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

Friday 12 November 2010 – Morning
Time: 1 hour 15 minutes

Paper Reference
5MB2F/01

You must have:
Ruler graduated in centimetres and millimetres, protractor, 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
  – *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

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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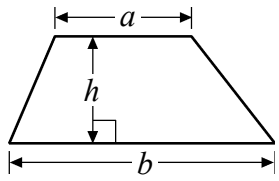
GCSE Mathematics 2MB01

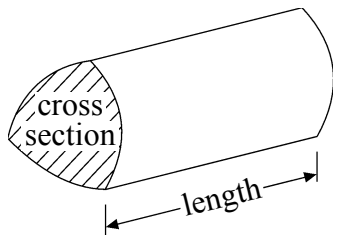
Formulae: Foundation Tier

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.

1 (a) Write the number **three thousand one hundred and nine** in figures.

.....

(1)

(b) Write down the value of the 6 in the number 23.469

.....

(1)

(c) Write the number 4261 correct to the nearest hundred.

.....

(1)

(Total for Question 1 is 3 marks)

2 Mr Morris is going to take his family to the zoo.

Ticket prices (per person)	
Adult	£16.50
Child (3 – 14)	£13.50
Child (under 3)	free

Mr Morris wants to buy tickets for two adults and two children aged 2 and 4

(a) How much in total will the tickets cost?

£ .....

(2)

Mr Morris pays with three £20 notes.

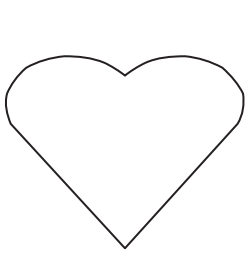
(b) How much change should he get?

£ .....

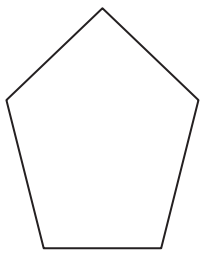
(2)

(Total for Question 2 is 4 marks)

3 Here are five shapes.



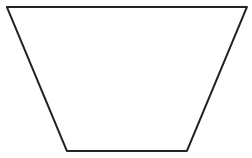
A



B

C

D



E

One of these shapes is a parallelogram.

(a) Write down the letter of this shape.

.....

(1)

One of these shapes has exactly **two** lines of symmetry.

(b) Which shape?

.....

(1)

(c) Write down the order of rotational symmetry of shape **C**.

.....

(1)

(Total for Question 3 is 3 marks)

4 (a) Write $\frac{1}{4}$ as a decimal.

.....

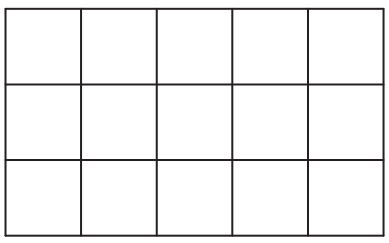
(1)

(b) Write the fraction $\frac{18}{24}$ in its simplest form.

.....

(1)

(c) Shade $\frac{3}{5}$ of this shape.



(1)

(Total for Question 4 is 3 marks)

5 Here are some patterns made from sticks.

Pattern number 1 Pattern number 2 Pattern number 3

(a) Draw Pattern number 4 in the space below.

(1)

(b) How many sticks are needed for Pattern number 12?

.....

(2)

Sunil says that he will need 70 sticks for Pattern number 20

(c) Is Sunil correct?
You must give a reason for your answer.

.....

.....

.....

(2)

(Total for Question 5 is 5 marks)

6 Here is a list of eight numbers

4 5 25 29 30 33 39 40

From the list, write down

(i) a factor of 20

.....

(ii) a multiple of 10

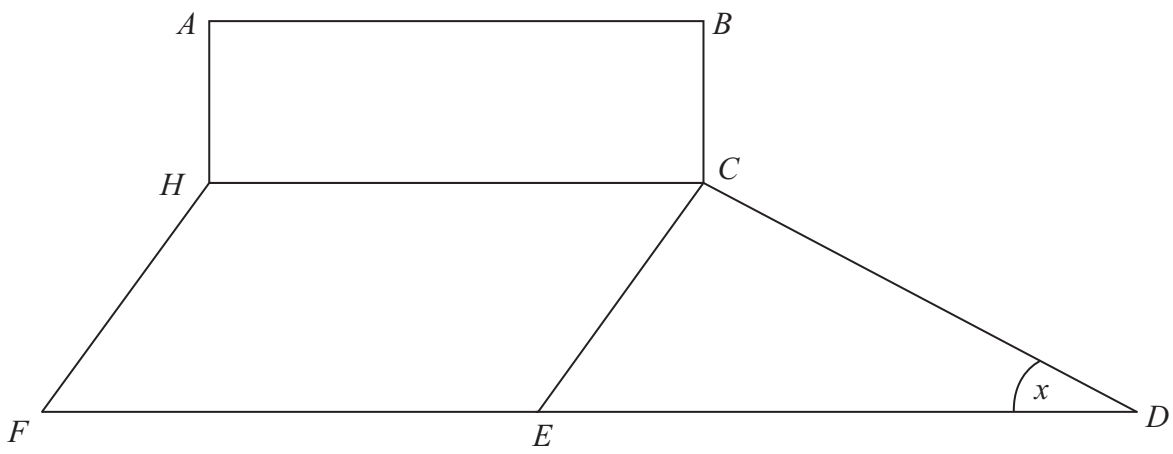
.....

