General Certificate of Secondary Education
June 2005

AQA

ASSESSMENT and
QUALIFICATIONS
ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B)   33001/IB
Module 1 Intermediate Tier Section B

Friday 17 June 2005 2.00 pm to 2.25 pm

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. 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 tag Section A and Section B 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.

33001/IB

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

5 The number of patients seen each day by Dr Watson is shown in the ordered stem-and-leaf diagram.

Key   1 | 2   represents 12 patients

0	4	6	8	8	9	
1	0	2	2	3	5	6	7
2	0	1	1	3	8	9
3	2	3	5			

(a) What was the greatest number of patients seen in a day by Dr Watson?

Answer ....   *(1 mark)*

(b) On how many days were 20 or more patients seen by Dr Watson?

Answer ....   *(1 mark)*

(c) Write down the range of the number of patients seen by Dr Watson.

....

Answer ....   *(1 mark)*

3

6 The table summarises the test scores for a group of ten boys.

Mean score	7.6
Range	6

In the same test ten girls had the following scores.

3   8   6   2   9   10   8   7   9   8

Compare the mean and the range of the boys' scores with the girls' scores.

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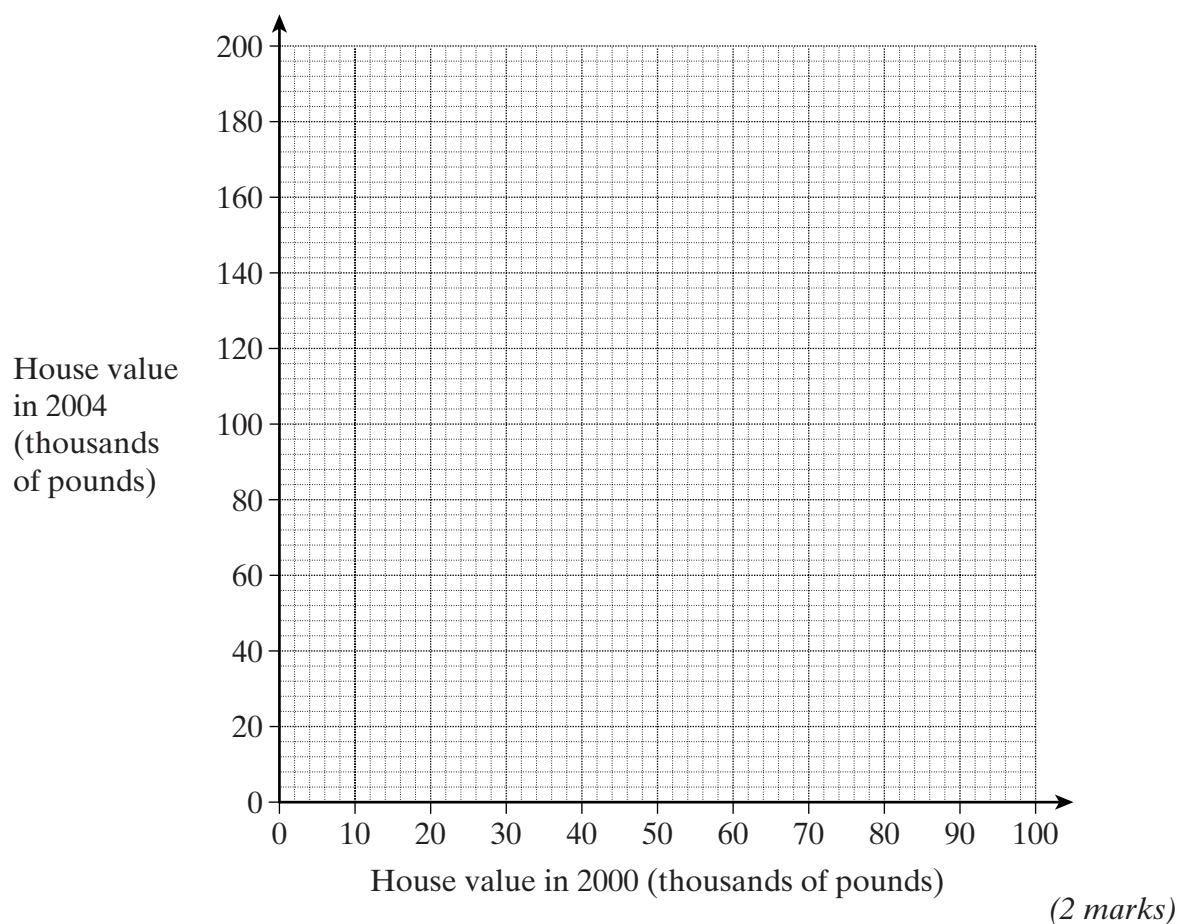
(3 marks)

