Write your name here

Surname	Other names

Edexcel GCSE

Centre Number	Candidate Number

Mathematics B

Unit 2: Number, Algebra, Geometry 1 (Non-Calculator)

Foundation Tier

Monday 5 March 2012 – Afternoon
Time: 1 hour 15 minutes

Paper Reference
5MB2F/01

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators must not be used.**

Information

- The total mark for this paper is 60
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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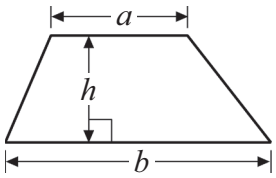
PEARSON

GCSE Mathematics 2MB01

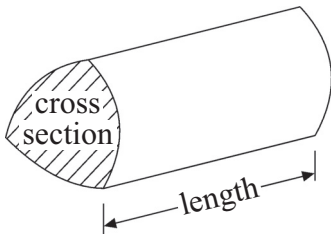
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1 (a) Write the number 8 million in figures.

.....

(1)

(b) Write the number 7102 in words.

.....

(1)

(c) Write the number 15.46 correct to one decimal place.

.....

(1)

(d) Write the number 421 correct to two significant figures.

.....

(1)

(Total for Question 1 is 4 marks)

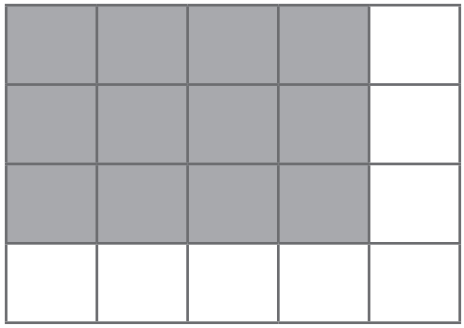
2 $a = 3$
$b = 5$

Work out the value of $4a + 2b$

.....

(Total for Question 2 is 2 marks)

3

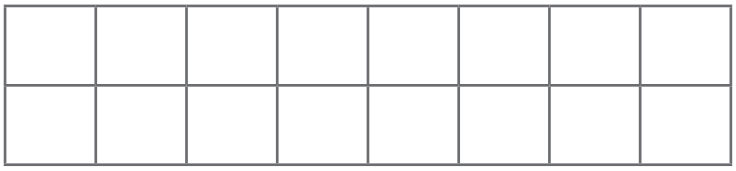


(a) What fraction of this shape is shaded?
Write your fraction in its simplest form.

.....

(2)

(b) Shade $\frac{3}{8}$ of this shape.



(1)

(Total for Question 3 is 3 marks)

4 (a) Write down the square of 8

.....

(1)

(b) Write down the value of 10^3

.....

(1)

(c) Estimate the value of $\sqrt{20}$

.....

(1)

(Total for Question 4 is 3 marks)

5 (a) Simplify $g + g + g + g + g$

.....

(1)

(b) Simplify $7m - 3m$

.....

(1)

(c) Simplify $4e \times 5f$

.....

(1)

(Total for Question 5 is 3 marks)

6 (i) Measure the length of PQ.

$PQ =$ ..... cm

(ii) Mark with a cross (×) the midpoint of the line PQ.

(iii) Draw a line perpendicular to the line PQ.

(Total for Question 6 is 3 marks)

7

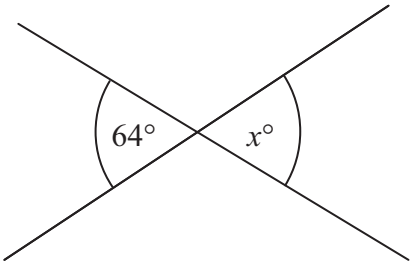


Diagram **NOT** accurately drawn

(i) Find the value of x.

$x =$ .....

(ii) Give a reason for your answer.

.....

.....

(Total for Question 7 is 2 marks)

8 (a) Write down all the factors of 18

.....

(2)

Here is a list of numbers.

20 21 22 23 24 25 26 27 28 29

(b) From the list, write down all the multiples of 7

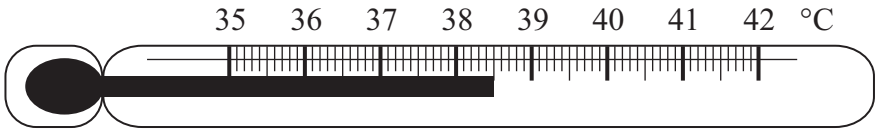
.....

