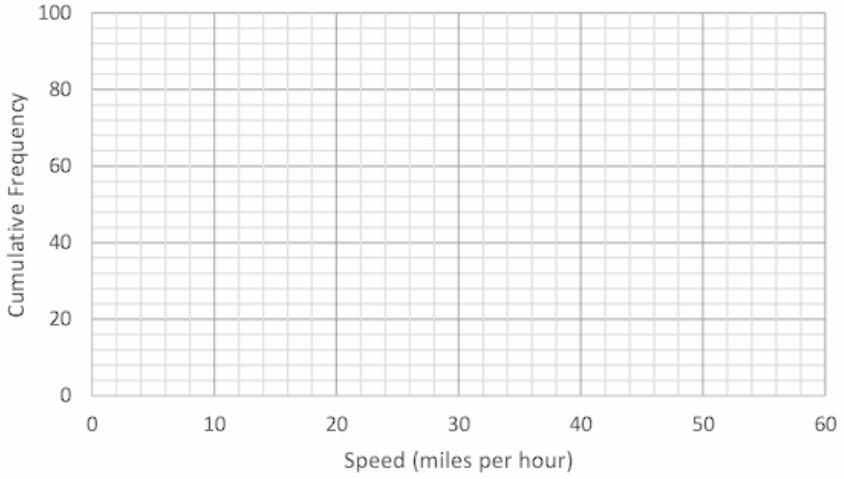
CUMULATIVE FREQUENCY WORKSHEET

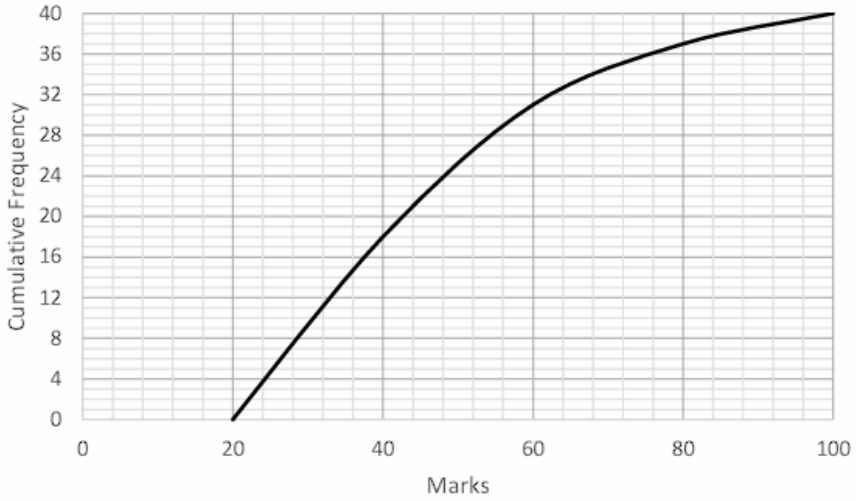
Q1 The frequency table below shows the speeds of 100 cars recorded by a speed camera.

Speed (miles per hour)	Frequency	Cumulative frequency
$20 \leq x < 30$	76	
$30 \leq x < 40$	12	
$40 \leq x < 50$	8	
$50 \leq x < 60$	4	

Use the information to plot a cumulative frequency graph on the axis.



Q2 The cumulative frequency graph below shows the marks, out of 100, that a class scored in a maths test.



(a) Use the graph to estimate the median mark.

