Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
2 – 3	
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12 – 13	
14 – 15	
16	
TOTAL	

AQA

General Certificate of Secondary Education
Foundation Tier
November 2014

Mathematics 43602F

Unit 2

F

Wednesday 5 November 2014 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

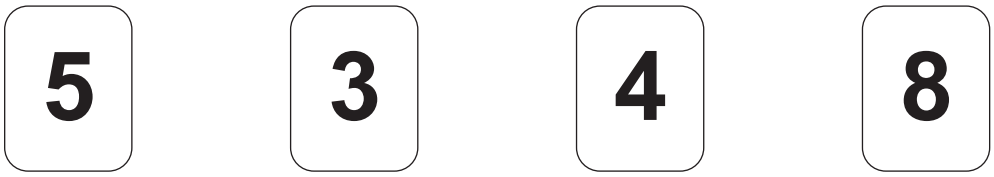
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.

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, 14 and 15. 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 Here are four cards.



1 (a) Write down the value of the digit 5 in the number 5348

[1 mark]

Answer .....

1 (b) Write the number 5348 to the nearest hundred.

[1 mark]

Answer .....

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

[1 mark]

Answer .....

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

[1 mark]

Answer .....

2 (a) Circle the multiple of 7

[1 mark]

13 22 27 35

2 (b) Circle the factor of 36

[1 mark]

8 12 19 72

2 (c) Circle the number that is **not** a square number.

[1 mark]

64 36 121 48

Turn over for the next question

7

3 Bottles of milk cost 65p each.

***3 (a)** Work out the cost of four bottles.

[2 marks]

.....

.....

Answer £ .....

3 (b) Molly pays for the 4 bottles of milk with a £5 note.

How much change should she get?

[1 mark]

.....

.....

Answer £ .....

4 (a) Write 30% as a fraction.

[1 mark]

.....

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Answer .....

4 (b) Write 80% as a decimal.

[1 mark]

.....

.....

Answer .....

4 (c) Circle the **two** values that are equivalent to $\frac{2}{3}$

[2 marks]

$\frac{66}{100}$ $0.\dot{6}$ 60% $\frac{66}{99}$ 0.6

Turn over for the next question

7

5 Three bags each contain the same number of discs.

2 discs are taken out of one of the bags.
There are now 5 discs in this bag.

Work out the total number of discs that are now in the three bags.

[2 marks]

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Answer .....

6 A sequence begins 1 6 16

The rule for the sequence is

Double the previous term and add 4

Work out the next **two** terms in the sequence.

[2 marks]

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Answer ..... and .....

7 Asif has **ten** coins.
He has only 10p, 20p and 50p coins.

The ten coins total £3.20

Work out how many of each coin he has.

[3 marks]

.....

.....

.....

.....

.....

Answer ..... 10p coins

..... 20p coins

..... 50p coins

8 (a) Simplify $2f + 3e + 4f$

[1 mark]

.....

Answer .....

8 (b) Solve $x - 7 = 29$

[1 mark]

.....

$x =$ .....

9

9 A recipe needs 300 grams of flour to make 4 cakes.

9 (a) How much flour is needed to make 6 cakes?

[2 marks]

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Answer ..... grams

9 (b) 1 kg = 1000 grams

How many cakes can be made from a 1.5 kg bag of flour?

[3 marks]

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Answer .....

10 Students are put into 9 groups.

5 groups each have 24 students.
The other 4 groups have an equal number of students.

Altogether there are 204 students.

How many students are there in each of the other 4 groups?

[3 marks]

.....

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Answer .....

11 (a) Write down the value of 10^3

[1 mark]

.....

Answer .....

11 (b) Work out the value of 0.4×0.2

[1 mark]

.....

Answer .....

