

Surname					Other Names				
Centre Number					Candidate Number				
Candidate Signature									

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General Certificate of Secondary Education
March 2005



**MATHEMATICS (MODULAR) (SPECIFICATION B)
Module 1 Foundation Tier Section A**

33001/FA

F

Monday 28 February 2005 1.30 pm to 1.55 pm

<p>In addition to this paper you will require:</p> <ul style="list-style-type: none"> • a calculator • mathematical instruments • a treasury tag. 	
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For Examiner's Use			
Section A		Section B	
Number	Mark	Number	Mark
1		6	
2		7	
3		8	
4		9	
5			
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

Time allowed for Section A: 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 in the spaces provided.
- Do all rough work in this booklet.
- This paper is divided into **two** sections: Section A and Section B.
- After the 25 minutes allowed for Section A, you must put your calculator on the floor under your seat. You will then be given Section B.
- 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

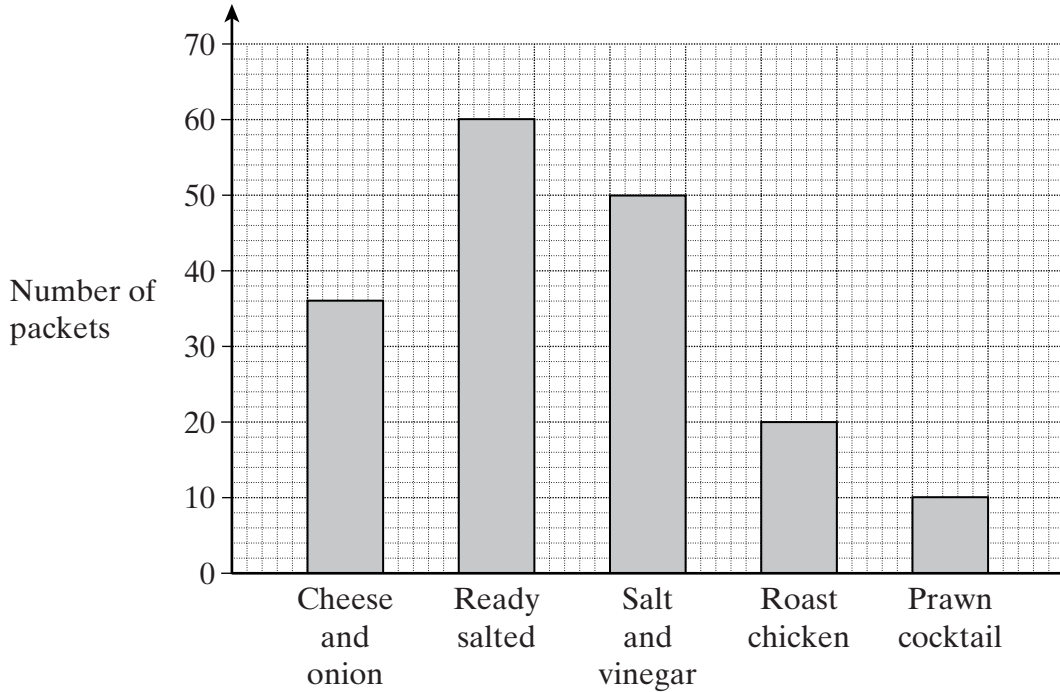
- The maximum mark for Section A is 20.
- Mark allocations are shown in brackets.
- Additional answer paper and graph paper will be issued on request and must be tagged securely to this answer booklet.
- You are expected to use a calculator where appropriate.

Advice

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

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

1 The bar chart shows the number of packets of different flavours of crisps sold at a disco.



(a) Which flavour sold the most?

Answer (1 mark)

(b) How many packets of cheese and onion crisps were sold?

Answer (1 mark)

(c) How many more packets of salt and vinegar crisps than packets of roast chicken crisps were sold?

.....

