



General Certificate of Secondary Education

Centre Number

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Candidate Number

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Mathematics

Unit M5 Paper 2
(With calculator)
Foundation Tier



[GMC52]
Assessment

GMC52

TIME

1 hour.

Assessment Level of Control:

Tick the relevant box (✓)

Controlled Conditions	
Other	

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 sixteen** questions.

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

You **may** 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.

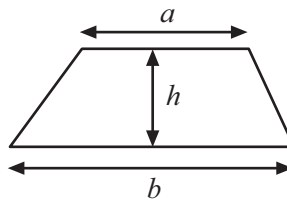
You should have a calculator, ruler, compasses and a protractor.

The Formula Sheet is on page 2.

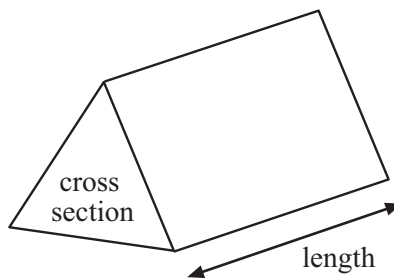


Formula Sheet

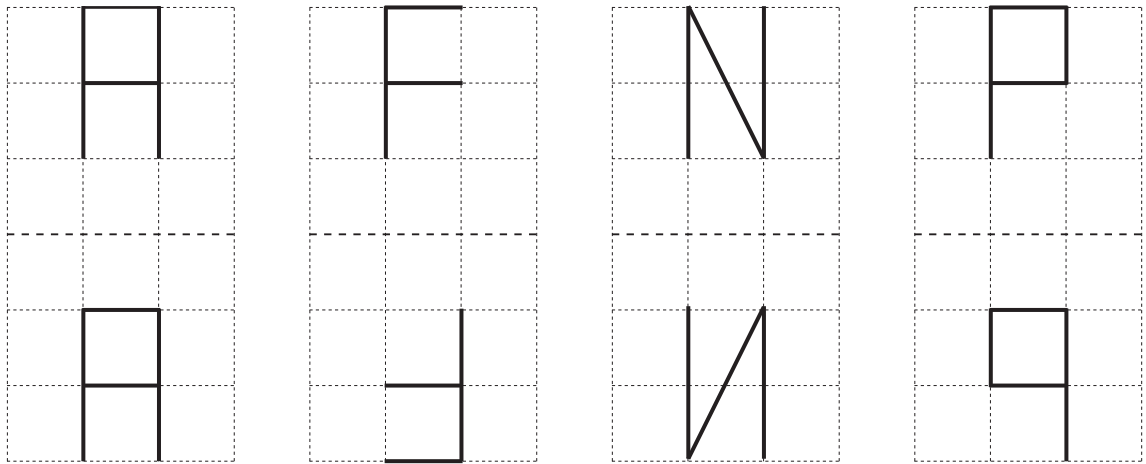
$$\text{Area of trapezium} = \frac{1}{2}(a + b)h$$



