AQA

Surname _____

Forename(s) _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

I declare this is my own work.

GCSE
MATHEMATICS

F

Foundation Tier **Paper 1 Non-Calculator**

8300/1F

Wednesday 6 November 2024 **Morning**

Time allowed: 1 hour 30 minutes

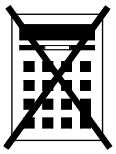
At the top of the page, write your surname and forename(s), your centre number, your candidate number and add your signature.

[Turn over]

N0V248300 1F01

MATERIALS

For this paper you must have:



- **mathematical instruments**
- **the Formulae Sheet (enclosed).**

You must NOT use a calculator.

INSTRUCTIONS

- **Use black ink or black ball-point pen. Draw diagrams in pencil.**
- **Answer ALL questions.**
- **You must answer the questions in the spaces provided. Do not write on blank pages.**
- **If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).**
- **Do all rough work in this book. Cross through any work you do not want to be marked.**

INFORMATION

- **The marks for questions are shown in brackets.**
- **The maximum mark for this paper is 80.**
- **You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.**

ADVICE

In all calculations, show clearly how you work out your answer.

DO NOT TURN OVER UNTIL TOLD TO DO SO

Answer ALL questions in the spaces provided.

1 (a) Write down the value of $\sqrt{49}$
[1 mark]

Answer _____

1 (b) Work out the value of 3^3
[1 mark]

_____

_____

Answer _____

1 (c) Write 10 000 as a power of 10
[1 mark]

_____

_____

_____

Answer _____

2 **1 pound = 16 ounces**

Work out the number of ounces in 3 pounds.
[2 marks]

Answer _____ **ounces**

[Turn over]

3 (a) Write $\frac{3}{2}$ as a mixed number. [1 mark]

Answer _____

3 (b) Work out $\frac{1}{5} + \frac{1}{5}$

[1 mark]

Answer _____

4 (a) Write down ALL the factors of 20
[2 marks]

Answer _____

4 (b) Mica says,

"When two multiples of 5 are added, the answer is always a multiple of 10"

Give ONE example to show that he is wrong.
[1 mark]

10

5 **Put these values in order of size, starting with the smallest. [2 marks]**

80% **0.7** $\frac{3}{4}$

Answer _____ _____ _____

6 **Sally buys two hats and three scarves.**

- **The TOTAL cost is £28.50**
- **Each hat costs £4.50**

Work out the cost of each scarf. [4 marks]

Answer £ _____

[Turn over]

7 **120 people visit a maze.**

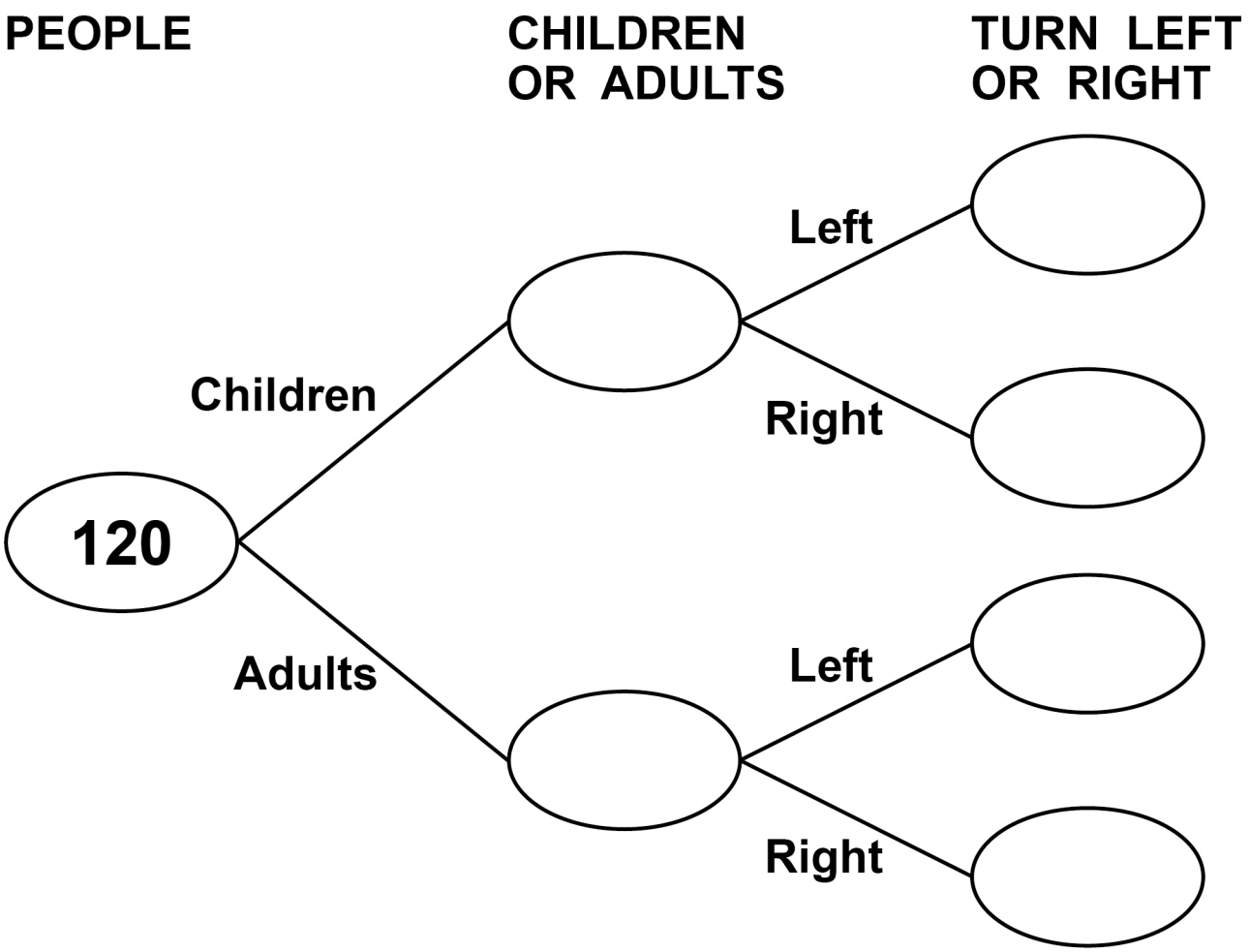
80 are children, the rest are adults.

