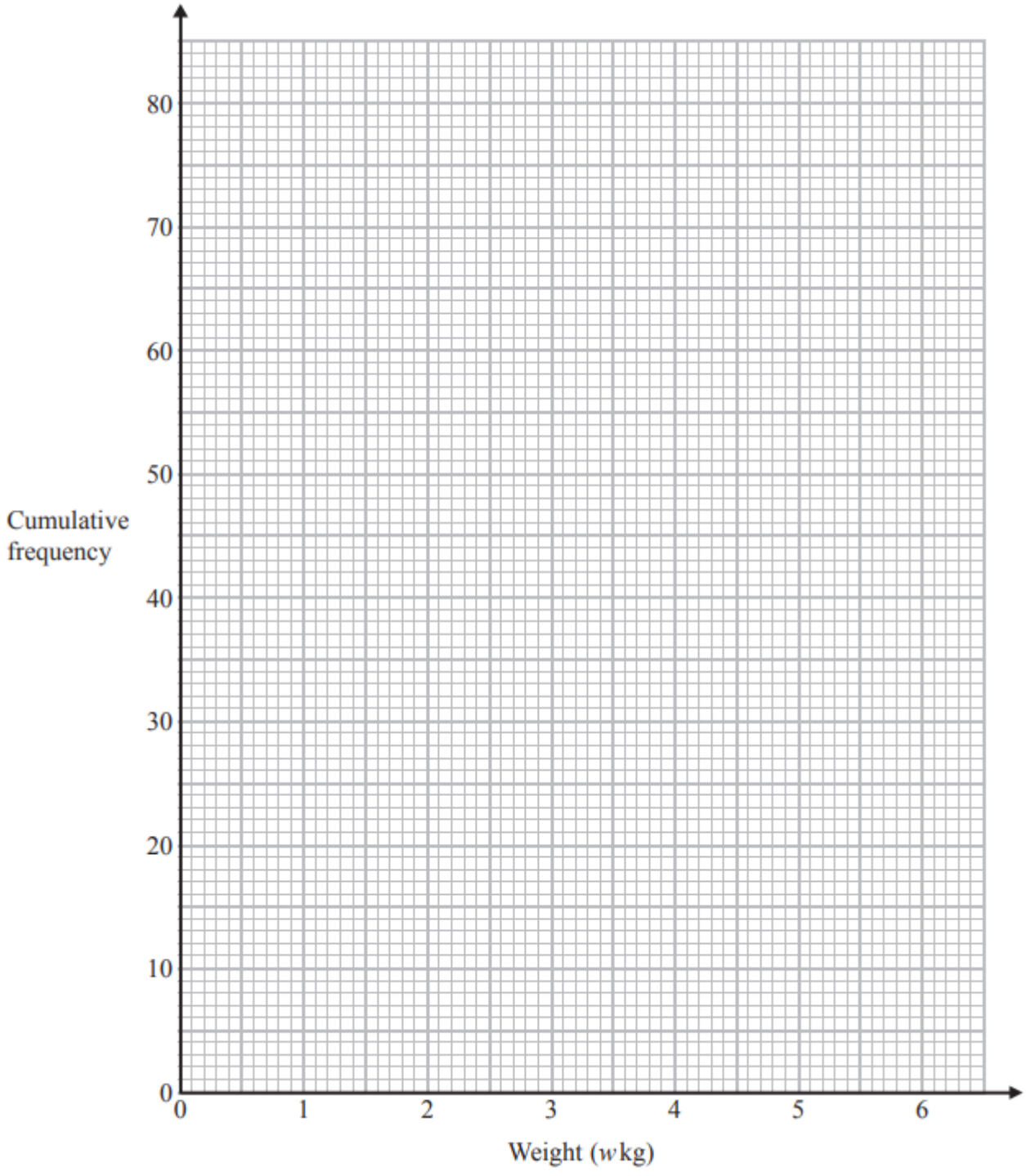
Weight (kg)	Cumulative Frequency
$0 < w \leq 1$	
$0 < w \leq 2$	
$0 < w \leq 3$	
$0 < w \leq 4$	
$0 < w \leq 5$	
$0 < w \leq 6$	

(b) On the grid opposite draw a cumulative frequency graph for this information.

(2)

(c) Use your cumulative frequency graph to find an estimate for the interquartile range.

