| Surname | | Other Names | |
|---|---|---|---|
| Centre Number | | | Candidate Number | | | | | | | | | |
| Candidate Signature | | | | | | | | | | | | |

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General Certificate of Secondary Education
November 2005

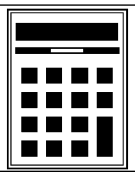
AQA
ASSESSMENT and QUALIFICATIONS ALLIANCE

# MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FA
## Module 1 Foundation Tier Section A

F

Monday 14 November 2005 1.30 pm to 1.55 pm

**In addition to this paper you will require:**
- 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 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 tag Section A and Section B together with Section A on top.

**Information**
- The maximum mark for Section A 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.
- You are expected to use a calculator where appropriate.

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

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

**1** The pictogram shows the number of matches won by each of four school netball teams.

| | |
|---|---|
| **Year 7** | ◯ ◯ ◯ ◯ |
| **Year 8** | ◯ ◯ ◯ ◗ |
| **Year 9** | ◯ ◯ |
| **Year 10** | ◯ |

Key ◯ represents ..... matches

The Year 9 netball team won four matches.

(a) Complete the key.

*(1 mark)*

(b) What was the total number of matches won by these four teams?

.....

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

(c) The Year 11 team played nine matches.
The number of goals scored in each match is shown below.

8 4 8 3 9 1 8 3 7

Work out the median number of goals scored.

.....

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

5

**2** A fair ordinary six-sided dice is thrown once.
The boxes show some of the possible outcomes.

Draw a line from each box in column A to the box in column B which has the same probability.

| **Column A** | **Column B** |
|---|---|
| Throwing a six | Throwing an even number |
| Throwing a two or a three | Throwing a one |
| Throwing an odd number | Throwing a four or a five |

*(3 marks)*

3

**3** The table shows the destinations of 180 girls after leaving school.

| Destination | Number of girls |
|---|---|
| College | 82 |
| Training scheme | 55 |
| Employment | 31 |
| Other | 12 |

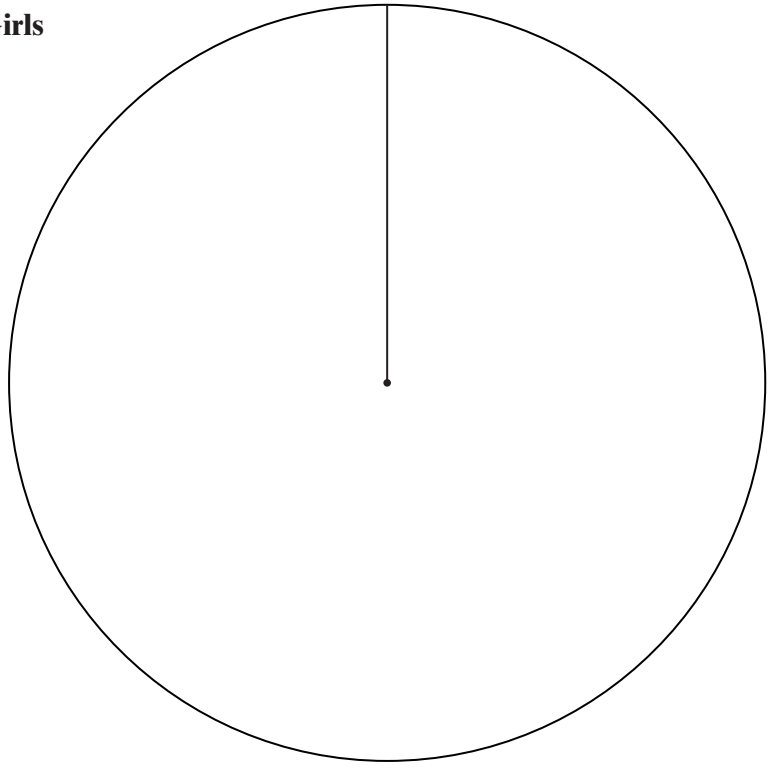
(a) Draw and label a pie chart to represent this information.

.....

.....

.....