(1)

(Total for Question 8 is 3 marks)

9 Mason is ill.

The diagram shows Mason's body temperature, in °C, on a thermometer.



Normal body temperature is 36.8 °C.

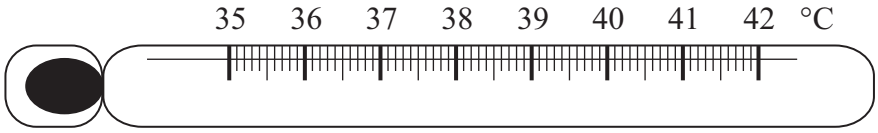
(a) Work out the difference between Mason's body temperature and normal body temperature.

..... °C

(2)

Mason's body temperature drops by 1.2 °C.

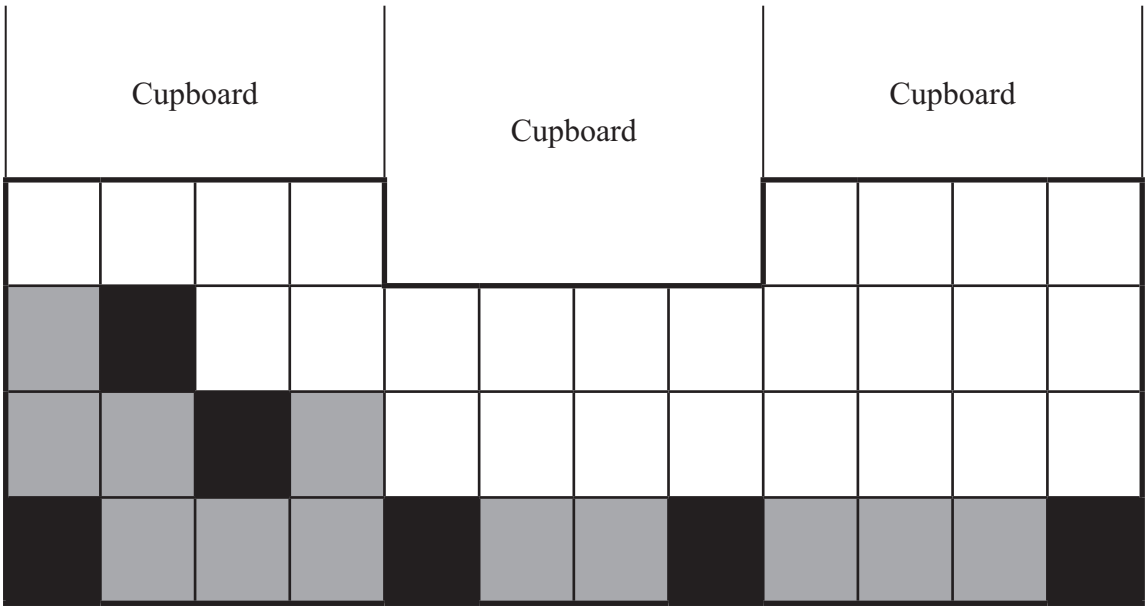
(b) Show Mason's new body temperature on the thermometer below.



(1)

(Total for Question 9 is 3 marks)

10 The diagram shows a partly tiled wall.



Alfie is tiling the wall with black and grey tiles.
He is going to use a total of 10 black tiles.

Alfie is going to make a symmetrical pattern with the tiles.

(a) (i) On the diagram, show where Alfie could put the 4 black tiles he has left.

(ii) Work out the total number of grey tiles that Alfie uses to tile the wall.

.....

(3)

Alfie has 4 boxes of grey tiles and 1 box of black tiles.
Each box of tiles costs £6.20

(b) Work out the total cost of the tiles.

£ .....