.....kg  
(2)



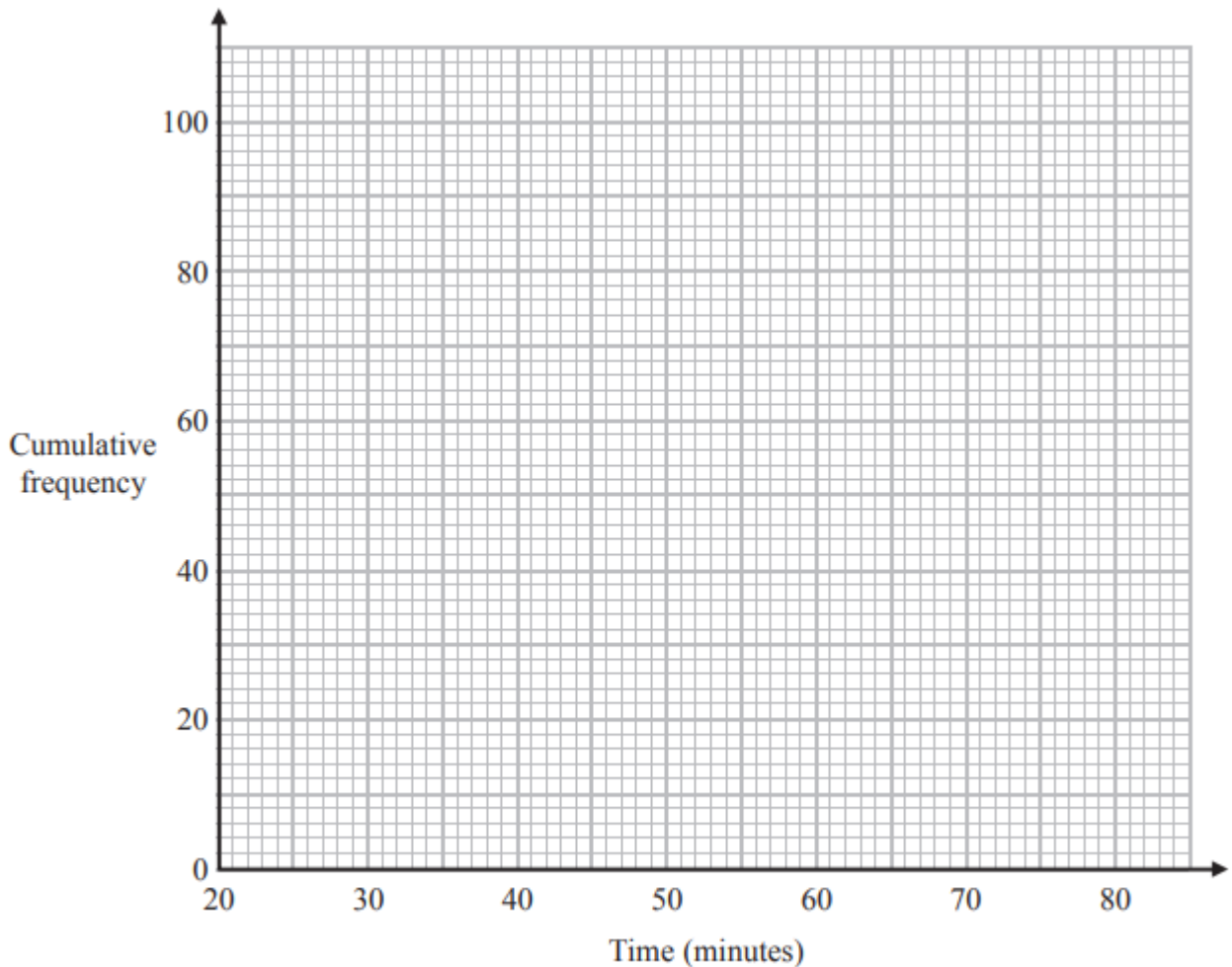
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**(Total for question 3 is 5 marks)**

4 The frequency table shows the time taken for 100 people to travel to an event.

Time (minutes)	Frequency
$20 < t \leq 30$	9
$30 < t \leq 40$	16
$40 < t \leq 50$	20
$50 < t \leq 60$	29
$60 < t \leq 70$	15
$70 < t \leq 80$	11

(a) On the grid, plot a cumulative frequency graph for this information.