Answer (1 mark)

(d) How many packets of crisps were sold altogether?

.....

Answer (2 marks)

- 2 (a) The list gives some words used in probability.

impossible unlikely evens likely certain

For each of the events below, write down the word from the list which describes its probability.

- (i) A fair coin landing on heads.

Answer (1 mark)

- (ii) Picking a red ball, at random, from a bag containing 20 red balls and 3 black balls.

Answer (1 mark)

- (iii) Throwing the number 8 on an ordinary fair six-sided dice.

Answer (1 mark)

- (b) Brian has some red marbles, blue marbles and white marbles in a bag. He says that the probability of choosing each colour is shown in the table.

Colour of marble	red	blue	white
Probability	0.3	0.6	0.2

There is a mistake in the probabilities in the table.

Explain how you know this.

.....

.....

(1 mark)



Turn over ►

3 Sophie counts the number of letters in each word of the first sentence of a newspaper.

These are her results.

9 2 3 6 5 7 6 3 7 9 8 4 8 7

(a) Work out the median.

.....

Answer letters (2 marks)

(b) Calculate the mean of this data.

.....

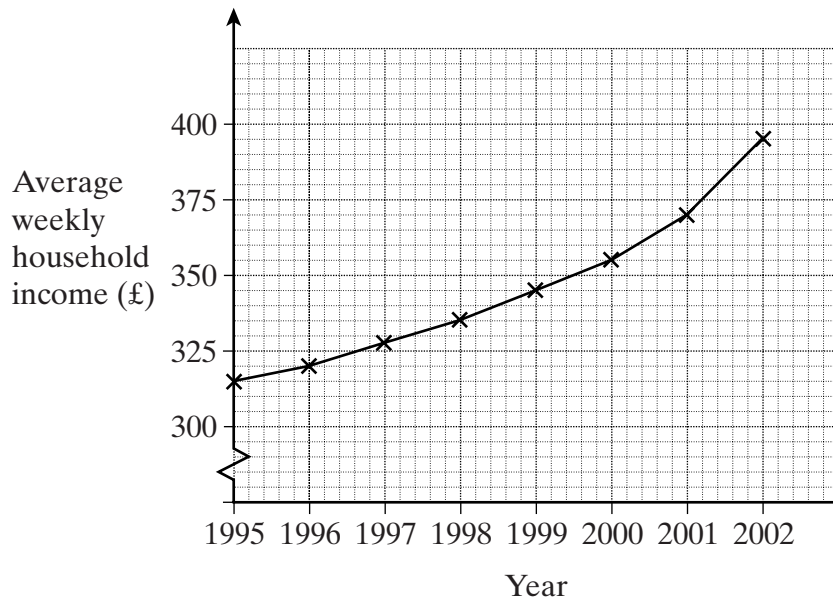
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.....

Answer letters (3 marks)

5

4 The graph shows the average weekly household income in the UK.



(a) By how much did the average weekly household income increase from 2000 to 2001?

.....

Answer £ (1 mark)

(b) Between which two years was there the largest annual increase in average weekly household income?

.....

.....

Answer and (1 mark)

2

Turn over ►

5 A taxi-driver keeps a record of how much he spends on petrol each week.
The amounts, in pounds, are

30	24	32	15	28	9	18
24	23	36	22	14	19	41

(a) Draw an ordered stem-and-leaf diagram to show these amounts.
Remember to complete the key.

.....

.....

.....

.....

.....

Key | represents £



(3 marks)

(b) Work out the range of these amounts.

.....

Answer £ (1 mark)

END OF SECTION A



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**MATHEMATICS (MODULAR) (SPECIFICATION B)
Module 1 Foundation Tier Section B**

33001/FB

F

Monday 28 February 2005 2.00 pm to 2.25 pm

<p>In addition to this paper you will require: mathematical instruments.</p> <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 in the spaces provided.
- Do all rough work in this booklet.
- 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.
- Mark allocations are shown in brackets.
- Additional answer paper and graph paper will be issued on request and must be tagged securely to this answer booklet.