3

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

7 The value of six houses in 2000 is compared to the value of similar houses in 2004. Here are the results.

House value in 2000 (thousands of pounds)	20	30	40	60	70	90
House value in 2004 (thousands of pounds)	40	60	70	100	140	170

(a) Draw a scatter graph of these results.

(2 marks)

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

....

....

(1 mark)

(c) In 2000 a house was valued at £80 000.

Estimate the value of a similar house in 2004.

....

Answer £ .... *(2 marks)*

8   A bag contains 200 coloured discs.
The discs are either red, blue or yellow.
There are 86 red discs in the bag.
The probability that a blue disc is chosen from the bag is 0.22

Calculate the number of yellow discs in the bag.

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Answer ....   *(4 marks)*
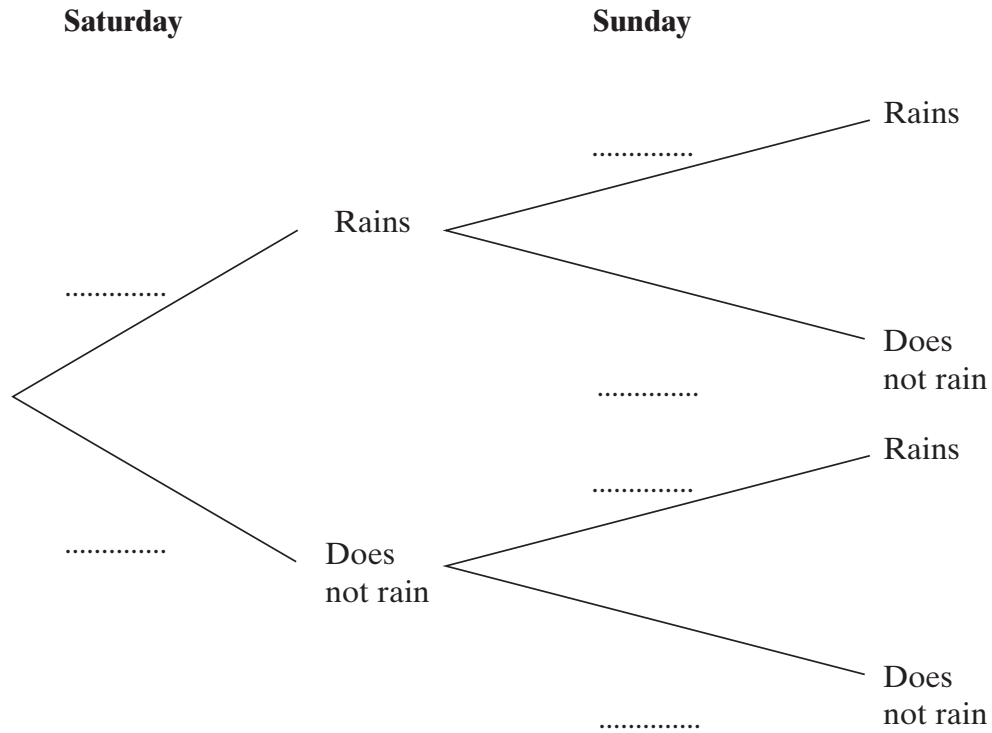
4

TURN OVER FOR THE NEXT QUESTION

Turn over ▶

9 The probability that it rains on any day in June is 0.3
The tree diagram represents a Saturday and a Sunday in June.

(a) Fill in the probabilities on the tree diagram.

Saturday   **Sunday**

```
                                    .............. Rains
                      Rains
        ..............         .............. Does
                                               not rain

        ..............         .............. Rains
                      Does
                      not rain
                                    .............. Does
                                               not rain
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(2 marks)

(b) Calculate the probability that it rains on only one of these days.

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Answer .... *(3 marks)*

END OF QUESTIONS

5

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