(2)

(b) Find an estimate for the median time taken.

.....minutes

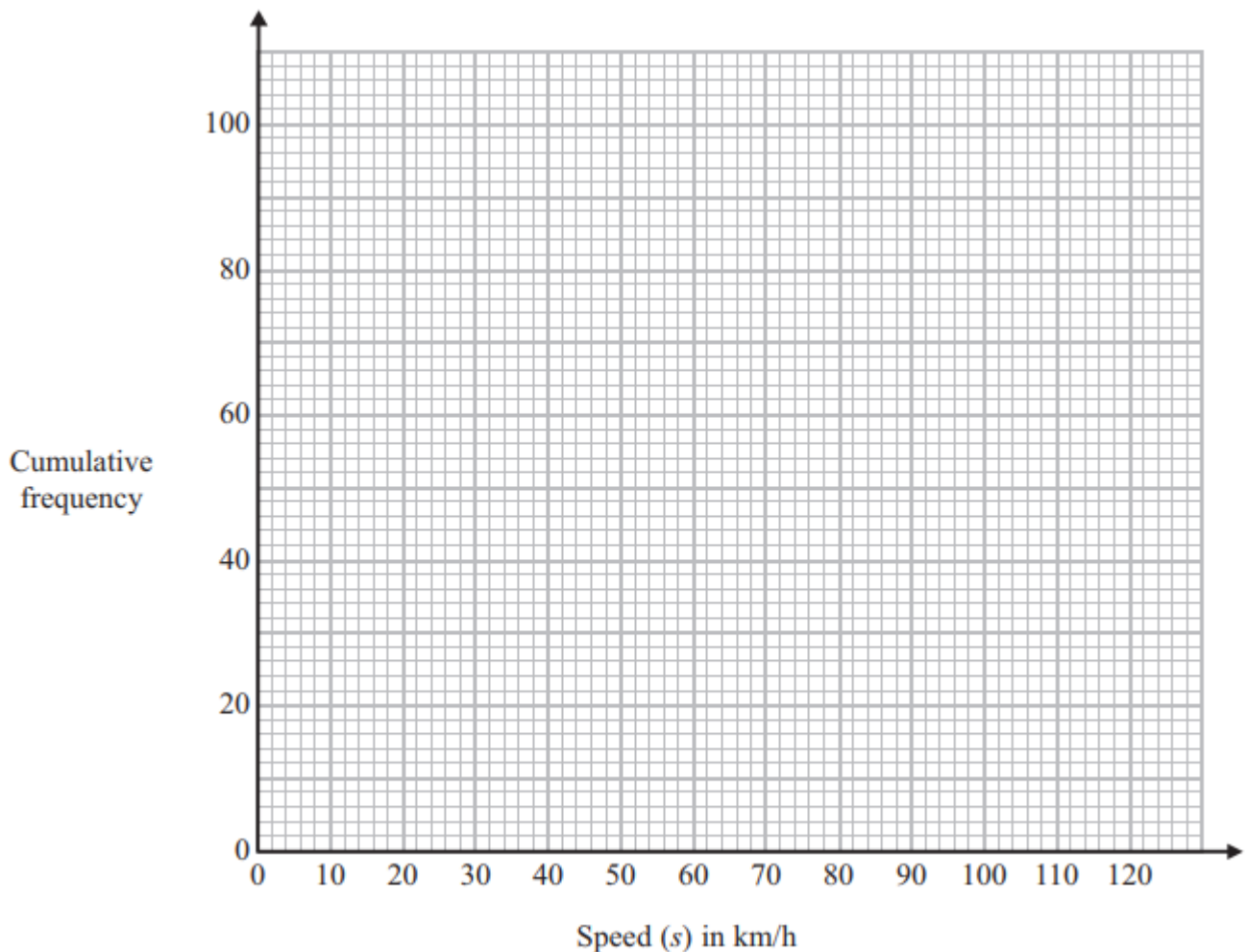
(1)

**(Total for question 4 is 3 marks)**

5 The frequency table shows the speeds of 100 cars.

Speed (km/h)	Frequency
$0 < s \leq 20$	6
$20 < s \leq 40$	17
$40 < s \leq 60$	29
$60 < s \leq 80$	25
$80 < s \leq 100$	20
$100 < s \leq 120$	3

(a) On the grid, plot a cumulative frequency graph for this information.