At the start of the maze you can turn left or right.

45 children turn left.

75 people in total turn left.

7 (a) Complete the frequency tree. [4 marks]



7 (b) What fraction of the CHILDREN turn left?

Give your answer in its simplest form. [2 marks]

Answer _____

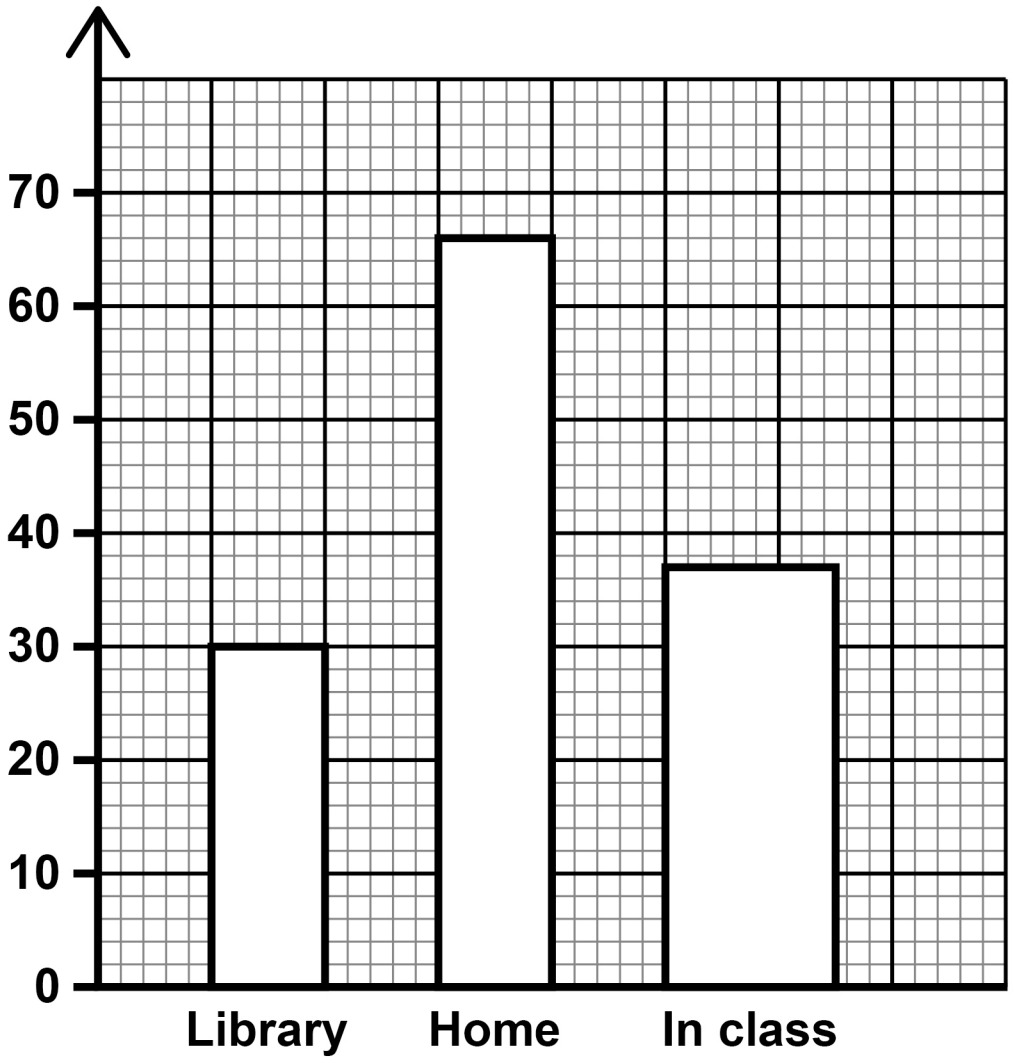
[Turn over]

