Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

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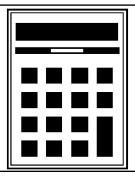
General Certificate of Secondary Education
March 2004

ASSESSMENT and QUALIFICATIONS ALLIANCE

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

Thursday 4 March 2004 9.00 am to 9.40 am

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



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 tag Section A and Section B 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.

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			

LEAVE MARGIN BLANK

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

1 In the Czech Republic, Boris pays 922 korunas for a meal.
The exchange rate is 49.1 korunas to £1.

What is the cost of the meal in pounds?

.....

.....

.....

Answer £ ..... *(2 marks)*

2 Beth has 400 roses.
48 are yellow.

What percentage of the roses are yellow?

.....

.....

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

3 (a) Find the value of $\frac{1}{0.5^2}$

.....

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

(b) Use your calculator to find the value of $\frac{29.45 - 7.92}{14.32 + 6.51}$

Give your answer to an appropriate degree of accuracy.

.....

.....

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

(c) Write 18 as a product of its prime factors.

.....

.....

.....

.....

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

(d) Use your calculator to work out 0.4^6
Give your answer in standard form.

.....

.....

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

4 Nicole buys 2.3 kg of apples and 1.8 kg of plums.
She pays £7.18 in total.
The plums cost £2.20 per kg.

What is the cost of 1 kg of apples?
Show your working.

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.....

Answer £ ..... *(4 marks)*

5 Harry drives 182 miles.
His average speed is 35 miles per hour.

How long does the journey take?
Give your answer in hours and minutes.

.....

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.....

.....

.....

Answer ..... hours ..... minutes *(4 marks)*

6 Prove that the sum of any two consecutive numbers is always an odd number.

.....

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.....

(2 marks)

7 Craig and Sophie share 60 chocolates.
They divide them in the ratio 2 : 3 with Sophie having the larger share.

How many chocolates does Sophie have?

.....

.....

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

TURN OVER FOR THE NEXT QUESTION

8 This is a true statement.

Kylie

Write down

(a) the minimum age that Kylie could be,

.....

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

(b) the maximum age that Kylie could be.

.....

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

9 The value of a computer was £800 on 1st January 2003.
Every three months, the value of the computer decreased by 6% of its value at the start of that three months.

What was the value of the computer on 1st January 2004?

.....

.....

.....

Answer £ ..... *(3 marks)*

10 John has 70 books.
This total is 40% more than the number of books that he had one year ago.

How many books did he have one year ago?

.....

.....

.....

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

END OF SECTION A

Surname		Other Names	
Centre Number						Candidate Number				
Candidate Signature										

General Certificate of Secondary Education
March 2004

ASSESSMENT and QUALIFICATIONS ALLIANCE

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

Thursday 4 March 2004 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 tag Section A and Section B 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.

11 (a) Packets of chocolate biscuits are sold in two sizes.

£1.09 **£3.17**

Which size is the better value for money?

You **must** show your working.

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

(b) Danielle eats $\frac{3}{4}$ of a bar of chocolate every day.

How many bars of chocolate does Danielle eat in six days?

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

12 A trader pays £14.80 for 20 melons.

How much does he pay for one melon?

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.....

.....

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

TURN OVER FOR THE NEXT QUESTION

13 Work out

(a) $\frac{2}{5} \times \frac{1}{4}$

.....

.....

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

(b) 0.4×0.2

.....

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

(c) $2^3 \times 5^2$

.....

.....

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

(d) $4\frac{2}{3} + 1\frac{3}{5}$

.....

.....

.....

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

14 Abby sees the same model of digital camera for sale in two different shops.

DIGICAM
Our Price
15% off Normal Price
of £288

Pictures4u
Our Price
$\frac{1}{6}$ off Normal Price
of £288

Calculate the final cost of the camera from

(a) Digicam,

.....

.....

.....

Answer £ ..... *(3 marks)*

(b) Pictures4u.

.....

.....

.....

Answer £ ..... *(3 marks)*

15 A train is travelling at 60 miles per hour.
The train increases its speed to 81 miles per hour.

Calculate the percentage increase in the speed of the train.

.....

.....

.....

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

16 (a) Estimate the value of $\frac{407 \times 2.91}{0.611}$

.....

.....

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

(b) Write down the value of $\sqrt{64}$

.....

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

17 (a) Work out $5 \times 10^4 \times 8 \times 10^6$

Give your answer in standard form.

.....

.....

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

(b) Work out $\dfrac{2 \times 10^4}{8 \times 10^6}$

Give your answer in standard form.

.....

.....

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

END OF QUESTIONS