

Write your name here	
Surname	Other names
Centre Number	Candidate Number
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<b>Edexcel GCSE</b>	
<b>Methods in Mathematics</b>	
<b>Unit 2: Methods 2</b>	
<b>For Approved Pilot Centres ONLY</b>	
<b>Foundation Tier</b>	
Mock Paper	Paper Reference
<b>Time: 1 hour 45 minutes</b>	<b>5MM2F/01</b>
<b>You must have:</b> Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.	Total Marks
	<input type="text"/>

### 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 may be used.**
- If your calculator does not have a  $\pi$  button, take the value of  $\pi$  to be 3.142 unless the question instructs otherwise.



### 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  
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

### 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 ►

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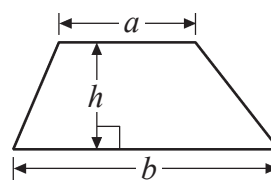
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GCSE Mathematics 2MM01

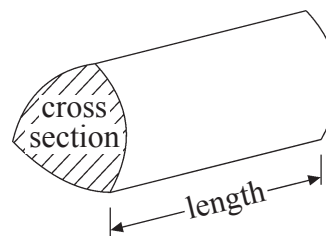
Formulae: Foundation Tier

**You must not write on this formulae page.  
Anything you write on this formulae page will gain NO credit.**

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



**Volume of prism** = area of cross section  $\times$  length



Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 Work out

(a)  $45.9 + 8.74$

.....  
(1)

(b)  $-29 \div -4$

.....  
(1)

(c)  $8.5^3$

.....  
(1)

(d)  $6 \times (18.6 - 5.9)$

.....  
(1)

(e)  $\sqrt{68.89}$

.....  
(1)

(f)  $98 - 6 \times 13$

.....  
(1)

(Total for Question 1 is 6 marks)



2 Here is a parallelogram.



(a) On the parallelogram mark, with arrows ( $\gg$ ), a pair of parallel lines.

(1)

Here is a polygon.

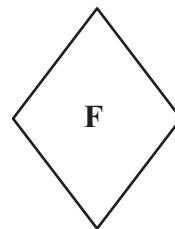
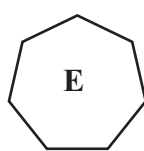
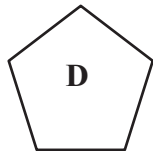
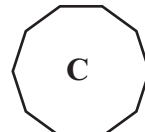
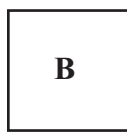
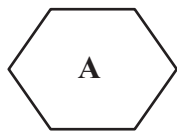


(b) Write down the special name of this polygon.

.....

(1)

Here are some more polygons.



(c) (i) Write down the letter of the polygon that is a pentagon.

.....

(ii) Write down the letter of the polygon that is a decagon.

.....

(2)

**(Total for Question 2 is 4 marks)**



- 3 Write 42 as a fraction of 70  
Give your fraction in its simplest form.

.....

(Total for Question 3 is 2 marks)

- 4 Here is a list of temperatures.

$-7^{\circ}\text{C}$      $3^{\circ}\text{C}$      $-8^{\circ}\text{C}$      $-12^{\circ}\text{C}$      $0^{\circ}\text{C}$      $5^{\circ}\text{C}$

- (a) Work out the difference between the highest temperature and the lowest temperature.

.....  $^{\circ}\text{C}$   
(2)

- (b) Work out the difference between  $-7^{\circ}\text{C}$  and  $-12^{\circ}\text{C}$ .

.....  $^{\circ}\text{C}$   
(1)

- (c) Increase  $-8^{\circ}\text{C}$  by  $14^{\circ}\text{C}$ .

.....  $^{\circ}\text{C}$   
(1)

(Total for Question 4 is 4 marks)

- 5 (a) Work out the output for this number machine.



.....  
(2)

- (b) Work out the input for this number machine.



.....  
(2)

(Total for Question 5 is 4 marks)



6 (a) Write  $\frac{1}{2}$  as a decimal.

.....  
(1)

(b) Write 0.83 as a fraction.

.....  
(1)

(c) Write 60% as a fraction.  
Give your fraction in its simplest form.

.....  
(2)

(d) Work out  $\frac{5}{9}$  of 351

.....  
(2)

**(Total for Question 6 is 6 marks)**



7 (a) Write a number in each box to make each calculation correct.

(i)  $7893 \div \boxed{\phantom{000000}} = 7.893$

(ii)  $0.9 \times \boxed{\phantom{000000}} = 90$

(iii)  $2 \div \boxed{\phantom{000000}} = 0.1$

(3)

(b) Work out  $\frac{22.5 + 33}{1.5}$

.....  
(2)

(c) Work out  $8^2 + \sqrt{92.16}$

.....  
(2)

(Total for Question 7 is 7 marks)

8 This formula is used to work out the perimeter of a square.

Perimeter of square =  $4 \times$  length of one side

A square has sides of length 7 cm.

