

**TB(2A) Ch. 7 More about Statistical Charts**  
**Conventional Questions**

**1. [16-17 S.2 Mid-year Exam #8]**

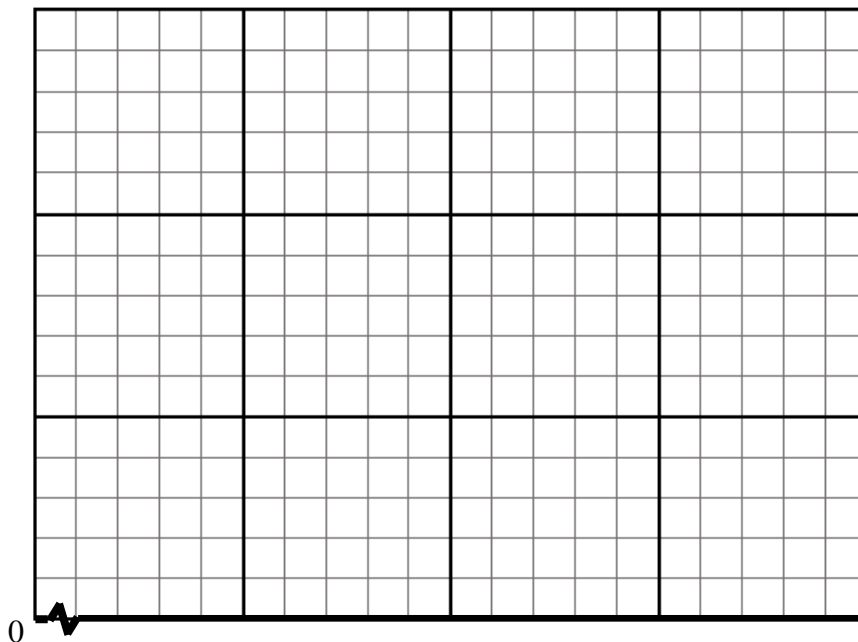
The following frequency distribution table shows the result of 40 participants in stage 1 of a competition.

(a) Complete the table below. **(1 mark)**

Score	Class boundaries	Class mark	Frequency
50 – 99		74.5	9
100 – 149		124.5	10
150 – 199		174.5	11
200 – 249		224.5	5
250 – 299		274.5	5

(b) Draw a histogram to present the above data. **(3 marks)**

Title:



(c) Participants get score lower than 99.5 will be considered as failed and they cannot continue for stage 2; participants get score higher than 249.5 score will skip stage 2 and enter the final stage directly. Find the percentage of participants who DO NOT need to join stage 2. **(2 marks)**

2. [16-17 S.2 Final Exam #7]

The frequency distribution table below shows the distribution of the heights of 40 plants in a garden.

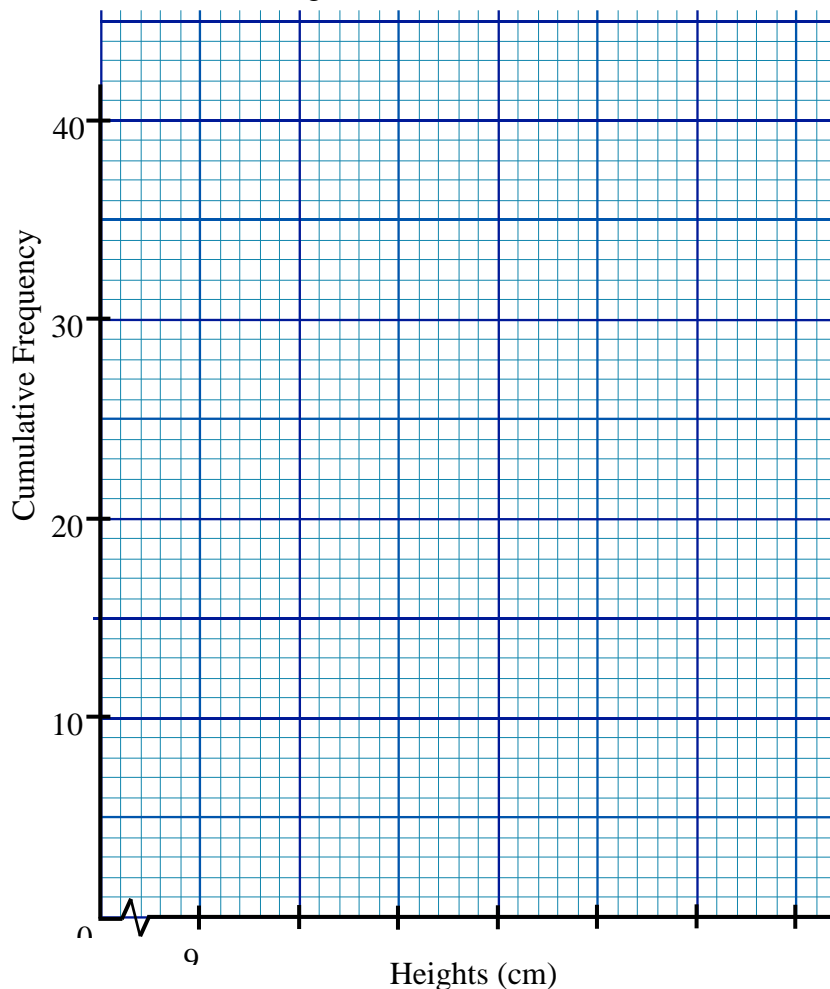
Height (cm)	10 – 39	40 – 69	70 – 99	100 – 129	130 – 159	160 – 189
Frequency	2	4	7	9	15	3

