

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

Mathematics B

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

Sample Assessment Material

Time: 1 hour 15 minutes

Paper Reference

5MB2/2F**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.

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Turn over

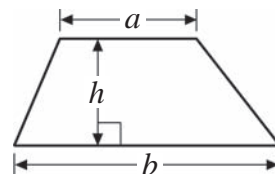
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GCSE Mathematics 2MB01

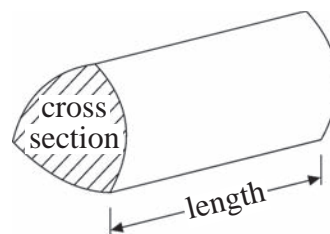
Formulae: Foundation Tier

**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 \times length



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 This is part of a list of TV programmes for one evening.



- 18 00 Tikkabilla
- 18 30 Teletubbies
- 19 00 Lunar Jim
- 19 10 Kerwhizz
- 19 35 Lazy Town
- 20 00 ChuckleVision
- 20 15 Arthur
- 20 30 Richard Hammond's Blast Lab

(a) Which TV programme lasts for 10 minutes?

(1)

.....

Brian turned on his TV set at 19 40

(b) How many minutes did Brian have to wait for the start of Arthur?

(1)

..... minutes

Richard Hammond's Blast Lab lasts for 45 minutes.

(c) At what time did Richard Hammond's Blast Lab end?

(1)

.....

(Total for Question 1 = 3 marks)

2 (a) Simplify $y + y + y + y + y$

(1)

(b) Simplify $x + 5 + 2x - 7$

(2)

(Total for Question 2 = 3 marks)

- 3 The table gives information about the temperatures at midnight on New Year's Eve in 5 capital cities.

City	Temperature
London	-3°C
Madrid	7°C
Oslo	-11°C
Washington DC	1°C
Wellington	14°C

In Oslo, the temperature dropped by 8 degrees from midday to midnight.

- (a) What was the temperature in Oslo at midday?

(1)

At midnight on New Year's Eve in Paris, the temperature was halfway between the temperature in London and the temperature in Madrid.

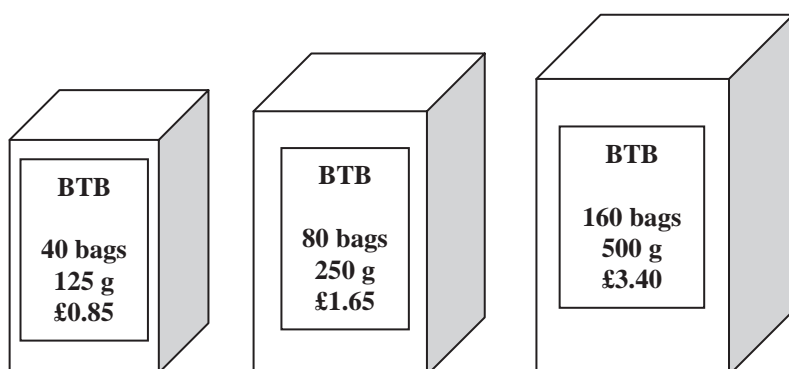
- (b) What was the temperature in Paris?

You must show your working.

(2)

(Total for Question 3 = 3 marks)

4 The diagrams show three different size packets of Brew Tea Bags (BTB).



Diagrams **NOT**
accurately drawn

Tommy buys 200 bags of Brew Tea Bags (BTB).
Tommy pays with a £10 note.

* (a) Which packets should Tommy buy to leave him with the most change from £10?

You must show your working.

(4)

A supermarket shelf has room for just 72 small packets of Brew Tea Bags (BTB).
On Tuesday morning, when the supermarket opens, there are 57 packets on the shelf.
During the day,

125 packets are sold and

2 cartons, each containing 48 packets, are used to keep the shelf stocked up.