(iii) the prime number that is greater than 15

.....

(Total for Question 6 is 3 marks)

7 The diagram shows a rectangle, a parallelogram and a triangle.



(a) Mark with arrows (>>) a pair of parallel lines.

(1)

(b) What type of angle is the angle marked x ?

.....

(1)

(c) Mark the angle HCE with the letter y.

(1)

(Total for Question 7 is 3 marks)

8 At midnight the temperature was –9°C.
By 10 am, the temperature had risen by 8°C.

(a) Work out the temperature at 10 am.

..... °C
(1)

At midday the temperature was 5°C.

(b) Work out the difference between the temperature at midnight
and the temperature at midday.

..... °C
(2)

On another day

the temperature at midnight was –7°C,
the temperature at 10 am was –1°C and
the temperature at midday was 3°C.

Jenny says that, on this day, the temperature at 10 am is halfway between the temperatures at midnight and at midday.

(c) Is Jenny correct?
You must give a reason for your answer.

.....

.....

.....

(2)

(Total for Question 8 is 5 marks)

***9** Jerry is making some shelves.
He needs
5 pieces of wood of length 65 cm
2 pieces of wood of length 110 cm.

The wood is sold in three different lengths.
Information about these lengths is shown in the table.

Length	**Cost**
100 cm	£21
150 cm	£25
180 cm	£28

Jerry wants to pay as little money as possible.
How much will Jerry have to pay?

You must show your working.

(Total for Question 9 is 4 marks)

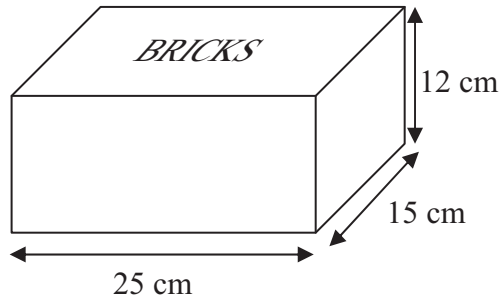
***10** A company makes building bricks for children.
The bricks are all 5 cm cubes.

The bricks are going to be packed in boxes.

John designs a box for the bricks.
The box is a cuboid.

The size of the box is 25 cm by 15 cm by 12 cm.

Will the box be big enough for 36 bricks?
You must give reasons for your answer.



