

Write your name here

Surname

Other names

In the style of:

**Edexcel GCSE**

Centre Number

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Candidate Number

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# Mathematics A

## Algebra

**Foundation Tier**

Past Paper Style Questions  
Arranged by Topic

Paper Reference

**1MA0/1F**

**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 100
- 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 ►



1. Peter thinks of a number.

He multiplies the number by 3

He then adds 2

His answer is 20

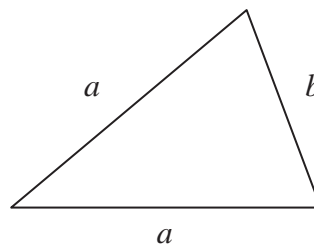
(a) What number did Peter think of?

.....  
(2)

Sophie uses the formula  $P = 2a + b$   
to find the perimeter  $P$  of this triangle.

(b) Find the value of  $P$  when

$a = 6$  and  $b = 4$



$P =$  .....  
(2)

**(Total 4 marks)**

2. (a) Work out the value of

(i)  $4^2$

.....

(ii)  $\sqrt{64}$

.....

(iii)  $3 \times 2^3$

.....  
(3)

(b) Work out

(i)  $-3 + 5$

.....

(ii)  $-2 - 3$

.....  
(2)



3. The cost of hiring a car can be worked out using this rule.

$$\text{Cost} = \text{£}80 + 50\text{p per mile}$$

Bill hires a car and drives 90 miles.

(a) Work out the cost.

£ .....  
(2)

The cost of hiring a car and driving  $m$  miles is  $C$  pounds.

(b) Complete the formula for  $C$  in terms of  $m$ .

$C =$  .....  
(2)

