Data exam review

1 The grouped frequency table gives information about the time spent on the Internet last week by each of 80 students.
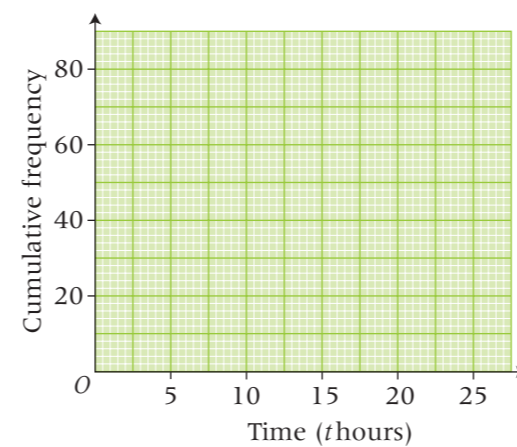
Time (t hours)	Frequency
$0 < t \leqslant 5$	28
$5 < t \leqslant 10$	22
$10 < t \leqslant 15$	14
$15 < t \leqslant 20$	10
$20 < t \leqslant 25$	6

a Complete the cumulative frequency table.

Time (t hours)	Cumulative Frequency
$0 < t \leqslant 5$	
$0 < t \leqslant 10$	
$0 < t \leqslant 15$	
$0 < t \leqslant 20$	
$0 < t \leqslant 25$	

(1)

b On the grid, draw the cumulative frequency graph for your table.
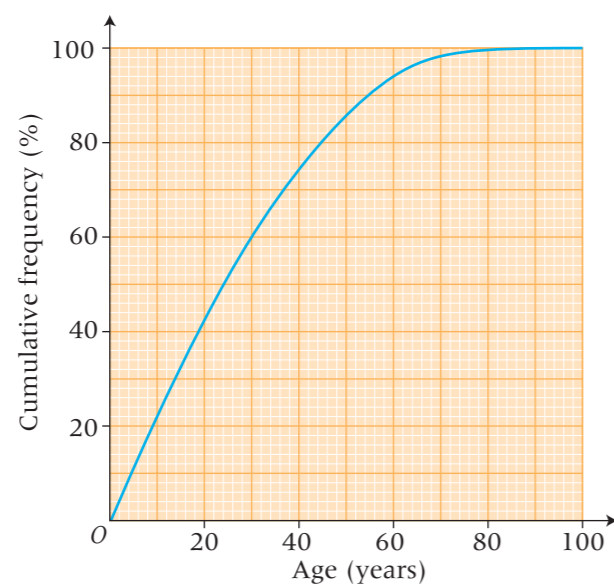

(2)

c Use your graph to find an estimate for the number of students who spend more than 17 hours on the Internet last week.
Show your method clearly.

....

(2)

(Total 5 marks)

2 The cumulative frequency graph gives information about the ages of people in India.
The cumulative frequency is given as a percentage of all the people in India.

a Use the cumulative frequency graph to find an estimate for the percentage of people in India who are

i aged less than 20,

.......................%

ii aged 54 or over.

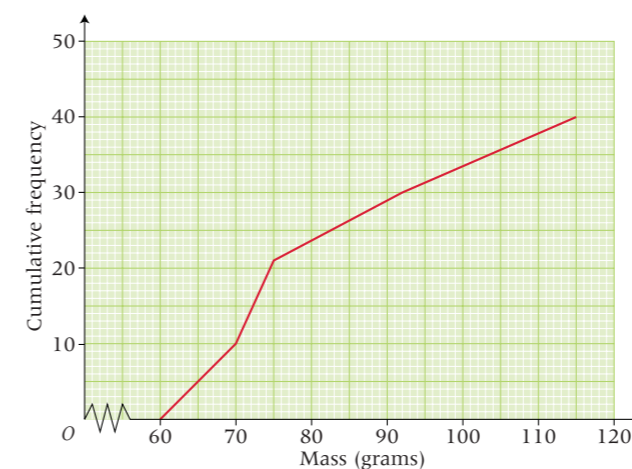.......................%

(2)

b Find an estimate for the interquartile range of the ages of people in India.

.... years

(2)

(Total 4 marks)

3 A sample of 40 stones was collected.
The cumulative frequency graph gives information about their masses.

a Find an estimate of the median mass.

.... g

(1)

b Find an estimate of the interquartile range of the masses.

.... g

(2)

c How many stones had masses between the lower quartile and the upper quartile?

....

(1)

d Find an estimate of the number of stones which had masses of more than 100 grams.

....

(2)

(Total 6 marks)

4 90 students took an examination.
The grouped frequency table shows information about their results.

Mark (x)	Frequency
$0 < x \leq 10$	3
$10 < x \leq 20$	10
$20 < x \leq 30$	17
$30 < x \leq 40$	30
$40 < x \leq 50$	21
$50 < x \leq 60$	7
$60 < x \leq 70$	2

a Complete the cumulative frequency table.

Mark (x)	Cumulative Frequency
$0 < x \leq 10$	3
$0 < x \leq 20$	
$0 < x \leq 30$	
$0 < x \leq 40$	
$0 < x \leq 50$	
$0 < x \leq 60$	
$0 < x \leq 70$	

(1)

b On the grid on the next page, draw a cumulative frequency graph for your table.
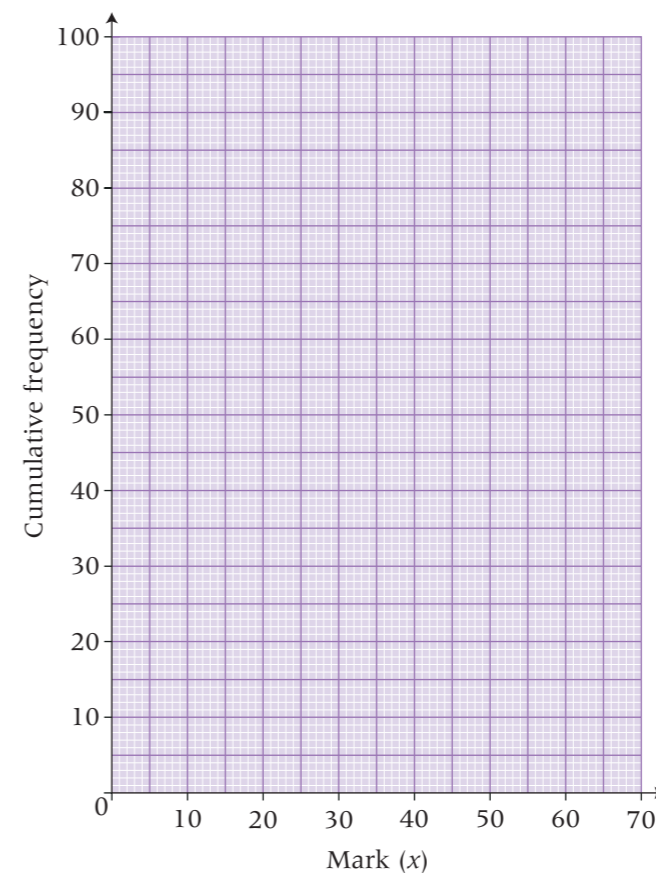
(2)

c Use your graph to find an estimate for the median mark.

....

(1)

The pass mark for the examination was 28.

d Use your graph to find an estimate for the number of students who passed the examination.

....

(2)

(Total 6 marks)