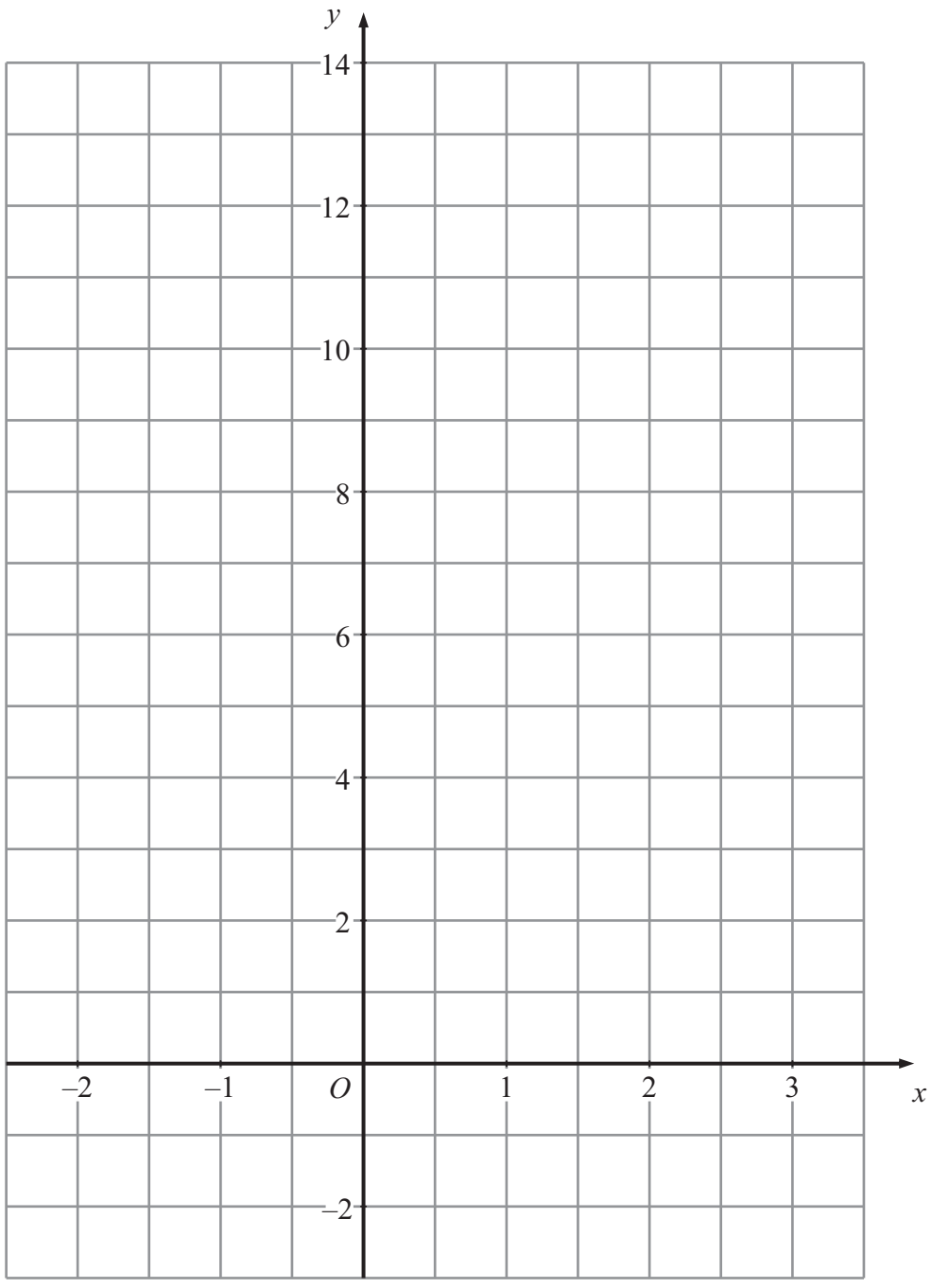
(Total for Question 10 is 4 marks)

11 (a) Complete the table of values for $y = 3x + 4$

x	–2	–1	0	1	2	3
y		1				13

(2)

(b) On the grid, draw the graph of $y = 3x + 4$



(2)

(Total for Question 11 is 4 marks)

12 Sarah goes to the gym on her way to work.
The table shows what she wants to do before arriving at work.

Activity	**Time (mins)**
Drive from home to gym	10
Exercise at gym	45
Shower and change	20
Drive from gym to work	25

