Surname		Other Names	
Centre Number		Candidate Number	
Candidate Signature			

General Certificate of Secondary Education
November 2008

MATHEMATICS (MODULAR) (SPECIFICATION B)   **43001/FA**
Module 1   Foundation Tier Section A

F

AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Thursday 13 November 2008   1.30 pm to 1.55 pm

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

Time allowed for Section A: 25 minutes

Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- 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.

There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED

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

1 The table shows the lengths of some whales.

Whale	Length (feet)
Blue	110
Sperm	60
Bowhead	60
Humpback	52
Gray	45
Minke	30
Killer	27
Beluga	15

1 (a) How much longer is the blue whale than the humpback whale?

....

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

1 (b) Complete the chart.

Whale lengths

Length (feet)
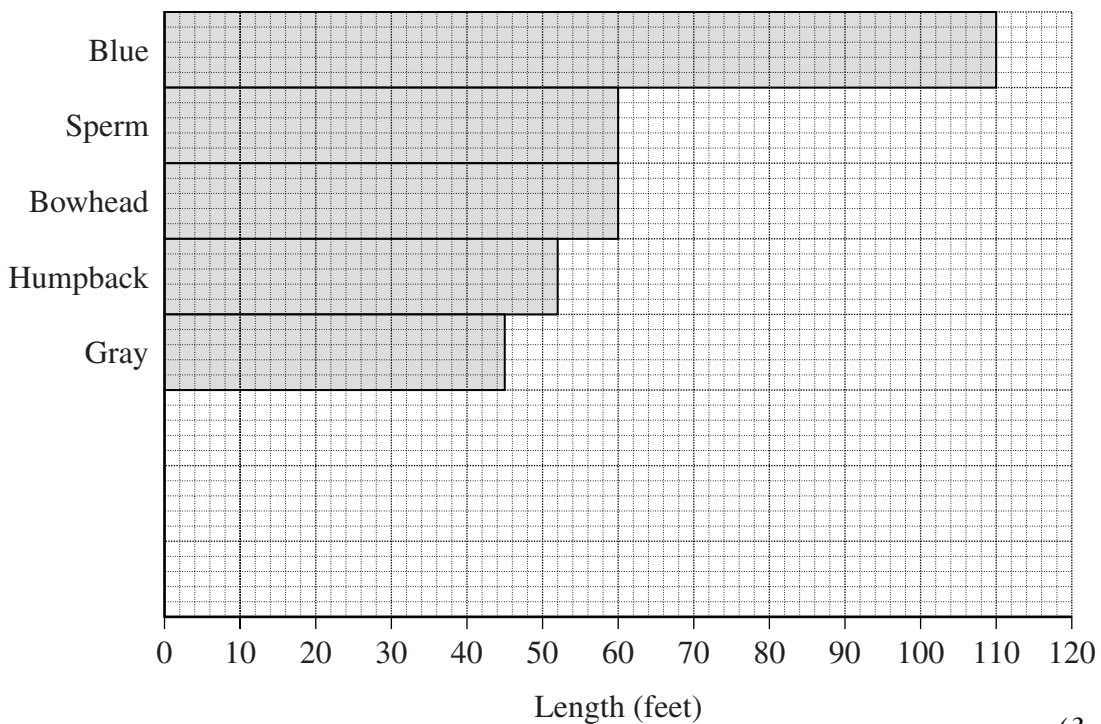
(3 marks)

Turn over ▶

2 Here are four numbered cards.

| 5 | 1 | 9 | 3 |
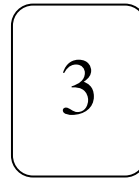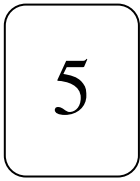
2 (a) (i) One of these cards is chosen at random.

What is the probability that it is the number 3?

Answer .... *(1 mark)*

2 (a) (ii) Assad says that the range of the numbers is twice the median.

Show that Assad is correct.

....

....

....
(3 marks)

2 (b) A different set of cards is shown below.

Write a single digit number on the blank card so that the range of these numbers is greater than 5.

| 6 | 7 | | 8 |

....

....

....
(1 mark)
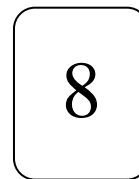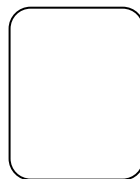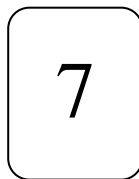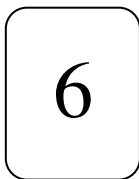
3 John and Pam are joggers.
The table shows the mean and the range of the number of miles that John and Pam jog per day over one month.

