



Rewarding Learning

General Certificate of Secondary Education  
November 2023

Centre Number

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Candidate Number

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## Mathematics

Unit M5 Paper 1  
(Non-Calculator)

Foundation Tier

[GMC51]



\*GMC51\*

**THURSDAY 23 NOVEMBER, 9.15 am – 10.15 am**

### TIME

1 hour.

### INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

**You must answer the questions in the spaces provided.**

**Do not write outside the boxed area on each page, on blank pages or tracing paper.**

Complete in black ink only. **Do not write with a gel pen.**

Answer **all seventeen** questions.

All working should be clearly shown in the spaces provided. Marks may be awarded for partially correct solutions.

You **must not** use a calculator for this paper.

### INFORMATION FOR CANDIDATES

The total mark for this paper is 50.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

You should have a ruler, compasses and a protractor.

The Formula Sheet is on page 2.

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\*24GMC5101\*

# Formula Sheet

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



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



1 Gareth buys trainers in the Direct Sports sale.

Eamonn buys trainers in the Go Sports sale.

<p><b>Direct Sports</b></p> <p>Normal Price £75</p> <p><b>Sale Price:</b> <math>\frac{1}{5}</math> off</p>		<p><b>Go Sports</b></p> <p>Normal Price £80</p> <p><b>Sale Price:</b> 25% off</p>
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© Getty Images

(a) How much money does Gareth **save** in the Direct Sports sale?

Answer £ \_\_\_\_\_ [1]

(b) How much money does Eamonn **save** in the Go Sports sale?

Answer £ \_\_\_\_\_ [2]

[Turn over



2 The table shows the number of calories of items.

Item	Calories
Big McT burger	508
Small fries	195
Medium fries	317
Large fries	454
Cola	275
Milkshake	336
Tomato ketchup sachet	41

Lisa orders

- 2 Big McT burgers
- 1 small fries
- 1 large fries
- 1 cola
- 1 milkshake
- 2 tomato ketchup sachets

Use **approximations** to **estimate** the total number of calories in Lisa's order.

**Show your working.**

Answer \_\_\_\_\_ calories [4]



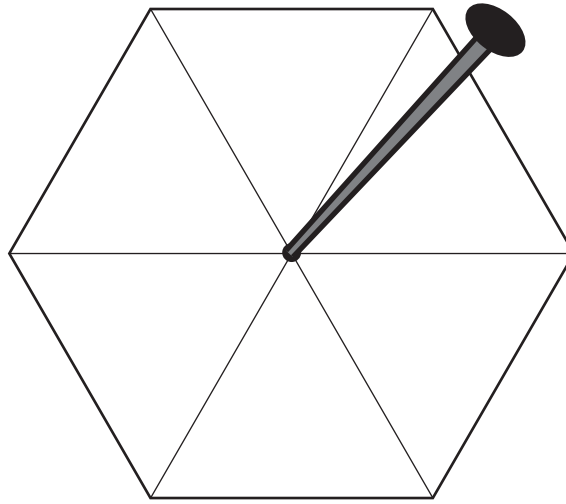
3 Chris has a fair 6-sided spinner.

The spinner has only the numbers 1, 2 and 3 on it.

The probability that the spinner will land on a 1 is evens.

The probability that the spinner will land on a 2 is least likely.

Write the correct numbers on the spinner.



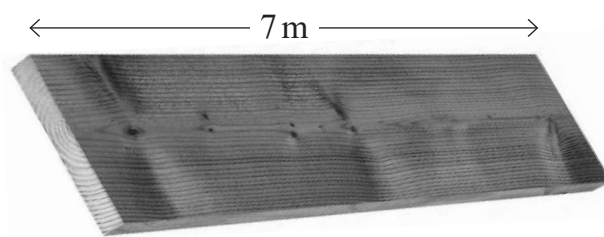
[3]

[Turn over



4 Alan has a 7 m length of wood.

He cuts 3 lengths, each of 1.8 m, from his piece of wood to use as shelves.



(a) What is the total length Alan cuts from his 7 m length of wood?

