Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
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TOTAL	

General Certificate of Secondary Education
Foundation Tier
November 2011

Mathematics 43602F

Unit 2

Monday 14 November 2011 9.00 am to 10.15 am

F

For this paper you must have:
- mathematical instruments.

You must **not** use a calculator.

Time allowed
- 1 hour 15 minutes

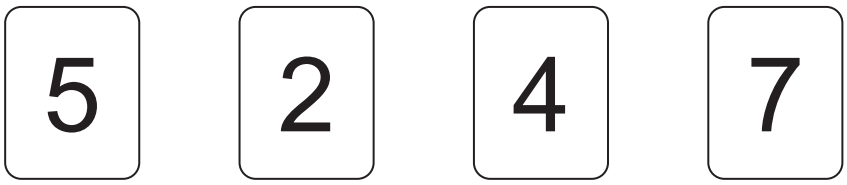
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 66.
- The quality of your written communication is specifically assessed in Questions 3, and 16. These questions are indicated with an asterisk (*)
- You may ask for more answer paper and graph paper. These 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.

1 Here are four number cards.



1 (a) Write the number 5247 in words.

Answer .....

.....

(1 mark)

1 (b) Write the number 5247 to the nearest hundred.

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

1 (c) What is the largest number you can make using all four cards?

.....

(1 mark)

1 (d) What is the smallest **even** number you can make using all four cards?

.....

(2 marks)

2 (a) Complete the table.

Fraction	Decimal	Percentage
$\frac{3}{4}$		75%
$\frac{9}{10}$	0.9	
	0.3	30%

(3 marks)

2 (b) Write $\frac{3}{4}$, 0.9 and 30% in order with the smallest first.

.....

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

***3** Emma wants to buy

2 magazines at £1.70 each
3 birthday cards at £2.25 each.

She only has a £10 note.

Is this enough?
You **must** show your working.

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(4 marks)

13

4 Jack shares these coins with Lucy.

50p

20p

20p

20p

10p

10p

10p

5p

5p

They both receive the same amount.

Write down the coins they could receive.

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.....

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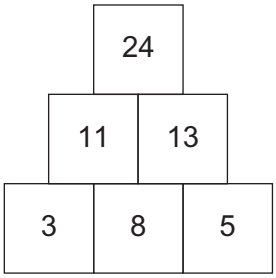
Answer Jack .....

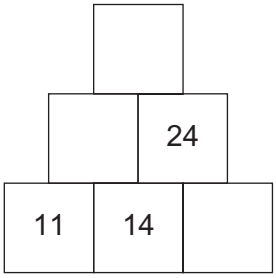
Lucy ..... *(4 marks)*

5 Here is a number pyramid.



Each number is found by adding the two numbers directly below.
For example 8 + 5 = 13

5 (a) Complete this number pyramid.



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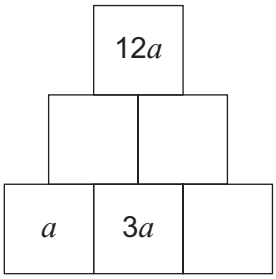
(2 marks)

5 (b) Complete this algebra pyramid.



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(3 marks)

9

6 This table shows the ingredients needed to make six flapjacks.

Butter	75 grams
Sugar	60 grams
Oats	175 grams
Syrup	1 tablespoon

Complete the table to show the ingredients needed to make 24 flapjacks.

Butter	..... grams
Sugar	..... grams
Oats	..... grams
Syrup	..... tablespoons

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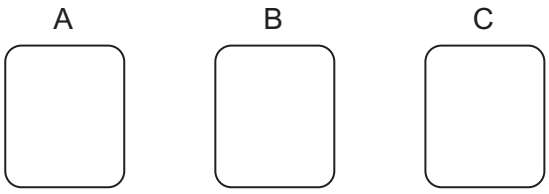
(4 marks)

7 Here are three cards.



Write a different whole number on each card so that

the numbers add up to 60
the number on card A is a multiple of 10
the number on card B is three times the number on card C.

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(3 marks)

8 There are six cakes in a box.
The box and the cakes weigh 200 grams altogether.
The box weighs 20 grams.
Each cake weighs the same.

What does one cake weigh?

