Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

For Examiner's Use

General Certificate of Secondary Education
November 2007

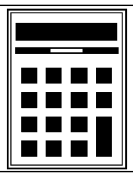
AQA
ASSESSMENT and QUALIFICATIONS ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B) 43051/FA
Module 1 Foundation Tier Section A
Non-coursework Specification

F

Monday 12 November 2007 1.30 pm to 2.00 pm

For this paper you must have:
- a calculator
- mathematical instruments
- a treasury tag.



Time allowed for Section A: 30 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 30 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 23.
- 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.

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

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

1 A restaurant serves four types of vegetables.

Carrots (C) Broccoli (B) Peas (P) Turnips (T)

(a) The pictogram shows the number of portions of each vegetable served one lunchtime.

Key ◯ = 2 portions

Carrots (C)	◯ ◯ ◯ ◯ ◗
Broccoli (B)	◯ ◯ ◯
Peas (P)	◯ ◯ ◯ ◯ ◯ ◯
Turnips (T)	◯ ◯ ◗

(i) Which vegetable was served the least?

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

(ii) How many more portions of peas than carrots were served?

.....

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

(iii) How many portions of vegetables were served altogether?

.....

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

(b) Jason chooses two different types of vegetable with his meal.

List **all** the possible combinations that Jason could choose.

.....

.....

.....

.....

.....

.....

(2 marks)

7

2 The number of tomatoes on 11 plants is shown below.

8 19 10 7 18 22 19 16 12 13 21

(a) Find the median number of tomatoes per plant.

.....

.....

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

(b) Calculate the mean number of tomatoes per plant.

.....

.....

.....

.....

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

5

3 (a) The number of visitors to a park is recorded each day for two weeks.

121 118 128 144 100 111 129

146 137 123 118 109 135 132

Draw an ordered stem-and-leaf diagram to represent this information.
Remember to complete the key.

.....

.....

.....

.....

.....

Key …… | …… represents ……. visitors

10	.....
11	.....
12	.....
13	.....
14	.....

(3 marks)

LEAVE MARGIN BLANK

(b) The park keeper wants to find out how often people visit the park.

Write a question he could ask.
Include a response section with tick boxes.

Question .....

.....

Response section

(2 marks)

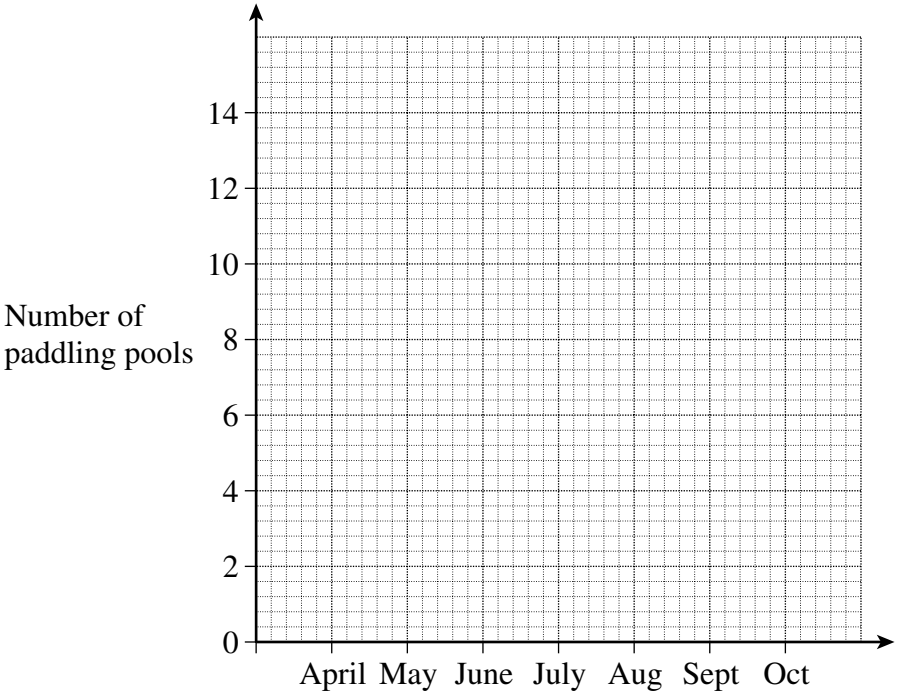
5

Turn over for the next question

4 A toy shop sells paddling pools.
The table shows the number sold each month.

Month	April	May	June	July	Aug	Sept	Oct
Number of paddling pools	4	5	9	12	7	4	3

(a) Draw a time-series graph for this data.