12

8 **The table shows information about where students prefer to revise.**

LIBRARY	HOME	IN CLASS
30	68	37

Ed draws this bar chart to represent the data.



Write down THREE mistakes he has made.
[3 marks]

Mistake 1 _____

_____

_____

Mistake 2 _____

_____

_____

Mistake 3 _____

_____

_____

[Turn over]

9 **A number is picked at random from the first three positive odd numbers.**

A number is picked at random from the first four prime numbers.

The two numbers are MULTIPLIED to get a score.

9 (a) **Complete the table. [4 marks]**

		prime			
	×	2	3		7
odd	1				
	5		15		

9 (b) **What is the probability that the score is a square number?**

Give your answer as a fraction. [2 marks]

Answer _____

[Turn over]

9

10 (a) **Simplify fully** $8m + 4 - 2m + 7$

[2 marks]

Answer _____

10 (b) **Simplify fully** $\frac{1}{2}c \times 6d$

[2 marks]

Answer _____

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[Turn over]

11 **A single bag of crisps costs 55p**

A multipack contains 6 single bags of crisps.

The multipack costs 10% LESS THAN 6 single bags.

Work out the cost of the multipack. [4 marks]

Answer £ _____

[Turn over]

8

12 **Write the ratio 6 : 2 in the form n : 1**
[1 mark]

_____

_____

Answer _____ **: 1**

20

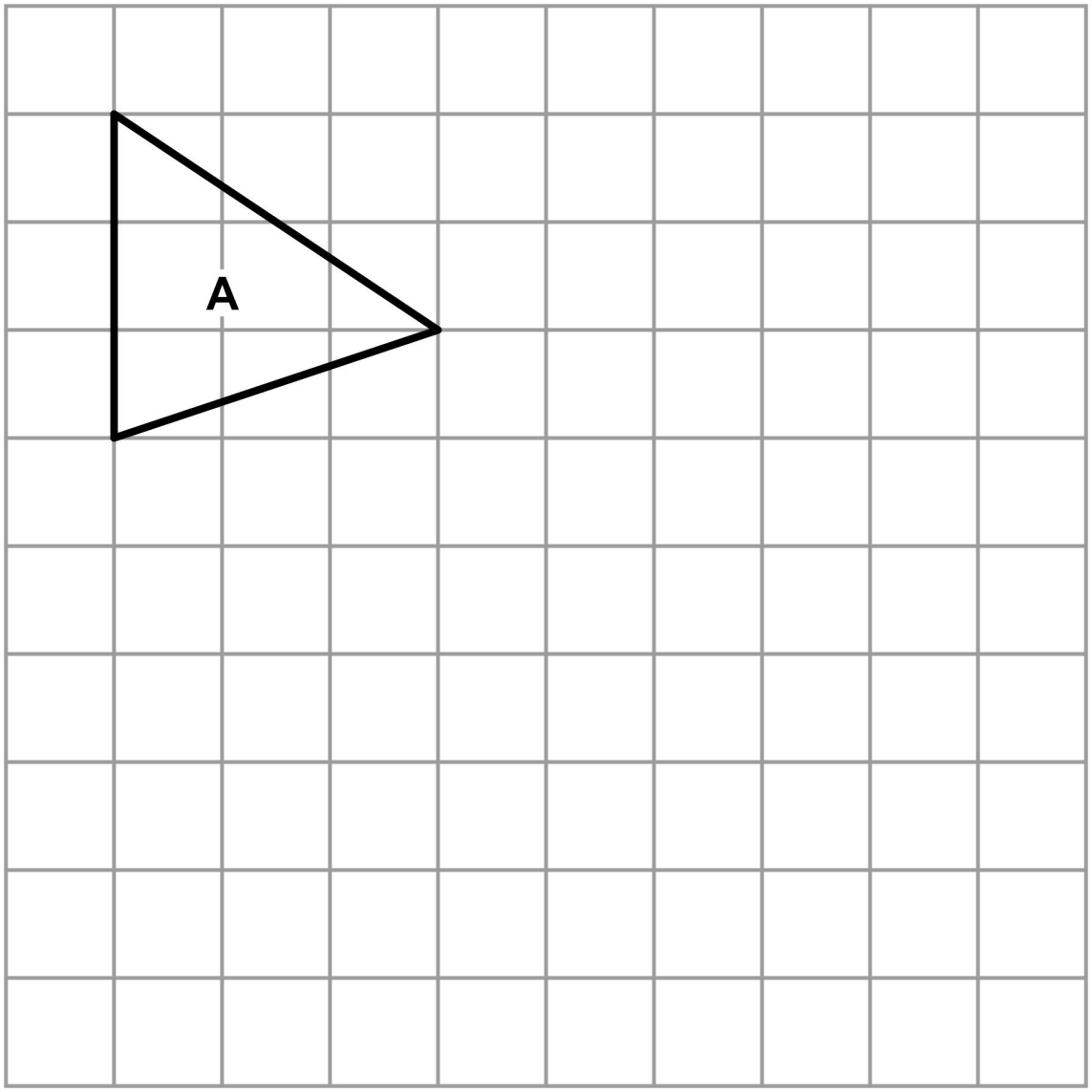
13 x and y are two DIFFERENT POSITIVE numbers.