(a) Complete the corresponding cumulative frequency distribution table below. (1 mark)

Height (cm) less than	9.5	39.5	69.5	99.5	129.5	159.5	189.5
Cumulative frequency							

(b) Construct a cumulative frequency polygon on the graph provided. (2 marks)

Cumulative Frequency Polygon of the  
 Heights of 40 Plants in a Garden

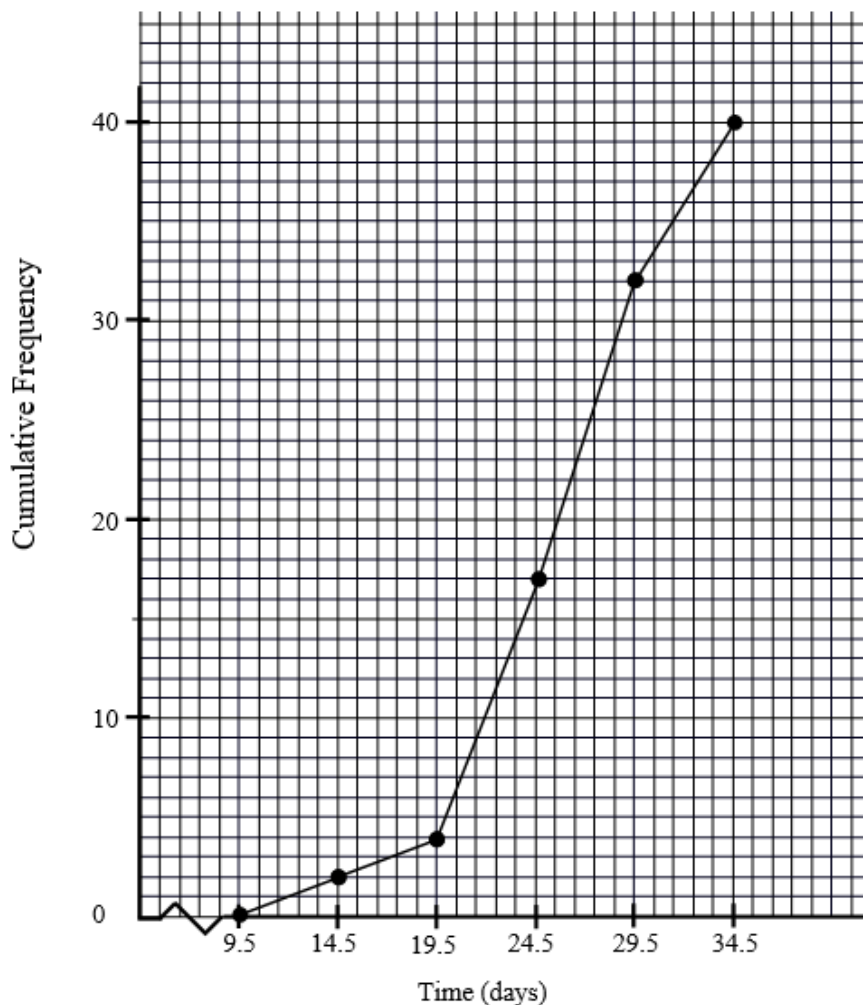


(c) Write down the 70<sup>th</sup> percentile of the heights of the plants. (1 mark)

