Surname		Other Names	
Centre Number			Candidate Number	
Candidate Signature			

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General Certificate of Secondary Education
November 2006

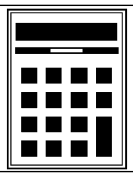
AQA
ASSESSMENT and QUALIFICATIONS ALLIANCE

MATHEMATICS (MODULAR) (SPECIFICATION B) 33003/FA
Module 3 Foundation Tier Section A

F

Monday 13 November 2006 9.00 am to 9.40 am

For this paper you must have:
- 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.
- Answer the questions in the spaces provided.
- 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 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.
- The marks for questions are shown in brackets.
- You may ask for more answer paper. This must be tagged securely to this answer book.

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	
Total Section A			
Total Section B			
TOTAL			
Examiner's Initials			

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

1 Fill in the missing numbers in these calculations.

(a) $52 + \square = 98$ *(1 mark)*

(b) $\square \times 9 = 108$ *(1 mark)*

(c) $\square - 60 = 27$ *(1 mark)*

(d) $450 \div \square = 225$ *(1 mark)*

2 Kate buys her electricity from GridCo.
She receives an electricity bill for the three months from June to August.
Part of the bill is shown below.

Meter Reading in June	Meter Reading in August
2800	3500

(a) How many units of electricity has Kate used?

.....

.....

.....

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

(b) GridCo charges £0.06 for each unit of electricity used.

Work out the cost of the electricity that Kate has used.

.....

.....

.....

Answer £ ..... *(2 marks)*

3 (a) Packets of biscuits cost £1.19 each.
Megan buys seven packets of biscuits.

(i) How much does Megan pay?

.....

.....

Answer £ ..... *(2 marks)*

(ii) She pays with a £10 note.

How much change should Megan receive?

.....

.....

Answer £ ..... *(1 mark)*

(b) Ellie has four coins in her purse.
The value of the four coins is £3.21

Write down the coins that Ellie has in her purse.

.....

.....

.....

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

Turn over for the next question

11

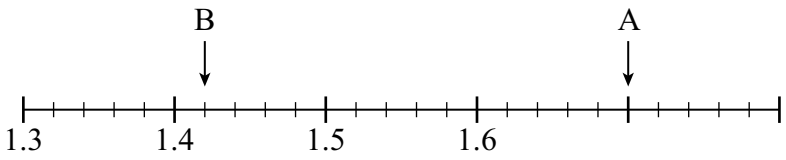
4 (a) Add the numbers 1.3 1.4 1.5 1.6

.....

.....

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

(b) Here is a number line.



(i) Write down the number marked by arrow A.

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

(ii) Write down the number marked by arrow B.

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

(iii) Write down the number that is halfway between 1.3 and 1.4

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

5 A teacher has 292 sweets.
There are 28 pupils in his class.
He shares the sweets equally between the pupils and keeps the ones that are left for himself.

(a) How many sweets does each pupil receive?

.....

.....

.....

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

(b) How many sweets does the teacher have left for himself?

.....

.....

.....

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

6 Use your calculator to work out

(a) the cube of 8

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

(b) $\frac{1}{2.5}$

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

(c) $729 + 18^2$

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

7 In 1986 the price of a mobile phone was £1055.
In 2004 a mobile phone cost 5% of the price of a mobile phone in 1986.

Calculate the cost of a mobile phone in 2004.

.....

.....

.....

Answer £ ..... *(2 marks)*

Turn over for the next question

12

8 A school raises £660 from a sponsored walk.

(a) $\frac{1}{4}$ of the money is spent on books.
The rest of the money is spent on sports equipment.

How much money is spent on sports equipment?

.....

.....

Answer £ ..... *(2 marks)*

(b) The £660 was raised by teachers and pupils in the ratio 1 : 9
The pupils raised the greater amount of money.

How much money did the pupils raise?

.....

.....

.....

