Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
TOTAL	

General Certificate of Secondary Education
Foundation Tier
March 2012

Mathematics 43602F

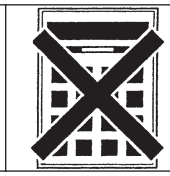
Unit 2

Wednesday 7 March 2012 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

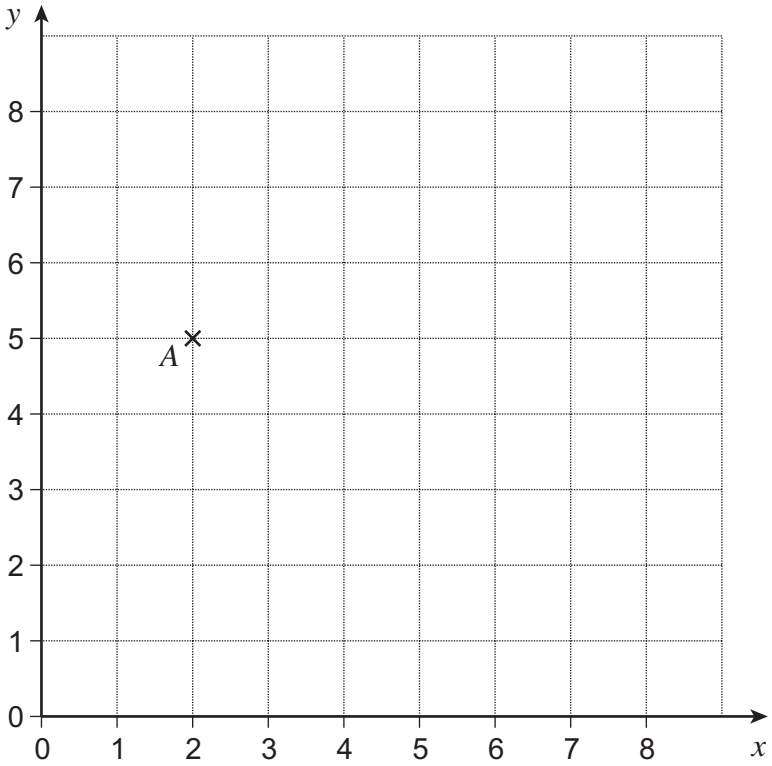
Instructions
- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this 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 4, 7 and 12. 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 booklet.

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

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

1 Point A is shown on the grid.



1 (a) Write down the coordinates of A.

Answer (..... , ...) *(1 mark)*

1 (b) Plot point B (8,1) on the grid.

(1 mark)

1 (c) Work out the coordinates of the midpoint of AB.

Answer (..... , ...) *(2 marks)*

2 (a) Circle the **two** multiples of 7

6 10 16 21 25 27 32 35

(2 marks)

2 (b) Circle the **two** factors of 30

6 10 16 21 25 27 32 35

(2 marks)

2 (c) Circle the **two** square numbers.

6 10 16 21 25 27 32 35

(2 marks)

3 Work out 321 – 123

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Answer ..... *(2 marks)*

12

***4** Mr and Mrs Jones and their two children go to the cinema.

Ticket Prices		
Single tickets	Adult	£9.25
	Child	£5.50
Family ticket	2 adults and 2 children	£25.00

Mr Jones buys the family ticket instead of single tickets.

How much does he save?

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Answer £ ..... *(4 marks)*

5 Two numbers add up to 200.
The difference between the numbers is 30.

Work out the numbers.

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

6 Here is a sequence.

8 14 20 26 32 …… ……

6 (a) Write down the rule for continuing the sequence.

.....

Answer ..... *(1 mark)*

6 (b) Write down the next **two** numbers in the sequence.

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

6 (c) The 50^{th} term in the sequence is 302.

What is the 48^{th} term in the sequence?

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Answer ..... *(2 marks)*

Turn over for the next question

10

***7** Amie buys

a book	for £5.99
a newspaper	for £1.80
3 pens	for 27p each.

She only has a £10 note.

How much change should she receive?
You **must** show your working.

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Answer £ ..... *(4 marks)*

8 In each part, circle the odd one out.
Give a reason for your answer.

8 (a) 75% $\frac{3}{4}$ 0.75 7.5

Reason .....

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(1 mark)

8 (b) $\frac{2}{6}$ $\frac{4}{10}$ $\frac{6}{18}$ $\frac{8}{24}$

Reason .....

.....

(1 mark)

8 (c) $\sqrt{64}$ $\sqrt{81}$ $\sqrt{125}$ $\sqrt{144}$

Reason .....

.....

(1 mark)

8 (d) 11 13 15 17

Reason .....

.....

(1 mark)

8

9 Mel wants to make 20 pancakes.

She needs $\frac{1}{4}$ litre of milk to make 4 pancakes.

She has one litre of milk.

Does she have enough milk to make all the pancakes?
You **must** show your working.

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(3 marks)

10 Here are six number cards.

–7	–5	–3	–2	0	2

Sort the cards into three pairs so that each pair has the same total.

