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Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
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General Certificate of Secondary Education  
Foundation Tier  
November 2012

# Mathematics

**43602F**

Unit 2

Thursday 8 November 2012 1.30 pm to 2.45 pm

**F**

<p><b>For this paper you must have:</b></p> <ul style="list-style-type: none"> <li>mathematical instruments.</li> </ul> <p>You must <b>not</b> 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 10 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 book.

### Advice

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



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

**1 (a)** Write the number four thousand eight hundred and twenty in figures.

Answer ..... (1 mark)

**1 (b)** Write down the value of the digit 7 in the number 27 354.

Answer ..... (1 mark)

**1 (c)** Write the number 8279 correct to the nearest 100.

Answer ..... (1 mark)

**2** Here are the first three lines of a number pattern.

$$4 \times 3 - 2 \times 1 = 10$$

$$5 \times 4 - 3 \times 2 = 14$$

$$6 \times 5 - 4 \times 3 = 18$$

Write down the next line of the pattern.

..... = ..... (2 marks)



**3** Here is a list of numbers.

28 37 40 49 56 63

**3 (a)** Write down **two** numbers from the list that add up to 100.

.....

Answer ..... and ..... (1 mark)

**3 (b)** Write down **two** numbers from the list that have a difference of 21.

.....

Answer ..... and ..... (1 mark)

**3 (c)** Write down **two** numbers from the list that are multiples of 8.

.....

Answer ..... and ..... (1 mark)

**Turn over for the next question**



4 Here is a list of ingredients for bread and butter pudding.

**Serves 2 people**

1 egg

3 slices of bread

$\frac{1}{2}$  pint of milk

75 g raisins

5 g butter

Complete this list to serve four people.

**Serves 4 people**

..... eggs

..... slices of bread

..... pint of milk

.....g raisins

.....g butter

(3 marks)



**5 (a)** George buys four cans of cola.  
Each can costs 36p.

Work out the total cost.

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

Answer £ ..... (2 marks)

**5 (b)** He pays with a £5 note.  
The change is given using the smallest possible number of coins.

What coins does he receive?

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

Answer ..... (3 marks)

**Turn over for the next question**



**6** The sum of two numbers is 25.  
One of the numbers is 7 more than the other number.

What are the two numbers?

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

Answer..... and ..... (2 marks)

**7** Here is a rule to change from Celsius ( $^{\circ}\text{C}$ ) to Fahrenheit ( $^{\circ}\text{F}$ ).

Double the number and add 30

**7 (a)** Change  $20^{\circ}\text{C}$  to Fahrenheit.

.....  
.....

Answer .....  $^{\circ}\text{F}$  (2 marks)

**7 (b)** Change  $56^{\circ}\text{F}$  to Celsius.

.....  
.....

Answer .....  $^{\circ}\text{C}$  (2 marks)



8 (a) Solve  $a + 5 = 9$

$a = \dots\dots\dots$  (1 mark)

8 (b) Simplify fully  $4x + 5y + 2x + 3y$

.....

Answer ..... (2 marks)

8 (c) Work out the value of  $5f - 4g$  when  $f = 3$  and  $g = 2$

.....

.....

Answer ..... (2 marks)

9 One-half of a number is 12.

What is one-third of the number?

.....

.....

.....

.....

Answer ..... (3 marks)



**\*10 (a)** Work out  $£5.81 + £3.09$

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

Answer £ ..... (1 mark)

**\*10 (b)** Work out  $£2 - £1.36$

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

Answer ..... (1 mark)

**11** Write a number in each box to make the calculation correct.

$$2.3 \times \boxed{\phantom{00}} = 23$$

$$23 \div \boxed{\phantom{00}} = 0.23$$

(2 marks)





12 Alex has £35.  
He buys three T-shirts for £6.50 each.  
  
He sees this label on a DVD.

Normal Price £16  
  
Sale Price  
10% off

Can he afford to buy the DVD?  
You **must** show your working.

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(5 marks)

Turn over for the next question



**13 (a)** Work out  $5^2 \times 2^3$

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.....