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

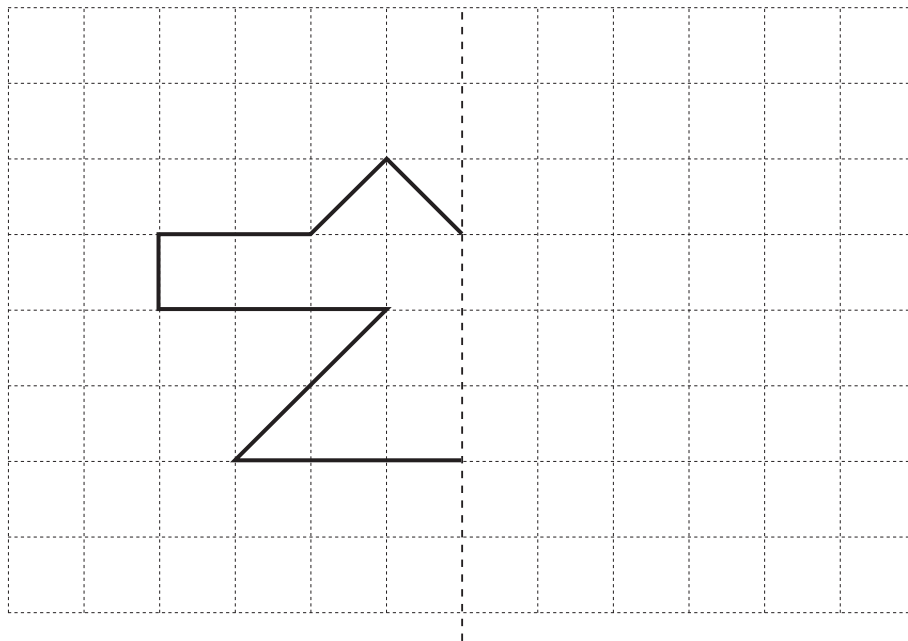


1 (a) Which letter has been correctly reflected in the dashed mirror line?



Answer _____ [1]

(b) Draw the reflection of the shape in the mirror line.



mirror line

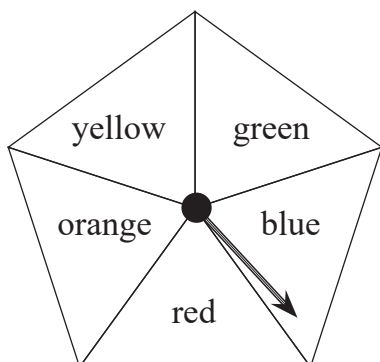
[2]

[Turn over

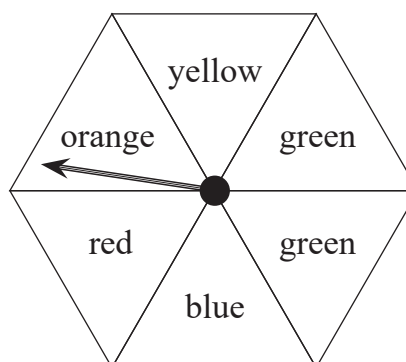


2 Two different spinners are shown.

Spinner A



Spinner B



Each spinner is spun once.

(a) Which spinner gives the best chance of landing on **green**?

Circle your answer.

Spinner A Spinner B Both the same [1]

(b) Which spinner gives the best chance of landing on **red**?

Circle your answer.

Spinner A Spinner B Both the same [1]

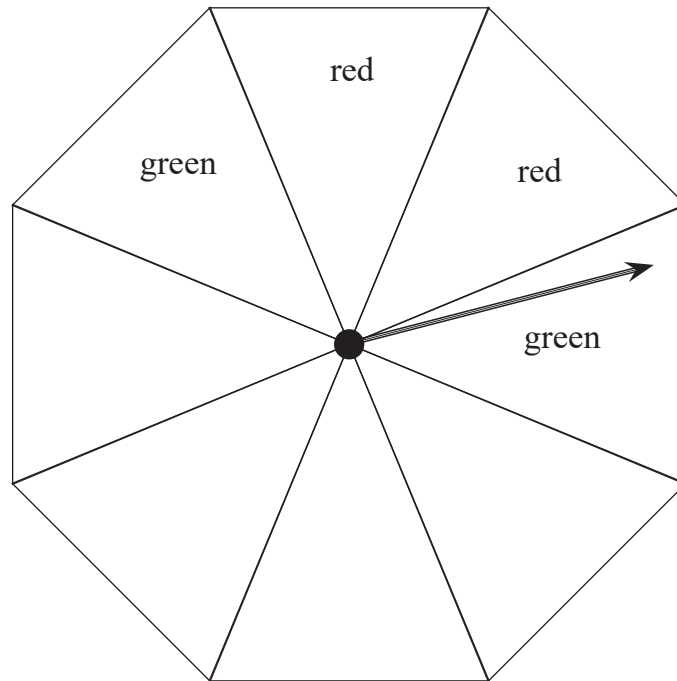


(c) Another spinner is shown.

Write the missing colours on the spinner so that the statements below are true.

Landing on red is twice as likely as landing on green.

Landing on green is the same likelihood as landing on yellow.