	Mean	**Range**
John	2.5	6
Pam	1.2	4

Compare the means and the ranges by completing the sentences below.

The two means tell me that ....

....

....

The two ranges tell me that ....

....

....

(2 marks)

2

4 A five-sided spinner is labelled A, B, C, D and E.
The spinner is biased.
The table shows some of the probabilities of the spinner landing on each letter.

Letter	**Probability**
A	0.40
B	0.25
C	
D	
E	0.05

The probability that the spinner lands on C is equal to the probability that it lands on D.

Calculate the probability that the spinner lands on D.

....

....

....

....

Answer .... *(3 marks)*

3

Turn over ▶

5 An ordinary six-sided dice is repeatedly thrown 10 times.
The number of sixes are counted for each set of 10 throws.
The table shows the results.

Set of 10 throws	Number of sixes	Total number of sixes	Total number of throws	Relative frequency
1st	2	2	10	0.20
2nd	3	5	20	0.25
3rd	4	9	30	0.30
4th	3	12	40	0.30
5th	2	14	50	0.28
6th	4	18	60	0.30
7th	4	22	70	0.31
8th	2		80	
9th	3		90	
10th	4		100	

5 (a) Complete the table.

....

....

....

....

....

(3 marks)

5 (b) Do these results suggest that the dice is biased towards the number six?

Tick a box.

☐   ☐

Yes   No

Explain your answer.

....

....

....

(2 marks)

5

END OF SECTION A

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ANSWER IN THE SPACES PROVIDED

Surname			Other Names		
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General Certificate of Secondary Education
November 2008

MATHEMATICS (MODULAR) (SPECIFICATION B)   **43001/FB**
Module 1   Foundation Tier Section B

F

Thursday 13 November 2008   2.00 pm to 2.25 pm

For this paper you must have:
- mathematical instruments.

You must **not** use a calculator.

Time allowed for Section B: 25 minutes

Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- 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 booklet.
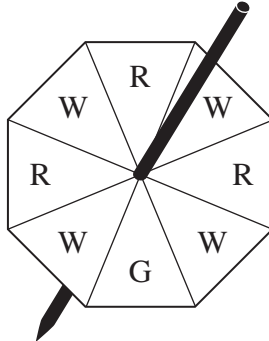
Advice
- In all calculations, show clearly how you work out your answer.

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

6 A fair spinner has eight equal sections.
Four sections are white (W).
Three sections are red (R).
One section is green (G).

Here are four statements about the spinner.

Tick the correct box against each statement.

	True	False	Cannot say

6 (a) It is most likely to land on red.

6 (b) It is unlikely to land on green.

6 (c) It has an even chance of landing on white.

6 (d) It is impossible to land on green three times in a row.

(4 marks)

4

APW/Nov08/43001/FB

7 The incomplete chart shows the 2007 sales of drinks by a shop.

Key ⬭ Represents £100

Drink	Sales 2007 (£)	Pictogram	Percentage change between 2006 and 2007
Water			+8
Cola	500	⬭⬭⬭⬭⬭	+10
Fruit drinks	450	⬭⬭⬭⬭|	−15
Squash		⬭⬭⬭	−5
Lemonade	150		+12

7 (a) (i) Complete the sales figure in the chart for squash.

....
(1 mark)

7 (a) (ii) Complete the pictogram for lemonade.

(1 mark)

7 (b) Which drink had the greatest percentage change between 2006 and 2007?

Answer .... *(1 mark)*

7 (c) The sales figure for water in 2007 was £339.

Write down a reason why it would be difficult to complete the pictogram with this information.

....

....
(1 mark)

4

Turn over ▶

8 Josh's percentage daily intake of different food types is shown in the table.

Food type	Percentage daily intake	Angle for use in pie chart
Carbohydrate (C)	50%	
Protein (P)	10%	
Other (O)		

8 (a) (i) Complete the table.

....

....