For each statement, tick the correct box. [2 marks]

	ALWAYS TRUE	SOMETIMES TRUE	NEVER TRUE
$x + y$ is positive	☐	☐	☐
$x - y$ is negative	☐	☐	☐

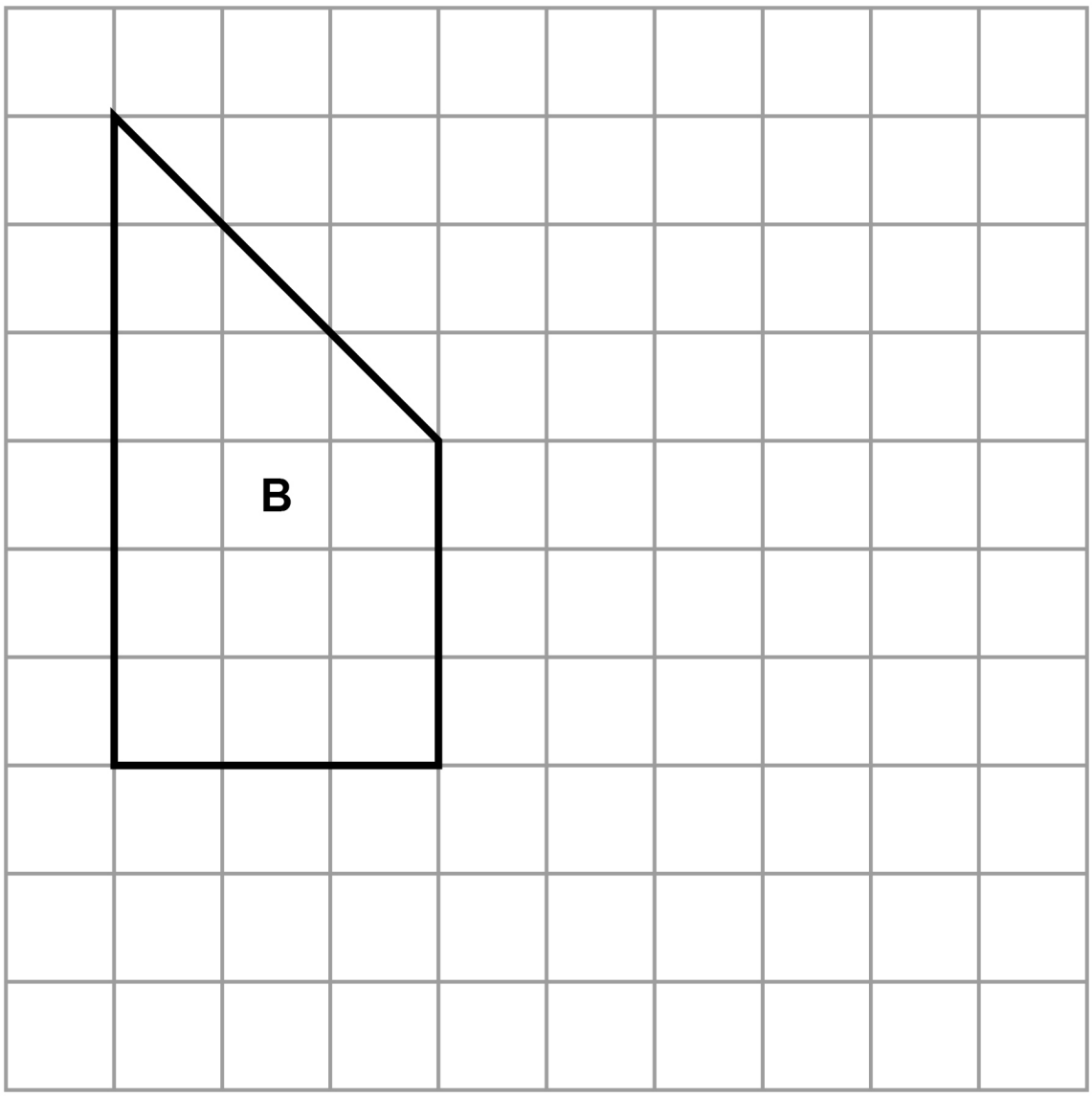
[Turn over]