[1]

[Turn over



3 (a) What name is given to these special numbers?

1, 3, 6, 10, 15, 21, ...

Answer _____ [1]

(b) Square numbers can be made from this sequence by adding each number to the one that comes next.

(i) Complete the table below.

1+3	3+6	6+10	10+15	15+21
4	9			

[1]

(ii) What is the next square number?

Answer _____ [1]



4

Paul's Cupcakes
3 for £1

Noel's Cupcakes
5 for £1.50

Sandi's Cupcakes
32p each
Buy 5, get 1 free

Prue wants to buy 30 cupcakes.

What is the best price for 30 cupcakes?

Show your working.

Answer £ _____ [4]

[Turn over

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5

Andy

Beth

Ciaran

Dave

Ellie

Fran

Gina

Harry

Ivan

Nine children stand in the playground.

Beth is North of Ellie.

Beth is North East of Dave.

Complete the sentences.

(a) Fran is _____ of Ciaran. [1]

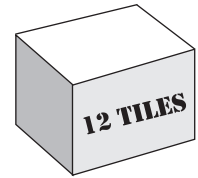
(b) Harry is _____ of Ivan. [1]

(c) Gina is _____ of Ellie. [1]



6 Ella needs 176 tiles for her new bathroom.

The tiles come in boxes of 12



(a) Calculate the least number of boxes that she will need.

Answer _____ [2]

(b) How many tiles will she have left over?

Answer _____ [2]

7 Circle the cube number below

3 9 27 81

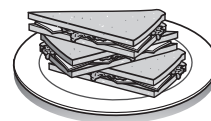
[1]

[Turn over



8 Sandwiches contain

Ham (H), Beef (B) or Chicken (C)



Each sandwich has **either**

Sauce (S) or Mayonnaise (M)

added to them.

(a) List all the possible types of sandwich.

[2]

(b) 120 sandwiches are made using the types in part (a).

Equal numbers of each type are made.

How many sandwiches contain beef?

Answer _____ [2]



9 The map shows the position of four Underground Stations in London.

The symbol for an underground station is 



Map Scale 1 cm = 100 m

(a) Calculate the **actual distance** between Goodge Street Underground Station and Holborn Underground Station.

Show your working clearly.

Answer _____ m [2]

(b) Great Ormond Street Children's Hospital is 550 m due North of Holborn Underground Station.

Mark the exact position of the hospital with an X.

[2]

[Turn over



10 Jenny's height is given as 156 cm, correct to the nearest cm.

Between what limits does Jenny's height lie?

Complete the following:



_____ \leq Jenny's height $<$ _____

[2]

11 Laura paid for meals, while on holiday in Spain, with her credit card.

The cost was €91.48

£1 = €1.12

(a) What was the cost in £?

Answer £ _____ [2]

(b) Laura's bank charged her 2.7% of this cost in £ for a non-sterling transaction.

How much was this charge in £?

Answer £ _____ [2]



12 In a herd of 40 goats there are
8 brown 9 white 13 without horns



A goat is taken at random from the herd.

What is the probability that this goat

(a) has horns,

Answer _____ [1]

(b) is brown or white,

Answer _____ [1]

(c) is not brown or white?

Answer _____ [1]

[Turn over



13

	Pancake mix for four people	Pancake mix for ten people
Flour	200g	g
Milk	350ml	ml
Eggs	2	
Vegetable oil	1 tablespoon	tablespoons

The table above shows the ingredients required to make pancakes for four people.

Complete the table to show how much of each ingredient would be required for ten people.

[2]



14 (a) Fill in the next term in the following sequence.

2, 3, 5, 8, 13, 21, _____ [1]

(b) What rule did you use to find this term?

Answer _____ [1]



15 A box contains sweets.

The sweets are strawberry, lime, orange or blackcurrant flavour.

A sweet is taken at random from the box.

The table below shows some of the probabilities.

Flavour	strawberry	lime	orange	blackcurrant
Probability	0.45			0.25

(a) The box has an equal number of lime and orange sweets.

Work out the probability that an orange sweet will be taken.