Advice

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

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

- 6 Natalie asks 20 of her friends to choose their favourite type of sponge cake from a list.

Their replies are

Chocolate	Chocolate	Vanilla
Orange	Vanilla	Lemon
Chocolate	Orange	Vanilla
Orange	Chocolate	Chocolate
Orange	Lemon	Orange
Vanilla	Chocolate	Orange
Chocolate	Chocolate	

- (a) Complete the tally and the frequency columns in the table below for their replies.

Type of cake	Tally	Frequency
Chocolate		
Vanilla		
Orange		
Lemon		

(2 marks)

(b) Draw a pictogram to show these results.

Use the symbol  to represent 4 cakes.

Chocolate	
Vanilla	
Orange	
Lemon	

(2 marks)

(c) Sort the types of cake into order of popularity starting with the least popular.

Answer

.....

.....

.....

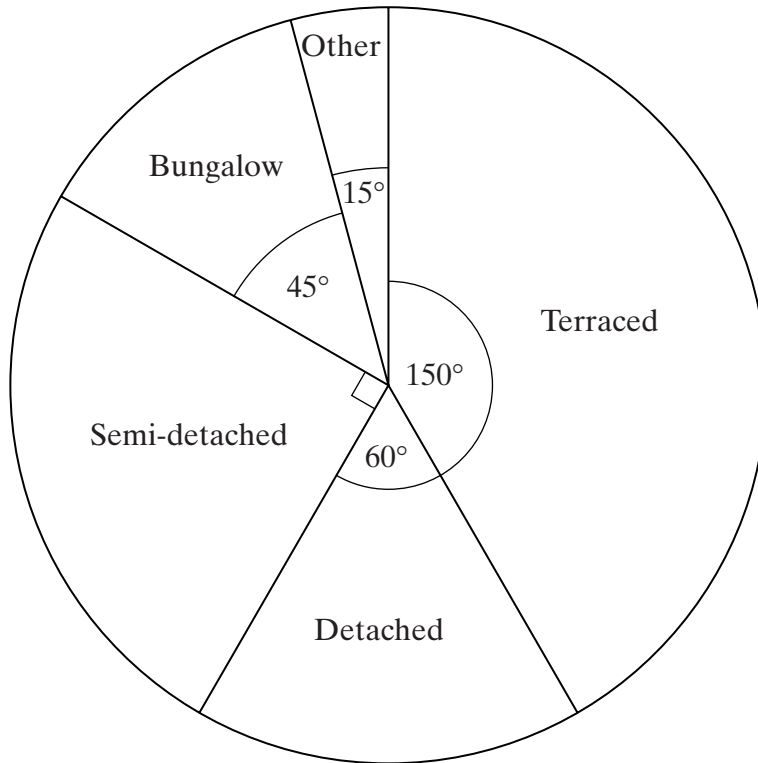
(1 mark)



TURN OVER FOR THE NEXT QUESTION

Turn over 

- 7 Louise asks the children in her year group what type of house they live in. The results are shown in the pie chart.



- (a) There are 12 children who live in detached houses.

How many children live in semi-detached houses?

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.....

.....

.....

Answer (3 marks)

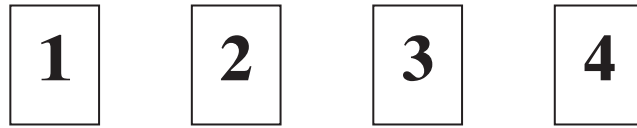
- (b) Calculate how many children Louise asked.

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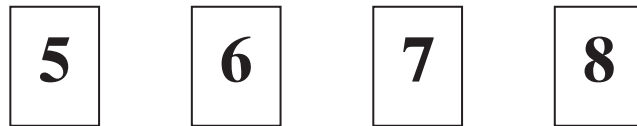
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Answer (2 marks)

- 8 Chris plays a game.
He has two sets of four cards.
The first set of cards is numbered 1 to 4.



