

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**

Wednesday 13 June 2012 – Morning

**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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6/6/7/3



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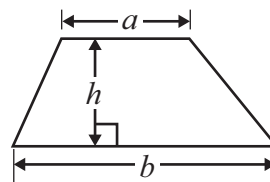
**PEARSON**

## GCSE Mathematics 2MB01

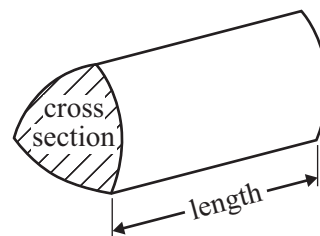
Formulae: Foundation Tier

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

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



$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



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 down the number marked with an arrow.

.....  
(1)

- (b) Write the number **four million** in figures.

.....  
(1)

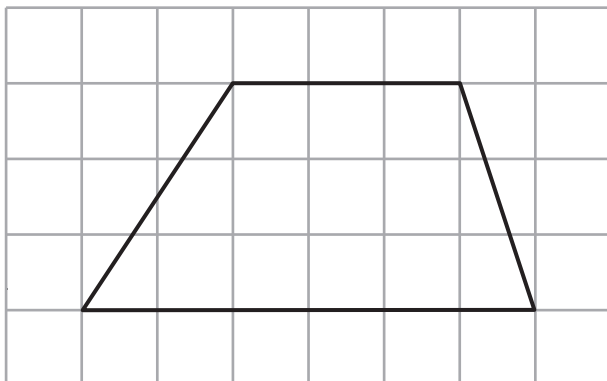
- (c) Write down the value of the 7 in 43.765

.....  
(1)

(Total for Question 1 is 3 marks)

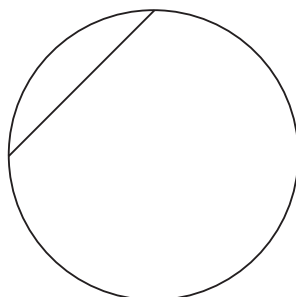


2 (a) Here is a quadrilateral.



Write down the mathematical name of this quadrilateral.

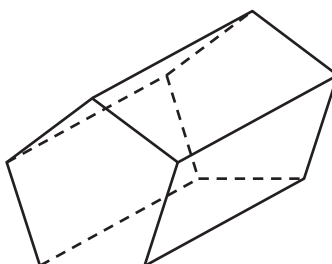
.....  
(1)



(b) Write down the mathematical name for the straight line inside this circle.

.....  
(1)

(c) Here is a solid prism.



(i) Write down the number of faces.

..... faces

(ii) Write down the number of vertices.

..... vertices

(2)

**(Total for Question 2 is 4 marks)**



3 (a) Simplify  $p + p + p + p + p$

.....  
(1)

(b) Simplify  $r \times s \times 4$

.....  
(1)

(c) Simplify  $2a + 3b + 5a - b$

.....  
(2)

**(Total for Question 3 is 4 marks)**

4 Sophie goes to the market.

She buys 3 lettuces at 45p each,  
2 kg of potatoes at 75p per kg,  
500 g of cheese at £1.50 per 100 g.

Sophie pays with a £20 note.

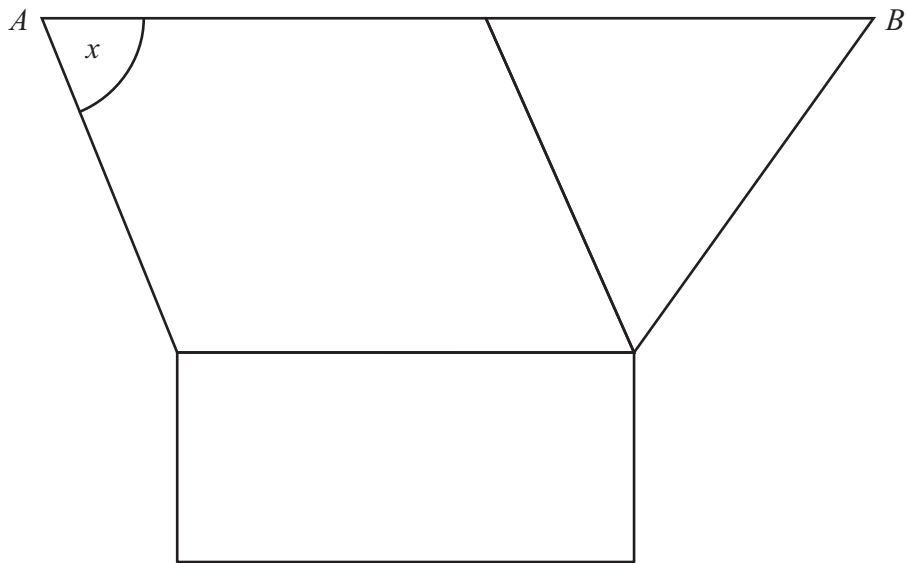
How much change should she get?

