

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

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General Certificate of Secondary Education
June 2006



MATHEMATICS (MODULAR) (SPECIFICATION B)
Module 1 Intermediate Tier Section B

33001/IB

Monday 19 June 2006 2.00 pm to 2.25 pm

<p>For this paper you must have:</p> <ul style="list-style-type: none"> • mathematical instruments <p>You must not use a calculator.</p>	
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Time allowed for Section B: 25 minutes

Instructions

- Use blue or black ink or ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- Answer the questions in the spaces provided.
- Do all rough work in this book.
- You may **not** use your calculator in Section B. Your calculator must remain on the floor under your seat.
- When you have answered Section B you may work again on Section A but you may **not** use your calculator. It must remain on the floor under your seat.
- At the end of the examination tag Section A and Section B together with Section A on top.

Information

- The maximum mark for Section B is 20.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

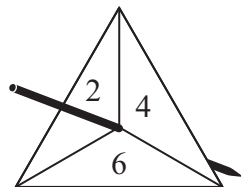
There are no questions printed on this page

Answer **all** questions in the spaces provided.

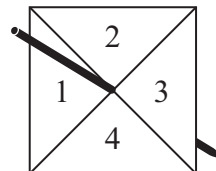
6 Here are two fair spinners.

Spinner A has three equal sectors numbered 2, 4 and 6.

Spinner B has four equal sectors numbered 1, 2, 3 and 4.



Spinner A



Spinner B

Each spinner is spun once.

The numbers that each spinner lands on are added to get the score.

(a) Complete the table to show all the possible scores.

		Spinner A		
		2	4	6
Spinner B	1			
	2			
	3			
	4			

(2 marks)

(b) Calculate the probability of scoring

(i) 4

Answer (1 mark)

(ii) more than 7.

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Answer (2 marks)

7 Jenny plays hockey.

The probabilities of her scoring certain numbers of goals in a match are shown in the table.

Number of goals	0	1	2	3 or more
Probability	0.2	0.4		0.1

Jenny plays 20 matches in one season.

In how many of these matches would you expect her to score exactly 2 goals?

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Answer matches (3 marks)

8 Sunita uses a questionnaire to carry out a survey about mobile phones.

(a) This is one of her questions.

‘Do you have a mobile phone and use it to send text messages?’

Write down **one** criticism of this question.

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(1 mark)

(b) Sunita wants to find out the number of text messages people send.

Write down a question she could ask.

Include a response section.

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(2 marks)

(c) The table shows the amount spent by 100 people on mobile phones in one month.

Amount, x (£)	Frequency
$0 \leq x < 10$	31
$10 \leq x < 20$	24
$20 \leq x < 30$	22
$30 \leq x < 40$	15
$40 \leq x < 50$	8

Which class interval contains the median?

You **must** show your working.

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Answer $\leq x <$ (2 marks)

5

Turn over 

- 9 The table shows the time, in minutes, that 80 customers spent in the queue at a bank.

Time, t (minutes)	Frequency
$0 < t \leq 1$	2
$1 < t \leq 2$	11
$2 < t \leq 3$	19
$3 < t \leq 4$	31
$4 < t \leq 5$	12
$5 < t \leq 6$	5

Time, t (minutes)	Cumulative frequency
≤ 1	2
≤ 2	13
≤ 3	
≤ 4	
≤ 5	
≤ 6	

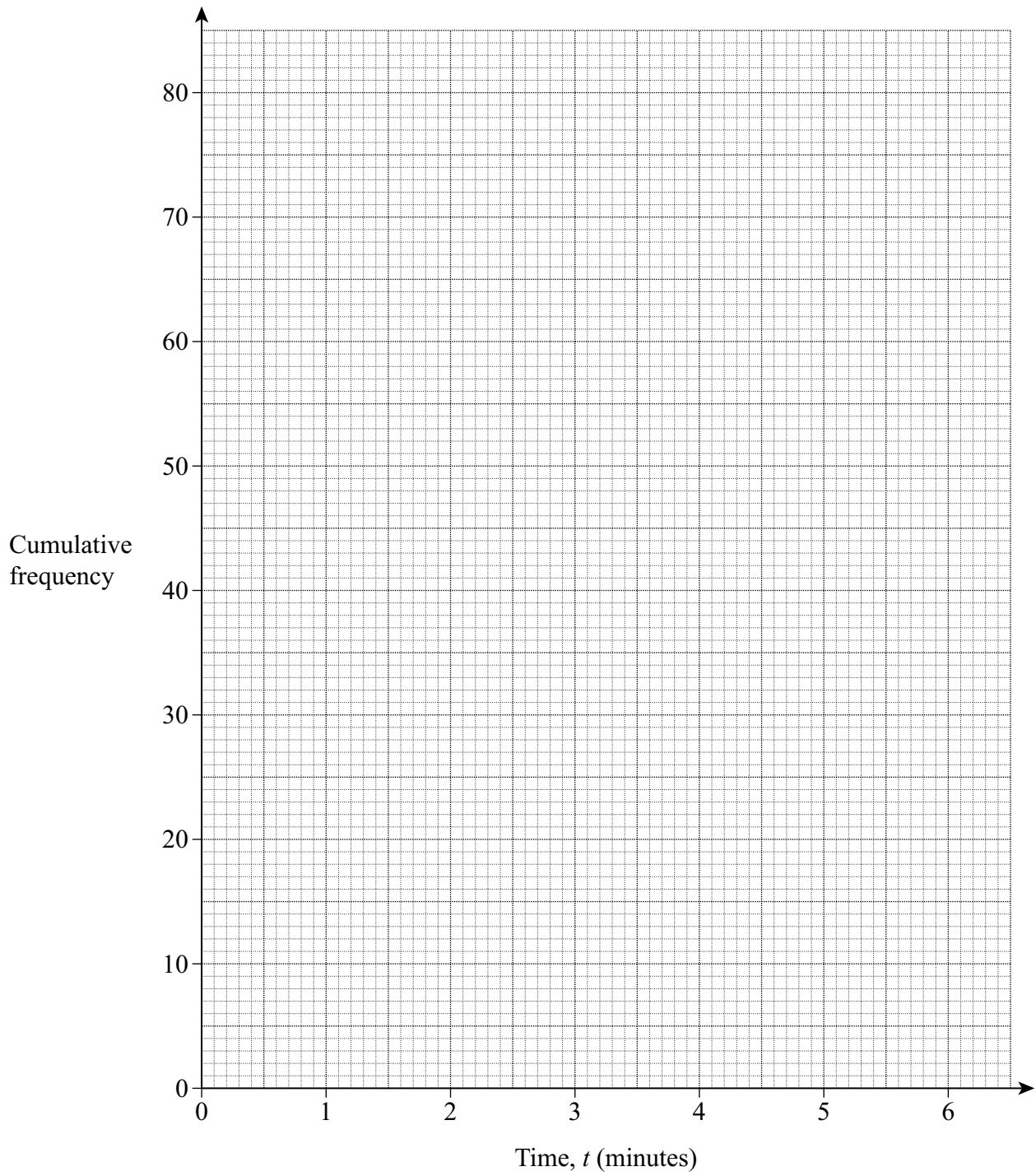
- (a) Complete the cumulative frequency table. (1 mark)
- (b) Draw a cumulative frequency diagram on the grid opposite. (3 marks)
- (c) Use your graph to calculate an estimate of the interquartile range.

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Answer minutes (2 marks)

- (d) Use your graph to estimate the number of customers who spent less than 3.5 minutes in the queue.

Answer (1 mark)



END OF QUESTIONS

There are no questions printed on this page