

Surname					Other Names				
Centre Number					Candidate Number				
Candidate Signature									

Leave blank

General Certificate of Secondary Education
March 2006



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

33001/FA

F

Monday 6 March 2006 1.30 pm to 1.55 pm

<p>For this paper you must have:</p> <ul style="list-style-type: none"> • a calculator • mathematical instruments • a treasury tag 	
--	--

For Examiner's Use			
Section A		Section B	
Number	Mark	Number	Mark
1		5	
2		6	
3		7	
4		8	
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.
- Answer the questions in the spaces provided.
- Use a calculator where appropriate.
- Do all rough work in this book.
- 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.
- 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.

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

- 1 Tim asked his school friends to choose their favourite subject from Mathematics (M), English (E), Science (S) or Technology (T).
Their replies were

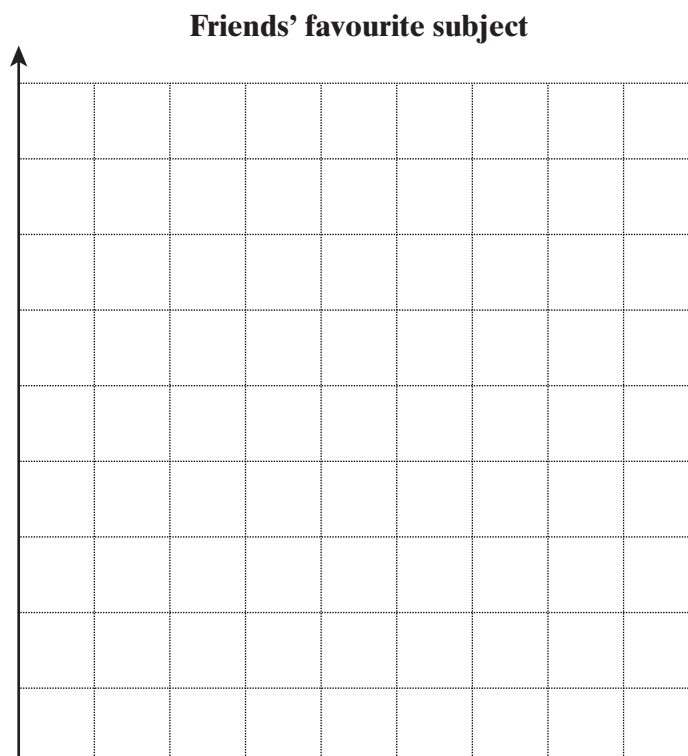
M E T M E S S M M E M
E S S S E T T M M S E

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

Favourite subject	Tally	Frequency
Mathematics (M)		
English (E)		
Science (S)		
Technology (T)		

(2 marks)

- (b) Draw a bar chart to show this information.

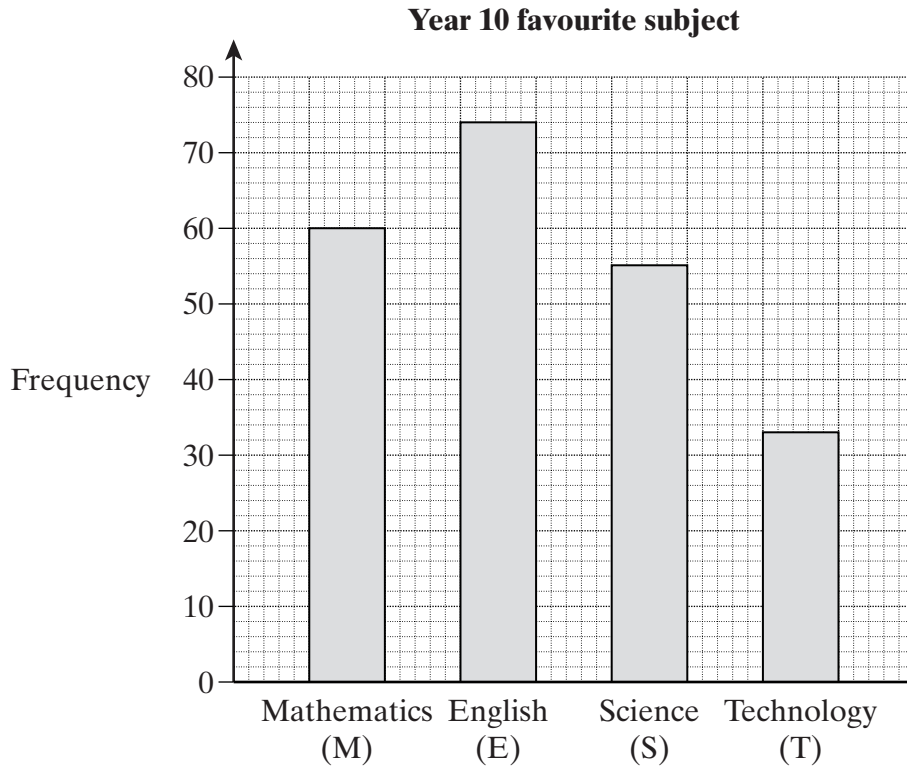


(3 marks)

(c) Which of the four subjects was the most popular with Tim’s friends?

Answer (1 mark)

(d) Tim asked the same question to every pupil in Year 10 at a different school. The bar chart below shows his results.



Write down **one** similarity between the results of Tim’s friends and the results for Year 10.

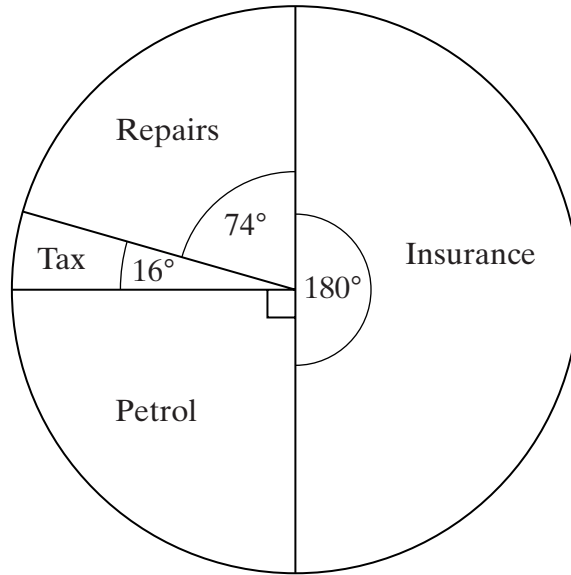
.....

.....

.....

(1 mark)

- 2 A young driver has a small car.
The pie chart shows the annual costs for the car.



- (a) What fraction of the annual cost is insurance?

.....
.....

Answer (1 mark)

- (b) The annual cost of petrol was £600.

Calculate the total annual cost for this car.

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

Answer £ (3 marks)

3 A person can be right-handed, left-handed or ambidextrous (able to use both hands).

The probability that a person is right-handed is 0.7

The probability that a person is ambidextrous is 0.02

(a) Calculate the probability that a person is left-handed.

.....
.....

Answer (2 marks)

(b) Calculate how many ambidextrous students you would expect to find in a college of 1200 students.

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

Answer (2 marks)

4

Turn over for the next question

Turn over 

- 4 A survey was taken to find out the number of children who live in each house on a small estate.

The results are shown in the table.

Number of children	Number of houses
0	3
1	12
2	21
3	24
4	8
5	2

- (a) How many houses in total were in the survey?

.....

Answer (1 mark)

- (b) Calculate the total number of children who live on this estate.

.....

.....

.....

.....

Answer (2 marks)

- (c) Calculate the mean number of children per house.

.....

.....

.....

.....

Answer (2 marks)

END OF SECTION A

There are no questions printed on this page

There are no questions printed on this page

Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

General Certificate of Secondary Education
March 2006



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

33001/FB

F

Monday 6 March 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>	
---	--

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

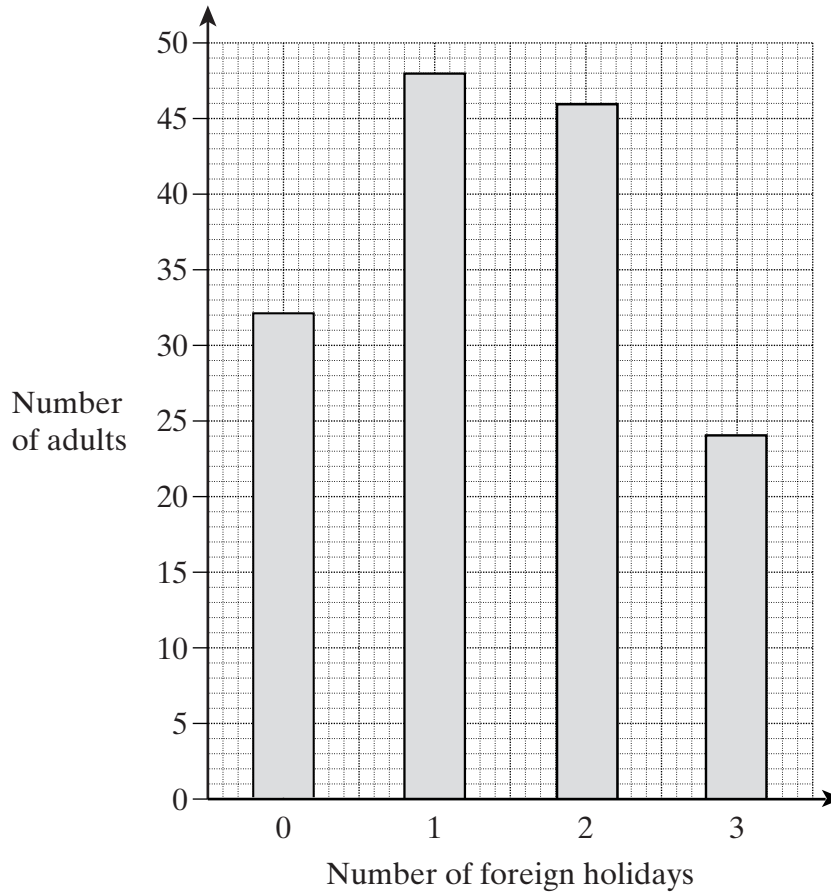
- The maximum mark for Section B is 20.
- The marks for questions are shown in brackets.
- You may ask for more answer paper and graph paper. These must be tagged securely to this answer book.

