

Surname						Other Names					
Centre Number						Candidate Number					
Candidate Signature											

Leave blank

General Certificate of Secondary Education
November 2003



MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FA
Module 1 Foundation Tier Section A

F

Monday 17 November 2003 9.00 am to 9.25 am

<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, make sure that you hand in **both** Section A and Section B securely tagged 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

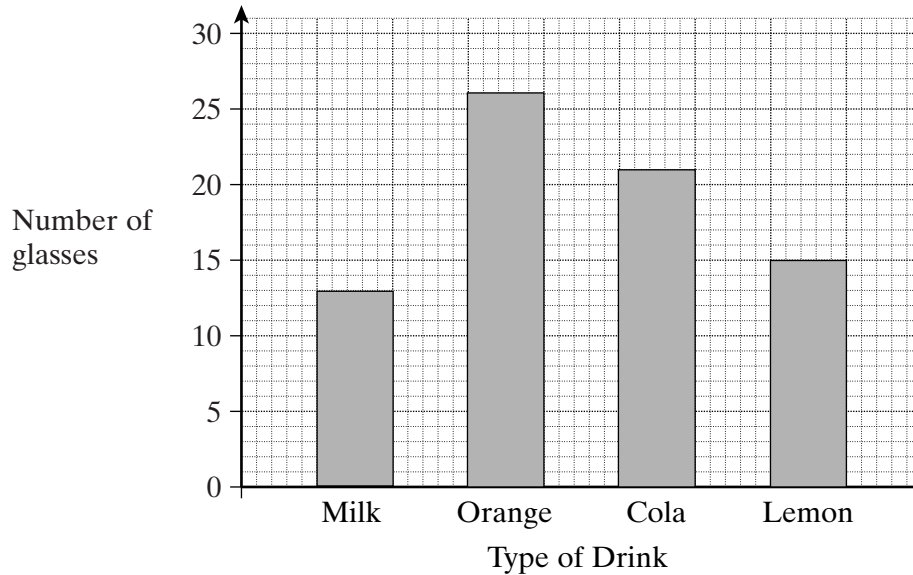
- In all calculations, show clearly how you work out your answer.

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33001/FA

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

- 1 The bar chart shows the number of glasses of each type of drink sold at a cafe one morning.



- (a) How many glasses of milk were sold?

Answer (1 mark)

- (b) Which was the most popular drink?

Answer (1 mark)

- (c) How many more glasses of cola than lemon were sold?

.....

Answer (2 marks)

- (d) How many glasses of drink were sold altogether?

.....

Answer (2 marks)

2 Eleven pupils took part in a sponsored basketball match.
The amount collected, in pounds, by each pupil is shown below.

5 1 6 8 8 8 4 2 3 7 5

(a) Find the median of these amounts.

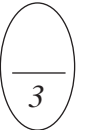
.....

Answer £ (2 marks)

(b) Work out the range of these amounts.

.....

Answer £ (1 mark)



3 There are 10 beads in a bag.
Three beads are green, three are red and four are yellow.
One bead is taken out of the bag at random.

The probabilities of three events have been marked on the probability scale below.

- A: The bead is yellow.
- B: The bead is white.
- C: The bead is **not** red.



Label each arrow with the letter to show which event it represents. (3 marks)



Turn over ►

- 4 There are 60 admissions to a hospital one day.
The table shows the number of each type of admission.

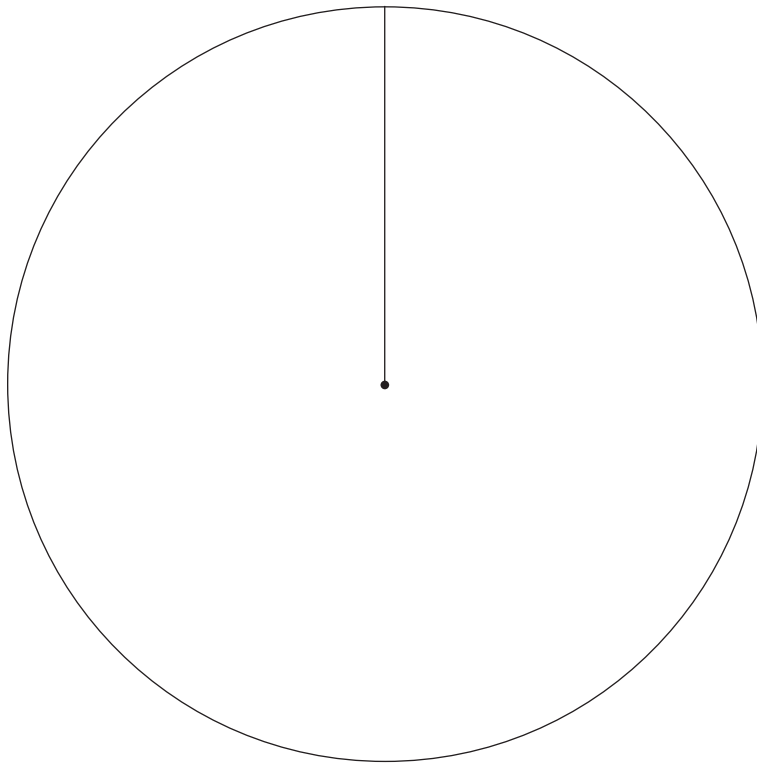
Type of Admission	Number
Medical (M)	18
Surgical (S)	26
Geriatric (G)	11
Children (C)	5

Draw and label a pie chart to represent the information in the table.

.....

.....

.....



(4 marks)

$\frac{\quad}{4}$

5 Chloe records the number of goals scored by her favourite football team in each of 40 matches.

Number of goals	Frequency
0	7
1	15
2	13
3	2
4	2
5	1

(a) Write down the mode of the number of goals scored.

Answer (1 mark)

(b) Calculate the mean number of goals scored per match.

.....
.....
.....
.....

Answer (3 marks)



END OF SECTION A

Surname					Other Names				
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General Certificate of Secondary Education
November 2003



MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FB
Module 1 Foundation Tier Section B

F

Monday 17 November 2003 9.30 am to 9.55 am

<p>In addition to this paper you will require: mathematical instruments. 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, make sure that you hand in **both** Section A and Section B securely tagged 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 Balbir asked his friends to choose, from a list, which type of firework they like best.

Their replies were

Rocket	Sparkler	Rocket
Catherine Wheel	Rocket	Catherine Wheel
Rocket	Roman Candle	Rocket
Roman Candle	Sparkler	Roman Candle
Sparkler	Roman Candle	Rocket

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

Firework	Tally	Frequency
Rocket		
Catherine Wheel		
Sparkler		
Roman Candle		

(2 marks)

- (b) Draw a pictogram to show these results.

Use the symbol  to represent 2 replies.

Rocket	
Catherine Wheel	
Sparkler	
Roman Candle	

(2 marks)

- (c) What is the probability that one of his friends chosen at random replied 'Rocket'?

Answer (1 mark)

Turn over 

7 The list shows the number of cartons of popcorn sold at a local cinema each hour one Saturday.

5 7 3 7 9 3 2 7 4 8

(a) (i) What is the mode of these numbers?

.....

Answer (1 mark)

(ii) Calculate the mean of these numbers.

.....

.....

.....

Answer (3 marks)

(b) The cinema has a special offer for £1.50

You can buy

- either** a drink and popcorn
- or** a drink and sweets.

The drinks available are cola, orange or lemonade.

List all the possible combinations available under this offer.

.....

.....

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.....

.....

.....

(2 marks)

(c) The manager asks 10 people what type of film they prefer.

From their replies he estimates that $\frac{7}{10}$ of people who visit the cinema prefer horror films.

How can he obtain a more reliable estimate?

.....

.....

.....

.....

(1 mark)

$\frac{7}{7}$

TURN OVER FOR THE NEXT QUESTION

Turn over 

8 A number of people were asked how many driving lessons they had taken.

The results are shown in the stem and leaf diagram.

Key: | 4 | 1 represents 41 lessons

0	8							
1	2	4	4	7	8			
2	0	1	2	4	4	5	9	
3	2	5	8					
4	1							

(a) How many people were asked?

Answer people (1 mark)

(b) What was the median number of driving lessons?

Answer driving lessons (1 mark)

(c) Work out the range of the number of driving lessons.

.....

Answer driving lessons (1 mark)

3

9 Alan, Bob and Colin play a game of darts.
There is only one winner.
The probability that Alan wins the game is 0.3
The probability that Bob wins the game is 0.5

(a) What is the probability that Alan or Bob wins the game?

.....
.....

Answer (1 mark)

(b) Alan, Bob and Colin play 20 games of darts.

How many games would you expect Colin to win?

.....
.....
.....
.....
.....
.....

Answer (4 marks)



END OF QUESTIONS