Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Pages	Mark
3	
4 – 5	
6 – 7	
8 – 9	
10 – 11	
TOTAL	

mathsrevision revisionworld

GCSE
Mathematics (Non-calculator Paper)

Practice Paper Style Questions – Topic: Algebra (Foundation Tier)

For this paper you must have:

- black pen
- HB pencil
- ruler (with cm & mm)
- rubber
- protractor
- compass
- pencil sharpener

Time allowed
- 1 hour

Instructions
- Use **black ink** or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work that you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is **57**.
  The quality of your written communication is specifically assessed in questions indicated with an asterisk (*)
- You may ask for more answer paper and graph paper.
  These must be tagged securely to this answer booklet.
- A calculator must NOT be used.

Advice
- Read each question carefully before you answer it.
- In all calculations, show clearly how you work out your answer.
- Check your answers if you have time at the end.

There are no questions printed on this page

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ANSWER IN THE SPACES PROVIDED

1 (a) Paul thinks of a number.

He multiplies the number by 4

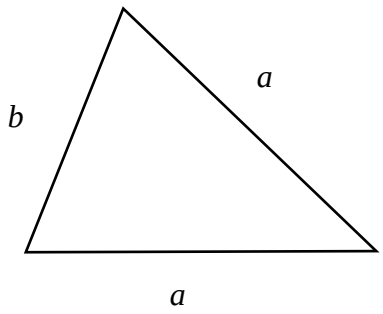
He then adds 3

His answer is 31

What number did Paul think of?

Answer ..... *(2 marks)*

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



Find the value of P when $a = 6$ and $b = 4$

Answer ..... *(2 marks)*

4

2 (a) Work out the value of

(i) 8^2

Answer ..... *(1 mark)*

(ii) $\sqrt{81}$

Answer ..... *(1 mark)*

(iii) 4×3^3

Answer ..... *(1 mark)*

2 (b) Work out

(i) - 5 + 7

Answer ..... *(1 mark)*

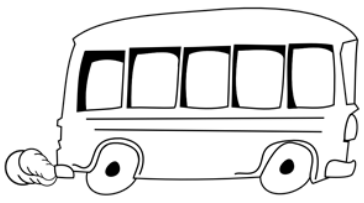
(ii) - 3 - 4

Answer ..... *(1 mark)*

3 The cost of hiring a minibus can be worked out using this rule:

Cost = £120 + 50p per mile

Paul hires a minibus for his cricket team and drives 150 miles.



(a) Work out the cost.

Answer .....£..... *(2 marks)*

The total cost of hiring a minibus and driving m miles is T pounds.

(b) Complete the formula for T in terms of m

Answer ..... T = ... *(2 marks)*

4 (a) Complete this table of values for:

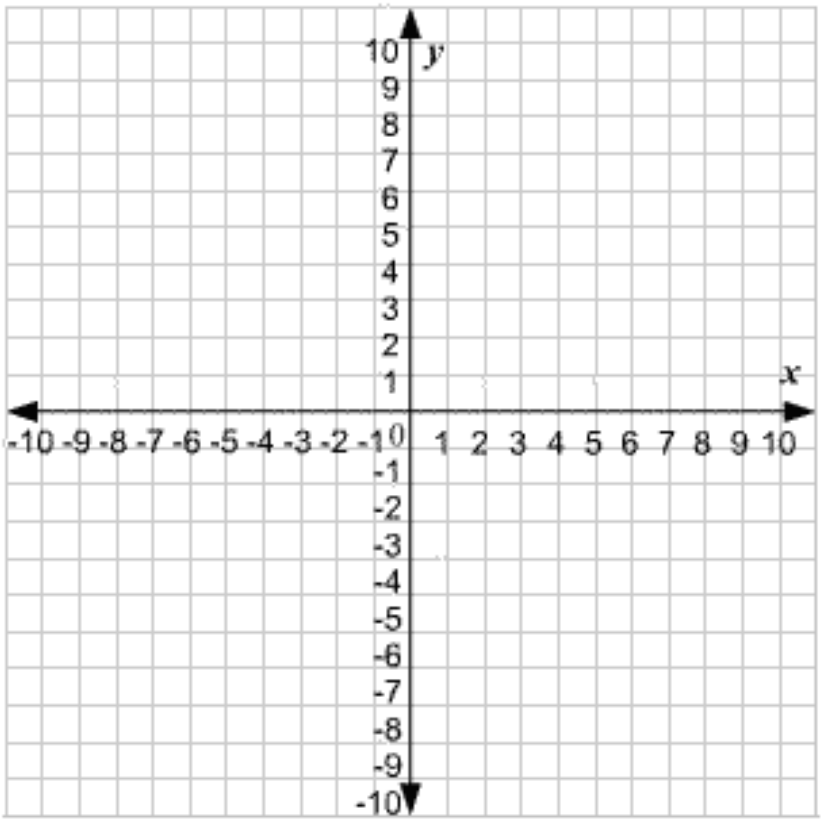
$$y = 3x - 2$$

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

(2 marks)

(b) On the grid, draw the graph of:

$$y = 3x - 2$$



(2 marks)

13

5 Work out an estimate for:

$$\frac{19 \times 3.94}{0.41}$$

Answer ..... *(3 marks)*

6 (a) Expand $x(3x + 2)$

Answer ..... *(1 mark)*

(b) Factorise $y^2 - 3y$

Answer ..... *(2 marks)*

(c) a is an integer such that $-3 < a \leq 2$

List all the possible values of a

Answer ..... *(2 marks)*

Do not write outside the box

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

Answer ..... *(2 marks)*

(b) Expand $2(4y - 3)$

Answer ..... *(1 mark)*

8 A football club has 75 members.

30 of the members are female.

a) Work out 30 out of 75 as a percentage.

Answer ……..
(2 marks)

60% of the 30 female members are married.

b) Write the number of female members who are married as a fraction of the 75 members.

Give your answer in its simplest form.

Answer ……..
(4 marks)

17

9 (a) Simplify $6x - 4x$

Answer ..... *(1 mark)*

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

Answer ..... *(1 mark)*

(c) Simplify $3y + 5x - 2x + 3x$

Answer ..... *(2 marks)*

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

	Walk	Car	Bike	**Total**
Male	25		12	**63**
Female		9		
Total	**38**			**100**

(a) Complete the two-way table

(3 marks)

(b) One of the people is picked at random.

Write down the probability that this person cycled to work that day.

Answer ..... *(1 mark)*

(c) One of the females is picked at random.

Write down the probability that this female did **not** cycle to work that day.

Answer ..... *(2 marks)*

11 Tomatoes cost t pence each.

Cucumbers cost c pence each.

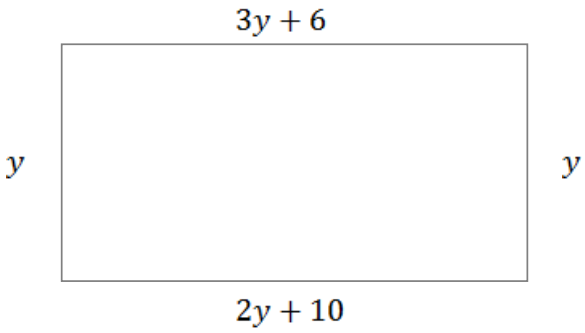
Write down an expression for the total cost, in pence, of 5 tomatoes and 2 cucumbers.

Answer ..... *(2 marks)*

12 The diagram shows a rectangle.

All measurements are in centimetres.

Diagram NOT drawn to scale



(a) Explain why $3y + 6 = 2y + 10$

..... *(1 mark)*

(b) Solve $3y + 6 = 2y + 10$

Answer ..... $y =$..... *(2 marks)*

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

Answer .....cm..... *(2 marks)*

17

13 (a) Simplify $8ab - 3ab + 2ab$

Answer ..... *(1 mark)*

(b) Simplify $5a - 4b + 2a + 2b$

Answer ..... *(2 marks)*

(c) Simplify $a \times a \times a$

Answer ..... *(1 mark)*

(d) Simplify $2a \times 3b$

Answer ..... *(1 mark)*

(e) Factorise $2p + 8$

Answer ..... *(1 mark)*

END OF QUESTIONS

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6