**Girls**



*(4 marks)*

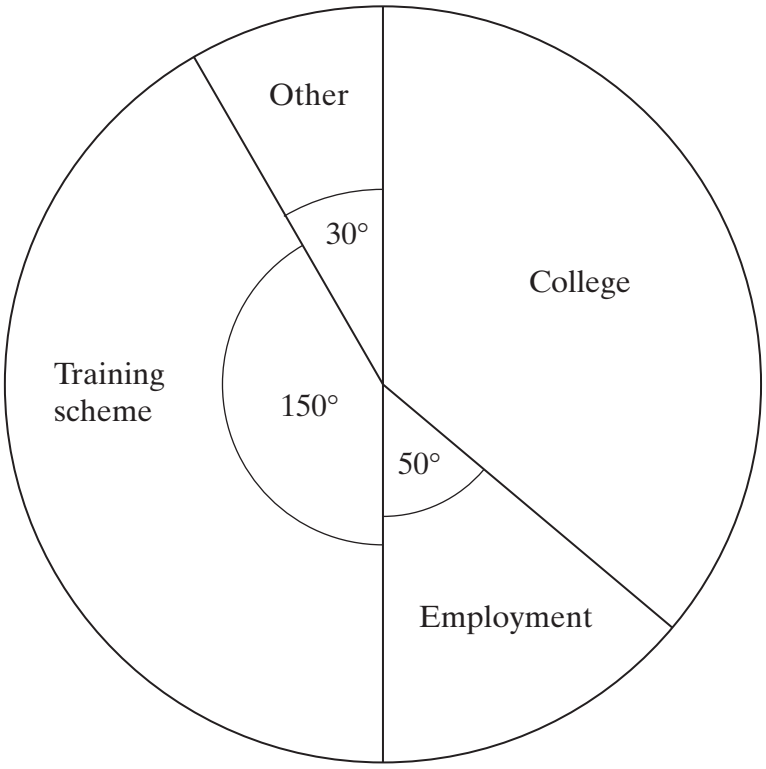
(b) One girl was chosen at random.
Write down the probability that this girl was on a training scheme.

.....

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

(c) This pie chart shows the destinations of 180 boys after leaving school.

**Boys**




How many boys went to college?

.....

.....

.....

.....

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

8

**4** The manager of Cost-U-Less supermarket wants to carry out a survey of her customers. She asks customers to complete a questionnaire.

(a) Here is one of the questions she asks:

"Don't you agree that Cost-U-Less is the best supermarket?"

Write down **one** criticism of this question.

.....

.....

.....

*(1 mark)*

(b) Here is another part of her questionnaire.

**Question** How much do you spend at Cost-U-Less?

**Response (tick one box)**

| Under £10 | Under £20 | Under £50 | Under £100 |
|---|---|---|---|
| ☐ | ☐ | ☐ | ☐ |

Write down **one** criticism of the question and **one** criticism of the response section.

Criticism of question .....

.....

.....

Criticism of response section .....

.....

.....

*(2 marks)*

(c) The manager collects her data by asking 100 shoppers who visit the supermarket on Friday evening.

Explain why this sample may not be representative of all the shoppers who use this supermarket.

.....

.....

.....

.....

*(1 mark)*

4

**END OF SECTION A**

| Surname | | Other Names | |
|---|---|---|---|
| Centre Number | | | | | | Candidate Number | | | | |
| Candidate Signature | | | | | | | | | | |

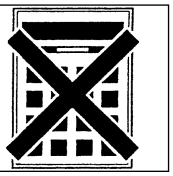
General Certificate of Secondary Education
November 2005

ASSESSMENT and QUALIFICATIONS ALLIANCE

# MATHEMATICS (MODULAR) (SPECIFICATION B) 33001/FB
## Module 1 Foundation Tier Section B

F

Monday 14 November 2005 2.00 pm to 2.25 pm

| **In addition to this paper you will require:**<br>mathematical instruments.<br>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**