14 (a) On the grid, draw a shape CONGRUENT to triangle A. [1 mark]



14 (b) On the grid, ENLARGE shape B by scale factor $\frac{1}{3}$

[2 marks]



[Turn over]

6

15 **35 books are either for adults or for children.**

number for adults : number for children = 6 : 1

How many MORE books are for adults than for children? [3 marks]

Answer _____

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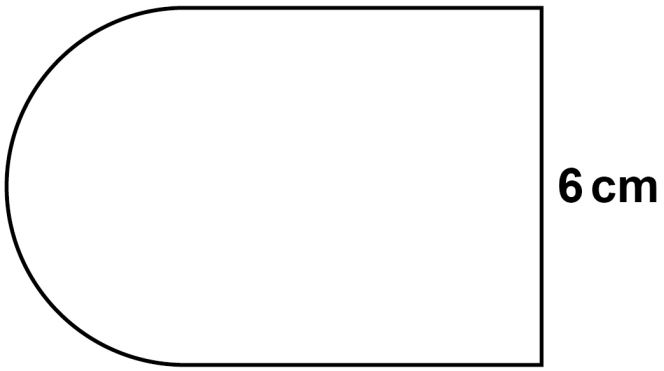
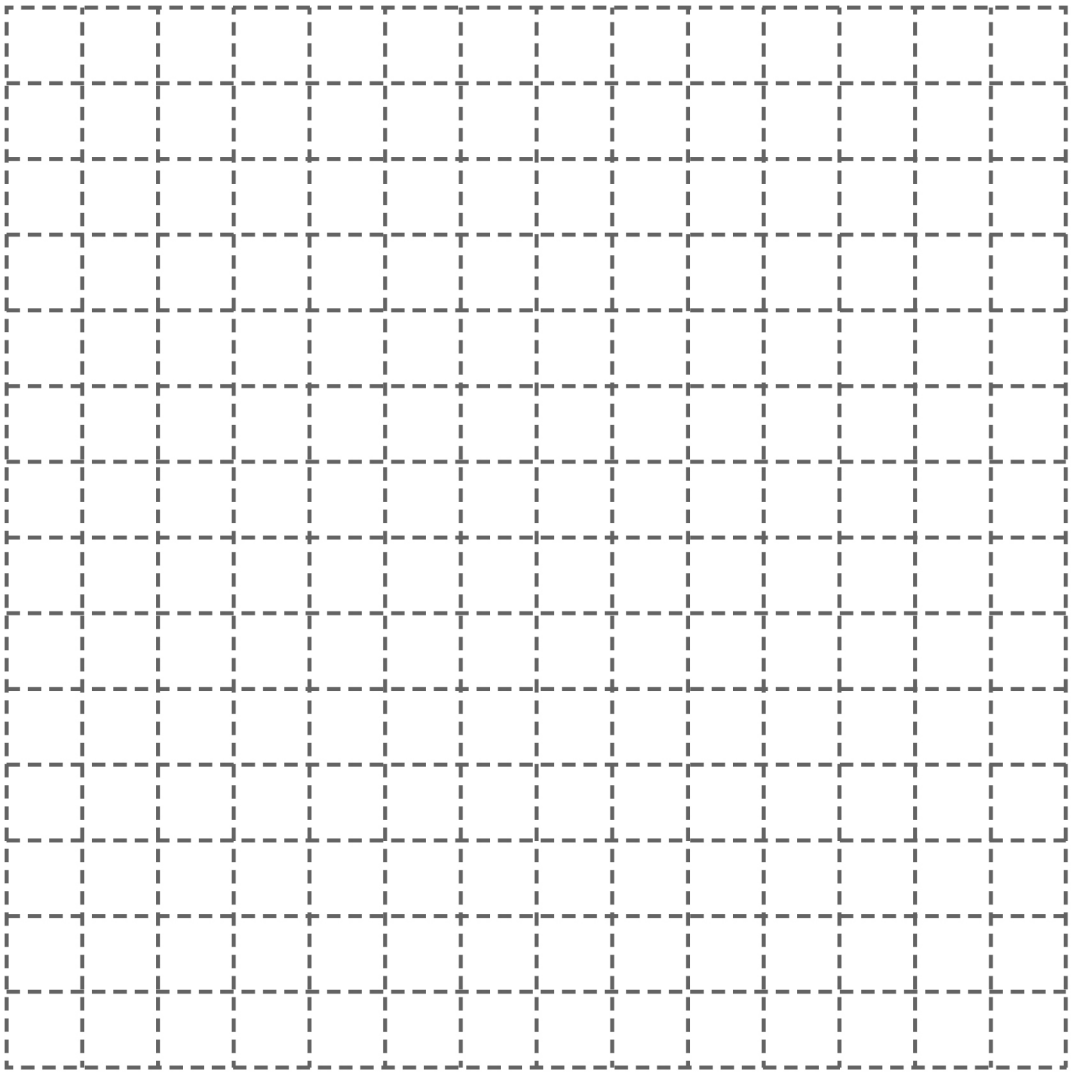
[Turn over]