£ .....

**(Total for Question 4 is 4 marks)**



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



(a) On the diagram,

- (i) mark with arrows ( $\gg$ ) a pair of parallel lines,
- (ii) mark with  $P$ s two lines that are perpendicular to each other.

(2)

(b) (i) Measure the length of the line  $AB$ .

..... cm

(ii) Measure the size of the angle marked  $x$ .

.....<sup>o</sup>

(2)

**(Total for Question 5 is 4 marks)**



6 Here are the first four terms of a number sequence.

6      10      14      18

(a) Write down the next term in this sequence.

.....  
(1)

(b) Find the 10th term in this sequence.

.....  
(1)

(c) The number 101 is **not** a term in this sequence.  
Explain why.

.....  
.....  
(1)

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

.....  
(2)

**(Total for Question 6 is 5 marks)**

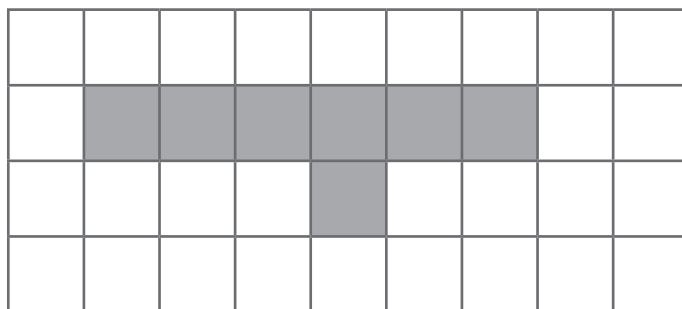
7 What is 10% of £50?

£ .....

**(Total for Question 7 is 1 mark)**

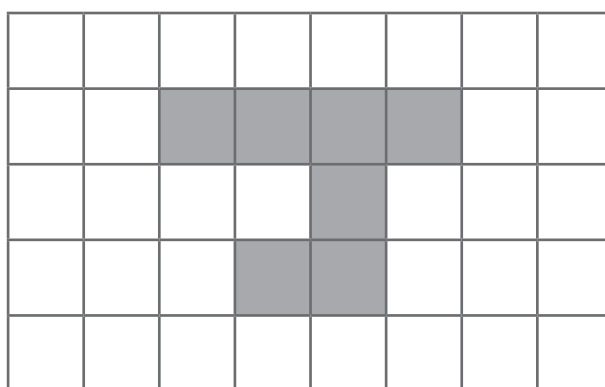


- 8 (a) On the grid, shade in one more square so that the completed shape has one line of symmetry.



(1)

- (b) On the grid below, shade in two more squares so that the completed shape has rotational symmetry of order 2



(1)

(Total for Question 8 is 2 marks)

- 9 Jeff lives in Bath.  
He works in an office in London.

Jeff leaves his home in Bath at 07 10

He catches a train in Bath at 07 35

The train takes 1 hour 35 minutes to get to London.

It then takes Jeff 40 minutes to get to his office.

At what time does Jeff get to his office?

(Total for Question 9 is 3 marks)

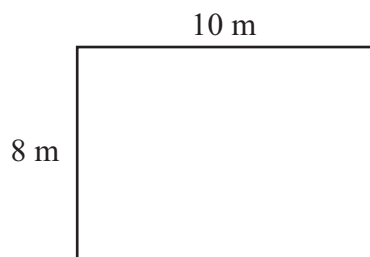




**10** Dilys buys a new house.

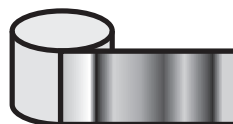
She wants to have a lawn in the back garden.  
The lawn is going to be in the shape of a rectangle.