3. [17-18 S.2 Mid-year Exam #11]

The cumulative frequency polygon in Figure 1a shows the time (in days) taken by 40 children to learn cycling.

**Time of 40 children to learn cycling**



**Figure 1a**

- (a) Write down the values of  $a$ ,  $b$ ,  $c$  and  $d$  in the following distribution table and the cumulative frequency table for the above diagram. (2 marks)

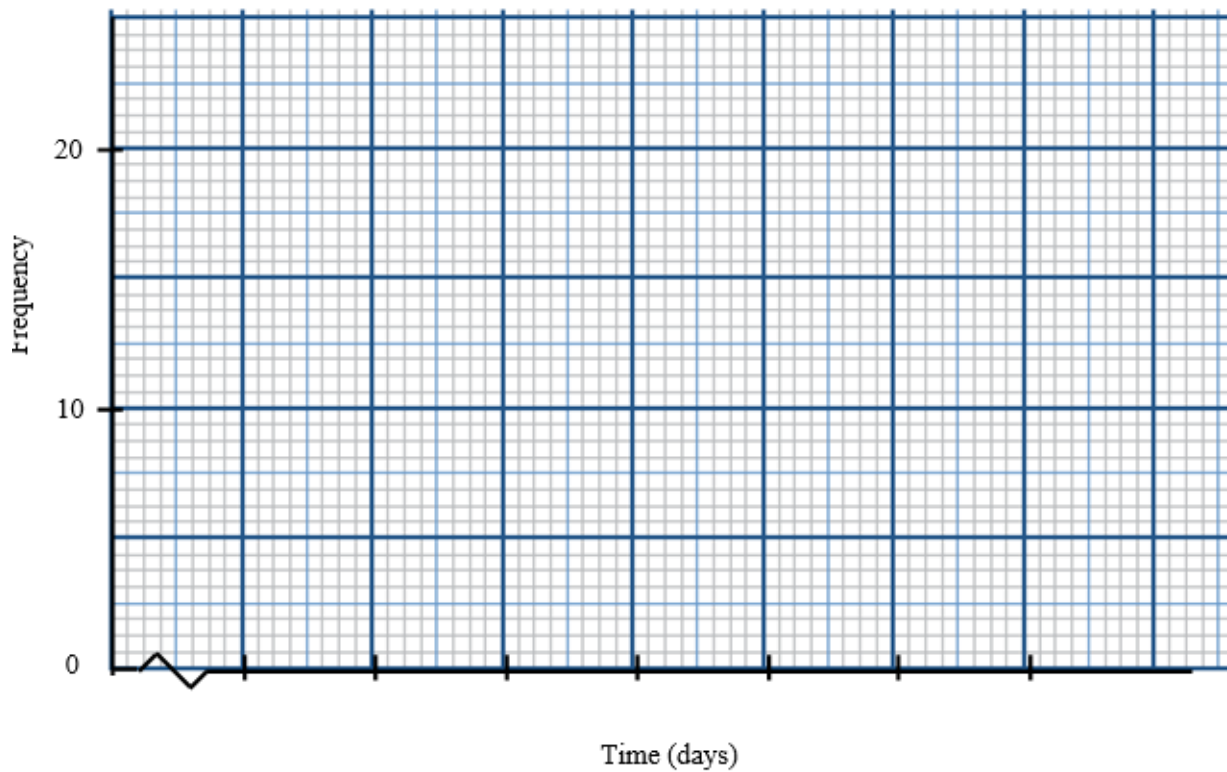
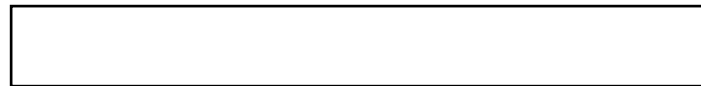
Time (days)	Frequency
10 – 14	$a$
15 – 19	2
20 – 24	$b$
25 – 29	15
30 – 34	8