16 **This shape is made from a semicircle and a square.**

The diagram is not drawn accurately.



On the centimetre grid below, make an accurate drawing of the shape. [2 marks]



[Turn over]

5

17 **A car travels 4 miles in 5 minutes.**

Work out the average speed in miles per hour.
[3 marks]

Answer _____ **mph**

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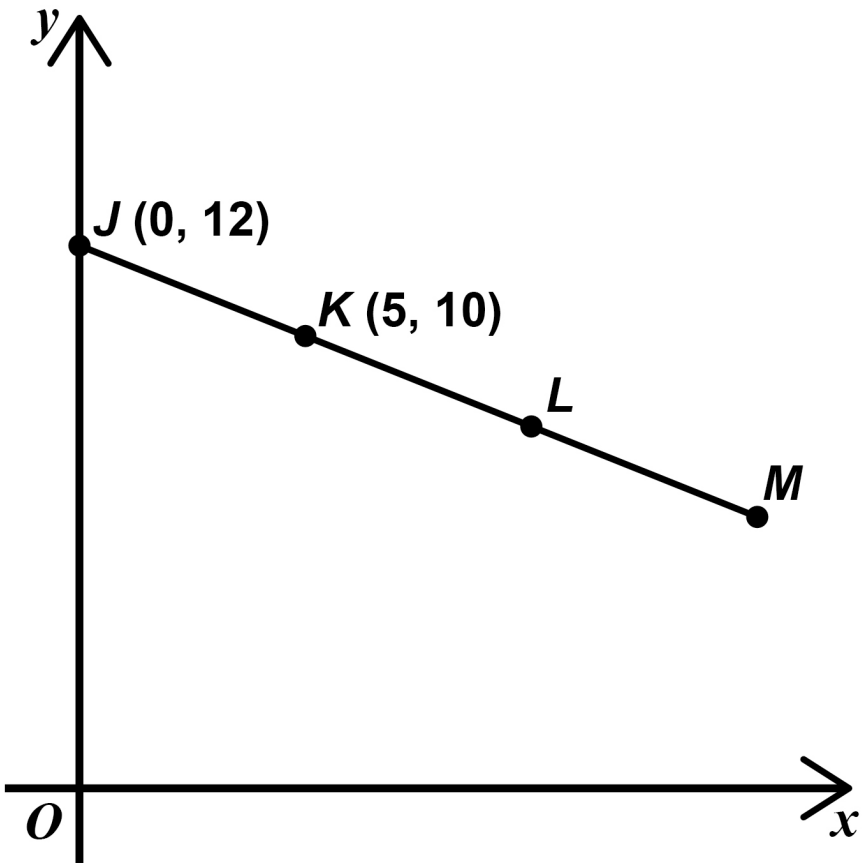
[Turn over]

18 *J* (0, 12) and *K* (5, 10) are points on the straight line *JKLM*.

The diagram is not drawn accurately.