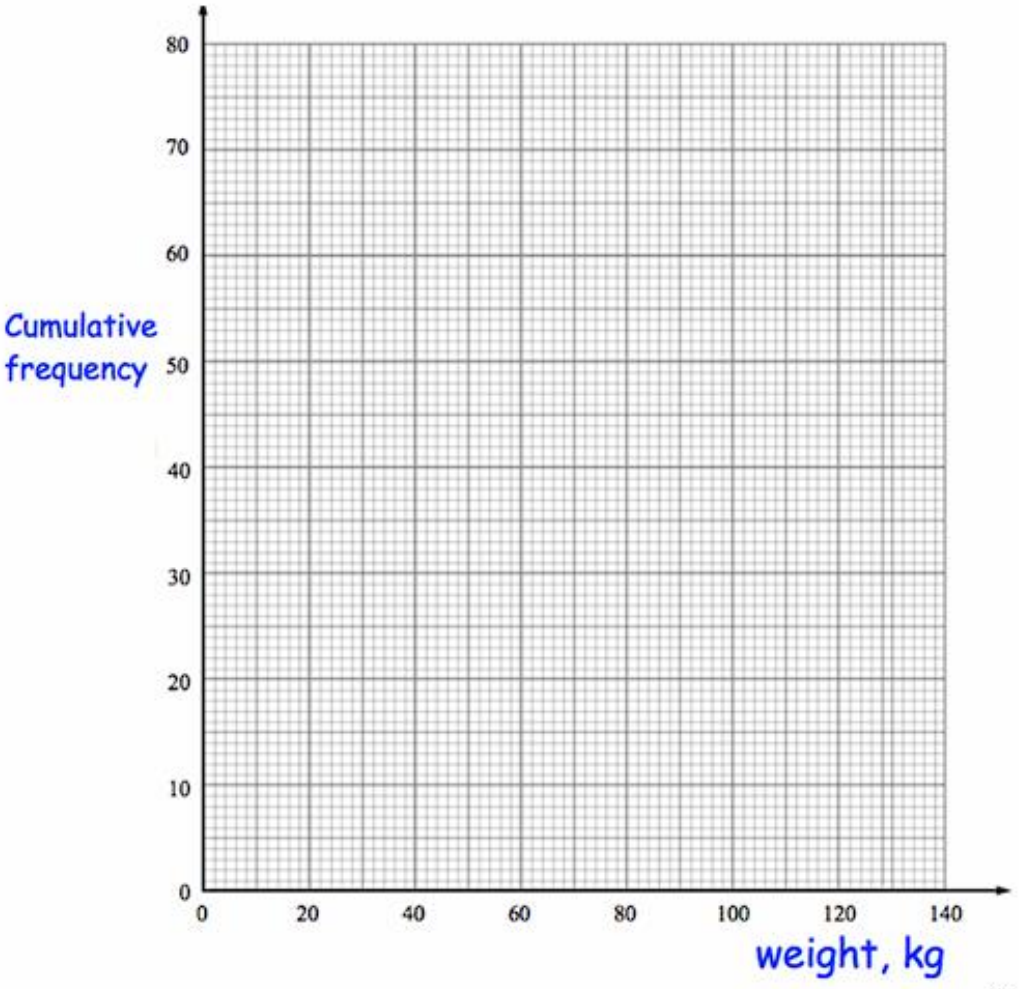
(b) Use the graph to estimate the interquartile range.

(c) The pass mark for the test was 40 out of 100.
Estimate how many students failed the exam.

Q3 1. The weight of 80 deer was recorded by a zoo keeper.
The table below shows this information.

Weight, w kg	Cumulative frequency
$0 < w \leq 20$	2
$0 < w \leq 40$	6
$0 < w \leq 60$	15
$0 < w \leq 80$	36
$0 < w \leq 100$	58
$0 < w \leq 120$	73
$0 < w \leq 140$	80

Draw a cumulative frequency graph for this information.



(2)

2 The table shows information about the number of hours that 260 students spent revising for an exam.

Number of hours (h)	Frequency
$0<h\leq 2$	20
$2<h\leq 4$	32
$4<h\leq 6$	48
$6<h\leq 8$	120
$8<h\leq 10$	24
$10<h\leq 12$	16

(a) Complete the cumulative frequency table.

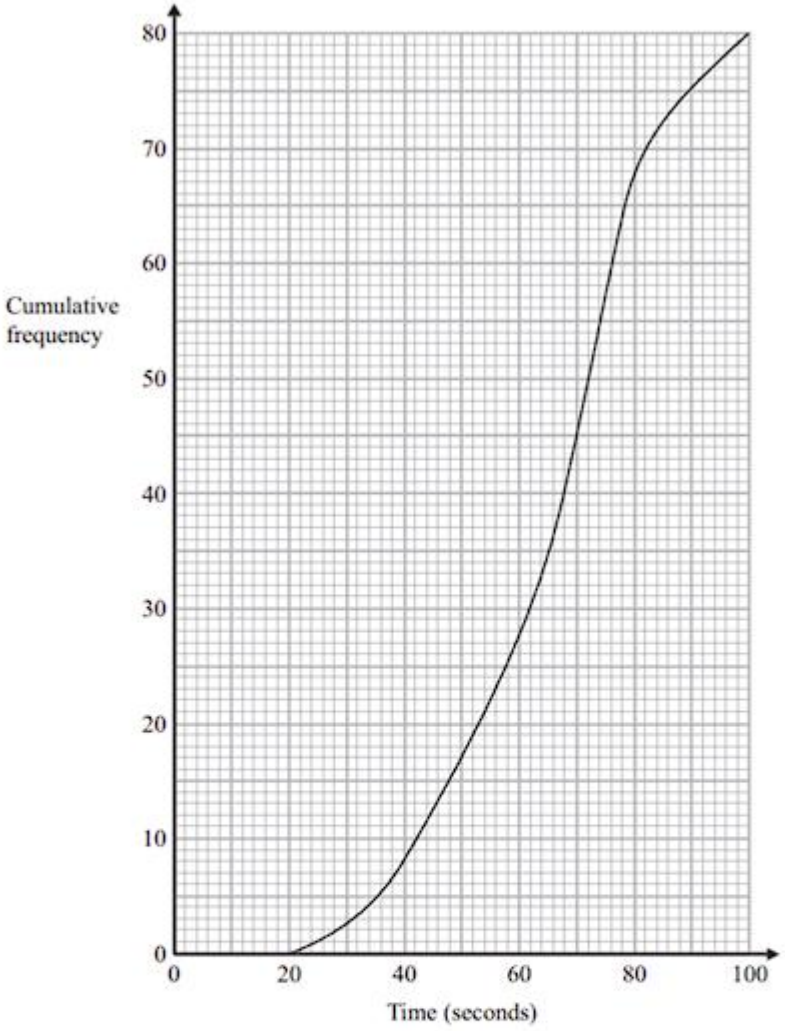
Number of hours (h)	Cumulative frequency
$0<h\leq 2$	
$0<h\leq 4$	
$0<h\leq 6$	
$0<h\leq 8$	
$0<h\leq 10$	
$0<h\leq 12$	

