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Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
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General Certificate of Secondary Education
Foundation Tier
June 2015

Mathematics

43602F

Unit 2

Thursday 4 June 2015 9.00 am to 10.15 am

F

<p>For this paper you must have:</p> <ul style="list-style-type: none"> mathematical instruments. <p>You must not use a calculator.</p>	
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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 15 and 21. 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 book.

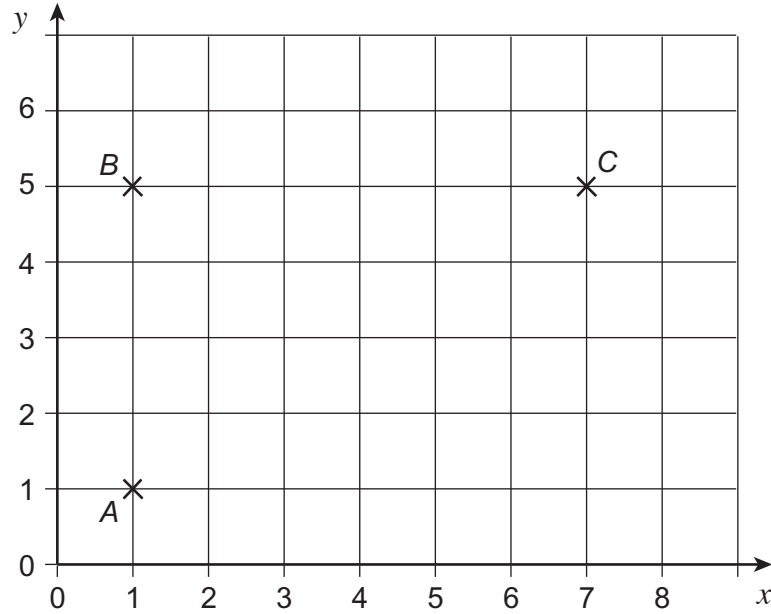
Advice

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



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

- 1** Points A , B and C are shown on the grid.



- 1 (a)** Write down the coordinates of point C .

[1 mark]

Answer (..... ,)

- 1 (b)** $ABCD$ is a rectangle.

Write down the coordinates of point D .

[1 mark]

Answer (..... ,)

- 1 (c)** Write down the coordinates of the midpoint of AC .

[1 mark]

Answer (..... ,)



2 (a) A number is
between 30 and 60
even
and a multiple of 7

What are the **two** possible numbers?

[2 marks]

.....
.....

Answer and

2 (b) Circle the number that is **not** a factor of 36

[1 mark]

4 6 8 9

Turn over for the next question



3 I put these coins into two piles.



50p



20p



20p



20p



5p



5p



5p



5p

Each pile has the same amount of money.

List the coins in each pile.

[3 marks]

.....

.....

.....

.....

.....

Pile 1

Pile 2



4 (a) Write 40% as a fraction.

[1 mark]

.....

Answer

4 (b) Write 70% as a decimal.

[1 mark]

.....

Answer

4 (c) Write $\frac{1}{4}$ as a percentage.

[1 mark]

.....

Answer %

Turn over for the next question



5 (a) Work out $184 \div 8$

[1 mark]

.....

.....

.....

Answer

5 (b) Work out 0.4×3

[1 mark]

.....

.....

.....

Answer



6

x , y and z are numbers.
The total for each row in the table is shown.

			Total
x	x	x	21
x	x	y	26
x	y	z	34

Work out the values of x , y and z .

[3 marks]

.....

.....

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.....

.....

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.....

$$x = \text{.....}$$

$$y = \text{.....}$$

$$z = \text{.....}$$



7 Mrs Black's five children owe her some money.

Mary	Tom	Will	Ben	Frances
-13	-7	-4	-21	-5

Key:

Mary
- 13

 means that Mary owes £13

7 (a) Who owes the least amount?

Circle your answer.

