



DULWICH COLLEGE SHANGHAI
IGCSE – Module 7 REVISION

1)

40 students are asked about the number of people in their families.

The table shows the results.

Number of people in family	2	3	4	5	6	7
Frequency	1	1	17	12	6	3

(a) Find

(i) the mode,

Answer(a)(i) [1]

(ii) the median,

Answer(a)(ii) [1]

(iii) the mean.

Answer(a)(iii) [3]

(b) Another n students are asked about the number of people in their families.

The mean for these n students is 3.

Find, in terms of n , an expression for the mean number for all $(40 + n)$ students.

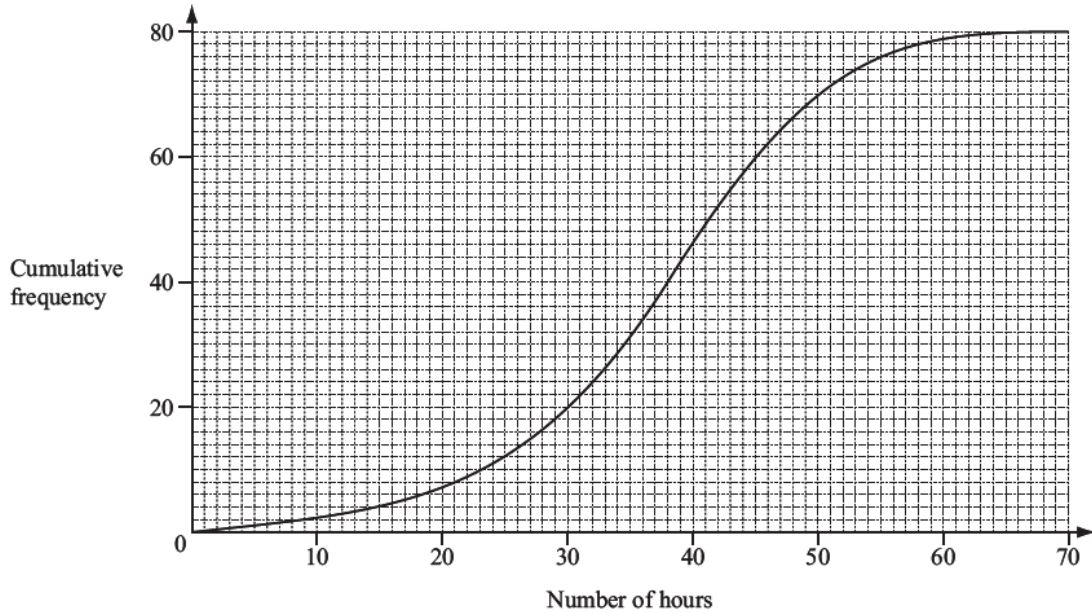
Answer(b) [2]



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2)

20 The number of hours that a group of 80 students spent using a computer in a week was recorded. The results are shown by the cumulative frequency curve.



Use the cumulative frequency curve to find

(a) the median,

Answer(a) h [1]

(b) the upper quartile,

Answer(b) h [1]

(c) the interquartile range,

Answer(c) h [1]

(d) the number of students who spent more than 50 hours using a computer in a week.

Answer(d) [2]



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3)

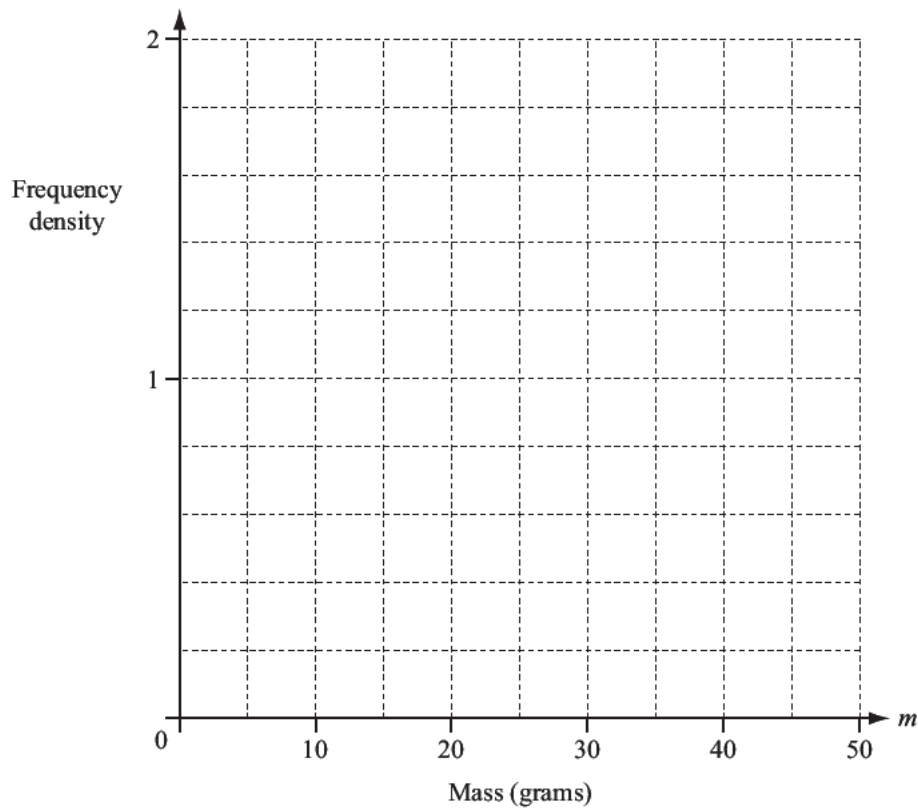
The masses of 60 potatoes are measured.
The table shows the results.

