

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
March 2011

Mathematics

43602F

Unit 2

Wednesday 9 March 2011 9.00 am to 10.15 am

F

<p>For this paper you must have:</p> <ul style="list-style-type: none"> mathematical instruments. <p>You must not 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 14. 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.



M A R 1 1 4 3 6 0 2 F 0 1

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

1 (a) Write the number 3840 in words.

Answer

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(1 mark)

1 (b) Write the number five thousand and twelve in figures.

Answer (1 mark)

1 (c) What is the value of the digit 4 in the number 8462?

Answer (1 mark)

1 (d) Write the number 2684 correct to the nearest 1000.

Answer (1 mark)

1 (e) Work out 500 – 358

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Answer (2 marks)

2 Ann's pay (£) is worked out using this formula.

$$\text{Pay} = \text{Number of hours worked} \times 12 + 30$$

Ann works for 20 hours.

Work out her pay.

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Answer £ (3 marks)



3 Here is a list of numbers.

7 10 16 23 27 47 60

From this list, write down

3 (a) the multiple of 8

Answer (1 mark)

3 (b) the factor of 30

Answer (1 mark)

3 (c) the number that is one-third of 69

Answer (1 mark)

3 (d) the cube number.

Answer (1 mark)

4 Anil, Ben, Chloe, Dave and Emma play a game.
Here is some information about the number of points they score.

- Anil scores 20 points.
- Ben scores 12 more points than Anil.
- Ben scores twice as many points as Chloe.
- Dave scores 11 fewer points than Ben.

The total number of points scored is 100.

How many points does Emma score?

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Answer (4 marks)



5 There are 12 cans in one pack of cola.
One pack costs £6.50

Josh buys ten packs.
He sells 90 of the cans for 80p each.
He sells the rest at half price.

How much profit does he make?

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Answer £ (5 marks)

6 (a) Solve $x + 3 = 7$

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Answer $x =$ (1 mark)

6 (b) Solve $2x + 5 = 1$

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Answer $x =$ (2 marks)



7 (a) (i) Write $\frac{1}{4}$ as a percentage.

Answer % (1 mark)

7 (a) (ii) Write 30% as a decimal.

Answer (1 mark)

7 (a) (iii) Write $\frac{1}{4}$, 30% and 0.2 in order with the smallest first.

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Answer (1 mark)

7 (b) Complete the following.

7 (b) (i) $\frac{2}{3} = \frac{\square}{18}$

(1 mark)

7 (b) (ii) $\frac{\square}{4} = \frac{15}{20}$

(1 mark)

7 (c) Work out $\frac{3}{8}$ as a decimal.

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Answer (2 marks)



8 Andy has some sweets.
He gives one-quarter of the sweets to Dan.
Dan eats five sweets and has one left.

How many sweets does Andy start with?

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Answer (2 marks)

9 (a) Here are the first two terms of a sequence.

5 4

The rule for finding the next term in the sequence is

Multiply the previous term by 2 and subtract 6

Work out the first negative term of the sequence.

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Answer (2 marks)

9 (b) Here are the first three terms of another sequence.

1 4 7

Which of the following is the n th term for this sequence?
Circle the correct answer.

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$n + 3$ $3n + 1$ $3n - 2$ $3n + 2$

(1 mark)



*10(a) (i) Simplify the expression $m \times 5$

Answer (1 mark)

10 (a) (ii) Simplify fully $2a + 5b + 3a - 2b$

Answer (2 marks)

10 (b) n represents an even number.

Explain why $(n + 1)(n - 1)$ is always odd.

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(2 marks)

11 (a) Circle **all** the prime numbers in this list.

3 6 7 9 10 13 15

(2 marks)

11 (b) n is a positive whole number.
 $6n - 1$ is **not** a prime number.

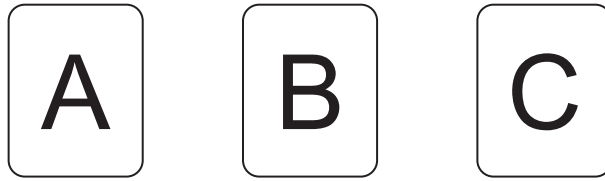
Work out a possible value for n .

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Answer (2 marks)



12 Here are three number cards.



There is a whole number on the back of each card.

The number on card A is three times the number on card B.
 The number on card C is twice the number on card A.
 The sum of the numbers on all three cards is 120.

Work out the number on each card.

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Answer A B C (3 marks)

13 Here is a list of ingredients.

Serves 4 people	
Bacon	50 g
Minced beef	450 g
Chopped tomatoes	400 g
Button mushrooms	100 g
Beef stock	125 ml

Marco is making a meal for 14 people using these ingredients.