Answer \_\_\_\_\_ m [2]

(b) Has Alan enough wood left over to make another 1.8 m long shelf?

Explain your answer.

Answer \_\_\_\_\_ because \_\_\_\_\_ [1]





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**(Questions continue overleaf)**

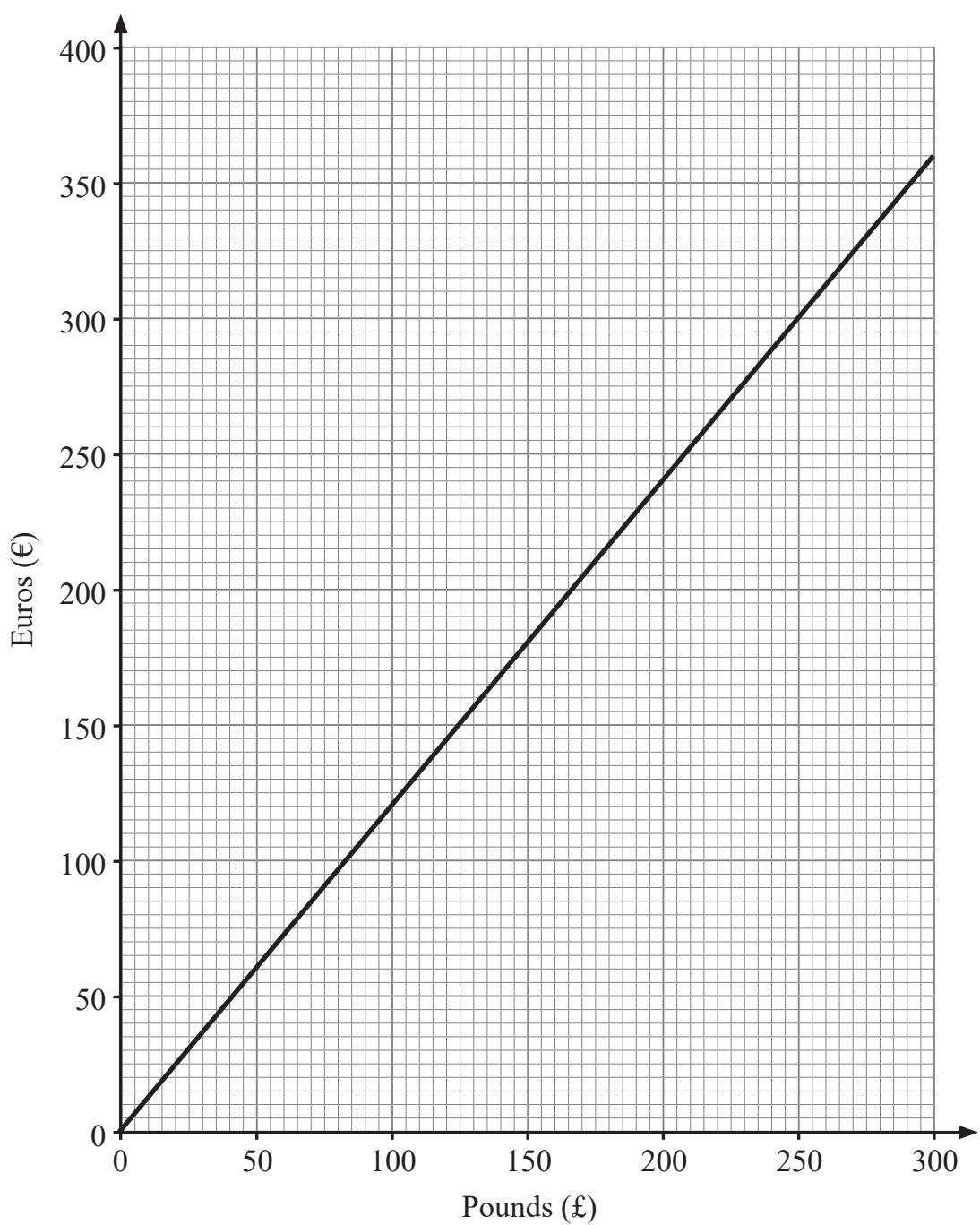
**[Turn over**

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5 This is a conversion graph to change between pounds (£) and euros (€).