....
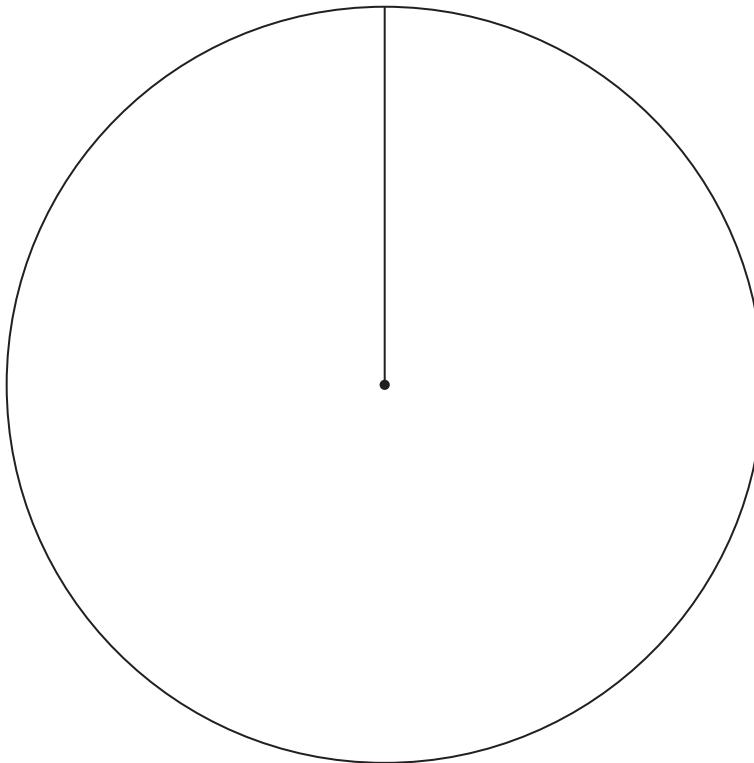*(3 marks)*

8 (a) (ii) Draw a fully labelled pie chart to show this information.

Percentage daily intake

(2 marks)

8 (b) Josh knows that his daily intake of protein is 90 grams.

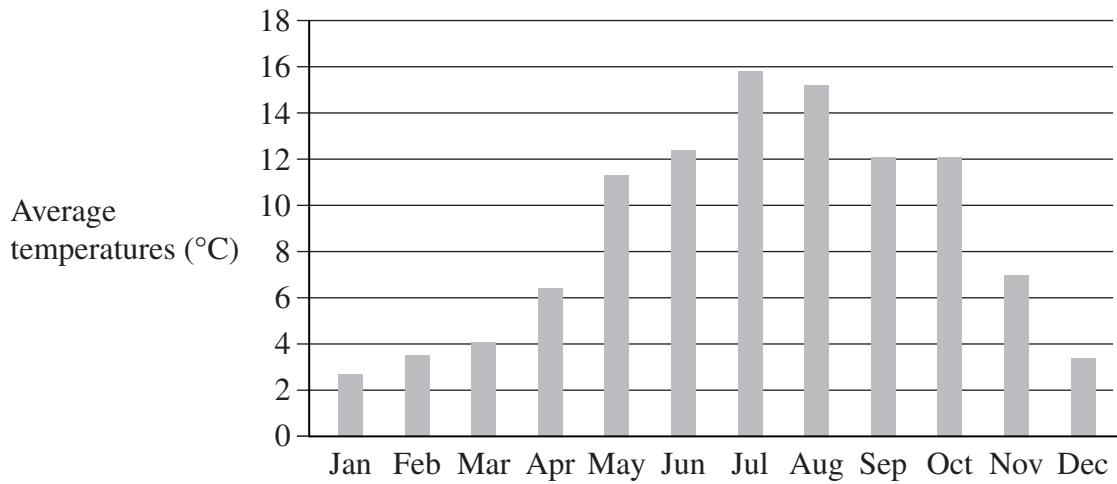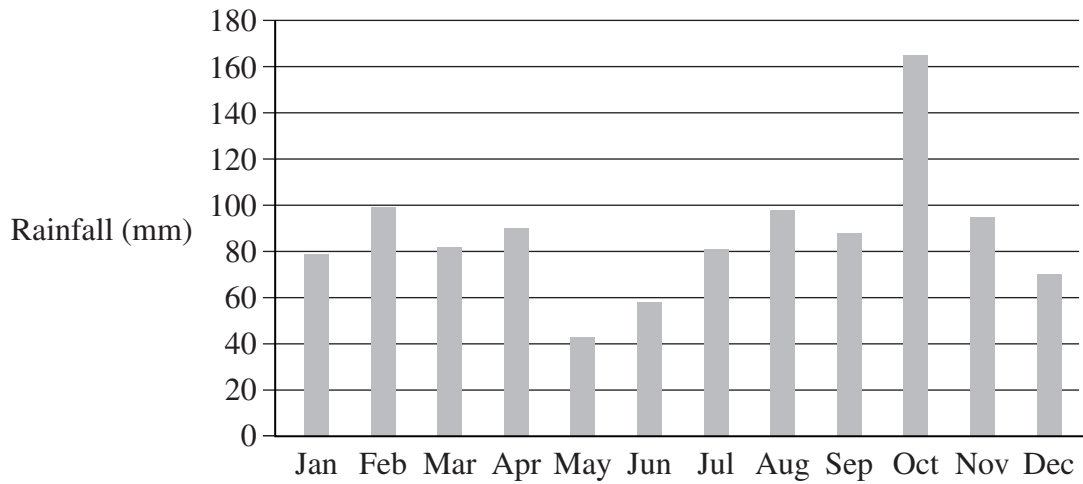Calculate Josh's daily intake of carbohydrate.