(2)

(Total for Question 10 is 5 marks)

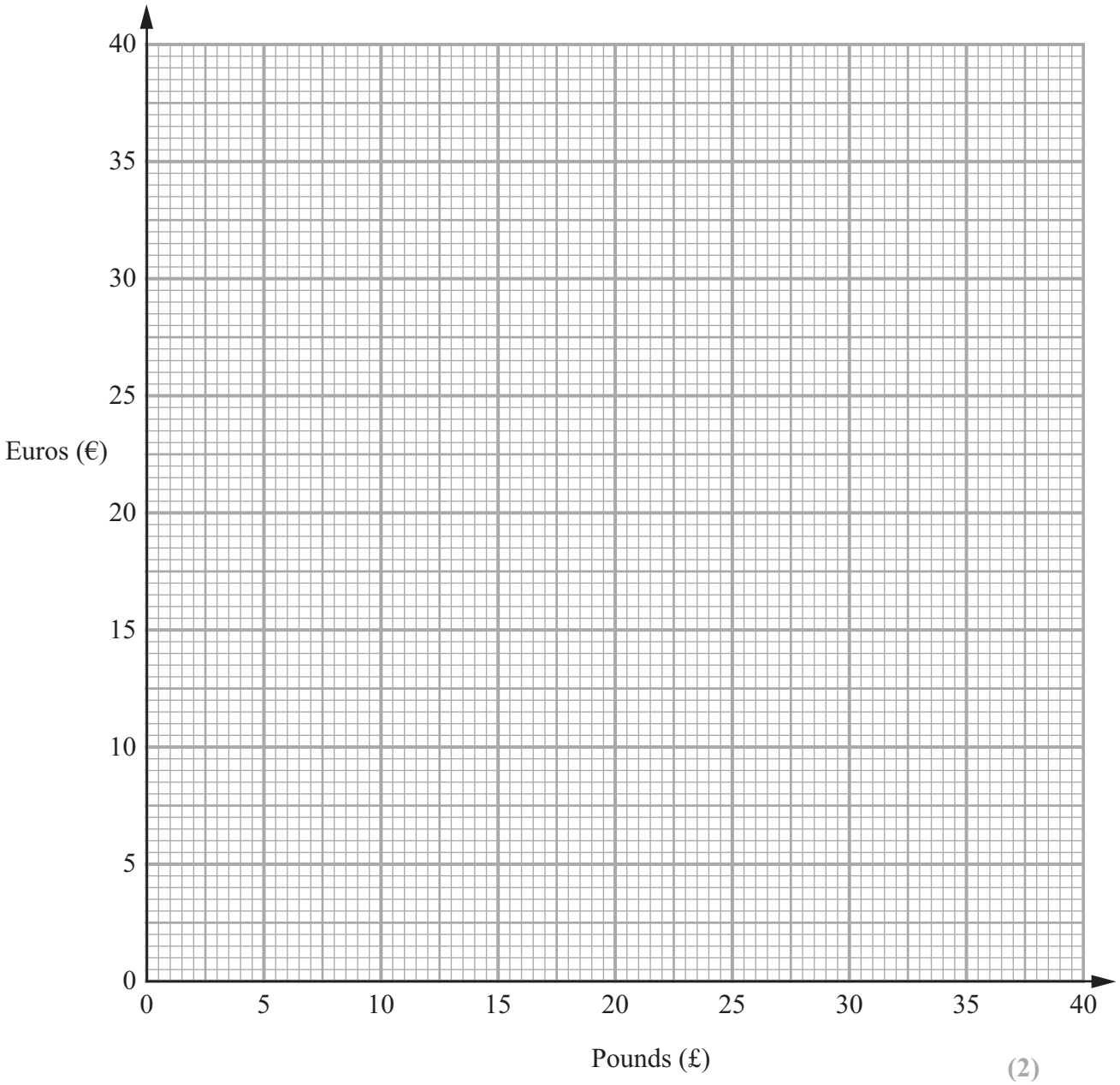
11 The exchange rate for pounds (£) to euros (€) is £1 = €1.20

(a) Complete the table of values.

£	0	1	5	10	15	20	25	30
€		1.20	6			24	30	

(2)

(b) On the grid, draw a conversion graph for pounds (£) to euros (€).



(2)

Louise changes £250 into euros.

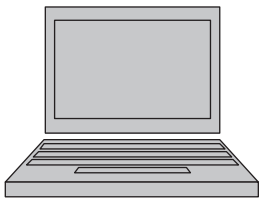
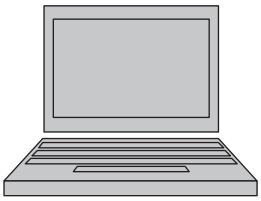
(c) Work out how many euros Louise should get.

..... euros

(2)

(Total for Question 11 is 6 marks)

*12 Daniel wants to buy a laptop.
Two shops sell the same make of laptop.