[1 mark]

Mary Tom Will Ben Frances

7 (b) How much **more** does Ben owe than Frances?

[1 mark]

.....

Answer £

7 (c) Tom borrows another £3

How much does he owe now?

[1 mark]

.....

Answer £



8 (a) Circle the word that describes $5x + 2$ [1 mark]

equation

expression

formula

term

8 (b) Circle the word that describes $3x + 7 = 16$ [1 mark]

equation

expression

formula

term

9 (a) Write these numbers in order, with the smallest first. [1 mark]

0.37

0.325

0.4

Answer,,

9 (b) Circle the **two** values that are equivalent to 0.6 [2 marks]

 $\frac{1}{6}$

6%

 $\frac{3}{5}$ $\frac{6}{100}$

60%



10 Work out the value of $\sqrt{4^3}$ **[2 marks]**

.....
.....

Answer

11 (a) Simplify fully $3a + 8a - 5a$ **[1 mark]**

.....
.....

Answer

11 (b) Solve $10x = 85$ **[1 mark]**

.....
.....

$x =$

11 (c) Solve $\frac{y}{5} = 4$ **[1 mark]**

.....
.....

$y =$



12 Two-fifths of a number is 12
Work out half of the number.

[3 marks]

.....
.....
.....
.....
.....

Answer

13 Complete the shopping bill.

[3 marks]

Carrots 0.5 kg at 98p per kg

Potatoes 2.5 kg at £1.50 per kg

Total

Turn over for the next question

Turn over ►



14 The term-to-term rule of a sequence is

Divide the number by 2 and subtract 4

The first term is 32

Work out the fourth term.

[3 marks]

.....
.....
.....

Answer

***15** The total cost, C pence, of x pens and y rulers is given by

$$C = 70x + 60y$$

Work out the total cost of five pens and three rulers.
Give your answer in pounds.

[3 marks]

.....
.....
.....

Answer £



16



Bag A



Bag B

Bag A contains £7.20 in 20p coins.

Bag B contains only 5p coins.

The number of coins in bag B is three-quarters of the number of coins in bag A.

How much money is in bag B?

[4 marks]

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Answer £

10

Turn over ►



17 The table shows information about grocery items.

	Small	Medium	Large
Bag of apples	–	495 grams	795 grams
Tin of fish	195 grams	285 grams	–
Packet of nuts	37 grams	57 grams	87 grams

Use approximations to estimate the **total** amount these items weigh.

- 2 large bags of apples
- 1 small tin of fish
- 2 medium packets of nuts

You **must** show your working.

[3 marks]

.....

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Answer grams

18 Work out **all** the integers that satisfy the inequality $8 < 2n \leq 16$

[2 marks]

.....

.....

.....

Answer



19 $x + y = 100$

x is a square number.

y is a prime number.

Work out the values of x and y .

[2 marks]

.....
.....
.....
.....

$x = \dots\dots\dots y = \dots\dots\dots$

20 The cost of a car repair is divided into labour and parts in the ratio 3 : 1
Value added tax (VAT) at 20% is added to the cost of labour and the cost of parts.
The cost of labour is £150 before VAT is added.

Work out the total cost of the repair including VAT.

[4 marks]

.....
.....
.....
.....
.....

Answer £



- *21 (a)** Write 200 as the product of prime factors.
Give your answer in index form.

[3 marks]

Answer

- 21 (b)** Circle the **two pairs** of numbers that have

Highest Common Factor (HCF) 4

and

Least Common Multiple (LCM) 60

[2 marks]

4 and 60

4 and 30

4 and 12

12 and 30

12 and 20



22 The cash price for a boiler is £2000
Customers can pay the cash price or pay monthly.

<p style="text-align: center;">Cash Price £2000</p>
--

<p style="text-align: center;">Pay Monthly 60 monthly payments of £40</p>
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Work out the percentage increase from the cash price when paying monthly. **[4 marks]**

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Answer %

END OF QUESTIONS



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