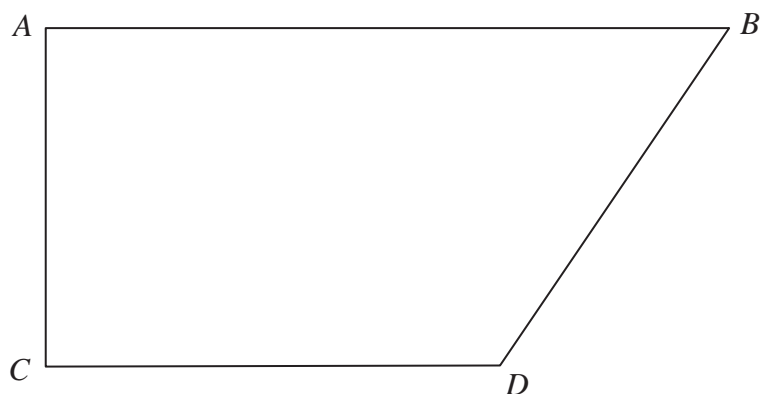
(b) Is there any space on the shelf to unpack another carton of 48 packets?

You must show your working.

(3)

(Total for Question 4 = 7 marks)

5 This is an accurately drawn quadrilateral.



(a) Write down the mathematical name of this quadrilateral.

(1)

.....

(b) Which line is perpendicular to the line CD ?

(1)

.....

(c) Measure the length of the line AC .

(1)

.....

(d) Measure the size of the angle ABD .

(1)

.....

(Total for Question 5 = 4 marks)

6 Here is a list of numbers.

2 4 8 12 16 20 32 40

From the list,
write down all the numbers which are **not** factors of 32

.....

(Total for Question 6 = 2 marks)

7 (a) Draw all the lines of symmetry of this shape.

(1)



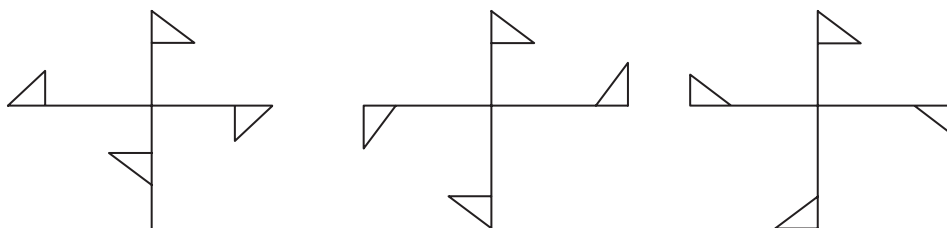
(b) Which of these shapes has rotational symmetry?

(1)