(1)

(b) On the grid on the following page, draw a cumulative frequency graph for your table.

(2)

Q4 The cumulative frequency graph gives some information about the times it took people to complete a challenge.



1) Find the median time.

.....seconds
(1)

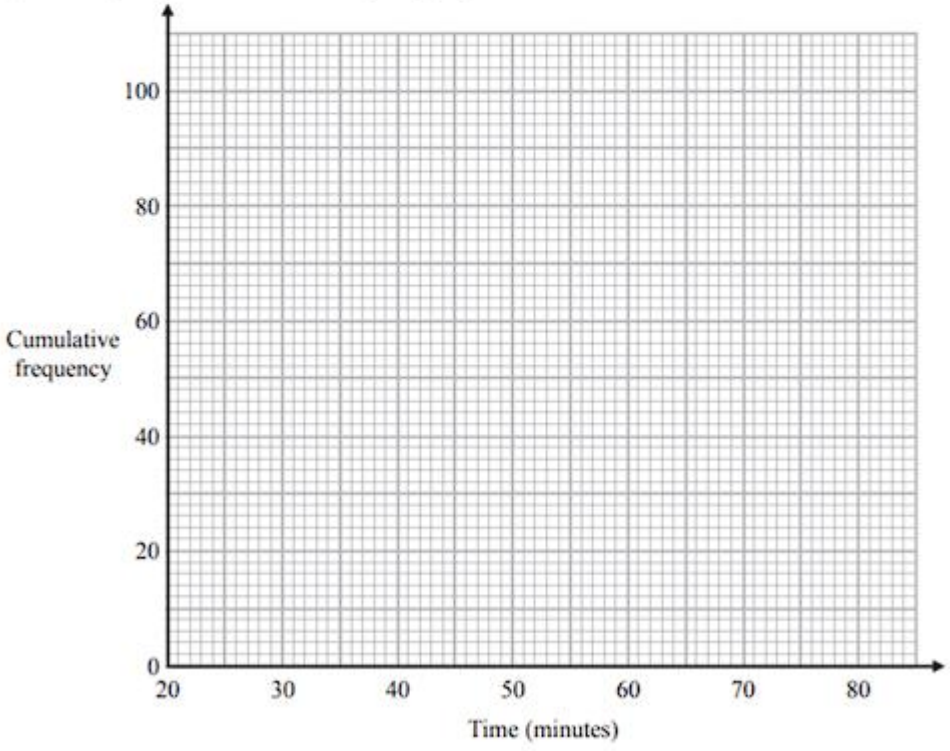
2) Find the number of people who took longer then 80 seconds to complete the challenge.

.....
(1)

Q5 The frequency table shows the time taken for 100 people to travel to an event.