(2 marks)

(b) Describe the sales pattern shown by the graph.

.....

.....

.....

(1 mark)

3

5 Rosie and Josh want to estimate the number of blue beads in a bag of 400 beads.
A trial consists of taking a bead at random, recording the colour and replacing the bead in the bag.
The results of their trials are shown in the table.

	Number of trials	**Number of blue beads chosen**
Rosie	25	7
Josh	100	19

(a) (i) Write down the relative frequency of Rosie taking a blue bead from the bag.

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

(ii) Write down the relative frequency of Josh taking a blue bead from the bag.

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

(b) Whose experiment gives the more reliable estimate of the number of blue beads in the bag?
Give a reason for your answer.

Answer .....

Reason .....

.....

(1 mark)

3

END OF SECTION A

There are no questions printed on this page

Surname		Other Names	
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Candidate Signature												

General Certificate of Secondary Education
November 2007

ASSESSMENT and QUALIFICATIONS ALLIANCE

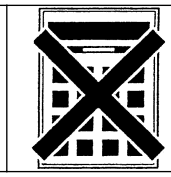
MATHEMATICS (MODULAR) (SPECIFICATION B) 43051/FB
Module 1 Foundation Tier Section B
Non-coursework Specification

F

Monday 12 November 2007 2.05 pm to 2.35 pm

For this paper you must have:
- mathematical instruments.

You must **not** use a calculator.



Time allowed for Section B: 30 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 23.
- 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 booklet.

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

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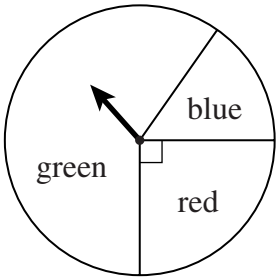
LEAVE MARGIN BLANK

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

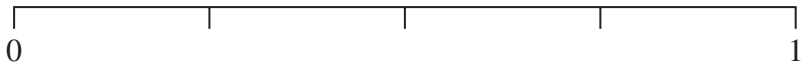
6 The diagram shows a fair spinner.



(a) Which colour is the arrow least likely to land on?

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

(b) Mark the scale with an arrow to show the probability of landing on red.



(1 mark)

2

Turn over for the next question

7 A shopkeeper records the type of person entering his shop on Monday morning as Man (M), Woman (W) or Child (C).
His results are

M	M	W	C	C	W	C	C	M	W
C	M	C	W	M	C	W	C	W	M
W	C	C	M	C	W	C	W	W	C

(a) Complete the tally and frequency columns.

Type of person	**Tally**	**Frequency**
Man (M)		
Woman (W)		
Child (C)		

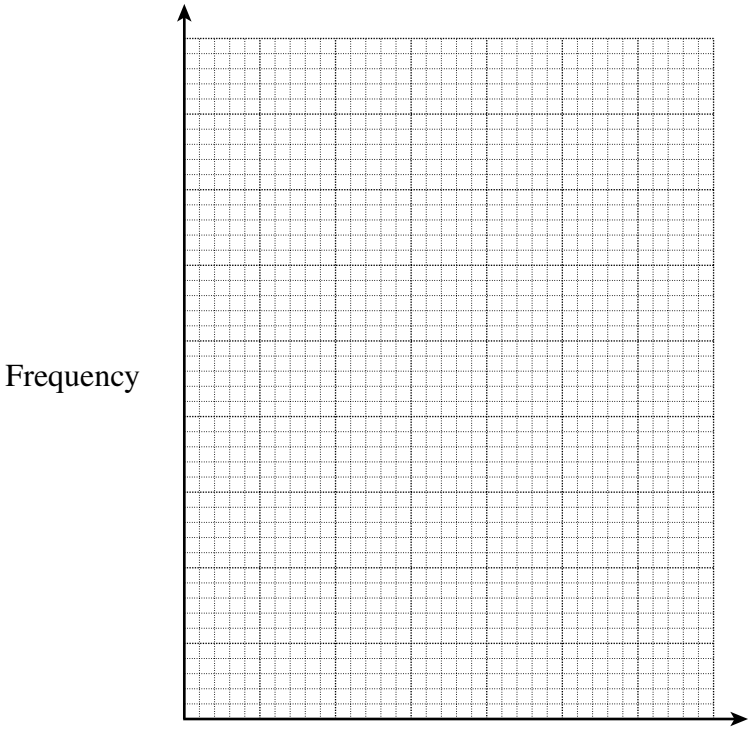
(2 marks)

(b) What type of person was recorded most often?

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

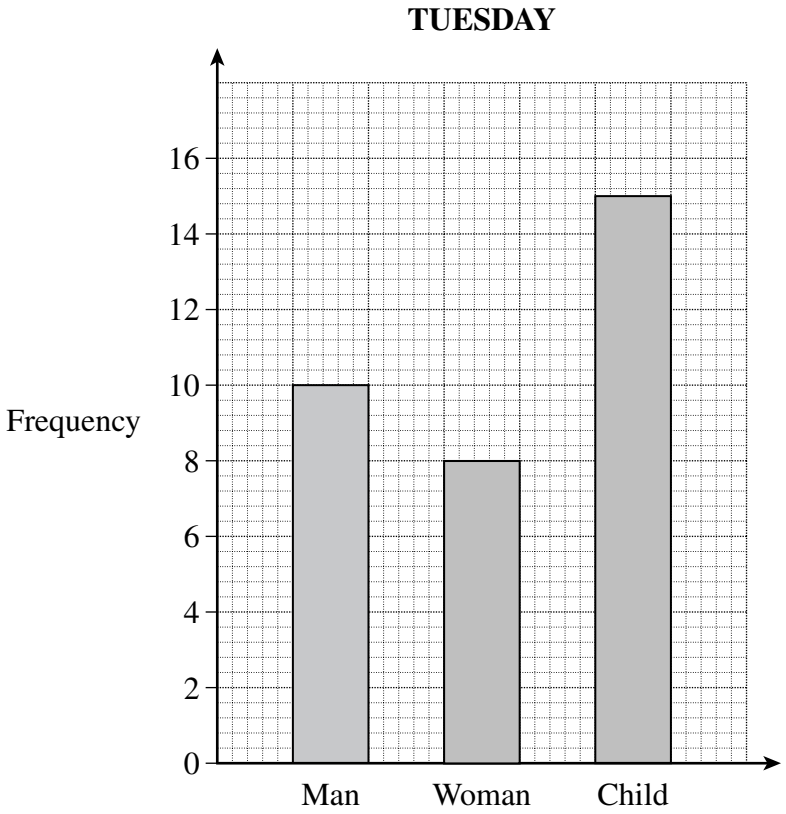
(c) Draw a bar chart to represent this data.

MONDAY



(3 marks)

(d) The shopkeeper records similar data on Tuesday morning.
The bar chart shows his results.



The shopkeeper says, "On Tuesday morning there were more children than adults entering my shop."

Is he correct?
You **must** show your working.

.....

.....

.....

(3 marks)

9

8 A bag contains 12 discs.
Each disc is labelled with a different number from 1 to 12.
A disc is chosen from the bag at random.

(a) Write down the probability that the chosen disc is

(i) the number 7

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

(ii) a number greater than eight

.....

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

(iii) a square number.

.....

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

(b) Write down an event, for this bag of discs, that would have a probability of $\frac{1}{2}$

.....
(1 mark)

6

9 200 pupils from a school were asked how they travel to school.
An equal number of boys and girls were asked.
Altogether 70 pupils take the bus to school.
The number of girls who travel by car is double the number of boys who travel by car.

The two-way table shows some of the information.

	walk	**car**	**bus**	**cycle**
boys	42		38	6
girls		28		1

(a) Complete the two-way table.

.....

.....

.....

(4 marks)

(b) There are 1000 pupils in the school.

Estimate the total number of pupils who take the bus to school.

.....

.....

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

6

END OF QUESTIONS

There are no questions printed on this page