Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

General Certificate of Secondary Education
June 2006

MATHEMATICS (MODULAR) (SPECIFICATION B)   **43001/HB**
Module 1   Higher Tier Section B

H

Practice Paper (Two-tier Specification) 2008

For this paper you must have:
- mathematical instruments

You must **not** use a calculator.

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.

43001/HB

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

6 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 at least 2 goals?

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Answer .... matches *(4 marks)*

4

7 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
$0 \leqslant x < 10$	31
$10 \leqslant x < 20$	24
$20 \leqslant x < 30$	22
$30 \leqslant x < 40$	15
$40 \leqslant x < 50$	8

Which class interval contains the median?
You **must** show your working.

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Answer .... $\leqslant x <$ .... *(2 marks)*
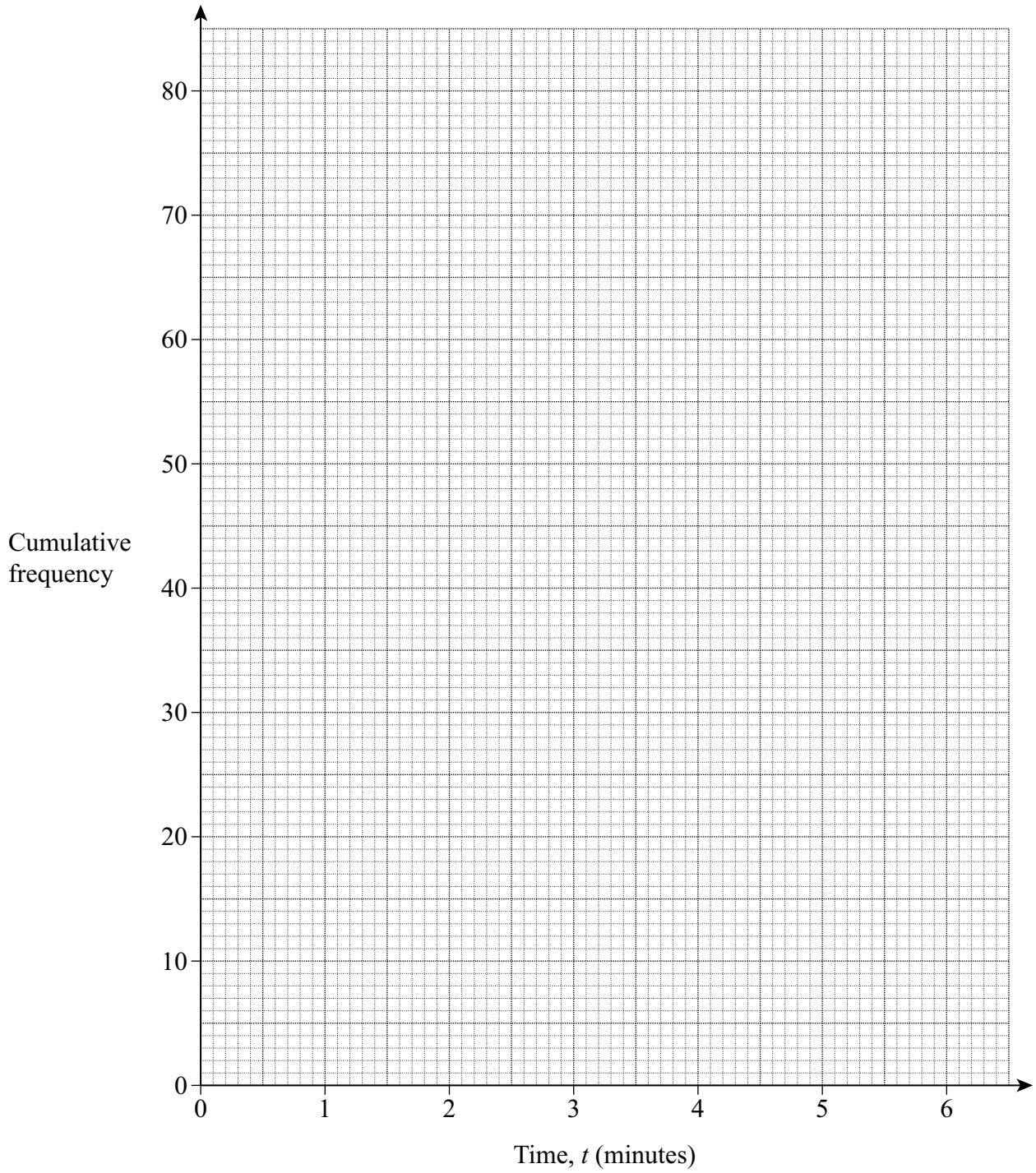
Turn over ▶

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

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

Time, t (minutes)	Cumulative frequency
$\leqslant 1$	2
$\leqslant 2$	13
$\leqslant 3$	
$\leqslant 4$	
$\leqslant 5$	
$\leqslant 6$	

(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 estimate the number of customers who spent less than 3.5 minutes in the queue.

Answer .... *(1 mark)*

5

Cumulative
frequency

Time, *t* (minutes)

9 Four students sit a typing test.

(a) The probability that Anna passes the test is $\frac{1}{2}$

The probability that Boris passes the test is $\frac{4}{9}$

Calculate the probability that both Anna and Boris pass the test.
Give your answer in its simplest form.

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Answer .... *(2 marks)*

(b) The probability that Chloe passes the test is $\frac{3}{5}$

The probability that both Chloe and Danny pass the test is $\frac{7}{15}$

Calculate the probability that both Chloe and Danny fail the test.

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Answer .... *(4 marks)*

END OF QUESTIONS

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