A

B

C

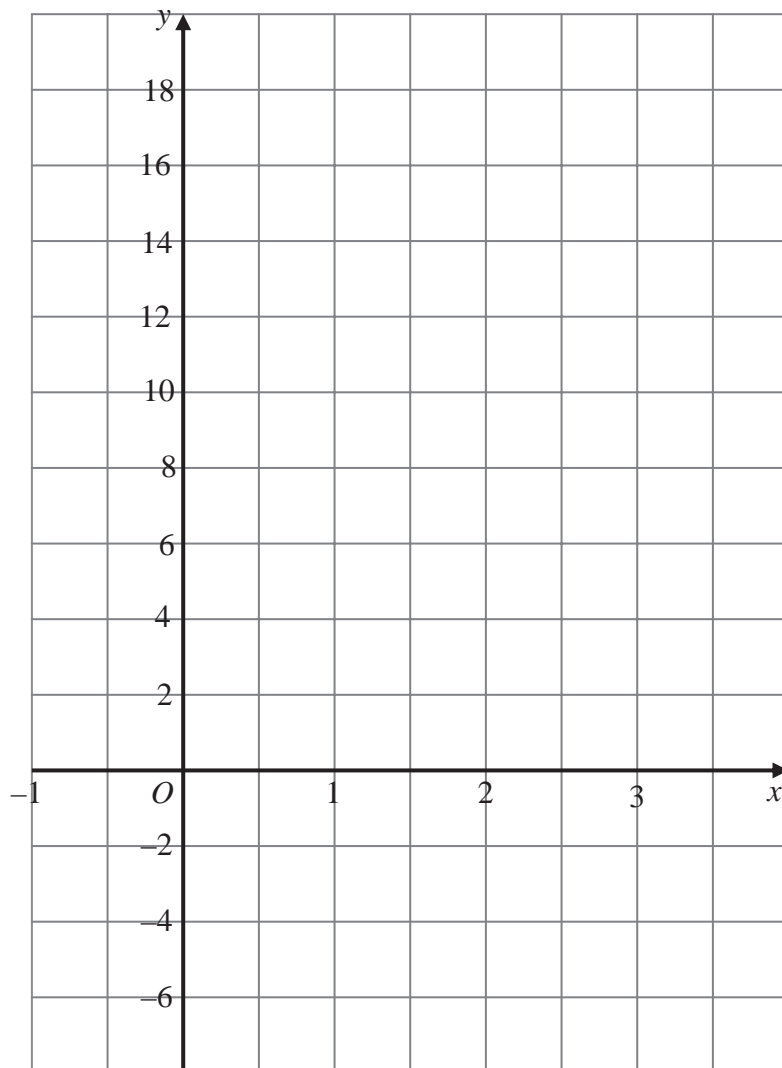


(c) In the space below, draw a shape that has line symmetry and rotational symmetry order 3.

(2)

(Total for Question 7 = 4 marks)

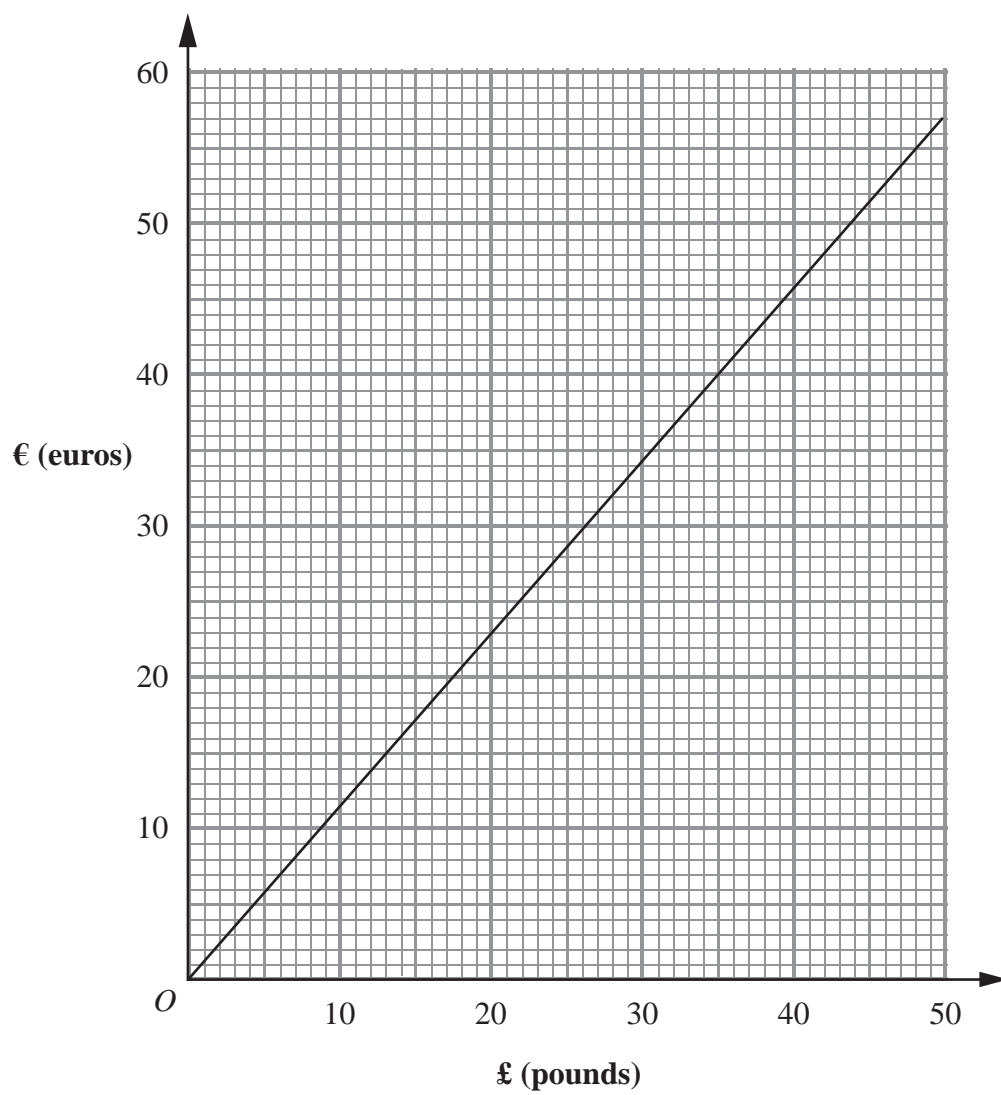
8 On the grid, draw the graph of $y = 5x + 1$ from $x = -1$ to $x = 3$