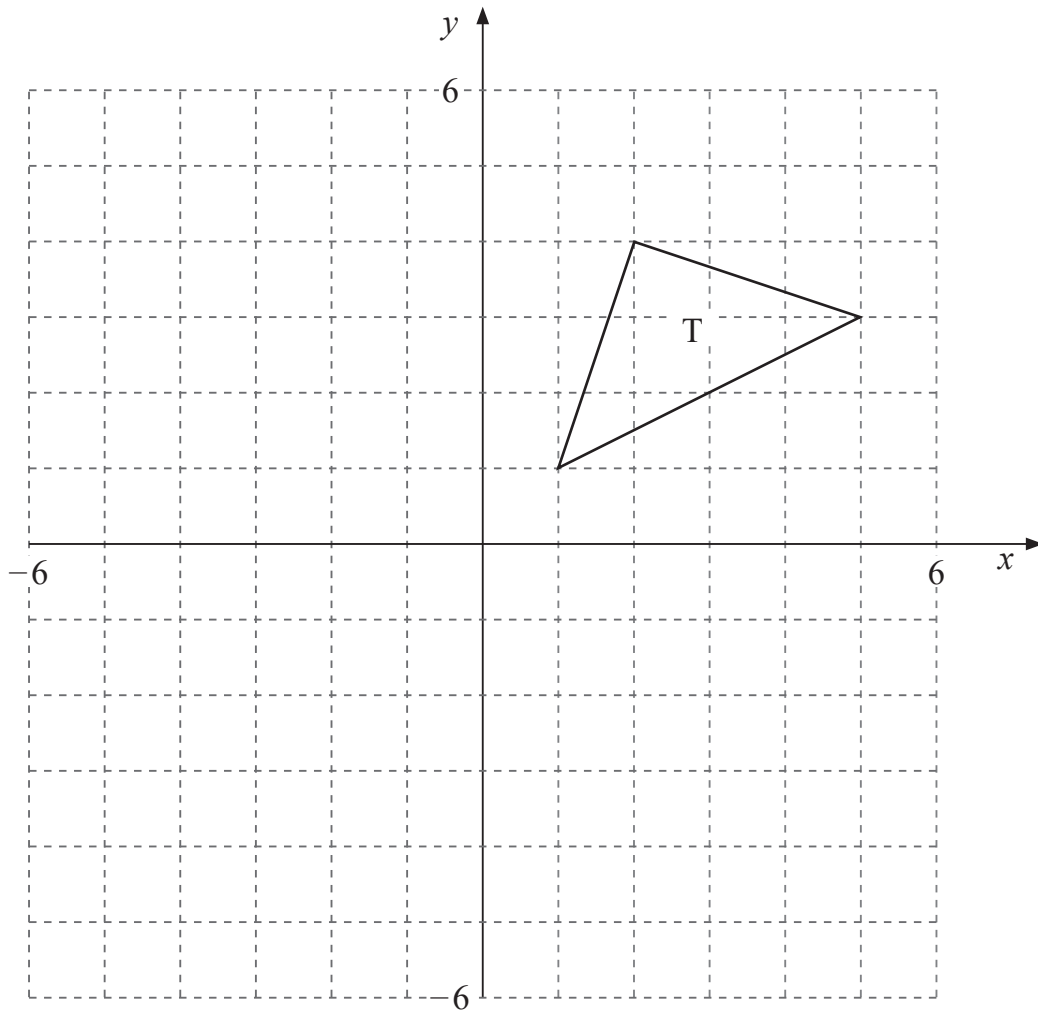
Answer _____ [2]

(b) The box contains a total of 120 sweets.

How many strawberry sweets should it contain?

Answer _____ [2]





- (a) Draw the image of the triangle, T, after a translation of 4 units to the left and 5 units down.

Label the image P.

[1]

- (b) Draw the image of the triangle, T, after a rotation of 90° anti-clockwise about the origin.

Label the image Q.

[3]

THIS IS THE END OF THE QUESTION PAPER



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For Examiner's use only	
Question Number	Marks
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Total Marks	
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Examiner Number

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