$JK = KL = LM$

Work out the coordinates of *M*. [3 marks]

Answer (_____ , _____)

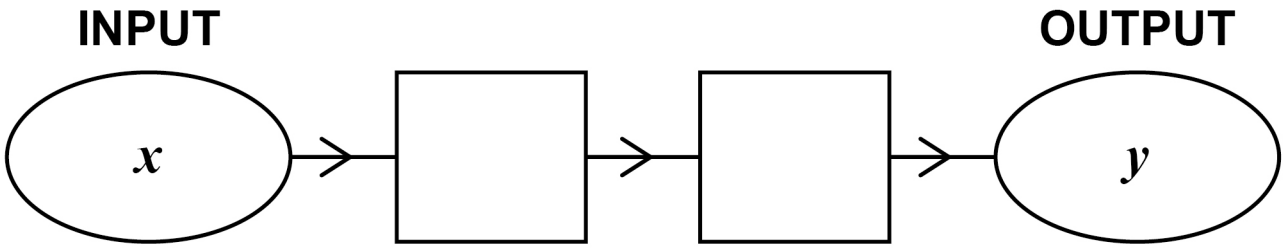
[Turn over]

6

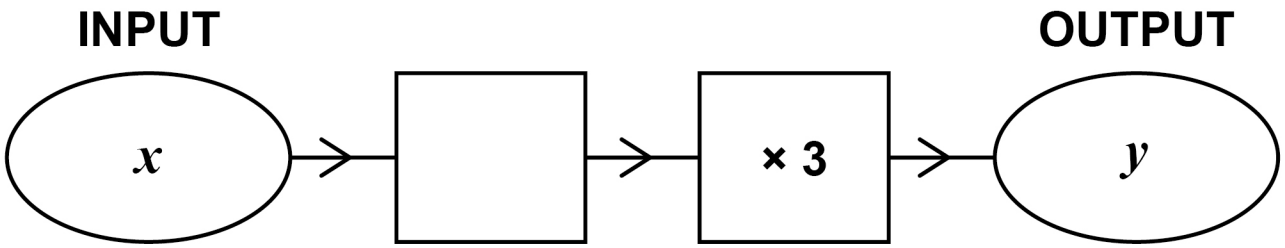
19 **Work out the value of 1.5^2**
[2 marks]

Answer _____

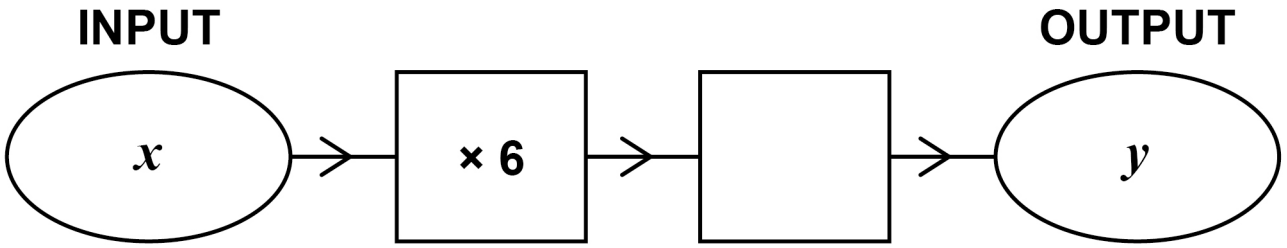
20 (a) **Complete this number machine so that $y = 4x + 5$**
[1 mark]



20 (b) Complete this number machine so that $y = 3x - 24$
[1 mark]



20 (c) Complete this number machine so that $y = x$
[1 mark]



[Turn over]

21 **Each number in a list is increased by 10**

Tick ONE box for each statement. [3 marks]

	TRUE	FALSE	CANNOT TELL
The mode is increased by 10	☐	☐	☐
The median is increased by 10	☐	☐	☐
The range is increased by 10	☐	☐	☐

22 (a) Write the missing term in the geometric progression. [1 mark]

1 4 16 _____ 256

22 (b) A Fibonacci-type sequence begins

5 –9

The sequence is continued by adding the previous two terms.

Work out the next TWO terms. [2 marks]