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(a) Orla changes 250 euros (€) into pounds (£).

How many pounds (£) does she get?

Answer £ \_\_\_\_\_ [1]

(b) Callum has £160 and €200

Quinn Electronics lets him spend both pounds and euros.

Can Callum afford to buy a laptop costing €385?

**Show your working.**

Answer \_\_\_\_\_ because \_\_\_\_\_ [2]

[Turn over



6 Here are some metric and imperial units.

miles                  pints                  kilograms                  millimetres

Write them in the correct place in the table below.

Metric units	Imperial units

[2]

7 A farmer supplies cucumbers to a supermarket.

The farmer grew 7882 cucumbers last year.

The supermarket bought 59% of these cucumbers.

(a) **Estimate** the number of cucumbers the supermarket bought.

Show your working.

Answer \_\_\_\_\_ [2]

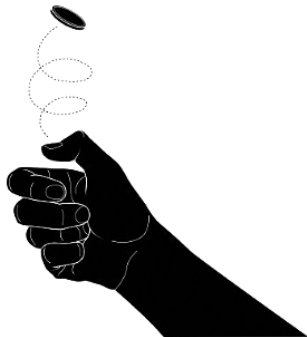
(b) Explain why your answer to (a) is an overestimate.

Answer \_\_\_\_\_  
\_\_\_\_\_ [1]

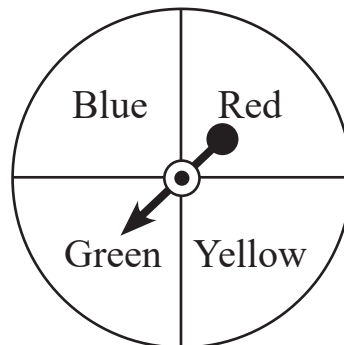


8 Bill flips a fair coin with outcomes head and tail once.

He spins the spinner with outcomes blue, red, yellow and green once.



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(a) List all the possible outcomes that Bill can get.

[2]

(b) The probability of getting an outcome of a tail and yellow is  $\frac{1}{8}$

Explain **clearly** why this is the case.

[1]

[Turn over



9 The length of the side of a square is 51.1 cm.

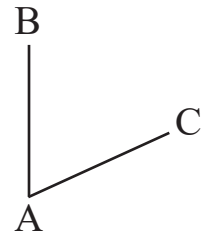
**Estimate** the area of the square.

Answer \_\_\_\_\_  $\text{cm}^2$  [2]



10 Cara read the following instructions to draw a triangle.

- Using a ruler, draw a 10 cm **vertical line** from point A.  
**Note: Point A has been marked below.**
- Label the other end B.
- Place a protractor at point A and measure an angle of  $70^\circ$  to the right of the line AB and mark with a dot.
- Draw an 8 cm line from A through your dot.
- Label the end of this line C.
- Join B to C.



Follow the instructions and draw Cara's triangle below.