Answer £ ..... *(2 marks)*

9 You are given that

1 litre = 1.76 pints and 1 gallon = 8 pints

Convert 25 litres to gallons.
Show your working.

.....

.....

.....

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

10 Erin is squaring numbers.
She says that it is possible to get an answer that is smaller than the number she started with.

Show that Erin is correct.

.....

.....

.....

.....

(2 marks)

END OF SECTION A

9

There are no questions printed on this page

Surname		Other Names	
Centre Number			Candidate Number									
Candidate Signature												

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General Certificate of Secondary Education
November 2006

ASSESSMENT and QUALIFICATIONS ALLIANCE

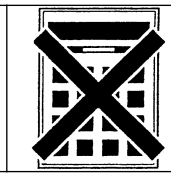
MATHEMATICS (MODULAR) (SPECIFICATION B) 33003/FB
Module 3 Foundation Tier Section B

F

Monday 13 November 2006 9.45 am to 10.25 am

For this paper you must have:
- 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.
- Answer the questions in the spaces provided.
- 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 32.
- The marks for questions are shown in brackets.
- You may ask for more answer paper. This must be tagged securely to this answer book.

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

LEAVE MARGIN BLANK

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

11 A train leaves Newcastle at 11.00 am.
It should arrive in Birmingham at 2.00 pm.

(a) How long should the journey take?

.....

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

(b) The train is late arriving in Birmingham.
It arrives at 2.30 pm.

(i) How many minutes late is the train?

.....

.....

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

(ii) Write your answer as a fraction of an hour.

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

12 Work out

(a) 12×7

.....

.....

.....

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

(b) One fifth of 30

.....

.....

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

(c) 25% of 32

.....

.....

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

13 (a) The first Christmas cracker was made in England in the year 1876.

How many years ago was this?

.....

.....

.....

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

(b) Write the number 1876 to the nearest 100.

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

(c) Arrange the four digits 1, 8, 7 and 6 to make the smallest possible number.

.....

.....

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

(d) The number 1876 is multiplied by 10.

What is the value of the digit 7 in the answer?

.....

.....

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

(e) The number 1876 is divided by 10.

What is the value of the digit 8 in the answer?

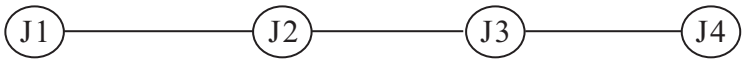
.....

.....

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

13

14 Tom is driving along a motorway from Junction 1 (J1) to Junction 4 (J4).
He passes Junction 2 (J2) and Junction 3 (J3).



The distance from J1 to J2 is 12 miles.
The total distance from J1 to J4 is 30 miles.
The distance from J2 to J3 is the same as the distance from J3 to J4.

Work out the distance from J2 to J3.

.....

.....

.....

.....

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

15 (a) Put these numbers in order of size.
Start with the largest number.

0.786 0.09 0.8

.....

.....

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

(b) Write 0.786 to 2 decimal places.

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

(c) Convert $\frac{3}{8}$ to a decimal.

.....

.....

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

(d) Work out 0.1×0.7

.....

.....

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

16 Work out

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

.....

.....

.....

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

(b) $\frac{7}{8} - \frac{1}{2}$

.....

.....

.....

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

17 Karl sees this advertisement in a shop window.

HOCKEY KIT

Shirt £16.50

Pair of Shorts £8.50

SPECIAL OFFER!

Buy both items and receive a 10% reduction in price

Karl buys both items.

How much does he pay?

.....

.....

.....

.....

.....

Answer £ ..... *(3 marks)*

15

18 The ingredients needed to make 500 millilitres (ml) of a fruit drink are

orange juice	300 ml
mango juice	60 ml
lemonade	140 ml

(a) What percentage of the fruit drink is orange juice?

.....

.....

.....

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

(b) Robert wants to make 750 ml of the fruit drink.

How much lemonade will he need?

.....

.....

.....

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

END OF QUESTIONS

4

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