Diagram **NOT**  
accurately drawn



The lawn will have a length of 10 m.  
The lawn will have a width of 8 m.

**Edging strip**  
£1.50 per metre



Dilys wants to buy edging strip for her lawn.  
The length of the edging strip needs to be equal to the perimeter of her lawn.

Edging strip costs £1.50 per metre.

What is the total cost of the edging strip?

£ .....

**(Total for Question 10 is 4 marks)**



\*11

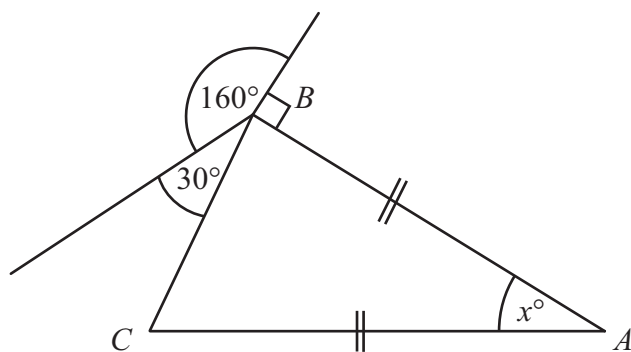


Diagram **NOT**  
accurately drawn

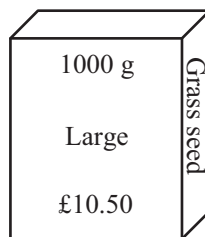
$ABC$  is an isosceles triangle.

Work out the size of the angle marked  $x^\circ$ .  
Give reasons for your answer.

(Total for Question 11 is 5 marks)



\*12 Nilmini is going to buy some grass seed.



Grass seed is sold

in 200 g boxes costing £2.50 each,  
in 1000 g boxes costing £10.50 each.

Which box of grass seed gives the better value for money?  
You must show all your working.

(Total for Question 12 is 3 marks)



13 (a) Work out  $\frac{2}{5} \times \frac{3}{8}$

Give your answer in its simplest form.

.....  
(2)

(b) Work out  $\frac{3}{8} + \frac{1}{4}$

.....  
(2)

**(Total for Question 13 is 4 marks)**

14 (a) Expand and simplify  $5(x + 7) + 3(x - 2)$

.....  
(2)


(b) Factorise completely  $3a^2b + 6ab^2$

.....  
(2)

**(Total for Question 14 is 4 marks)**



15 Here is part of Jo's electricity bill.

Electricity Bill		May 2012
J. Evans 3 Hillside Ave London		
<b>2012</b>		CP Energy Connecting people Connecting places
Reading 1st Jan	02792 units	
Reading 1st April	03307 units	
Number of units used	515 units	
Cost: 35p per unit		

Work out how much Jo has to pay for the units she has used.