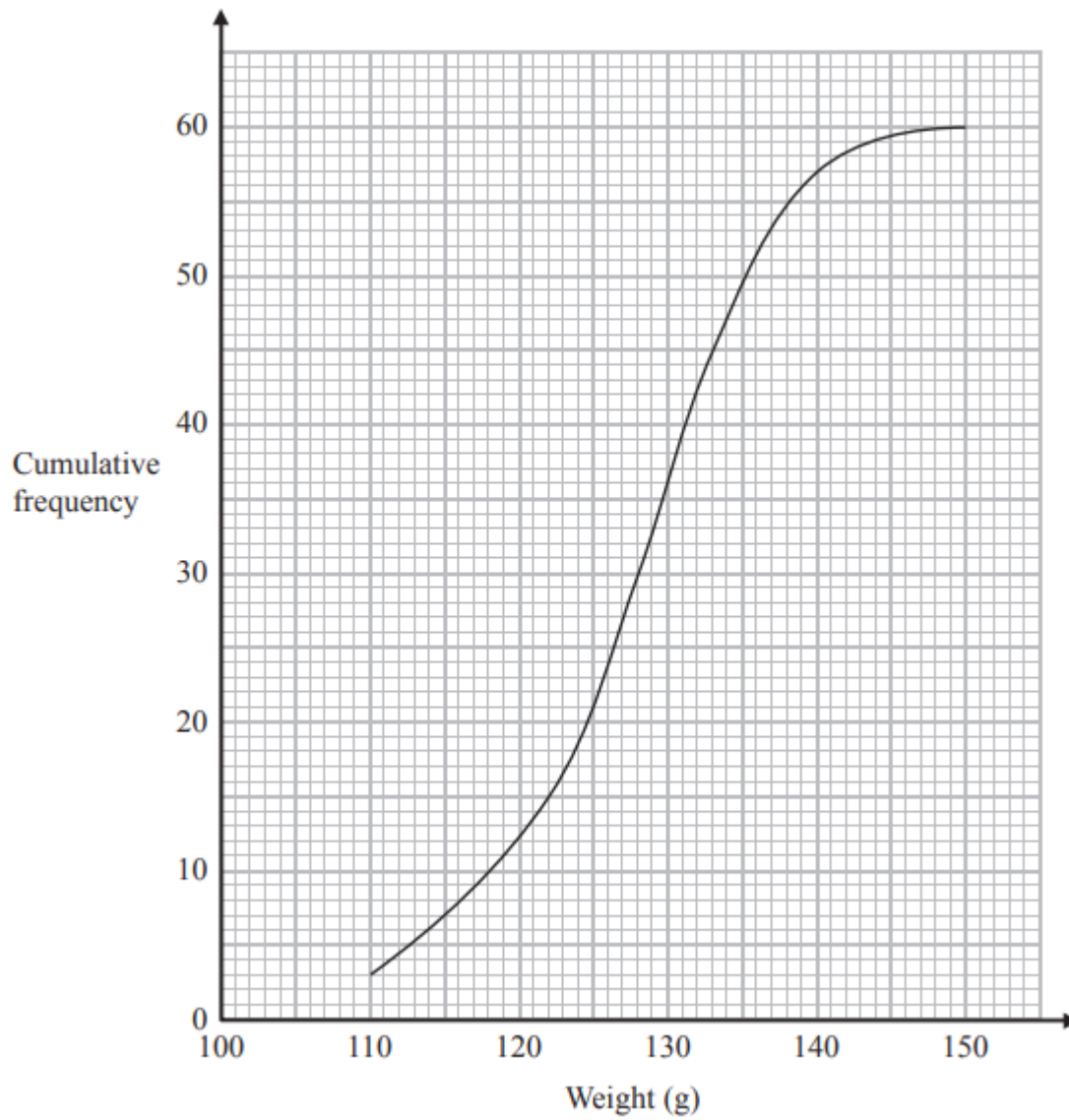
(b) Find an estimate for the number of cars travelling over 90 km/h.

(2)

.....  
(1)

**(Total for question 5 is 3 marks)**

6 The cumulative frequency graph gives some information about the weights of some objects.



(a) Find the median weight.

(b) Find the inter quartile range.

.....g  
(1)

.....g  
(2)

**(Total for question 6 is 3 marks)**