Centre Number						Candidate Number				
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Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
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TOTAL	

General Certificate of Secondary Education
Foundation Tier
June 2012

Mathematics 43602F

Unit 2

Monday 11 June 2012 1.30 pm to 2.45 pm

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 and 7. 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 down **two** multiples of 5.

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

1 (b) Write down **two** factors of 18.

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

1 (c) Write down **two** square numbers that are greater than 10 but less than 50.

.....

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

2 Estimate the value of 29.6×5.2

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.....

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

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

3 (a) $\square + 28 = 45$

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(1 mark)

3 (b) $100 - \square = 45$

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(1 mark)

3 (c) $5 \times \square = 45$

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(1 mark)

3 (d) $\square \div 4 = 45$

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(1 mark)

10

***4** Naomi sees this offer.

Soup	
Normal price	85p per tin
Special offer	3 tins for the price of 2

She buys six tins of soup using the special offer.

How much cheaper is this than paying the normal price?

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Answer £ ..... *(3 marks)*

5 (a) Circle the number one thousand two hundred

120 1200 12 000 120 000 1 200 000

(1 mark)

5 (b) Circle the number one hundred and twenty thousand

120 1200 12 000 120 000 1 200 000

(1 mark)

5 (c) Circle the number which has the same value as one million.

10^3 10^4 10^5 10^6 10^7

(1 mark)

6 (a) Write 80% as a decimal.

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

6 (b) Write 0.7 as a fraction.

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

6 (c) Write $\frac{3}{4}$ as a decimal.

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

6 (d) Write 80%, 0.7 and $\frac{3}{4}$ in order with the smallest first.

.....

.....

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

***7** Paul earns £3000 per month.
He can afford to pay up to 15% of this on rent.

Can he afford to rent a flat that costs £420 a month?
You **must** show your working.

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(4 marks)

14

8 (a) Solve $\frac{x}{5} = 10$

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

8 (b) Solve $2y - 3 = 8$

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.....

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

8 (c) Simplify fully $4m + 3p + m - 10p$

.....

.....

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

9 I am thinking of three **different** two-digit numbers.
The total of the numbers is 240.

What is the smallest possible value that one of the numbers could be?

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

10 A, B, C and D represent different numbers.
The total for each row is shown.

				Total
A	A	A	A	24
A	A	B	B	22
A	B	B	C	26
A	B	C	D	28

Work out the values of A, B, C and D.

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.....

.....

.....

A = ...

B = ...

C = ...

D = ...

(4 marks)

Turn over for the next question

12

11 Work out the value of $5x - 4y$ when $x = 3$ and $y = \frac{1}{2}$

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

12 n is a whole number.
Joe says that $n^2 - 1$ is never a multiple of 7.

Give an example to show that he is wrong.

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(2 marks)

13 Solve the inequality $3a + 5 \geqslant 2$

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

14 Steve buys 60 plants for £2.50 each.

He sells 25 of the plants for £5 each.
He sells 20 of the plants for £4 each.

He wants to make £100 profit.

What should he sell each of the remaining plants for?
You **must** show your working.