(Total for Question 8 = 3 marks)

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9 This is a graph that can be used to convert between £ (pounds) and € (euros).



This is part of a clipping from a newspaper showing the exchange rates for some countries.

UK	£1 =
Australia	1.91 dollars
Brazil	3.01 rials
China	11.16 yen
Canada	1.76 dollars
Euro	
Hong Kong	
Japan	

(a) The exchange rate for the euro has been smudged.
Find an estimate for the exchange rate for the euro.

(2)

.....

Ali wishes to buy a villa in Spain.
She has a budget of £150 000
In a brochure she sees these three villas.

Villa A

€155 000

Villa B

€170 000

Villa C

€200 000

(b) Which of these three villas can Ali afford to buy?
You must show your working.

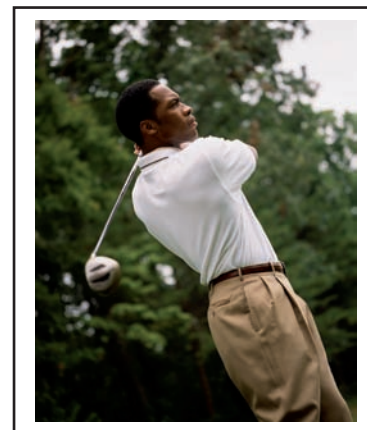
(3)

.....

(Total for Question 9 = 5 marks)

***10** The table shows the membership and annual fees of a local golf club.

	Full members	Weekday members	Lady members	Junior members
Number of members	243	64	77	36
Annual Fee	£600	£300	£250	£120



The club needs to raise £7200 to refurbish the clubhouse next year.

In the committee meeting, the club Captain suggests that the fee for each full member next year should be increased by 5%.

The club President says that next year each member should pay an extra £18

Which is the better suggestion?

You must show all your working.

(Total for Question 10 = 5 marks)