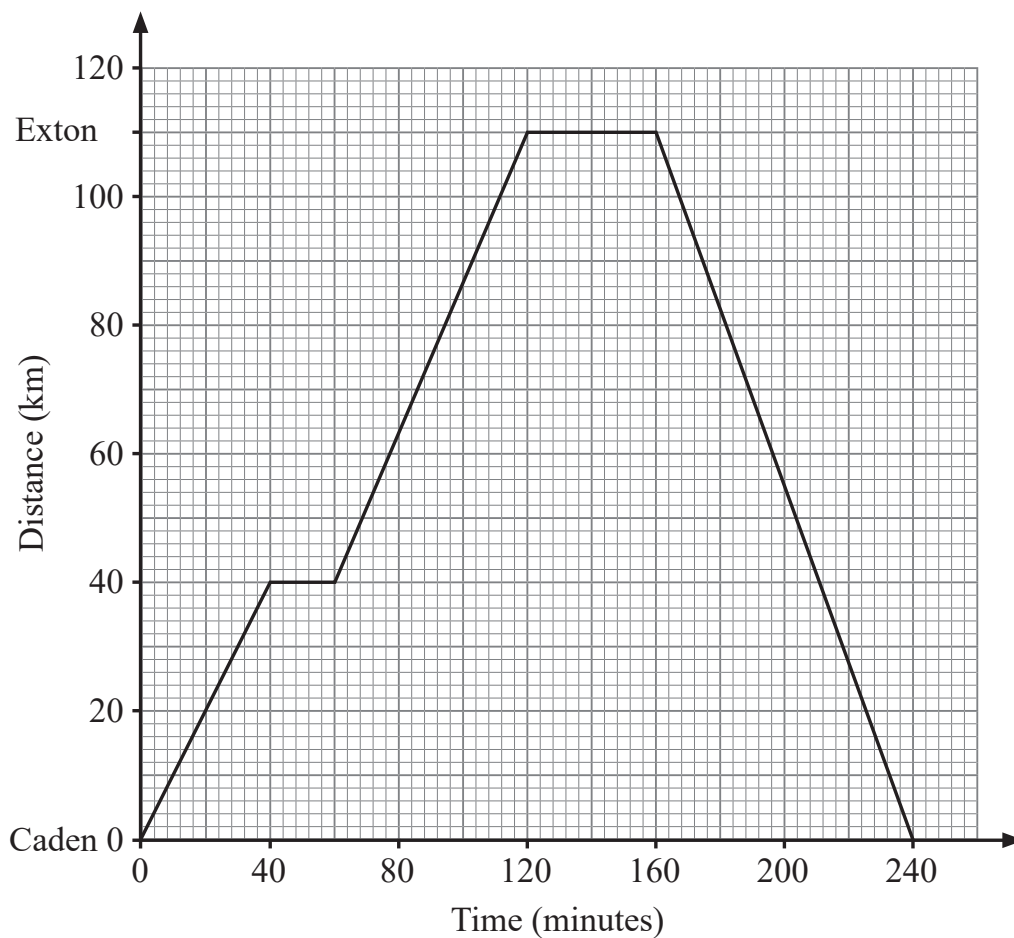
•  
A

[3]

[Turn over



11 The graph shows Paul's journey from Caden to Exton and back to Caden.



(a) How far is Paul from Caden when he first stops?

Answer \_\_\_\_\_ km [1]

(b) How long did Paul stay at Exton?

Answer \_\_\_\_\_ minutes [1]

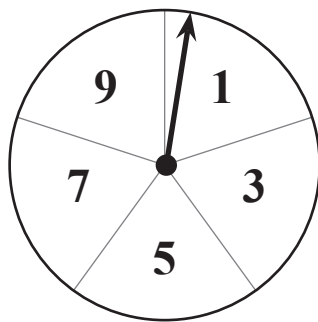
(c) Paul left Caden at 8.30 am.

At what time did he leave Exton?

Answer \_\_\_\_\_ am [2]



12 A fair spinner has outcomes of 1, 3, 5, 7 and 9



The spinner is spun twice.

The two outcomes are **added** together to give a score.

(a) Complete the table below to show all possible scores.

		First spin					
		+	1	3	5	7	9
Second spin	1		2				
	3			6			
	5				10		
	7		8			14	
	9				14		18

[2]

(b) What is the probability of getting the “most likely” score?

Answer \_\_\_\_\_ [1]

[Turn over



13 A bag contains 140 g of crisps.

30% is fat.

How many grams is this?

Answer \_\_\_\_\_ g [2]



14 Kevin owns a business.

$\frac{3}{5}$  of his customers pay by card.

$\frac{2}{7}$  pay in cash.

The rest pay by cheque.

What fraction pay by cheque?

Answer \_\_\_\_\_ [3]





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Look at the table below.

It shows the number of pastries sold in the morning.

<b>Cinnamon rolls</b>	<b>1</b>
<b>Apple pies</b>	<b>6</b>
<b>Chocolate muffins</b>	<b>8</b>
<b>Carrot cake</b>	<b>5</b>

Based on this data, how many of the 50 pastries sold in the afternoon would you expect to be chocolate muffins?