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

10

9 (a) Complete the table of values for $2x + y = 10$

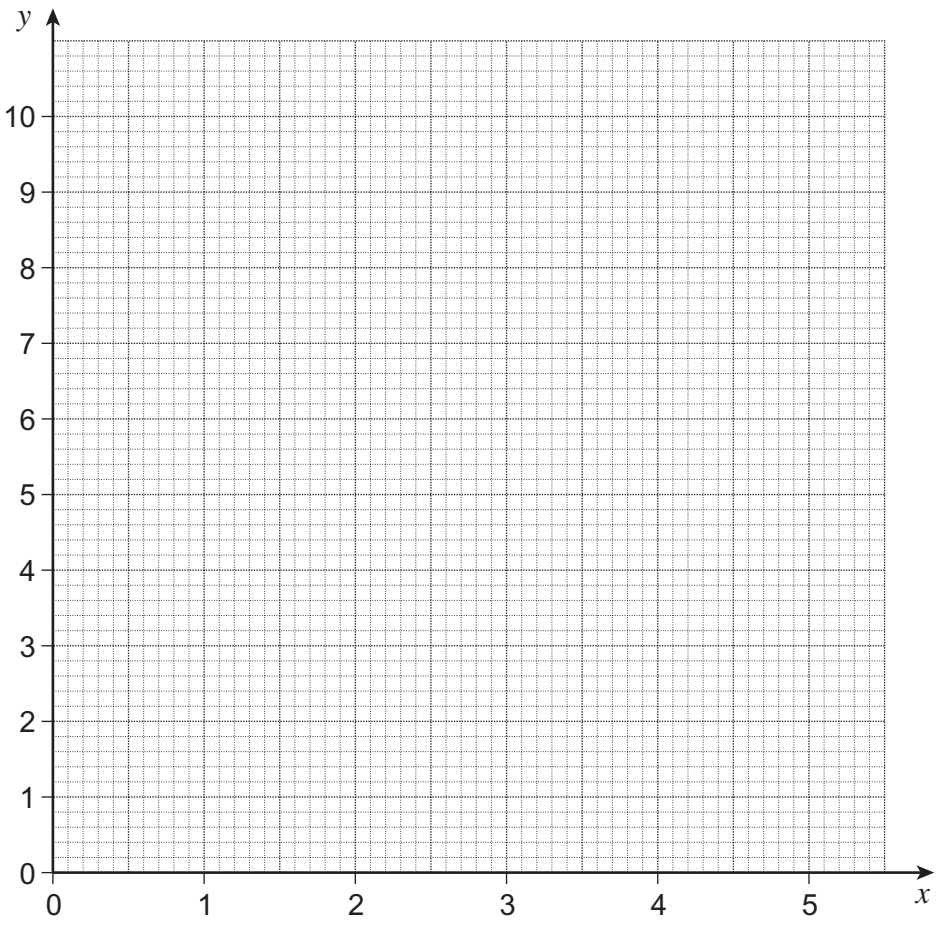
x	0	1	2	3	4	5
y	10		6		2	

.....

.....

(2 marks)

9 (b) On the grid draw the graph of $2x + y = 10$ for values of x from 0 to 5.



(2 marks)

10 Two-thirds of a number is 8.

Work out four times the number.

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.....

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

11 w is an even number.

For each statement, tick the correct box.

	Always true	Sometimes true	Never true
$4w - 3$ is even.	☐	☐	☐
$4w - 3$ is prime.	☐	☐	☐
$4w - 3$ is a multiple of 9.	☐	☐	☐

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(3 marks)

10

12 Given that $25.6 \times 32 = 819.2$

12 (a) work out $\frac{81.92}{32}$

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

12 (b) work out 0.256×320

.....

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

13 In May, a coat costs £64.
In June, the May price is rounded to the nearest £10.
In July, the June price is reduced by 20%.

Ian has £50.

Does he have enough money to buy the coat in July?

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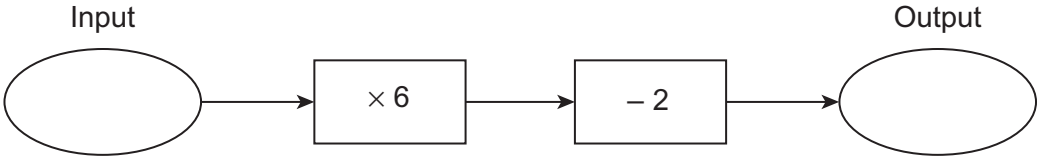
(3 marks)

14 Here is a number machine.



The output is twice the input.

Work out the input.

.....

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.....

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

15 (a) Find the value of $3x + 2y$ when $x = 4$ and $y = -5$

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.....

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

15 (b) Solve $\frac{c}{4} = 3$

.....

Answer c = ... *(1 mark)*

15 (c) Solve $2(3w - 4) = 7$

.....

.....

.....

Answer w = ... *(3 marks)*

15 (d) Expand $a(a^2 + 4)$

.....

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

16

***16** Last year, 12 students went to the theatre.
The total cost of the tickets was £240.

This year, 8 students are going.
The cost of each ticket has increased by 15%.
They have a total of £200.

Is this enough to buy 8 tickets?
You **must** show your working.

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(5 marks)

17 Ali, Beth and Clare take a test.

The ratio of Ali's score to Beth's score is 5 : 3
Ali scored 10 more marks than Beth.

Clare scored 7 more marks than Ali.

Work out each of their scores.

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Answer Ali ..... marks

Beth ..... marks

Clare ..... marks

(3 marks)

END OF QUESTIONS

8

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