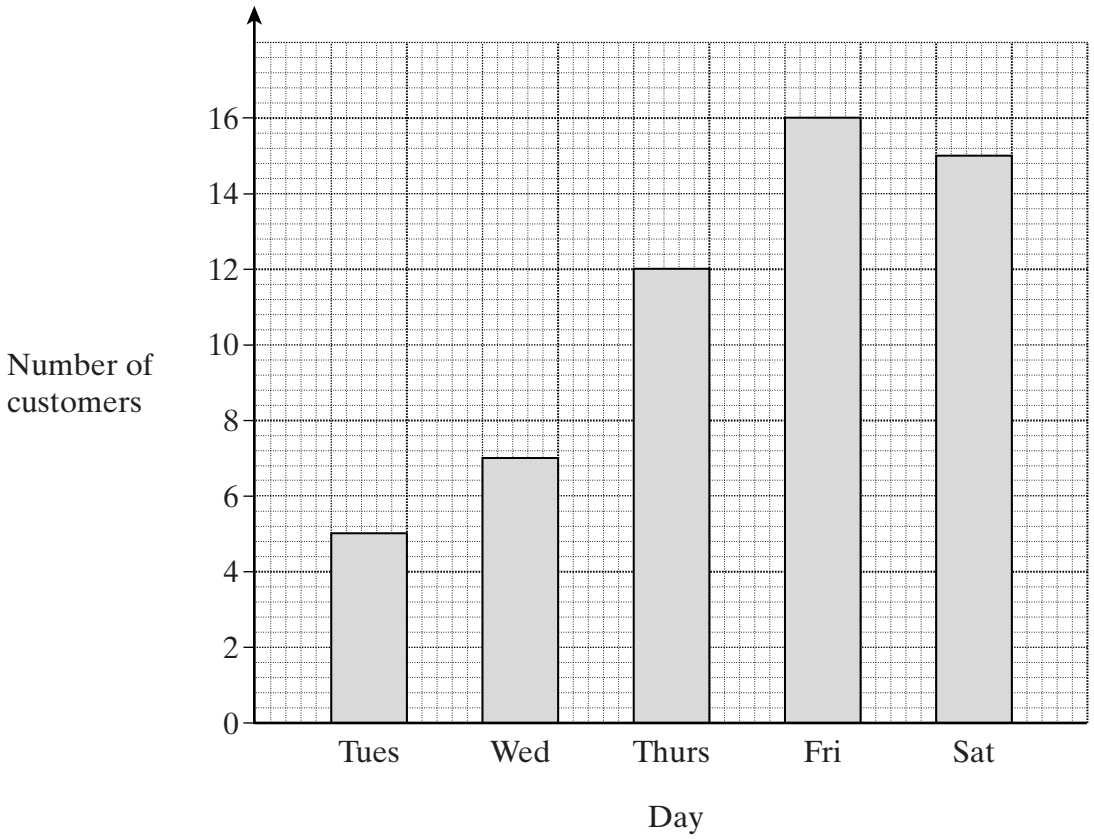
- The maximum mark for Section B is 20.
- Mark allocations are shown in brackets.
- Additional answer paper and graph paper will be issued on request and must be tagged securely to this answer booklet.

**Advice**

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

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

**5** Julie is a hairdresser.
The number of customers she had each day during one week is shown in the bar chart.




(a) On which day did Julie have the largest number of customers?

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

(b) How many more customers did she have on Thursday than on Wednesday?

.....

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

(c) What is the range of the number of customers she had during this week?

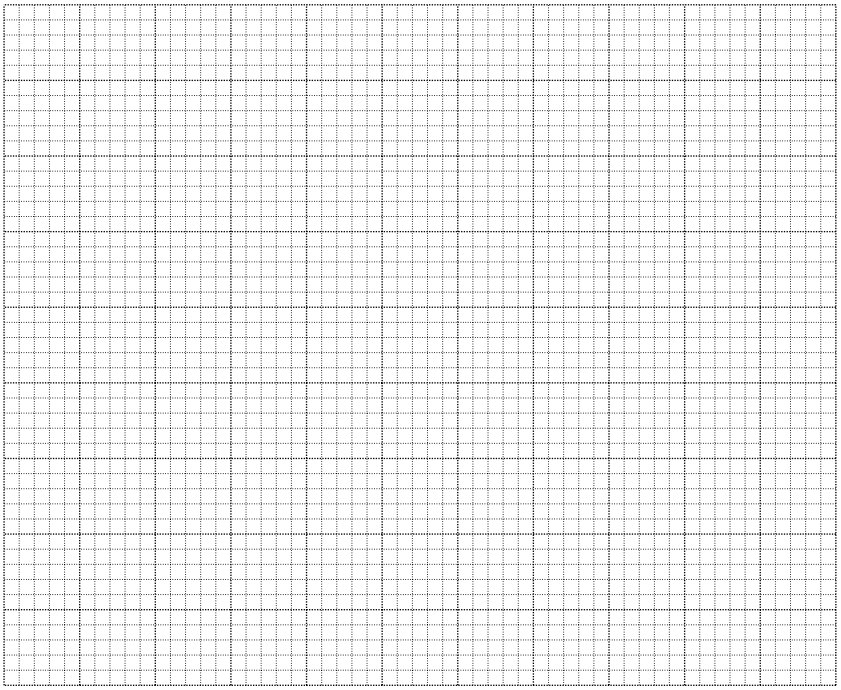
.....

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

Vikki is also a hairdresser.
The number of customers she had each day during the same week is shown in the table.

| Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|
| 8 | 7 | 14 | 11 | 15 |

(d) Draw a bar chart to show the information in the table.



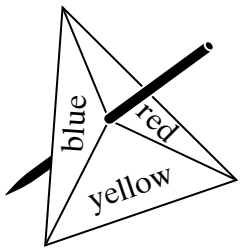
*(3 marks)*

(e) On which days did Vikki have the same number of customers as Julie?