Answer \_\_\_\_\_ [3]



16 Given that  $\frac{29400}{245} = 120$ , write down the answer to

(a)  $\frac{2940}{245}$

Answer \_\_\_\_\_ [1]

(b)  $245 \times 240$

Answer \_\_\_\_\_ [1]

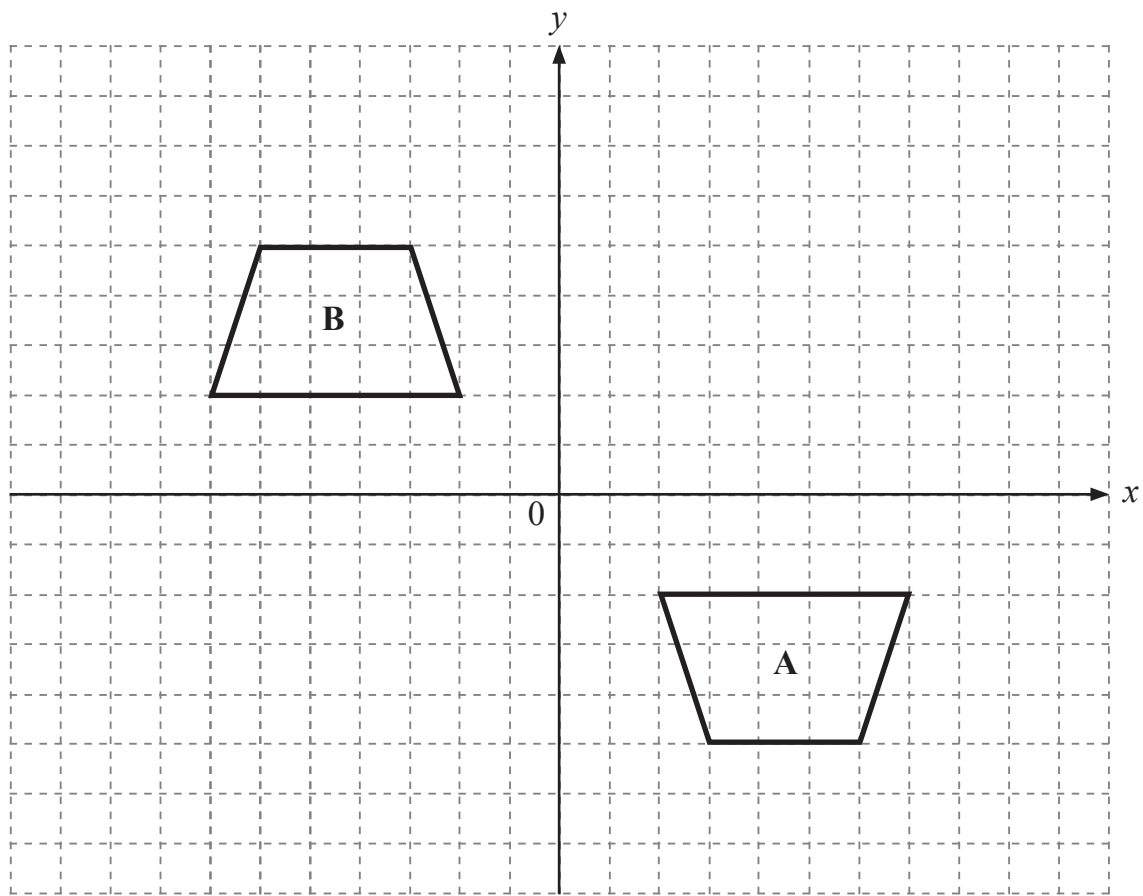
(c)  $24.5 \times 1.2$

Answer \_\_\_\_\_ [1]



17 The diagram shows two identical shapes, A and B.

Describe fully the single transformation which takes shape A to shape B.



Answer \_\_\_\_\_ [3]





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Question Number	Marks
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<b>Total Marks</b>	
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