**Table 1**

Time less than (days)	Cumulative frequency
9.5	0
14.5	2
19.5	$c$
24.5	$d$
29.5	32
34.5	40

**Table 2**

- (b) Find the median time for the children to learn cycling. (1 mark)
- (c) Children who are good at sports can learn cycling within 23.5 days. Find the percentage of children who are good at sports. (2 marks)
- (d) Construct the frequency polygon to present the above data. (2 marks)



**Figure 1b**

4. [18-19 S.2 Mid-year Exam #6]

The following table shows the results of 20 participants in a running competition.

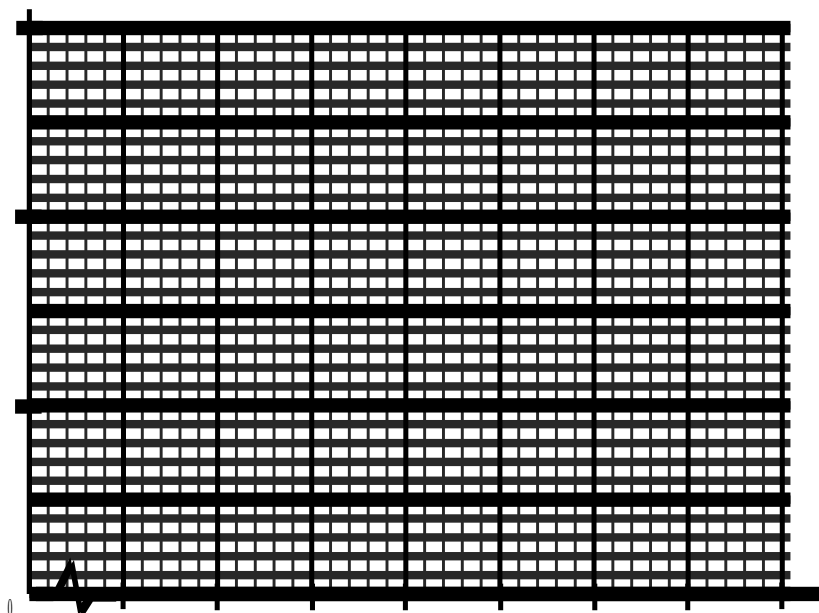
Time (s)	12.0 – 12.9	13.0 – 13.9	14.0 – 14.9	15.0 – 15.9	16.0 – 16.9
Frequency	3	8	5	3	1

(a) Complete the following frequency distribution table. (2 marks)

Time (s)	Class boundaries (s)	Class mark (s)	Frequency
12.0 – 12.9	11.95 – 12.95	12.45	3
13.0 – 13.9			8
14.0 – 14.9			5
15.0 – 15.9			3
16.0 – 16.9			1

(b) Draw a frequency polygon to present the above data. (3 marks)

Title: \_\_\_\_\_



5. [18-19 S.2 Final Exam #3]

The frequency distribution table below shows the average time spent on mobile phone by a group of children every day.