Advice

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

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

- 5 The bar chart shows the number of foreign holidays taken by 150 adults last year.



- (a) How many of these adults had no foreign holidays last year?

Answer (1 mark)

- (b) How many of these adults had two or more foreign holidays last year?

.....

Answer (2 marks)

- (c) Write down the range of the number of foreign holidays taken by these adults.

Answer (1 mark)

6 A park-keeper records how many joggers he sees in the park each day for seven days. His results are

6 8 9 0 3 7 2

(a) Calculate the median number of joggers in the park.

.....
.....

Answer (2 marks)

(b) Explain why there is no mode for this data.

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

(1 mark)

(c) The council claim that the mean number of joggers in the park is 10 per day.

Do the park-keeper's results support this claim?
Explain your reasoning.

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

(2 marks)

5

Turn over ►

- 7 Sarah is playing a game with a fair coin and a fair six-sided dice.
She spins the coin and then throws the dice.

If the coin shows heads Sarah's score is 1 **more** than the number shown on the dice.

If the coin shows tails Sarah's score is 2 **less** than the number shown on the dice.

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

		Dice					
		1	2	3	4	5	6
Coin	Heads				5		
	Tails	-1					

(2 marks)

- (b) Work out the probability that Sarah's score is

- (i) negative

Answer (1 mark)

- (ii) more than 3.

.....

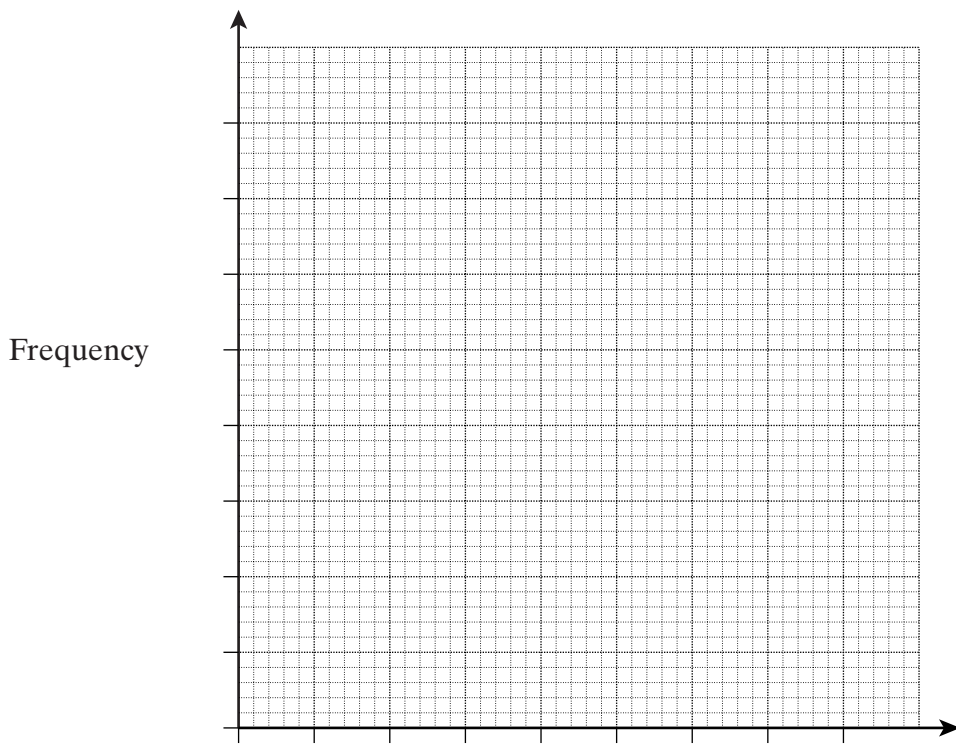
.....

Answer (2 marks)

8 The journey time to school of a sample of 100 pupils is shown in the table.

Journey time, t (minutes)	Frequency
$0 < t \leq 10$	35
$10 < t \leq 20$	40
$20 < t \leq 30$	22
$30 < t \leq 40$	3

(a) Draw a frequency diagram for this data.



Journey time, t (minutes) (3 marks)

(b) The school has 800 pupils.

Use the given data to estimate how many pupils take more than 20 minutes to travel to school.

.....

.....

.....

Answer (3 marks)

END OF QUESTIONS

There are no questions printed on this page

There are no questions printed on this page

There are no questions printed on this page