Centre Number						Candidate Number					
Surname											
Other Names											
Candidate Signature											

AQA

General Certificate of Secondary Education
Foundation Tier
June 2015

Mathematics   43602F

Unit 2

F

Thursday 4 June 2015   9.00 am to 10.15 am

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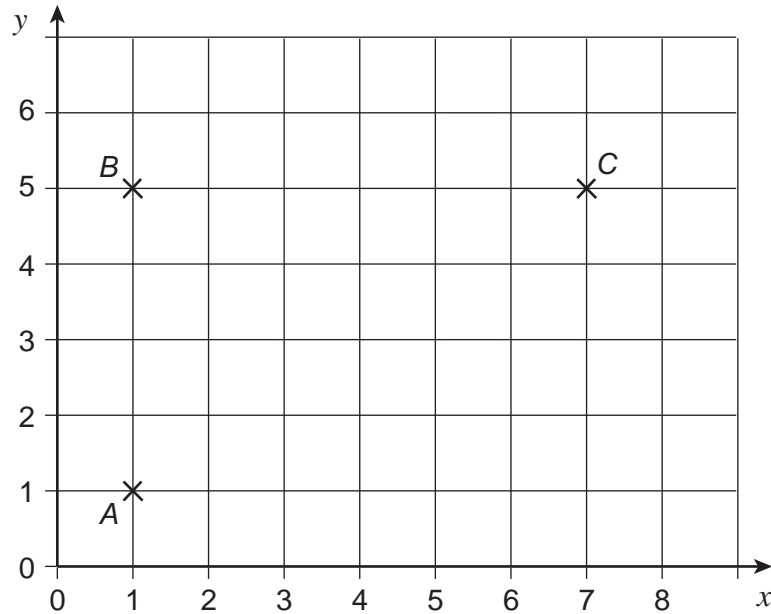
1 (a) Write down the coordinates of point *C*.

[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

6

Turn over ▶

0 3

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

6

Turn over ▶

5 (a) Work out 184 ÷ 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]

....

....

....

....

....

....

....

....

$x =$ ....

$y =$ ....

$z =$ ....

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 £ ....

Do not write outside the box

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%

8

Turn over ▶

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 $\dfrac{y}{5} = 4$

[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

11

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]

....

....

....

....

....

Answer .... grams

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

[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 = ... y = ...

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 £ ....

11

Turn over ▶

*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.

Cash Price
£2000

Pay Monthly
60 monthly payments of £40

Work out the percentage increase from the cash price when paying monthly.

[4 marks]

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....

Answer .... %

END OF QUESTIONS

9

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