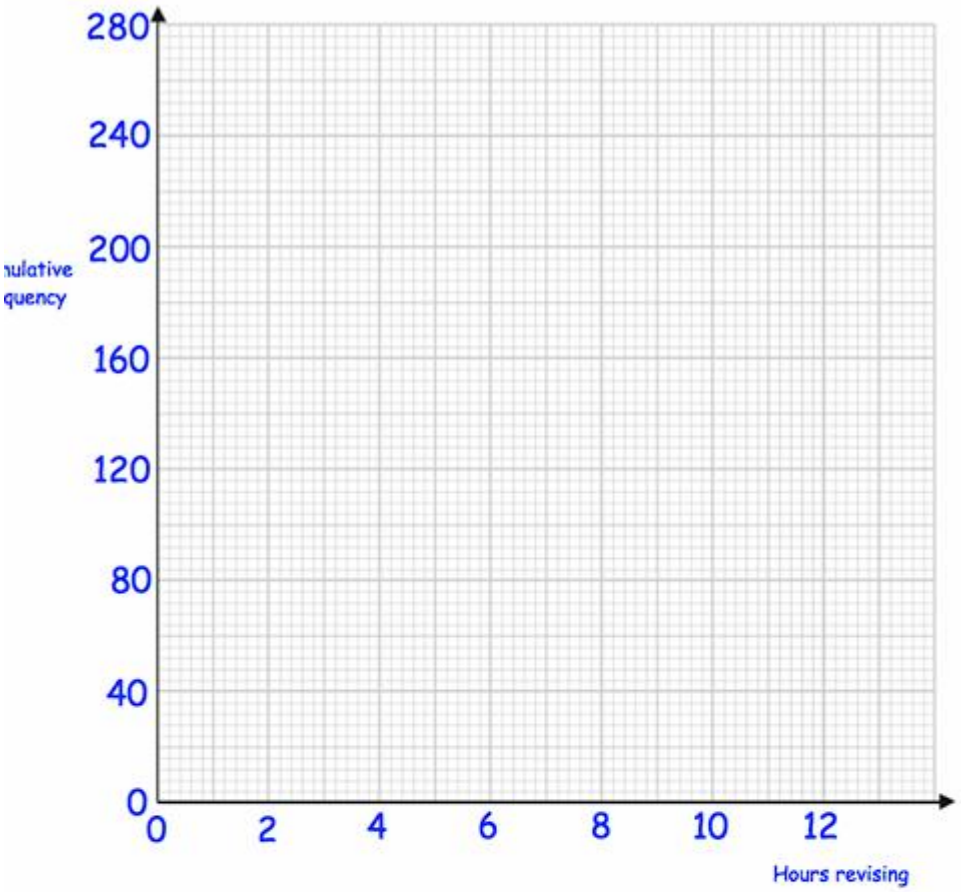
Time (minutes)	Frequency
$20 < t \leqslant 30$	9
$30 < t \leqslant 40$	16
$40 < t \leqslant 50$	20
$50 < t \leqslant 60$	29
$60 < t \leqslant 70$	15
$70 < t \leqslant 80$	11

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



(2)

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



(c) Use your graph to find an estimate for the median number of hours spent revising.

.....hours
(1)

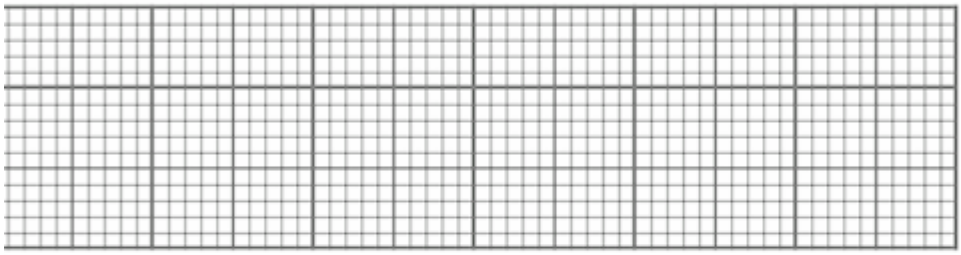
(d) Use your graph to find an estimate for the number of students who spent **less** than 3 hours revising.

.....
(2)

Q6 The table gives information about the weights of 50 male rugby players.

Lowest	68kg
Lower Quartile	74kg
Median	82kg
Upper Quartile	88kg
Highest	100kg

(a) Draw a box plot to show this information.

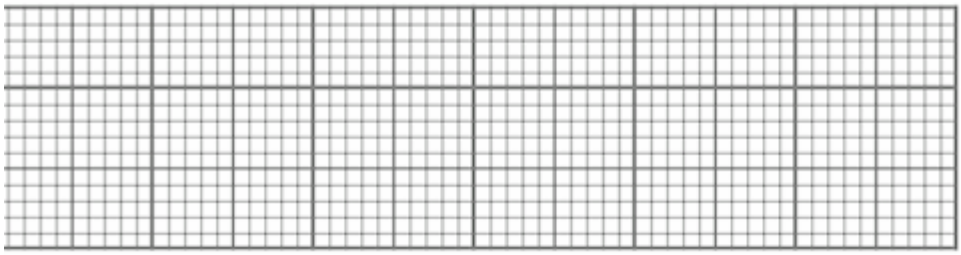


(3)

The weights of 50 female rugby players are also recorded.

The lightest female rugby player is 51kg.
The lower quartile is 60kg.
The median is 71kg.
The range and interquartile range for the female rugby players is the same as the male rugby players.

(b) Draw a box plot to show this information.



(3)