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☐ and ☐ Total = ……

☐ and ☐ Total = ……

☐ and ☐ Total = ……

(2 marks)

11 (a) Solve $\frac{y}{3} = 8$

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Answer y = ... *(1 mark)*

11 (b) Simplify fully $3c + 5d + 4c - 2d$

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Answer ..... *(2 marks)*

11 (c) Given that $P = 3e + 5f$

work out the value of P when $e = 4$ and $f = -2$

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Answer ..... *(2 marks)*

Turn over for the next question

10

***12** Which is bigger, 0.38 or $\frac{3}{8}$?

You **must** show your working.

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Answer ..... *(3 marks)*

13 (a) Write the number one hundred thousand as a power of 10.

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Answer ..... *(1 mark)*

13 (b) Work out the value of $\frac{2^3 \times 5^2}{10}$

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Answer ..... *(3 marks)*

14 Sophie spent $\frac{1}{4}$ of her pocket money on magazines.

Then she spent $\frac{2}{3}$ of what she had left on a present.

She now has £6.

How much pocket money did she start with?

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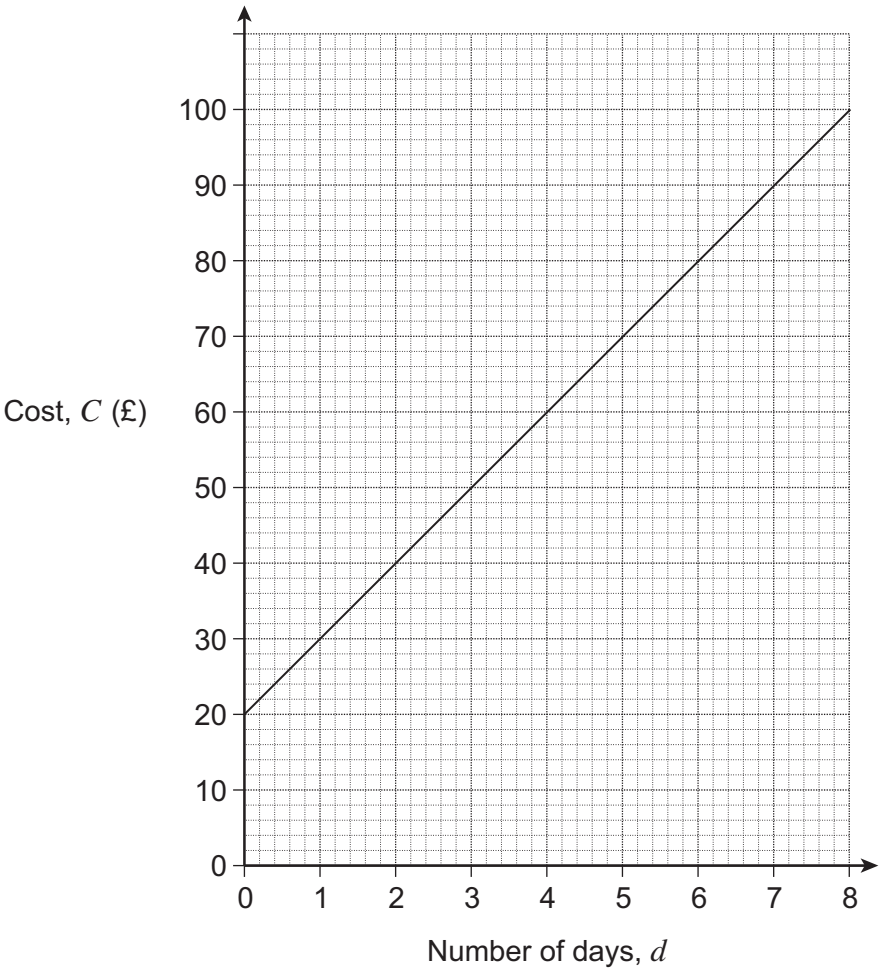
Answer £ ..... *(4 marks)*

Turn over for the next question

11

Turn over ▶

15 The graph shows the cost, C (£), of hiring a car for d days from Roy's Rentals.



15 (a) Circle the correct formula for hiring a car from Roy's Rentals.

$C = 20d + 100$ $C = 10d + 20$ $C = 20d + 10$ $C = 5d + 20$

(1 mark)

15 (b) The cost of hiring a car from First Cars is given by the formula $C = 8d + 30$

Plot the graph of $C = 8d + 30$ on the grid opposite.

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(2 marks)

15 (c) Toby wants to hire a car for 7 days.

Which of these firms should he use?
Give a reason for your answer.

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(2 marks)

Turn over for the next question

5

16 (a) Solve $\frac{12 - x}{3} = 5$

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Answer x = ... *(3 marks)*

16 (b) Rearrange this formula to make t the subject.

$s = 3t + 4$

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Answer t = ... *(2 marks)*

17 A market trader bought 100 loaves at 84p each
60 packs of muffins at £1.10 per pack.

He sold all 100 loaves at £1.20 each
40 of the packs of muffins at £1.60 per pack.

His target is to make 40% profit altogether.
He sells the remaining 20 packs of muffins at a reduced price.

For how much should he sell each of the remaining packs of muffins to meet his target?
You **must** show your working.

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Answer £ ..... *(5 marks)*

END OF QUESTIONS

10

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED