Surname		Other Names	
Centre Number			Candidate Number				
Candidate Signature									

Leave blank

General Certificate of Secondary Education
March 2003

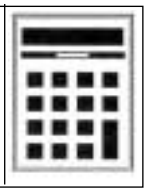
ASSESSMENT and QUALIFICATIONS ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FA
MODULE 1 FOUNDATION TIER SECTION A

F

Monday 3 March 2003 9.00 am to 9.25 am

In addition to this paper you will require:
- a calculator
- mathematical instruments
- a treasury tag.



Time allowed for Section A: 25 minutes

Instructions
- Use blue or black ink or ball-point pen. Diagrams should be drawn 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 will be issued on request and must be tagged securely to this answer booklet.
- You are expected to use a calculator where appropriate.

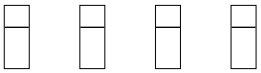
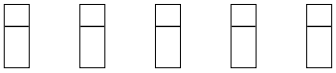
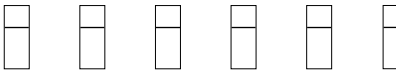
Advice
- In all calculations, show clearly how you work out your answer.

For Examiner's Use			
Section A		Section B	
Number	Mark	Number	Mark
1		6	
2		7	
3		8	
4		9	
5		10	
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

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

1 The pictogram shows the number of mobile phones owned by the students in some tutor groups at a college.

Key  = 2 mobile phones

Tutor group		**Frequency**
A		
B		
C		
D		7

(a) Complete the frequency column. *(2 marks)*

(b) Complete the pictogram for tutor group D. *(2 marks)*

(c) How many mobile phones were owned altogether?

.....

Answer ..... *(1 mark)*

(d) The bar chart shows the total number of mobile phones owned by the male and the female staff at the college.

How many more mobile phones are owned by the female staff than the male staff?

.....

Answer ..... *(1 mark)*

6

TURN OVER FOR THE NEXT QUESTION

LEAVE MARGIN BLANK

2 The list shows how many minutes each of ten patients spent with their doctor.

10 12 3 5 12 14 10 7 3 4

(a) Work out the range of these numbers.

.....

Answer ..... minutes *(1 mark)*

(b) Calculate the mean of these numbers.

.....

.....

.....

Answer ..... minutes *(3 marks)*

4

3 There are 240 houses on a housing estate.
The table shows the total number of each type of house.

Type of house	Frequency
Semi-detached	30
3 bedroom detached	60
4 bedroom detached	68
Terraced	82

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

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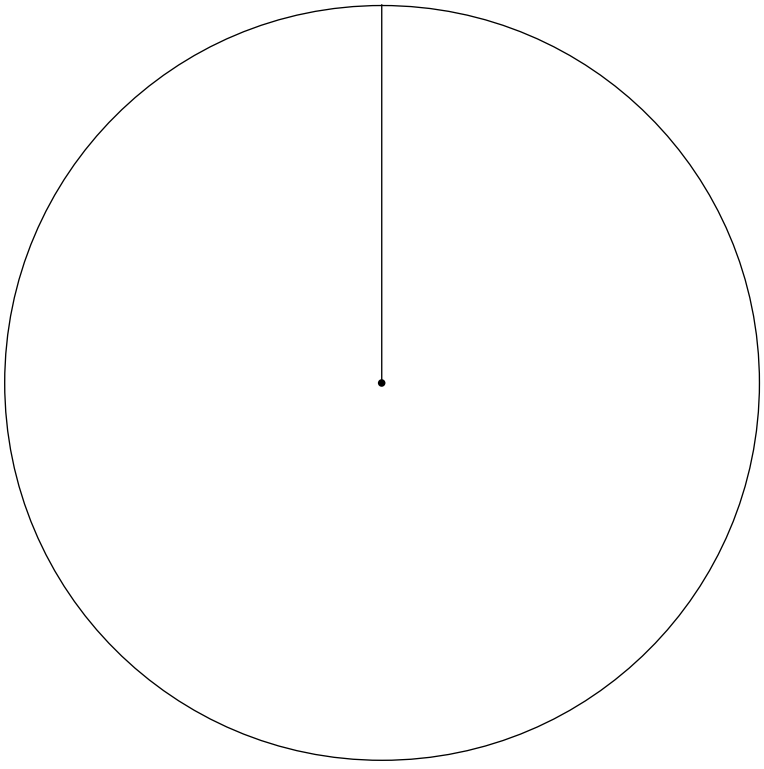


(4 marks)

4

4 The number of cars passing through a set of traffic lights each time they are on green is recorded.

12 15 23 20 18 16 27 9 10

19 22 26 14 11 8 4 12 23

(a) Complete the stem and leaf diagram, including the key, to represent the data.

.....

.....

.....

Key | ..... | ..... represents .....

0	.....
1	.....
2	.....

(3 marks)

(b) The number of lorries passing through a different set of traffic lights is shown in the ordered stem and leaf diagram below.