She has to arrive at work at 08 50

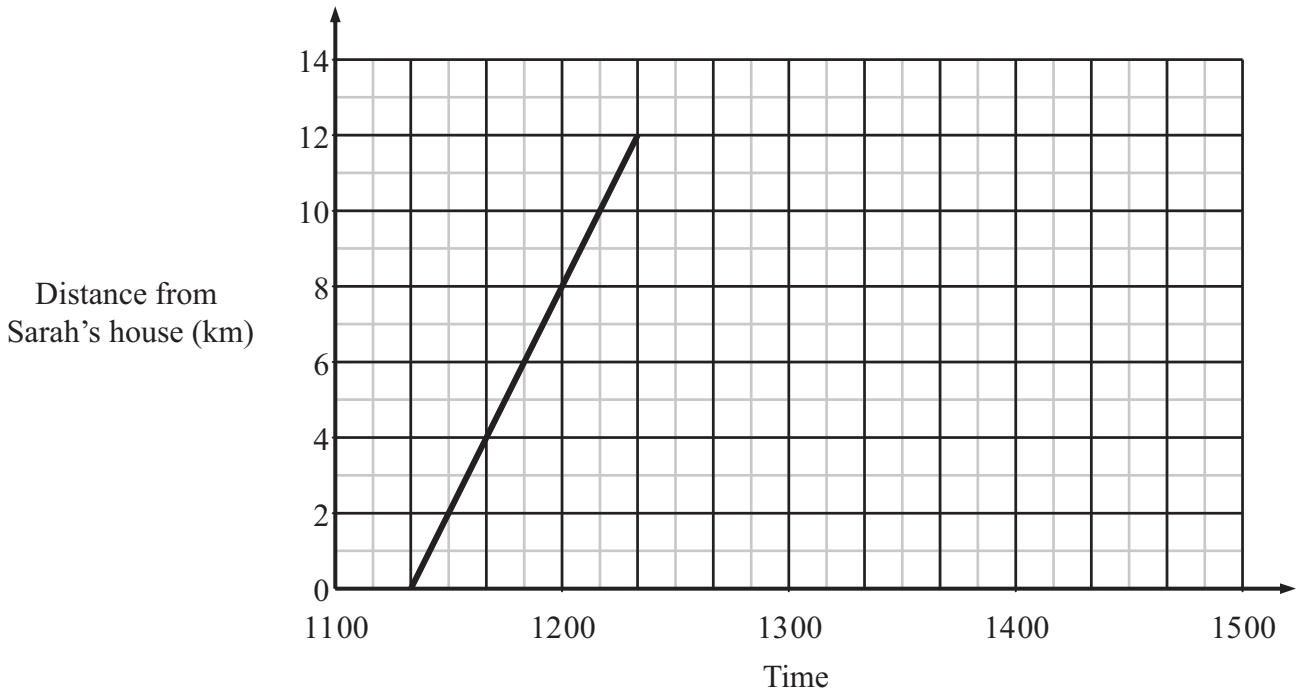
(a) What is the latest time she can leave home?

.....

(3)

Each Saturday, Sarah cycles from her house to the gym.

The travel graph shows Sarah's journey to the gym.



(b) What time does she leave home?

.....

(1)

(c) How far is the gym from Sarah's house?

..... km

(1)

Sarah stays at the gym for $1\frac{1}{2}$ hours.

She then cycles back to her house at 18 km/h.

(d) Complete the travel graph.

(3)

(Total for Question 12 is 8 marks)

13

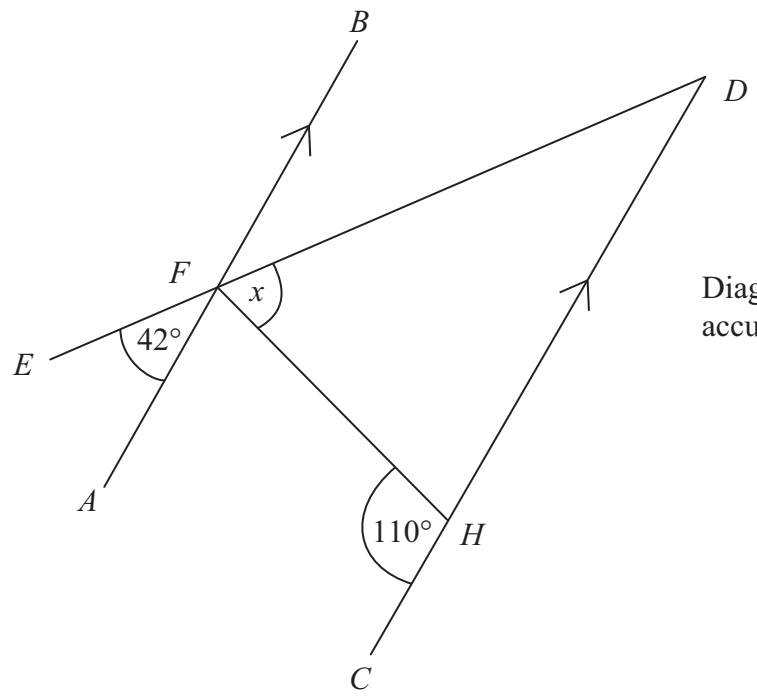


Diagram **NOT** accurately drawn

AFB and *CHD* are parallel lines.
EFD is a straight line.

Work out the size of the angle marked *x*.

x = ... °

(Total for Question 13 is 3 marks)

14 (a) Simplify $m + m + m + m + m + m$

.....

(1)

(b) Simplify $x^7 \times x^5$

.....

(1)

(c) Factorise $3y^2 + 2y$

.....

(1)

(Total for Question 14 is 3 marks)

15 Last year, Jora spent

30% of his salary on rent

$\frac{2}{5}$ of his salary on entertainment

$\frac{1}{4}$ of his salary on living expenses.

He saved the rest of his salary.

Jora spent £3600 on living expenses.

Work out how much money he saved.

£ .....

(Total for Question 15 is 5 marks)

TOTAL FOR PAPER IS 60 MARKS

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