Work out the number of grams of minced beef he needs.

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Answer g (3 marks)



***14** Bella wants to buy 12 tins of baked beans for a barbeque.
Two supermarkets have these special offers.

<p>PriceSave</p> <p>Baked beans Normal price 50 p</p> <p>Special offer 30% off all tins</p>
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<p>CostCut</p> <p>Baked beans Normal price 48 p</p> <p>Special offer Pay for 3 tins, get 1 free</p>
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Which is cheaper?
You **must** show your working.

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Answer (5 marks)

15 Use approximations to estimate the value of $\frac{10.13^2}{0.496}$

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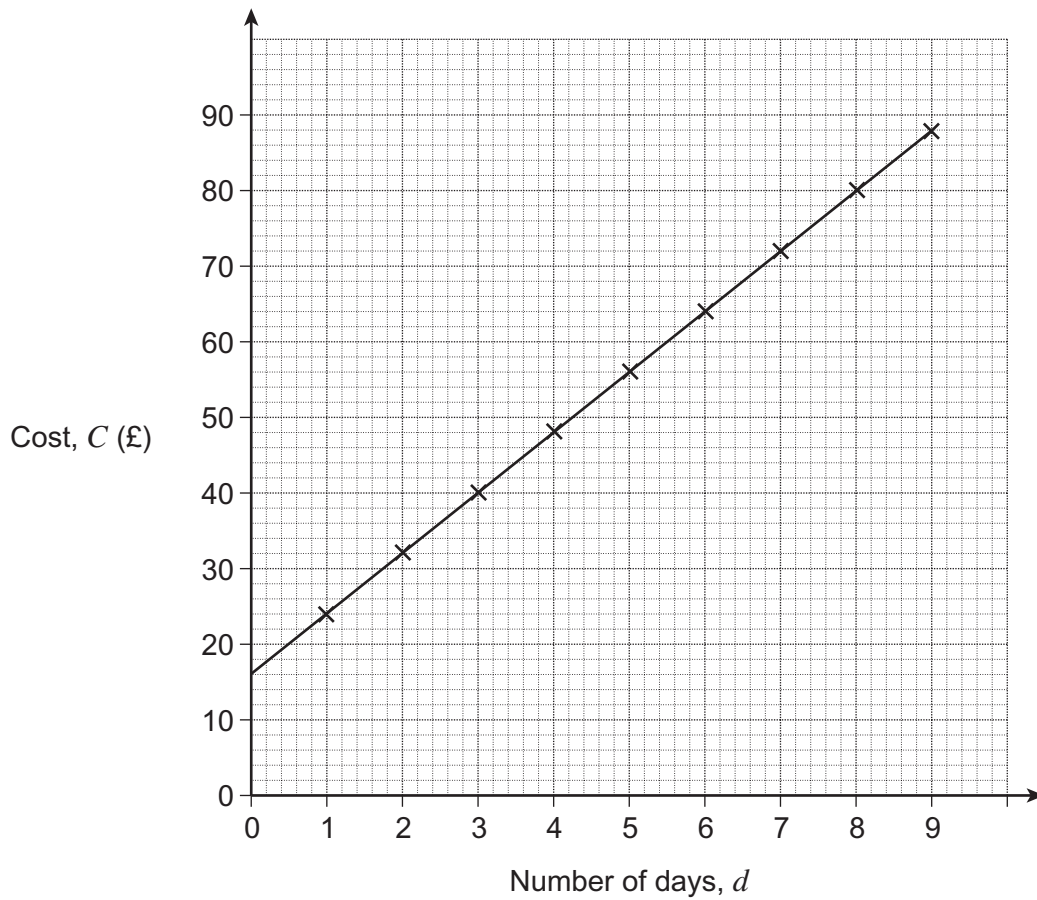
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Answer (2 marks)



- 16** The graph shows the cost, C (£), of hiring a circular saw from Branch Tool Hire for a number of days, d .



- 16 (a)** Circle the correct formula for the cost, C .

$$C = 24d$$

$$C = 8d + 24$$

$$C = 16d + 8$$

$$C = 8d + 16$$

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(1 mark)



16 (b) The cost of hiring a circular saw from Woods Tool Hire is given by the formula

$$C = 9d + 11$$

Sam thinks that Woods Tool Hire is always cheaper.

Is this true?

Tick a box.

Yes

No

Give reasons for your answer.

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(3 marks)

17 Concrete is made by mixing cement, sand and gravel in the ratio 1 : 2 : 4
A builder mixes 455 kg of concrete.

How much gravel does he need?

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Answer kg (3 marks)

END OF QUESTIONS

7



There are no questions printed on this page

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