Key | 1 | 7 represents 17 lorries

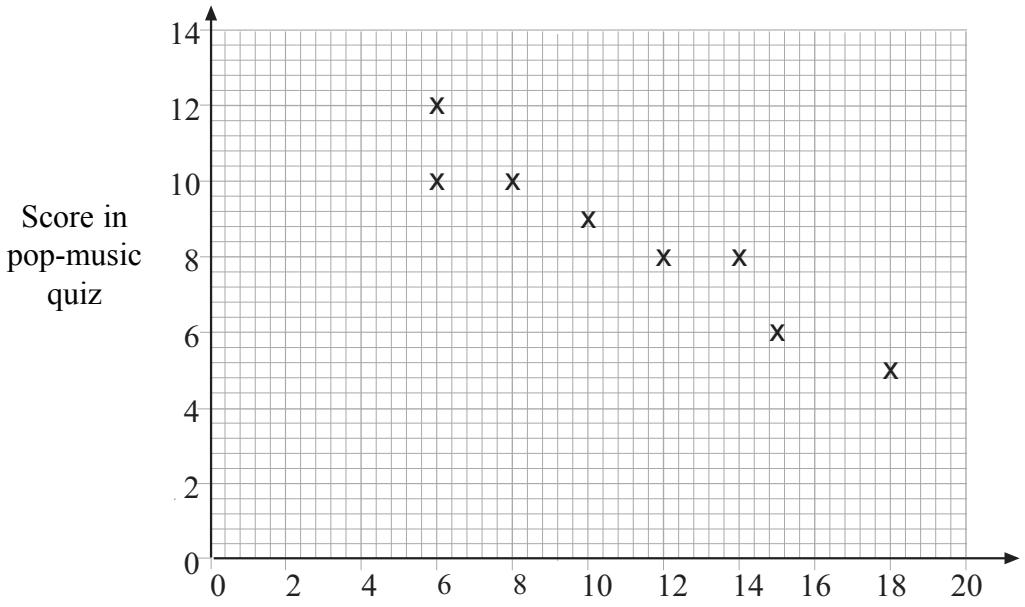
0	1	1	1	2	2	3	4	4	5	6	9
1	0	0	2	3	7						
2	2										

Use the ordered stem and leaf diagram to find the median number of lorries that passed through the traffic lights.

Answer ..... lorries *(1 mark)*

4

5 Eight teenagers took part in a general knowledge quiz and a pop-music quiz. The scatter graph shows their scores.



(a) Draw a line of best fit on the scatter graph. *(1 mark)*

(b) Describe the relationship shown in the scatter graph.

.....

.....

.....

(1 mark)

2

END OF SECTION A

Surname		Other Names	
Centre Number			Candidate Number				
Candidate Signature									

General Certificate of Secondary Education
March 2003

AQA
ASSESSMENT and QUALIFICATIONS ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FB
MODULE 1 FOUNDATION TIER SECTION B

F

Monday 3 March 2003 9.30 am to 9.55 am

In addition to this paper you will require:
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. Diagrams should be drawn 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 will be issued on request and must be tagged securely to this answer booklet.

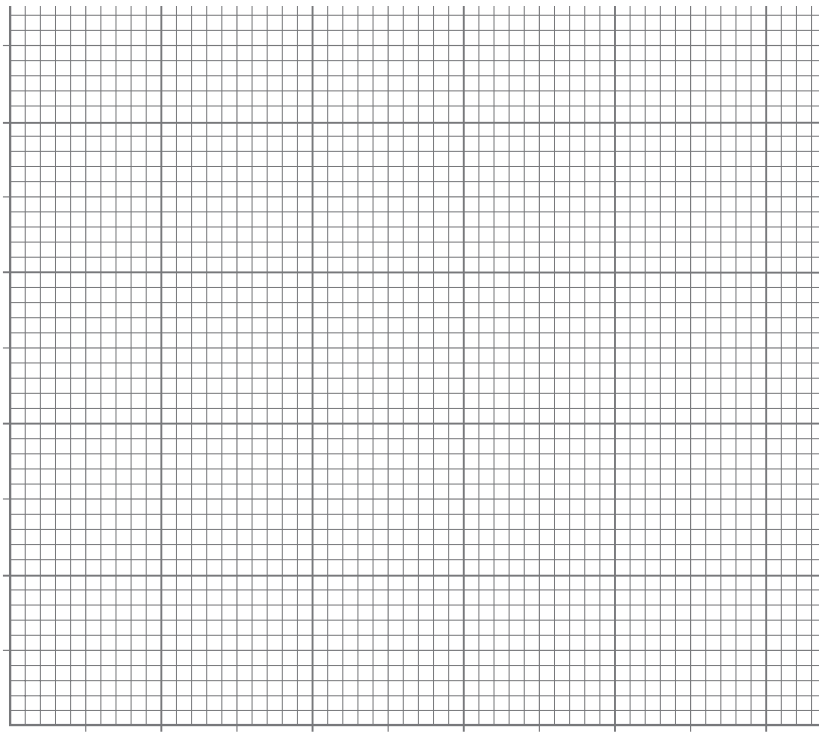
Advice
- In all calculations, show clearly how you work out your answer.

