

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 2014

## Mathematics

43602F

### Unit 2

Wednesday 5 November 2014 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 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.



N 0 V 1 4 4 3 6 0 2 F 0 1

WMP/Nov14/43602F/E4

43602F

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**



**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]

.....  
.....

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



**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]**

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

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]**

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

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** 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]**

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

Answer .....

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

**[1 mark]**

.....

Answer .....

**11 (b)** Work out the value of  $0.4 \times 0.2$

**[1 mark]**

.....

Answer .....

10
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Turn over ►



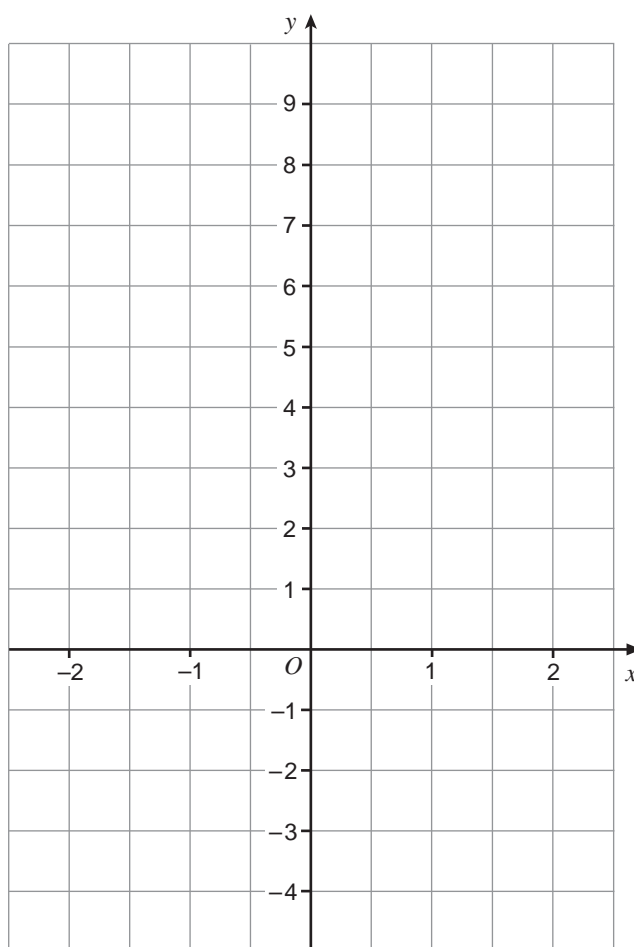
**12 (a)** Complete the table of values for  $y = 3x + 2$

$x$	-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
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**Turn over ►**



**14 (a)** Factorise  $x^2 + x$  **[1 mark]**

.....

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]**

.....

.....

.....



**\*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

Turn over ►

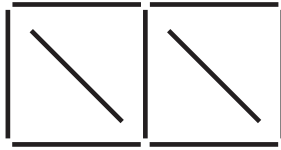


16 This sequence of patterns is made using sticks.

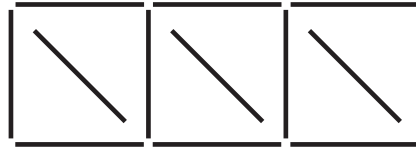
Pattern 1



Pattern 2



Pattern 3



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

<b>Pattern</b>	1	2	3	4	5
<b>Number of sticks</b>	5	9	13		

[1 mark]

16 (b) Work out the  $n$ th term of the sequence 5 9 13 ....

[2 marks]

.....  
.....

Answer .....

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

[2 marks]

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

Answer .....



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

[3 marks]

.....

.....

.....

.....

Answer .....

**Turn over for the next question**

8
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**Turn over ►**



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

[2 marks]

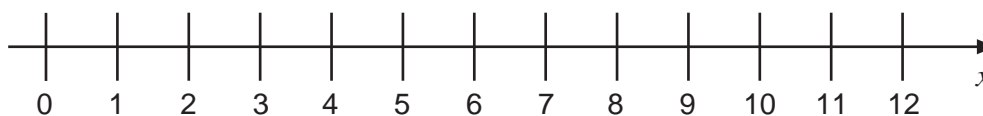
.....  
.....

Answer .....

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

[2 marks]

.....



END OF QUESTIONS