Mass (m grams)	$10 < m \leq 20$	$20 < m \leq 40$	$40 < m \leq 50$
Frequency	10	30	20

(a) Calculate an estimate of the mean.

Answer(a) g [4]

(b) On the grid, draw an accurate histogram to show the information in the table.



[3]



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4)

8 Fifty students are timed when running one kilometre.

The results are shown in the table.

Time (t minutes)	$4.0 < t \leq 4.5$	$4.5 < t \leq 5.0$	$5.0 < t \leq 5.5$	$5.5 < t \leq 6.0$	$6.0 < t \leq 6.5$	$6.5 < t \leq 7.0$
Frequency	2	7	8	18	10	5

(a) Write down the modal time interval.

Answer(a) min [1]

(b) Calculate an estimate of the mean time.

Answer(b) min [4]



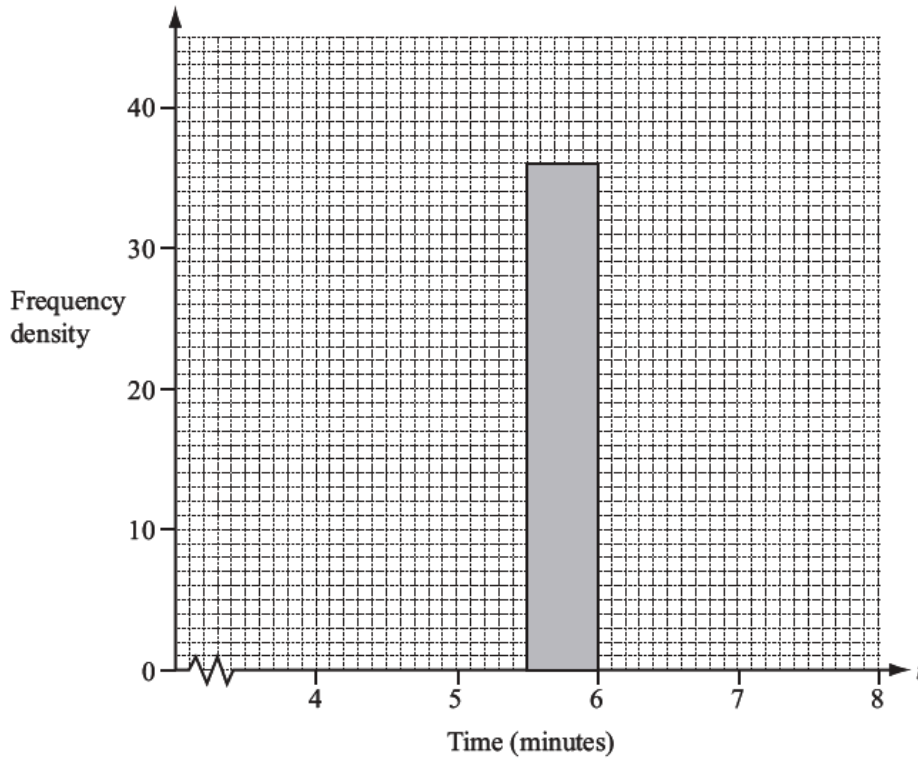
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(c) A new frequency table is made from the results shown in the table above.

Time (t minutes)	$4.0 < t \leq 5.5$	$5.5 < t \leq 6.0$	$6.0 < t \leq 7.0$
Frequency		18	

(i) Complete the table by filling in the two empty boxes. [1]

(ii) On the grid below, complete an accurate histogram to show the information in this new table.



[3]

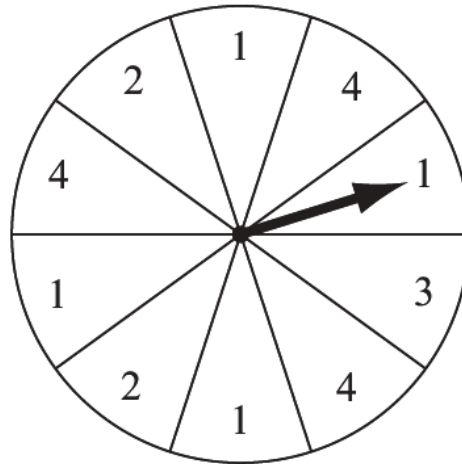
(iii) Find the number of students represented by 1 cm^2 on the histogram.

Answer(c)(iii) [1]



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5)



The diagram shows a circular board, divided into 10 numbered sectors.

When the arrow is spun it is equally likely to stop in any sector.

(a) Complete the table below which shows the probability of the arrow stopping at each number.

Number	1	2	3	4
Probability		0.2		0.3

[1]

(b) The arrow is spun once.

Find

(i) the most likely number,

Answer(b)(i) [1]

(ii) the probability of a number less than 4.

Answer(b)(ii) [1]



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(c) The arrow is spun twice.

Find the probability that

(i) both numbers are 2,

Answer(c)(i) [1]

(ii) the first number is 3 and the second number is 4,

Answer(c)(ii) [2]

(iii) the two numbers add up to 4.

Answer(c)(iii) [3]

(d) The arrow is spun several times until it stops at a number 4.

Find the probability that this happens on the third spin.

Answer(d) [2]