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

9

**6** A fair spinner has three equal sections.
One section is red, one is blue and one is yellow.




The spinner is spun once.
The probabilities of three events have been marked on the probability scale below.

A: The spinner lands on blue.

B: The spinner lands on green.

C: The spinner does **not** land on red.


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

3

**7** The time taken, in minutes, by each of 15 pupils to travel to school, is shown in the ordered stem-and-leaf diagram.

Key 3 | 2 represents 32 minutes

| | | | | | |
|---|---|---|---|---|---|
| 0 | 5 | 5 | 8 | | |
| 1 | 0 | 2 | 4 | 5 | 9 |
| 2 | 3 | 5 | 6 | 6 | |
| 3 | 2 | 4 | | | |
| 4 | 6 | | | | |

(a) How many pupils took less than 20 minutes to travel to school?

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

(b) What was the median number of minutes taken to travel to school?

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

(c) Another pupil takes 37 minutes to travel to school.

Tick the correct box to show what effect, if any, this has on

(i) the median,

| ☐ | ☐ | ☐ |
|---|---|---|
| Decreases | Stays the same | Increases |

(ii) the range.

| ☐ | ☐ | ☐ |
|---|---|---|
| Decreases | Stays the same | Increases |

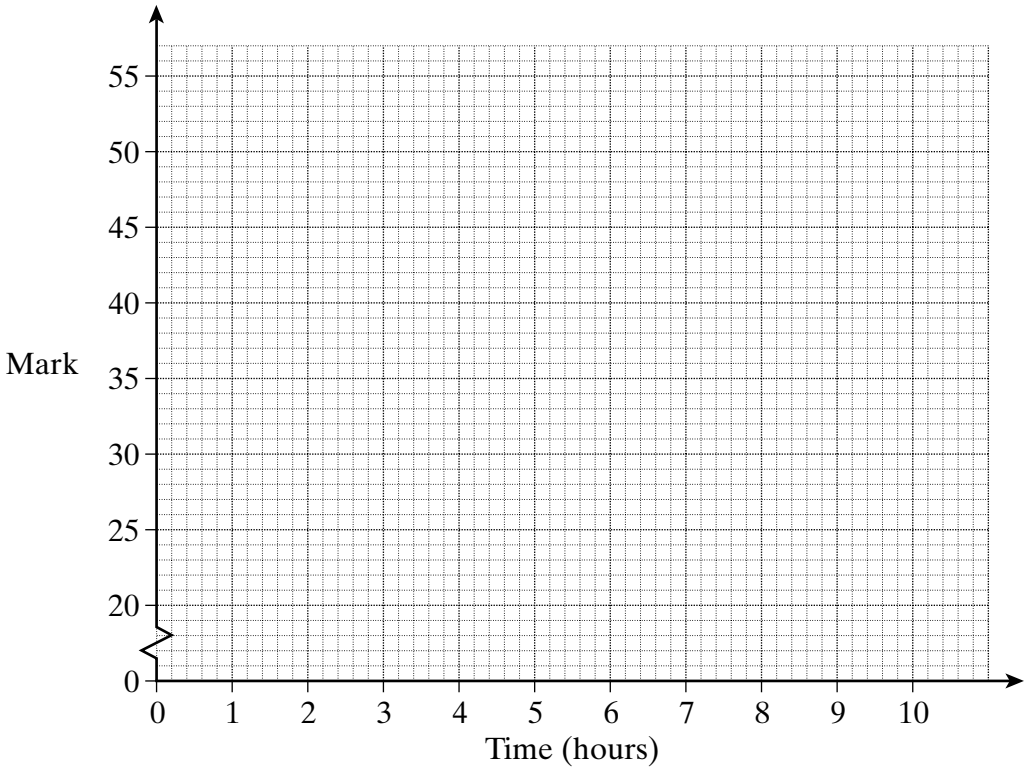
*(2 marks)*

4

**8** Six pupils revise for a test.
The table shows the time each pupil spent revising and their mark in the test.

| **Time (hours)** | 2 | 3 | 5 | 7 | 8 | 10 |
|---|---|---|---|---|---|---|
| **Mark** | 30 | 26 | 34 | 38 | 45 | 48 |

(a) Plot the data as a scatter graph on the grid below.




*(2 marks)*

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

(c) Use your line of best fit to estimate the mark of a pupil who revised for 4 hours.

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

4

**END OF QUESTIONS**

**THERE ARE NO QUESTIONS PRINTED ON THIS PAGE**

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