Answer ..... (2 marks)

**13 (b)** Write down the value of  $\sqrt{144}$

Answer ..... (1 mark)

**13 (c)** Write down the cube root of 64.

Answer ..... (1 mark)

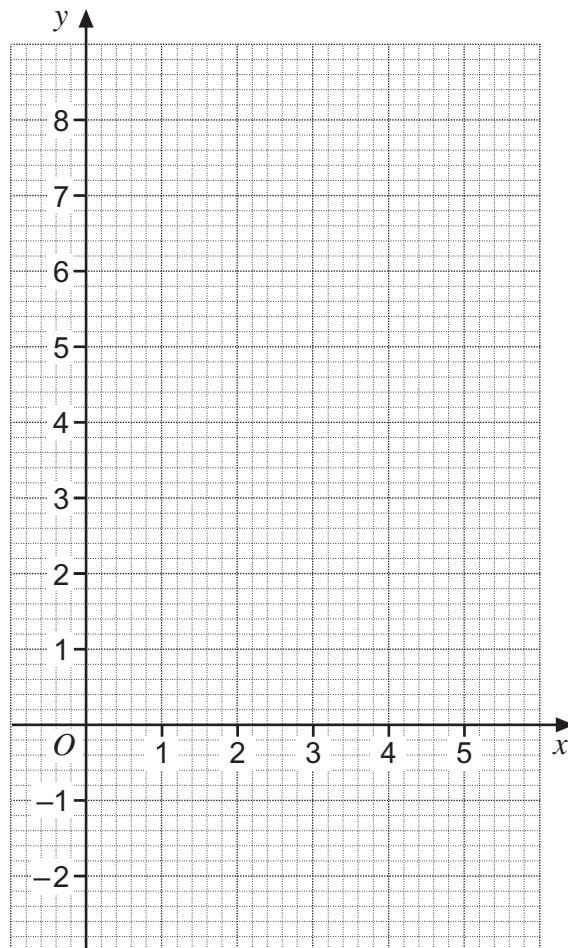


14 (a) Complete the table of values for  $y = 8 - 2x$

$x$	0	1	2	3	4	5
$y$	8		4		0	

(2 marks)

14 (b) On the grid below draw the graph of  $y = 8 - 2x$  for values of  $x$  between 0 and 5.



(2 marks)



15 (a) Circle the prime number in this list.

25          26          27          28          29

(1 mark)

15 (b) The number 39 can be written as the product of two prime numbers.

$$39 = 3 \times 13$$

Write **three** other numbers between 30 and 40 as the product of two prime numbers.

.....

.....

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.....

.....

Answer ..... = ..... × .....

..... = ..... × .....

..... = ..... × .....

(3 marks)



**\*16**

Here are three offers for a fridge freezer.

**Electric Supplies**



Usual price £250  
30% off

**New Homes**



Usual price £240  
 $\frac{1}{3}$  off

**Fridges for Us**



£50 deposit  
plus  
£20 a month for 6 months

Which offer is the cheapest?  
You **must** show your working.

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Answer ..... (6 marks)

10

Turn over ►



17 One day 460 people visit a zoo.

280 are adults.

The ratio of women to men is 4 : 3

180 are children.

$\frac{3}{5}$  of them are boys.

Jane says that altogether there were more females.

Show that she is correct.

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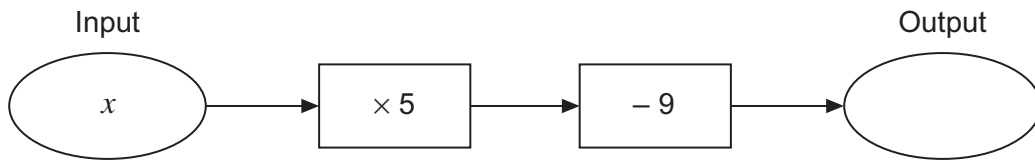
.....

(5 marks)



18

Here is a number machine.



The output is three times the input.

Work out the input  $x$ .

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$x =$  ..... (4 marks)

**END OF QUESTIONS**

**There are no questions printed on this page**

**DO NOT WRITE ON THIS PAGE  
ANSWER IN THE SPACES PROVIDED**