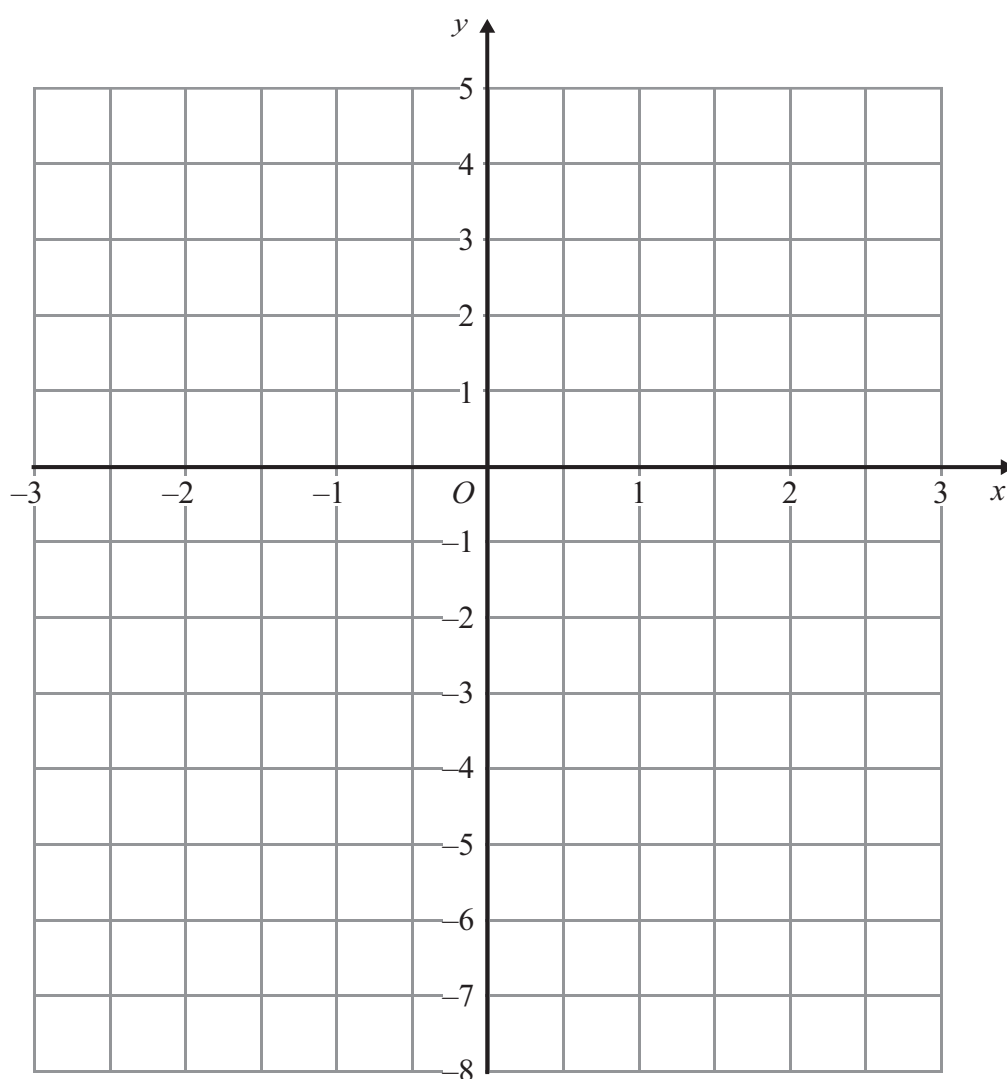
£ .....

(Total for Question 15 is 4 marks)



P 4 0 6 4 0 A 0 1 3 1 6

16 On the grid, draw the graph of  $y = 2x - 3$  for values of  $x$  from  $-2$  to  $2$



(Total for Question 16 is 3 marks)



17 The diagram shows a triangular prism.

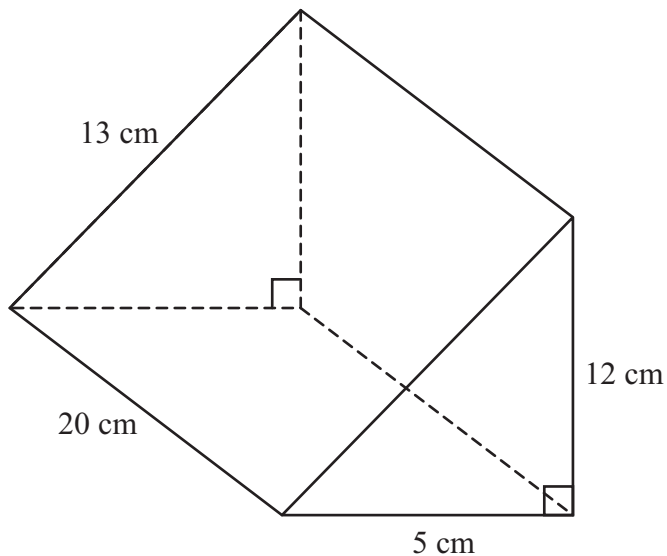


Diagram **NOT** accurately drawn

Work out the total surface area of the prism.

..... cm<sup>2</sup>

(Total for Question 17 is 3 marks)

**TOTAL FOR PAPER IS 60 MARKS**



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