The second set of cards is numbered 5 to 8.



Chris chooses a card from each set at random.
He adds together the numbers on the two chosen cards to get his score.

- (a) Complete the table to show all the scores that Chris can make.

	1st set of cards				
	1	2	3	4	
2nd set of cards	5				
	6				
	7				
	8				

(2 marks)

- (b) Calculate the probability that Chris scores

- (i) 6

Answer (1 mark)

- (ii) 10 or more.

Answer (2 marks)

- (c) Chris plays the game 100 times.

How many times would you expect him to score 9?

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Answer (2 marks)

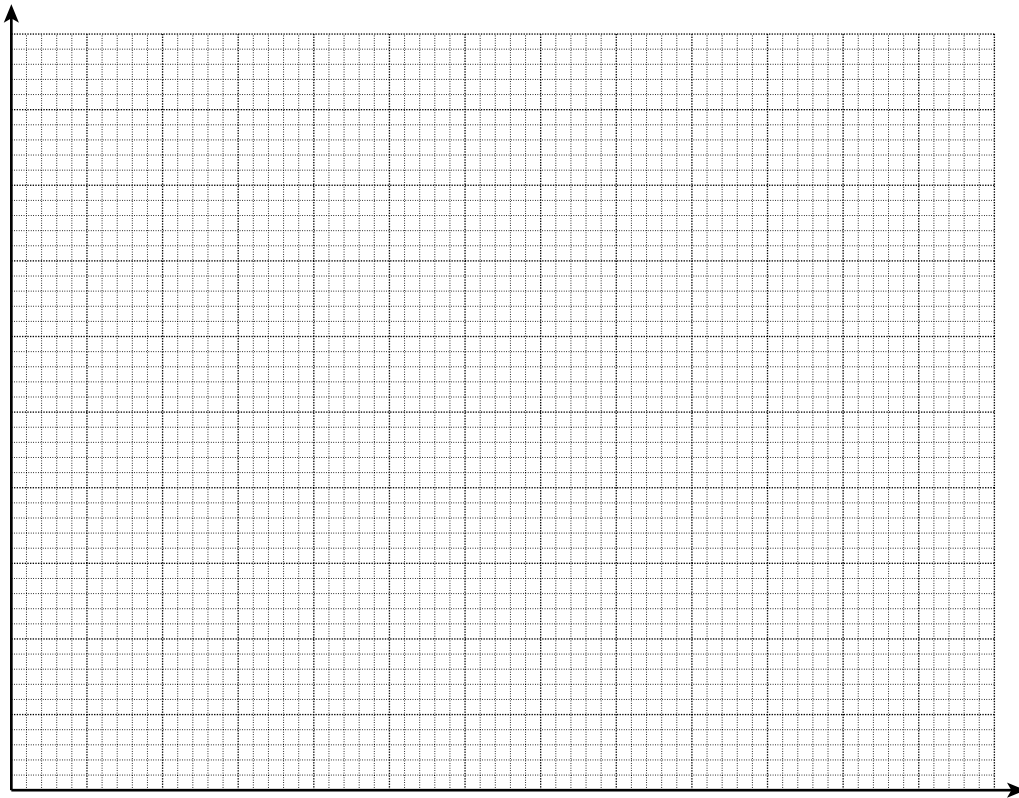
Turn over ►



9 The frequency table shows the costs of car insurance premiums paid by 200 people.

Insurance premium, £ x	Frequency
$200 < x \leq 400$	34
$400 < x \leq 600$	52
$600 < x \leq 800$	76
$800 < x \leq 1000$	26
$1000 < x \leq 1200$	12

Draw a frequency diagram to represent this data.



(3 marks)

END OF QUESTIONS

3