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

6 Dave and Todd go fishing one day.
The table shows the total number of each type of fish they caught.

Type of fish	Total number caught
Perch	6
Roach	8
Eels	5

(a) Draw and label a bar chart to show this information.



(3 marks)

(b) Which type of fish is the mode? Answer ..... *(1 mark)*

(c) Dave caught 4 perch, 5 roach and no eels.
Work out the number of each type of fish that Todd caught.

.....

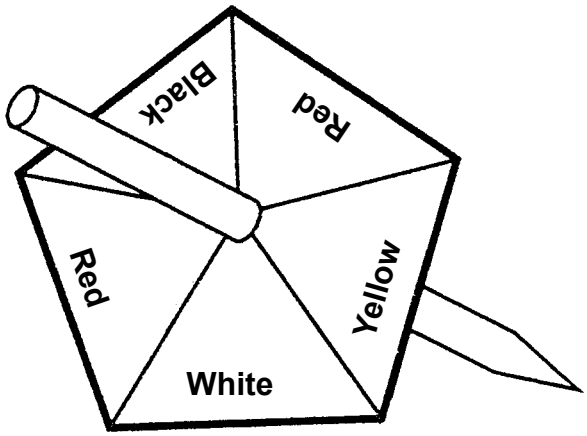
.....

Perch .....

Roach .....

Eels ..... *(2 marks)*

7 A fair spinner has five sections.
Two sections are red, one is white, one is black and one is yellow.



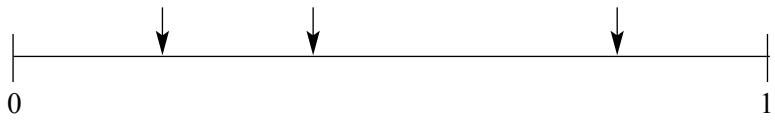
The spinner is spun once.

(a) Which colour is the spinner most likely to land on?

Answer ..... *(1 mark)*

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

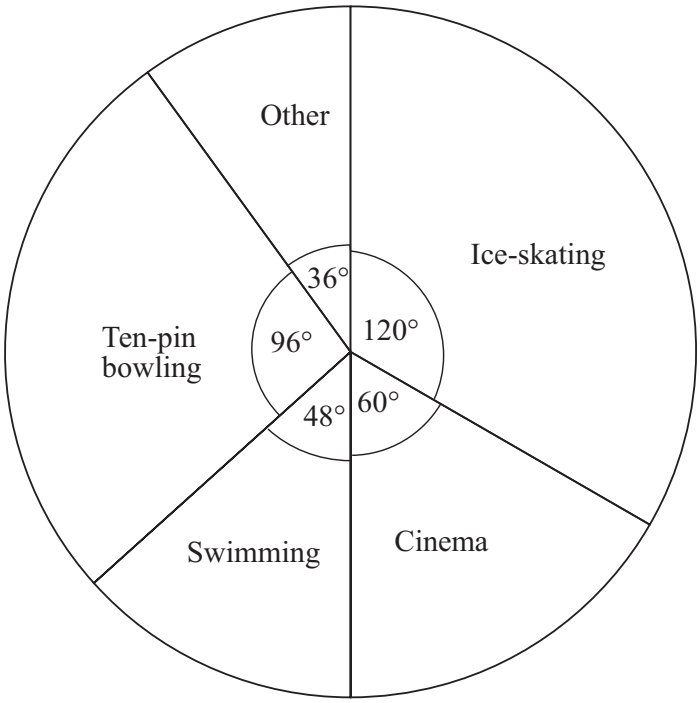
A: The spinner lands on red.
B: The spinner lands on white.
C: The spinner does **not** land on yellow.



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

4

8 The pie chart shows the activities chosen by 30 teenagers at a leisure centre.



(a) What fraction of the teenagers chose ice-skating?

.....

Answer ..... *(1 mark)*

(b) How many of the teenagers chose ice-skating?

.....

.....

Answer ..... *(2 marks)*

3

9 Imran is playing a game.
He has a blue bag containing four discs numbered 1, 2, 3 and 4.
He has a red bag containing four discs numbered 1, 2, 3 and 4.
He chooses, at random, a disc from each bag.
He adds the numbers on the two discs chosen to get his score.

(a) Complete the table to show the possible scores that Imran can get.

Number on the disc from the red bag

Number on the disc from the blue bag

	1	2	3	4
1				
2				
3				
4				

(2 marks)

(b) Write down the probability that Imran gets a score of 8.

Answer ..... *(1 mark)*

3

TURN OVER FOR THE NEXT QUESTION

10 A scout group organises a game to raise money.
200 people each pay £2 to play the game.

The probability that a person wins is $\frac{1}{10}$.

The winners each receive £5 and there are no other prizes.

Calculate how much profit the scout group makes from this game.

.....

.....

.....

.....

.....

.....

Answer £ ..... *(4 marks)*

4

END OF QUESTIONS