Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

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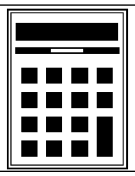
General Certificate of Secondary Education
November 2003

MATHEMATICS (MODULAR) (SPECIFICATION B) 33003/IA
Module 3 Intermediate Tier Section A

Wednesday 19 November 2003 9.00 am to 9.40 am

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



For Examiner's Use			
Section A		**Section B**	
Pages	Mark	Pages	Mark
2 – 3		2 – 3	
4 – 5		4 – 5	
6 – 7		6 – 7	
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

Time allowed for Section A: 40 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 40 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 32.
- 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.

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

1 (a) Work out $12 - (3 + 7)$

.....

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

(b) Put brackets in each of these calculations to make them correct.

(i) $18 - 4 - 2 = 16$

(ii) $3 + 4 \times 5 = 35$

(iii) $20 \div 5 - 3 = 10$

(3 marks)

2 The total cost of four books is £21.56
Postage is £1.13 for each book.

Show that the total cost of the books and the postage is £26.08

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.....

.....

(2 marks)

3 Bill changes £27 into Swiss francs.
The exchange rate is £1 to 1.55 Swiss francs.

How many Swiss francs does he receive?

.....

.....

Answer ..... Swiss francs *(2 marks)*

4 The price of a computer is £840.
In a sale the price is reduced by 15%.

What is the sale price?

.....

.....

Answer £ ..... *(3 marks)*

11

Turn over ▶

5 The total number of marks for a test is 40.

(a) The marks are divided between Section A and Section B in the ratio 4 : 1

(i) How many marks are there for Section B?

.....

.....

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

(ii) How many more marks are there for Section A than for Section B?

.....

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

(b) Shahid gains 24 marks out of 40 in the test.

Work out his mark as a percentage.

.....

.....

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

6 Calculate the value of

$$\frac{17.32 + 14.29}{4.18 - 1.97}$$

Give your answer to three significant figures.

.....

.....

.....

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

7 A shop advertises a special offer.

Portable Television

Was £90

Now £69

Find the percentage reduction in the cost of the television.

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.....

.....

.....

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

8 (a) Clare bought a cello for £1300.
After one year its value increased by 4%.

Find the value of the cello after one year.

.....

.....

.....

Answer £ ..... *(2 marks)*

(b) Ben bought a violin for £1700.
In each year the value of the violin increases by 12% of its value at the start of that year.

Calculate after how many complete years the value of the violin will be at least £2600.

You **must** show all your working.

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.....

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

9 Calculate the value of

(a) $8490 \times 3.7 \times 10^4$

Give your answer in standard form.

.....

.....

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

(b) $\dfrac{8490}{3.7 \times 10^4}$

Give your answer in standard form.

.....

.....

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

END OF SECTION A

10

Surname		Other Names	
Centre Number						Candidate Number				
Candidate Signature										

General Certificate of Secondary Education
November 2003

ASSESSMENT and QUALIFICATIONS ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B) 33003/IB
Module 3 Intermediate Tier Section B

Wednesday 19 November 2003 9.45 am to 10.25 am

In addition to this paper you will require: mathematical instruments. You must **not** use a calculator.	

Time allowed for Section B: 40 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, 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 32.
- 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.

10 Work out

(a) 0.3×0.1

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.....

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

(b) $7.6 - 3.49$

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

(c) $\frac{1}{6} \times \frac{3}{5}$

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

(d) $2^3 + 7^2$

.....

.....

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

LEAVE MARGIN BLANK

11 (a) The odd number 9 can be written as the sum of two consecutive numbers: $9 = 4 + 5$

Write the number 45 as the sum of two consecutive numbers.

.....

.....

Answer $45 =$ ..... *(2 marks)*

(b) Gavin says that when you add two odd numbers the answer is always an odd number.

Give an example to show that Gavin is wrong.

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.....

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

12 A pile of 20 sheets of card is 1 cm high.

How high is a pile of 50 sheets of card?

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.....

.....

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

10

13 Brian travels 150 miles in 3 hours.
Clive travels 110 miles in 2 hours.

Who is travelling faster?
You **must** show all your working.

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(3 marks)

14 Estimate the value of 198×40.3

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

15 A cyclist records the distances she travels to the nearest mile.
One day her recorded distance is 28 miles.

Write down the least and greatest possible distance that she travelled.

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.....

Answer Least ..... miles

Greatest ..... miles

(2 marks)

16 (a) Use the calculation

$$163 \times 57 = 9291$$

to find the value of

(i) $\frac{92\,910}{163}$

.....

.....

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

(ii) 1630×0.057

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

(b) Work out $500 \div 0.2$

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

TURN OVER FOR THE NEXT QUESTION

10

17 (a) Express 24 as a product of its prime factors.

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

(b) Find the Least Common Multiple (LCM) of 24 and 60.

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

18 Two friends agree to share £42 in the ratio 3 : 4

How much is the smaller share?

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Answer £ ..... *(2 marks)*

19 A market trader reduces the price of a T-shirt by 20%.
After this reduction, the selling price is £4.80

How much was the reduction in the price of the T-shirt?

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Answer £ ..... *(3 marks)*

20 Find the value of $4\frac{2}{3} - 2\frac{3}{4}$

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

END OF QUESTIONS