10

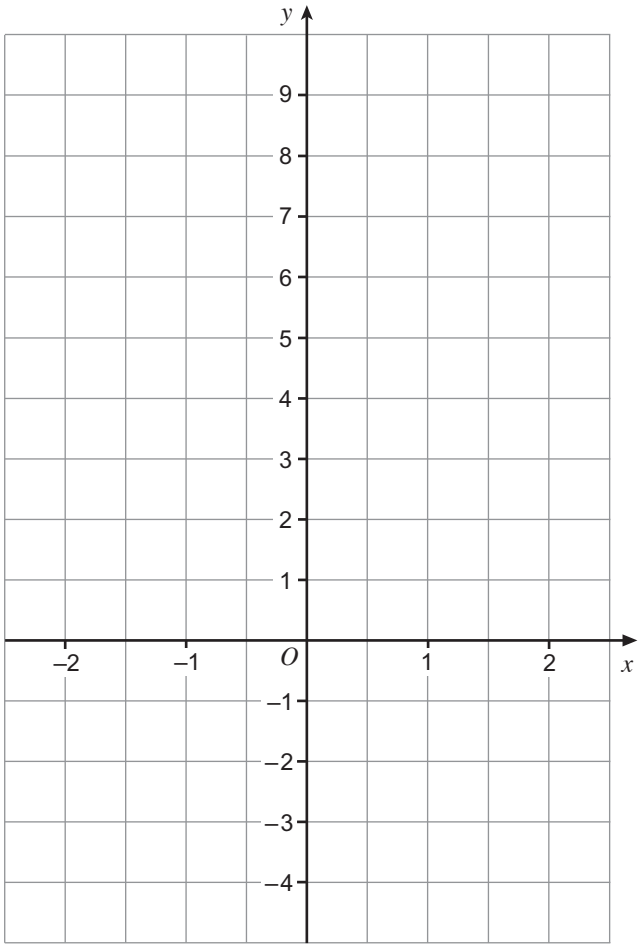
12 (a) Complete the table of values for $y = 3x + 2$

x	–2	–1	0	1	2
y		–1		5	

[2 marks]

12 (b) On the grid draw the graph of $y = 3x + 2$ for values of x from –2 to 2

[2 marks]



12 (c) Work out the gradient of the line $y = 3x + 2$

[1 mark]

Answer .....

13 There are 32 packets of crisps in a box.
Millie buys 5 boxes for a total of £48

She sells 140 packets for 40p each.
She then sells the rest of the packets at a reduced price.

She makes a total profit of £13.80

Work out the reduced price of each packet.
You **must** show your working.

[5 marks]

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Answer ..... pence

Turn over for the next question

10

14 (a) Factorise $x^2 + x$

[1 mark]

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Answer .....

14 (b) Work out the value of $x^2 + x$ when $x = -3$

[2 marks]

.....

Answer .....

***14 (c)** n is an **odd** number.

Tick the correct statement.

$n^2 + n$	is always odd	☐
$n^2 + n$	is always even	☐
$n^2 + n$	could be odd or even	☐

Give a reason for your answer.

[2 marks]

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***15** Dipen and Nisha are planning their wedding reception.

£40 per guest

Total reduced by 5% with over 60 guests

Nisha says, "I want to invite 70 guests."

Dipen says, "If we invite one-fifth fewer guests, we will save more than £500"

Is Dipen correct?
You **must** show your working.

[6 marks]

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Answer .....

11

16 This sequence of patterns is made using sticks.

Pattern 1 **Pattern 2** **Pattern 3**

16 (a) Complete the table for Pattern 4 and Pattern 5

Pattern	1	2	3	4	5
Number of sticks	5	9	13		

[1 mark]

16 (b) Work out the nth term of the sequence 5 9 13 ....

[2 marks]

.....

.....

Answer .....

16 (c) Which pattern is made using 53 sticks?

[2 marks]

.....

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Answer .....

17 Expand and simplify $3(2x + 5) – 2(x – 4)$

[3 marks]

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Answer .....

Turn over for the next question

8

18 (a) Solve $5x - 11 \geqslant 29$

[2 marks]

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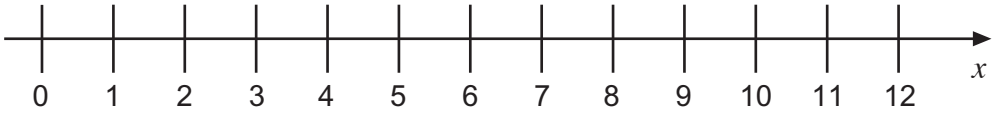
Answer .....

18 (b) Show the solution of $3x < 12$ on the number line.

[2 marks]

.....



END OF QUESTIONS

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