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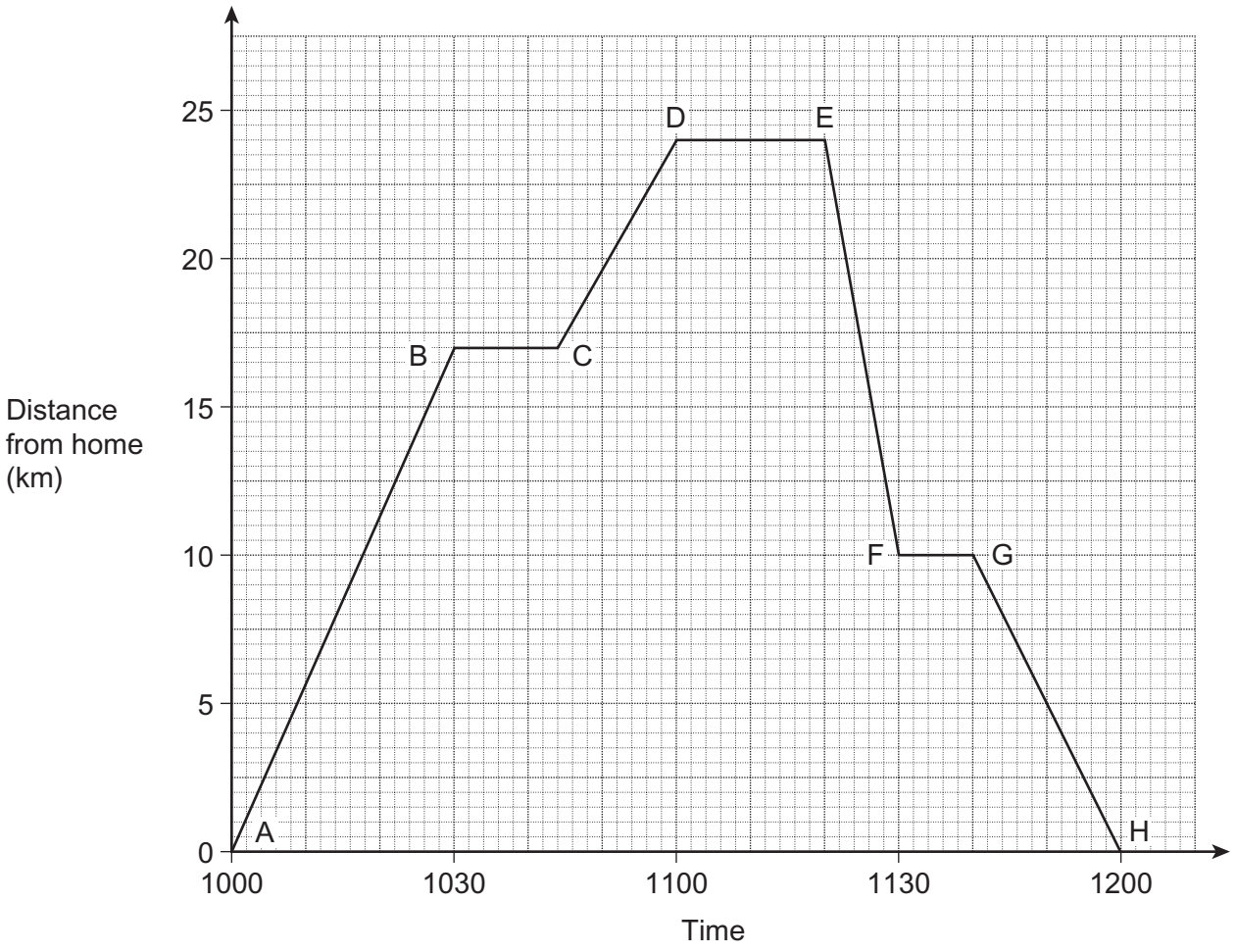
Answer £ ..... *(6 marks)*

Turn over for the next question

12

15 Amy leaves home in her car at 1000 and returns at 1200.
The graph shows her journey.



15 (a) How far does she travel in her car altogether?

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

15 (b) For how long does the car stop altogether?

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

15 (c) On which part of her journey is she travelling at the fastest speed?
Give a reason for your answer.

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(2 marks)

16 Here are some of the ingredients for a pie.

Minced lamb	450 g
Potatoes	900 g
Carrots	75 g
Stock	300 ml

Oliver has only 300 g of minced lamb.

How much of the other ingredients should he use?

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Potatoes ..... g

Carrots ..... g

Stock ..... ml *(3 marks)*

8

Turn over ▶

17 Expand $w(w + 6)$

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

18 (a) Write 126 as a product of prime factors.

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

18 (b) Work out the Highest Common Factor (HCF) of 72 and 126.

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

19 Alice has £4.
Billie has twice as much as Alice.

Billie has two-thirds of the amount Chris has.
The amount Chris has is four-fifths of his age in years.

How old is Chris?

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Answer ..... years *(4 marks)*

END OF QUESTIONS

10

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