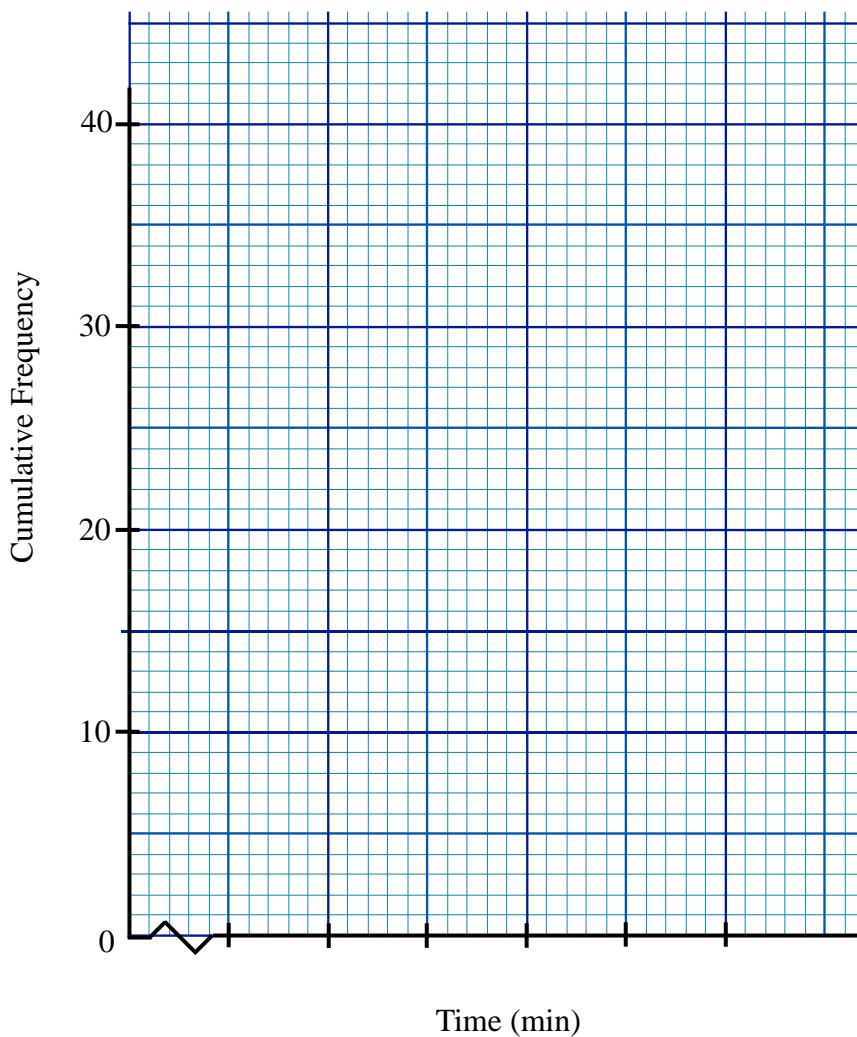
Time (min)	31 – 60	61 – 90	91 – 120	121 – 150	151 – 180
Frequency	5	7	8	13	7

- (a) Complete the cumulative frequency table below. (2 marks)

Time less than (min)						
Cumulative frequency	0					

- (b) Construct a cumulative frequency polygon on the graph paper provided. (2 marks)

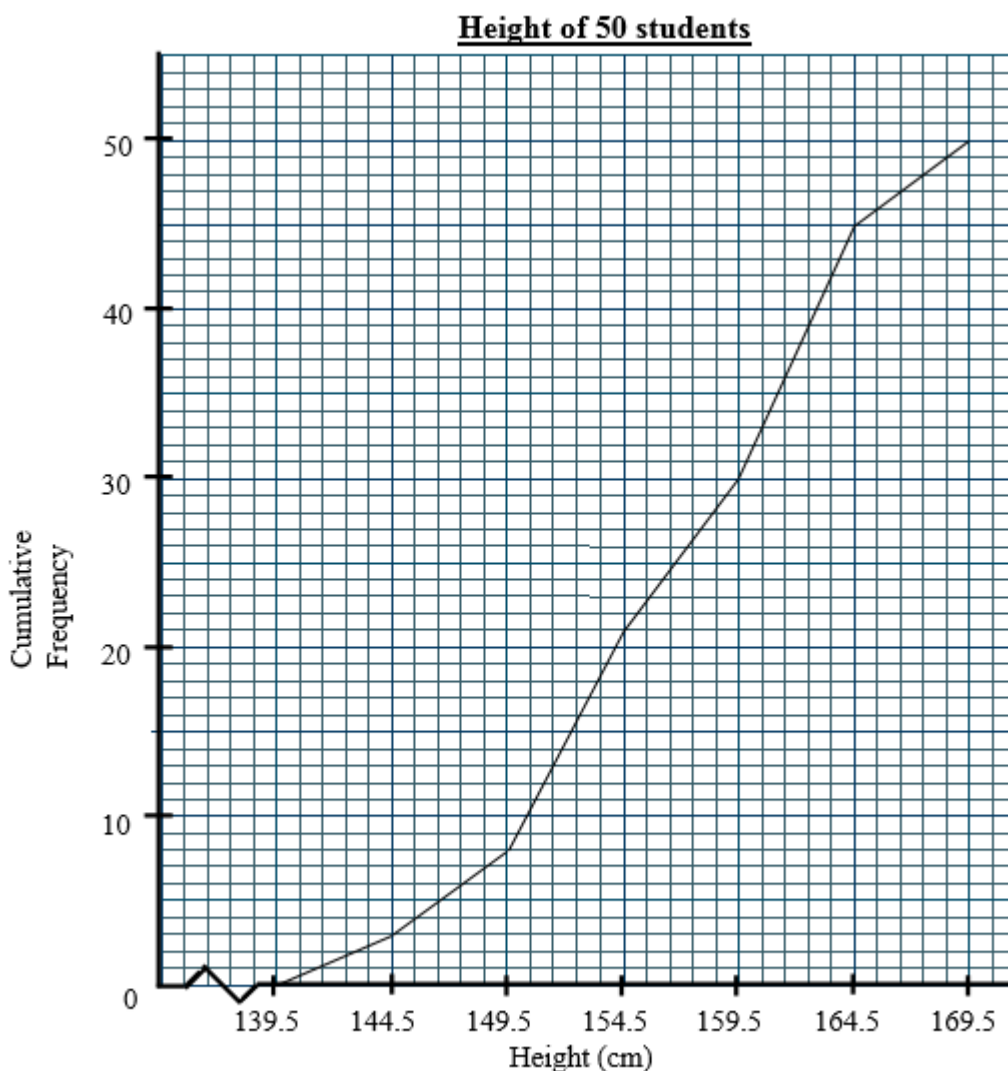
Average time spent on mobile phone



- (c) Find the 30<sup>th</sup> percentile. (1 mark)

6. [19-20 S.2 Mid-year Exam #7]

The cumulative frequency polygon in **Figure 1** shows the heights (in cm) of 50 students.



**Figure 1**

- (a) Complete the following frequency distribution table for the above diagram. **(2 marks)**

<b>Height (cm)</b>	140 – 144					
<b>Frequency</b>						

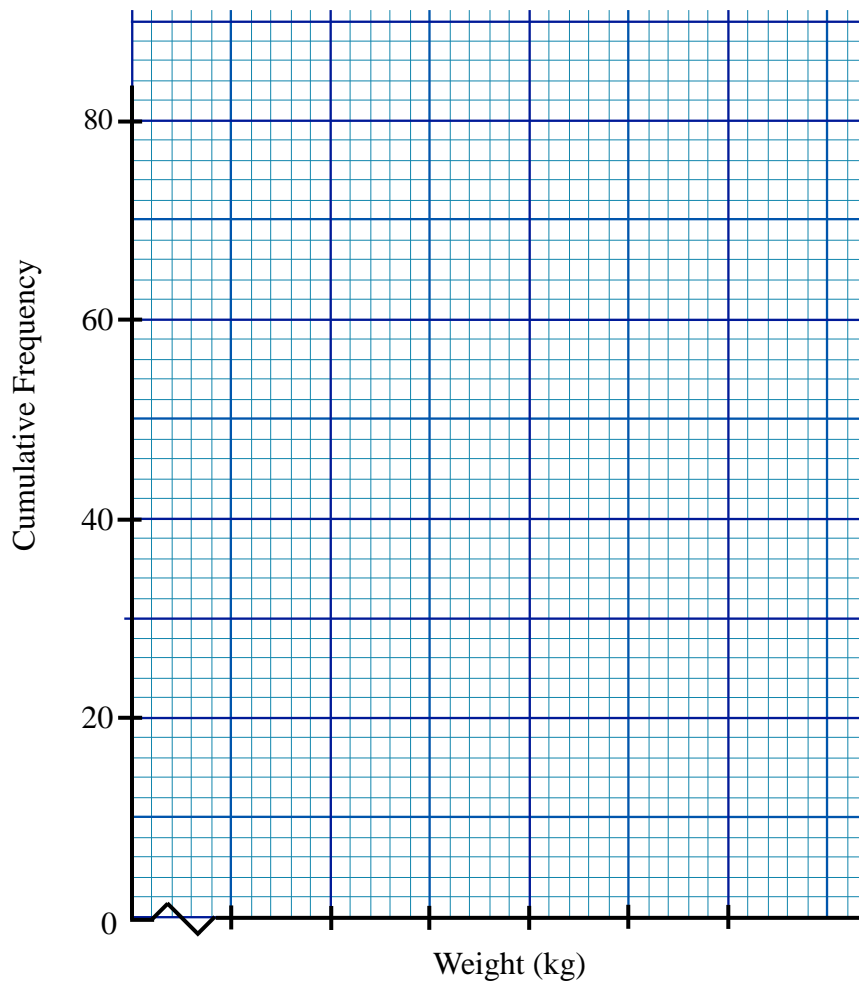
- (b) Write down the 60th percentile. **(1 mark)**
- (c) Find the percentage of students who are taller than or equal to 149.5 cm but shorter than 159.5 cm. **(2 marks)**

7. [20-21 S.2 Standardized Test, #6]

Complete the cumulative frequency polygon of the weight of a group of students in **Figure 1** by using the cumulative frequency table below and write down the 60<sup>th</sup> percentile. (3 marks)

<b>Weight less than (kg)</b>	49.5	54.5	59.5	64.5	69.5	74.5
<b>Cumulative frequency</b>	0	30	48	52	60	80

**The weight of a group of students**



**Figure 1**

The 60<sup>th</sup> percentile is \_\_\_\_\_.



8. [20-21 S.2 Final Exam #17]

Figure 6 shows the cumulative frequency polygon of the distribution of the score in a Mathematics test. Part of the graph was covered accidentally.

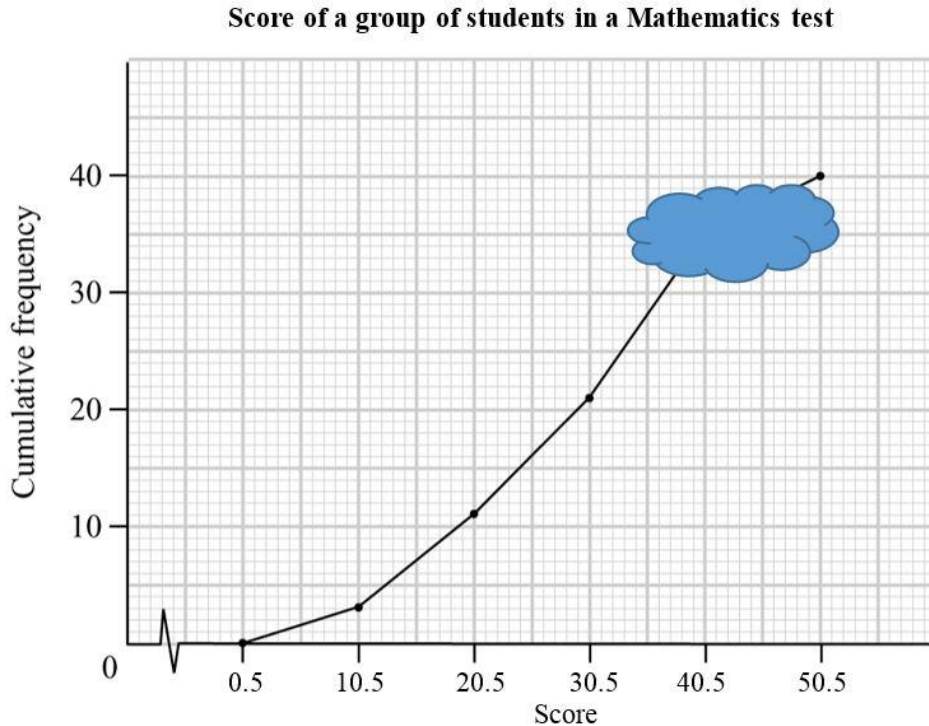


Figure 6

(a) Complete the tables below.

(3 marks)

Score less than	Cumulative frequency
0.5	0
10.5	3
20.5	11
30.5	21
40.5	
50.5	40

Score	Frequency
1 – 10	3
11 – 20	8
21 – 30	
31 – 40	14
41 – 50	

(b) (i) Write down the upper quartile.

(ii) The Mathematics teacher would like to have 60 % of students pass in this test. Write down the passing mark of this test.

(2 marks)

~ End ~