11 $p = 2^4 \times 2^3$

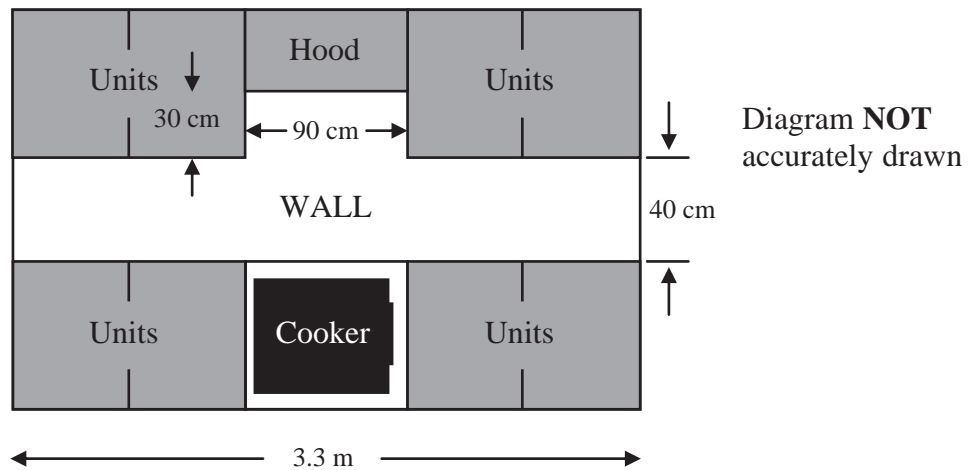
$$q = 2^5$$

Work out the value of $\frac{p}{q}$

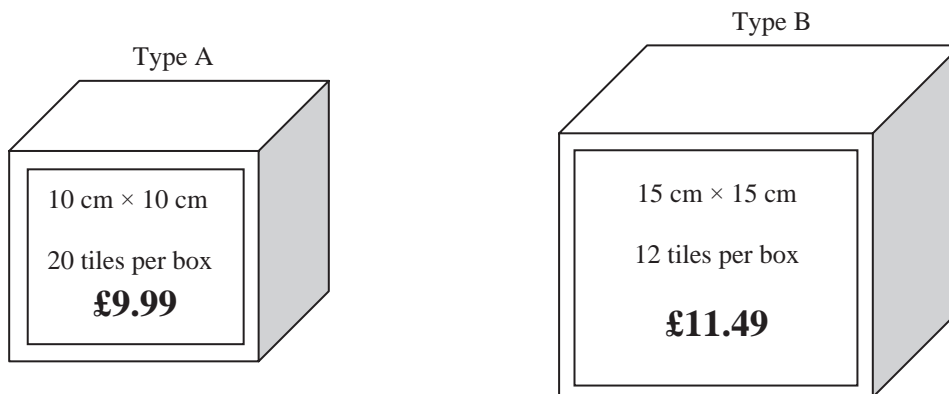
You must show your working.

.....
(Total for Question 11 = 2 marks)

*12 The diagram shows a wall in Jenny's kitchen.



Jenny wishes to tile this wall in her kitchen.
She chooses between the two types of tile shown below.



Which tiles should Jenny use to spend the least amount of money on tiling the wall?
You must show all of your working.

(Total for Question 12 = 6 marks)

13 (a) Factorise fully $8p^2q + 12p$

(2)

(b) Expand and simplify $5 - 2(m - 3)$

(2)

.....
(Total for Question 13 = 4 marks)

14 Here are the first 5 terms of an arithmetic sequence.

5 8 11 14 17

(a) Write down an expression, in terms of n , for the n th term of this sequence.

(2)

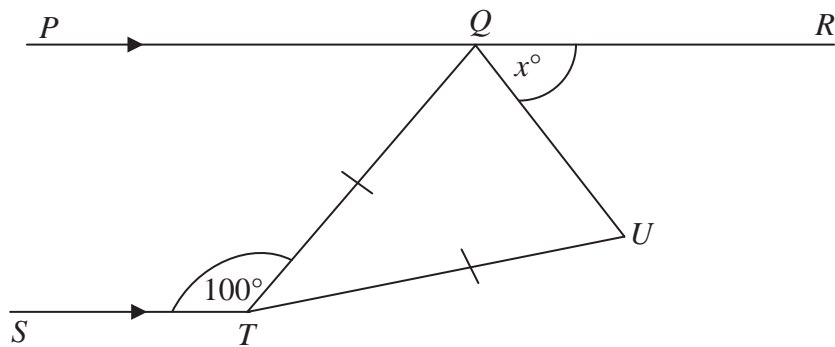
The expression $3n^2 + 2$ is the n th term of another sequence.

(b) Find the 4th term of this sequence.

(2)

.....
(Total for Question 14 = 4 marks)

*15



PQR is a straight line parallel to ST .

$QT = UT$

Angle $STQ = 100^\circ$.

Prove that angle $QTU = (2x - 20)^\circ$.

(Total for Question 15 = 5 marks)

TOTAL FOR PAPER = 60 MARKS