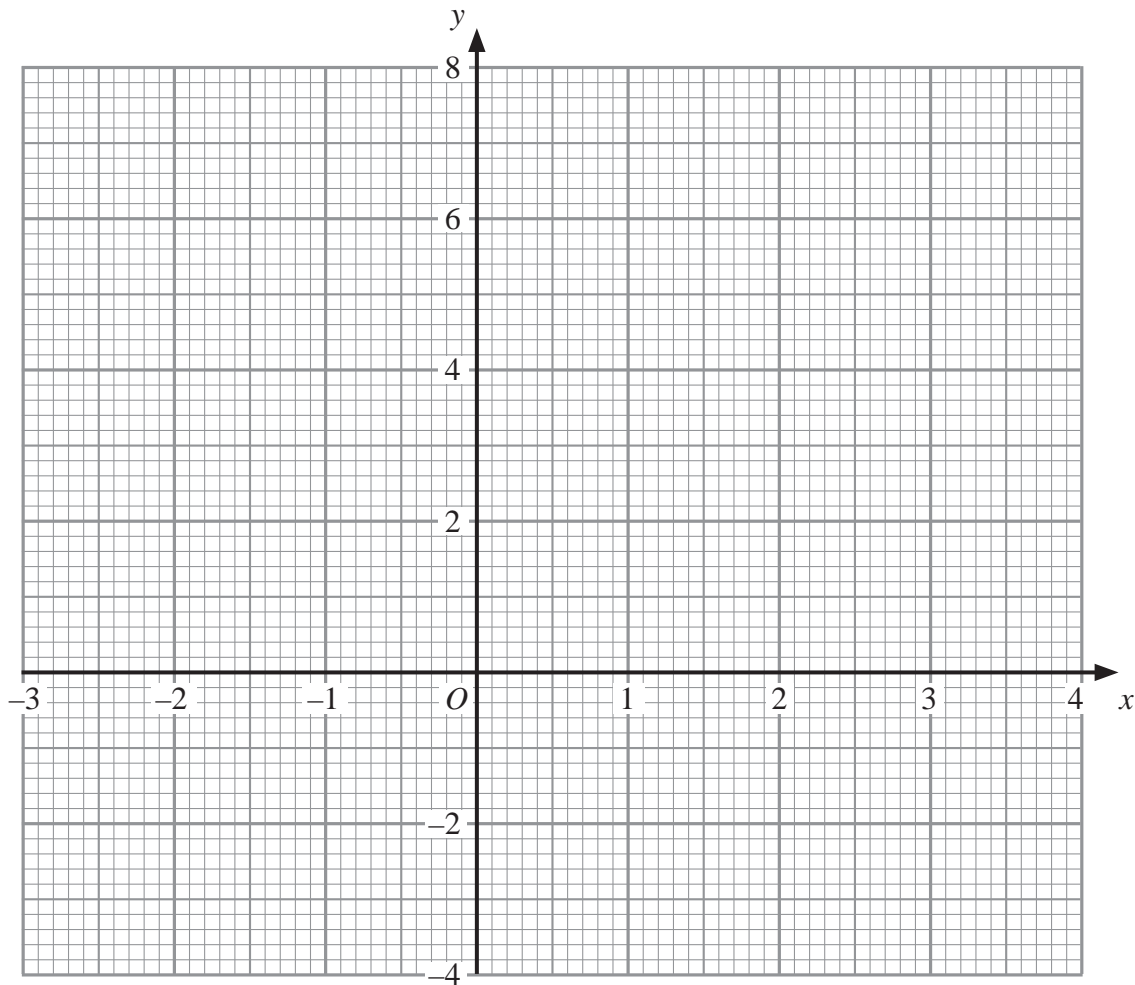
**(Total 4 marks)**



4. (a) Complete this table of values for  $y = 2x - 1$

$x$	-1	0	1	2	3	4
$y$		-1		3	5	

(2)



(2)

(b) On the grid, draw the graph of  $y = 2x - 1$

(Total 4 marks)



5. Work out an estimate for the value of  $\frac{31 \times 4.92}{0.21}$

.....

**(Total 3 marks)**

6. (a) Expand  $y(2y - 3)$

.....

**(1)**

(b) Factorise  $x^2 - 4x$

.....

**(2)**

$k$  is an integer such that  $-1 \leq k < 3$

(c) List all the possible values of  $k$ .

.....

**(2)**

**(Total 5 marks)**



7. (a) Factorise  $x^2 - 5x$

.....  
(2)

(b) Expand  $3(5x - 2)$

.....  
(1)

**(Total 3 marks)**

8. A hotel has 64 guests.  
40 of the guests are male.

(a) Work out 40 out of 64 as a percentage.

..... %  
(2)

40% of the 40 male guests wear glasses.

(b) Write the number of male guests who wear glasses as a fraction of the 64 guests.  
Give your answer in its simplest form.

.....  
(4)

**(Total 6 marks)**



9. (a) Simplify  $8x - 4x$

.....  
(1)

(b) Simplify  $y \times y \times y$

.....  
(1)

(c) Simplify  $5y + 4x - 2x + 5x$

.....  
(2)

**(Total 4 marks)**



10. The two-way table gives some information about how 100 children travelled to school one day.

	Walk	Car	Byc	Total
Boy	15		14	54
Girl		8	16	
Total	37			100

(a) Complete the two-way table.

(3)

One of the children is picked at random.

(b) Write down the probability that this child walked to school that day.

.....  
(1)

One of the girls is picked at random.

(c) Work out the probability that this girl did **not** walk to school that day.

.....  
(2)

(Total 6 marks)

11. Apples cost  $a$  pence each  
Bananas cost  $b$  pence each.

Write down an expression for the total cost, in pence, of 2 apples and 4 bananas. .

..... pence

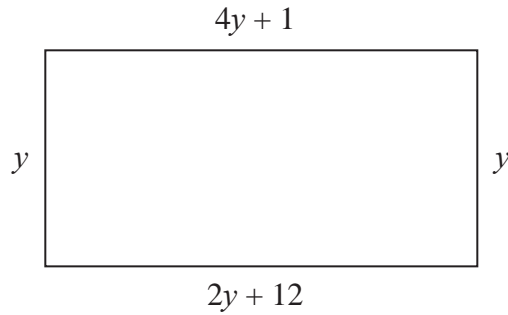
(Total 2 marks)





14.

Diagram **NOT**  
accurately drawn



The diagram shows a rectangle.

All the measurements are in centimetres.

(a) Explain why  $4y + 1 = 2y + 12$

..... (1)

(b) Solve  $4y + 1 = 2y + 12$

$y =$  ..... (2)

(c) Use your answer to part (b) to work out the perimeter of the rectangle.

..... cm (2)

**(Total 5 marks)**



15. (a) Simplify  $5ab + 2ab - 4ab$

.....  
(1)

(b) Simplify  $4a + 3b - 2a + 2b$

.....  
(2)

(c) Simplify  $n \times n \times n$

.....  
(1)

(d) Simplify  $3m \times 2q$

.....  
(1)

(e) Factorise  $5n + 10$

.....  
(1)

**(Total 6 marks)**