_____

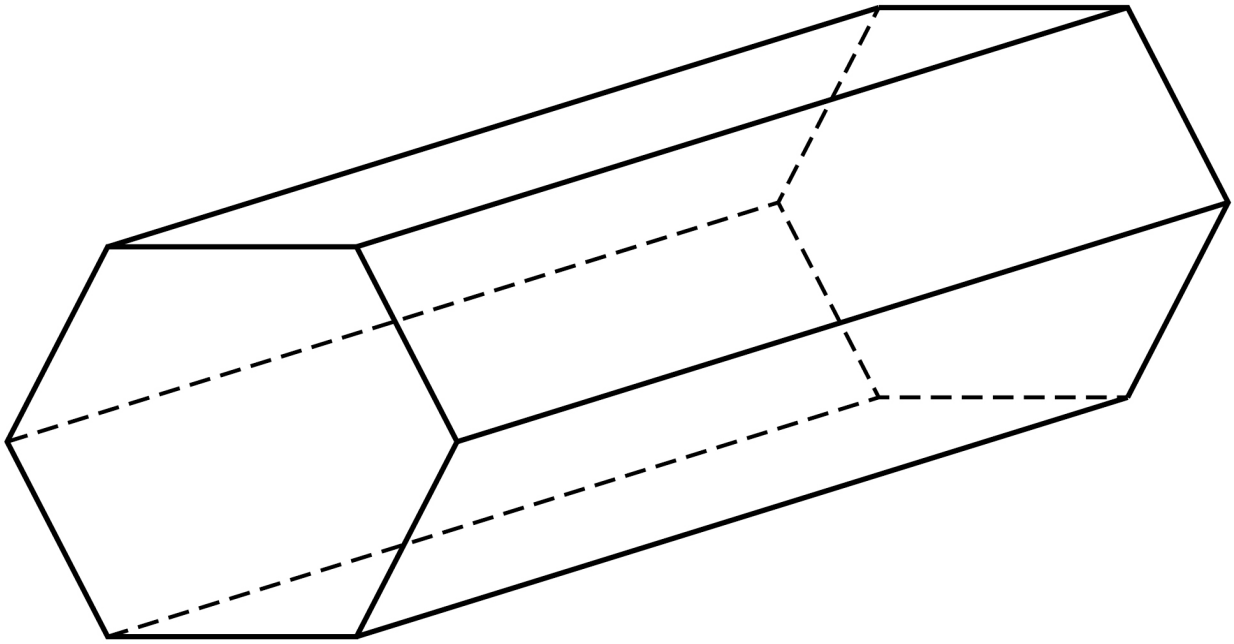
_____

Answer _____ and _____

[Turn over]

11

23 **Here is a solid prism.**



23 (a) **How many faces does the prism have?**
[1 mark]

Answer _____

23 (b) **The prism has**

volume = 3500 cm^3

and

length = 20 cm

Work out the area of the cross-section of the prism. [2 marks]

Answer _____ **cm^2**

[Turn over]

24 **Work out** $1\frac{1}{5} - \frac{3}{10}$

Give your answer as a fraction. [2 marks]

Answer _____

25 **Write down the value of sin 90°**
[1 mark]

Answer _____

6

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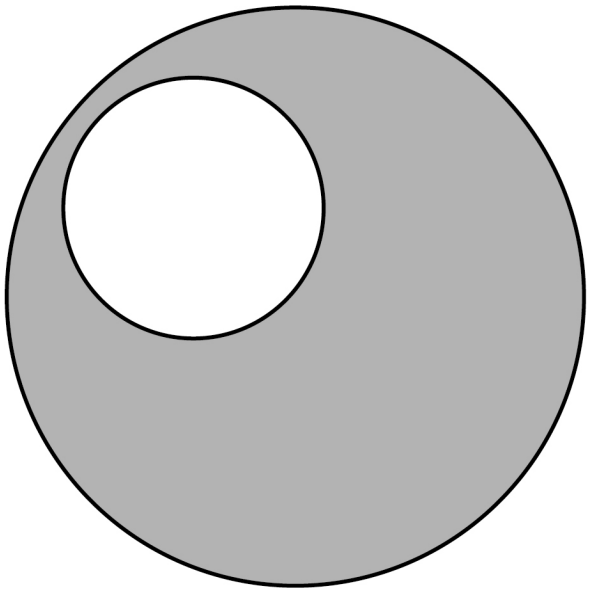
[Turn over]

26 **A large circle and a small circle are shown.**

The radius of the large circle is 12 cm

radius of large circle : radius of small circle = 4 : 1

The diagram is not drawn accurately.



Work out the shaded area.

Give your answer in terms of π
[4 marks]

Answer _____ **cm^2**

[Turn over]

27 (a) **In this part, assume that each person works at the same rate.**

10 people can complete a job in 9 hours.

If 15 people work on the same job, how many hours will it take to complete the job?
[2 marks]

Answer _____ hours

27 (b) **In fact, of the 15 people**

- **6 work at a slower rate**
- **9 work at a faster rate.**

What does this mean about the number of hours it will take to complete the job?
[1 mark]

Tick ONE box.

☐ **It is greater than the answer to (a)**

☐ **It is the same as the answer to (a)**

☐ **It is less than the answer to (a)**

☐ **It is not possible to say**

END OF QUESTIONS

7

Additional page, if required.

Write the question numbers in the left-hand margin.

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Write the question numbers in the left-hand margin.

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For Examiner's Use	
Pages	Mark
4–7	
8–11	
12–15	
16–19	
20–23	
24–27	
28–31	
32–35	
36–38	
40–43	
TOTAL	