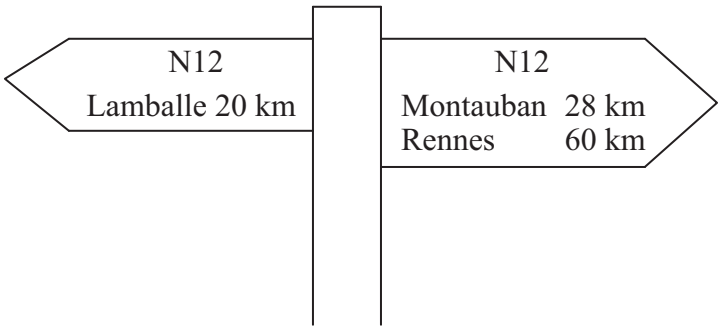
Arnold's Computers	Laptop World
£630	
	
Special offer: 1/3 off all prices	Pay £100 plus 12 monthly payments of £30

Daniel wants to pay the least amount of money for his laptop.

Which of the two shops should Daniel buy the laptop from?
You must show all of your working.

(Total for Question 12 is 4 marks)

13 Caroline is driving her car in France.
She sees this road sign.



(a) Work out the distance between Lamballe and Montauban on the N12

..... km

(1)

Caroline is going to Rennes on the N12
She stops driving 10 miles from the road sign.

(b) Work out how much further Caroline has to drive to get to Rennes.

.....

(3)

(Total for Question 13 is 4 marks)

14 Here are the first five terms of an arithmetic sequence.

2 7 12 17 22

(a) (i) Find the next term of this sequence.

.....

(ii) Explain how you found your answer.

.....

.....

(2)

(b) Write down an expression, in terms of n, for the nth term of the sequence.

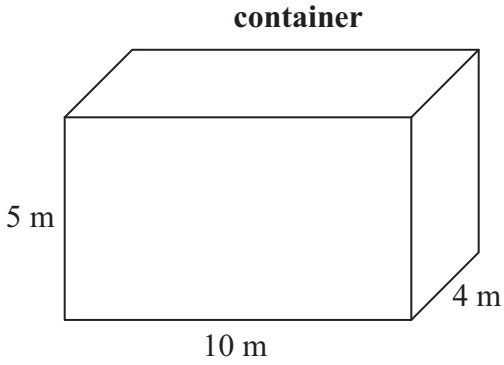
.....

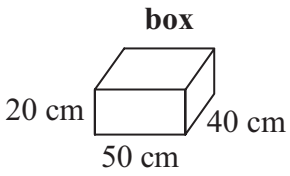
(2)

(Total for Question 14 is 4 marks)

*15 Marc drives a truck.
The truck pulls a container.
The container is a cuboid 10 m by 4 m by 5 m.

Diagram **NOT** accurately drawn





Marc fills the container with boxes.
Each box is a cuboid 50 cm by 40 cm by 20 cm.

Show that Marc can put no more than 5000 boxes into the container.

(Total for Question 15 is 4 marks)

16 Here is a list of ingredients needed to make 12 scones.

Ingredients for 12 scones

220 g self-raising flour
40 g butter
150 m*l* milk
2 tablespoons sugar

Viv is making scones for 15 people.
She is making 2 scones for each person.

Work out the amount of each ingredient she needs.

Self-raising flour ..... g

Butter ..... g

Milk ..... m*l*

Tablespoons of sugar .....

(Total for Question 16 is 3 marks)

*17

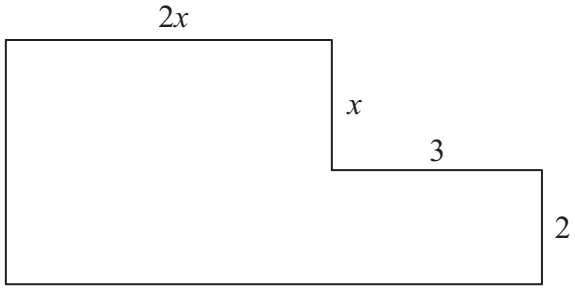


Diagram **NOT** accurately drawn

In the diagram, all measurements are given in centimetres.
All angles are right angles.

Show that the perimeter of the shape can be written as $2(3x + 5)$.

(Total for Question 17 is 4 marks)

TOTAL FOR PAPER IS 60 MARKS

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