....

....

....

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

7

Turn over for the next question

Turn over ▶

05

9 The bar charts show the monthly rainfall (mm) and monthly average temperatures (°C) for the UK in 2001.

Rainfall (mm)

Average temperatures (°C)

Sue said, "The graphs show that the hotter months had less rain."

Is she correct?
Explain your answer.

....

....
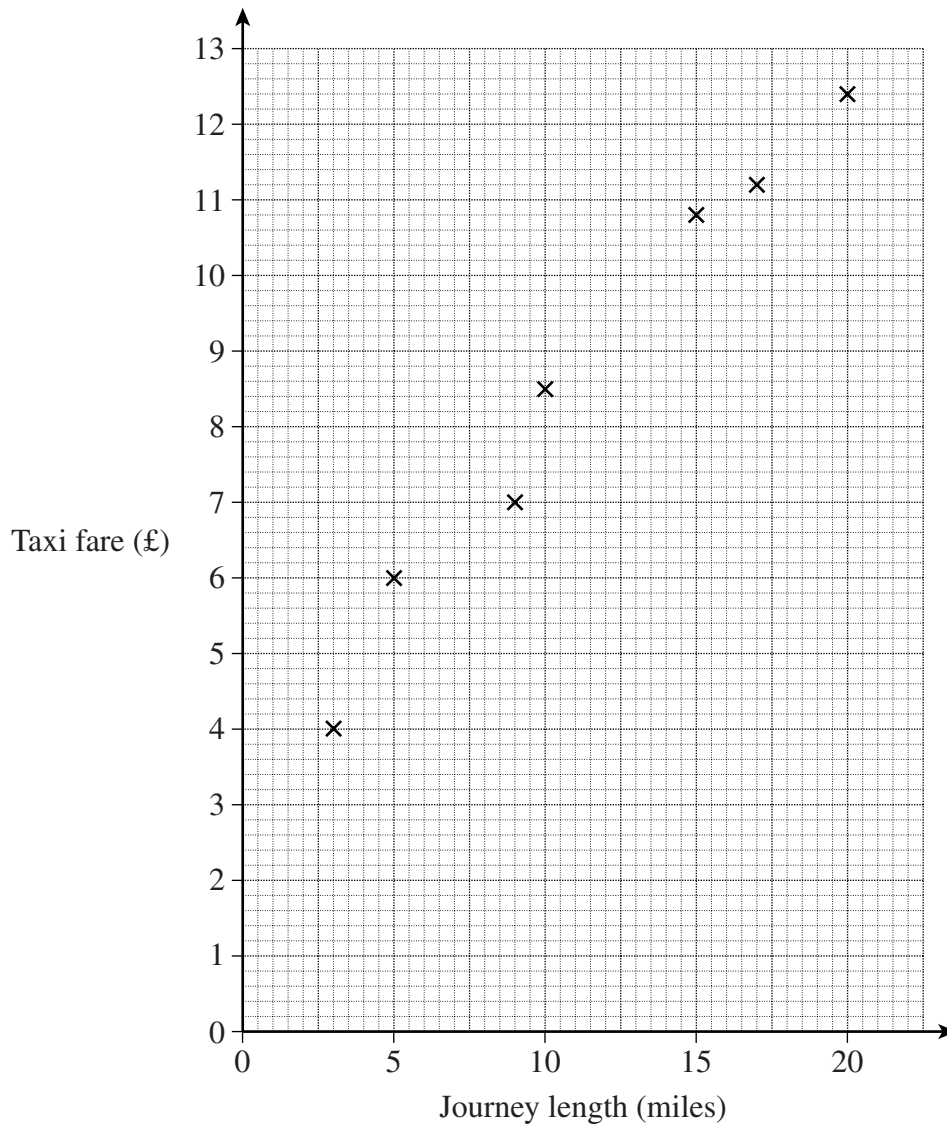
(2 marks)

2

10 The scatter graph shows the taxi fare (£) for different journey lengths (miles).

10 (a) Describe the correlation.

....

....

(1 mark)

10 (b) Draw a line of best fit on the scatter diagram. *(1 mark)*

10 (c) Use your line of best fit to estimate the taxi fare for a journey of 12 miles.

Answer £ .... *(1 mark)*

END OF QUESTIONS

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