(a) Work out the perimeter of the square.

..... cm  
(2)

A different square has a perimeter of 50 cm.

(b) Work out the length of one side of this square.

..... cm  
(2)

(Total for Question 8 is 4 marks)



9 (a) Write 9 out of 50 as a fraction.

.....  
(1)

(b) Write these fractions in order of size.  
Start with the smallest fraction.

$$\frac{19}{40} \quad \frac{1}{2} \quad \frac{2}{5} \quad \frac{11}{20}$$

.....  
(2)

(c) Write these numbers in order of size.  
Start with the smallest number.

$$\frac{2}{5} \quad 25\% \quad 0.2 \quad \frac{3}{8} \quad 38\%$$

.....  
(2)

(Total for Question 9 is 5 marks)





10 (a) Michael thinks of a number.  
He subtracts 7 from his number.  
His answer is 9

What number did Michael first think of?

.....  
(1)

(b) Jean thinks of a number.  
She multiplies her number by 3  
She then adds 18  
Her answer is 81

What number did Jean first think of?

.....  
(2)

**(Total for Question 10 is 3 marks)**

---



**11**  $P = 2a + 3b$   
 $a = 5$   
 $b = 4$

(a) Work out the value of  $P$ .

$P = \dots\dots\dots$   
(2)

$L = 5x - 3y$   
 $x = -4$   
 $y = -2$

(b) Work out the value of  $L$ .

$L = \dots\dots\dots$   
(2)

$T = 2w^2 + 3w$   
 $w = -5$

(c) Work out the value of  $T$ .

$T = \dots\dots\dots$   
(2)

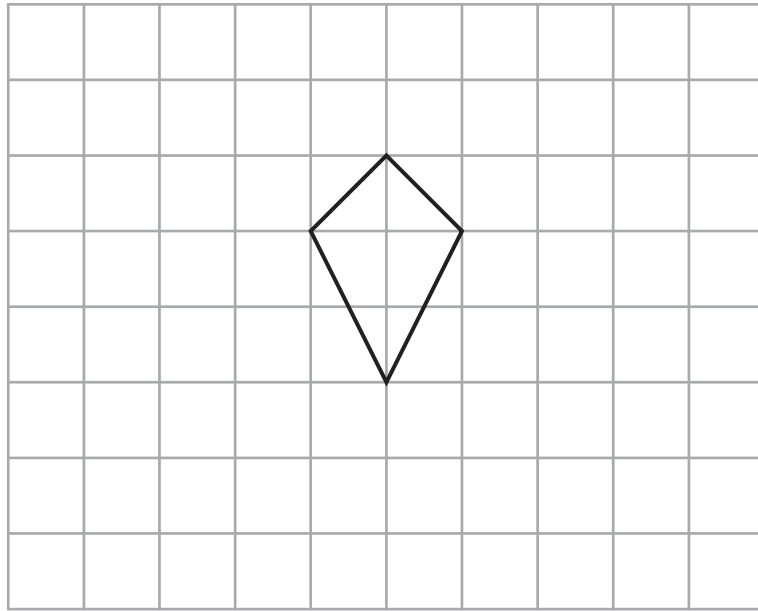
(d) Make  $a$  the subject of the formula  $v = 6a + u$

$\dots\dots\dots$   
(2)

(Total for Question 11 is 8 marks)



12 On the grid, show how this shape will tessellate.  
You must draw at least 6 shapes.



(Total for Question 12 is 2 marks)

\*13

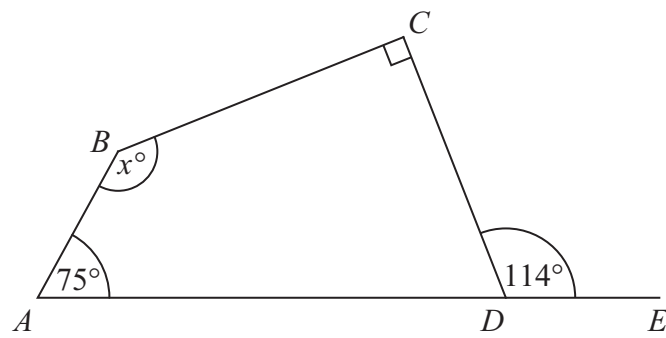


Diagram **NOT** accurately drawn

$ABCD$  is a quadrilateral.  
 $ADE$  is a straight line.

Work out the value of  $x$ .  
Give reasons for your answer.

(Total for Question 13 is 4 marks)



14 (a) Work out 10% of 60

.....  
(1)

(b) Work out 45% of 1600

.....  
(2)

(c) Write 120 out of 200 as a percentage.

..... %  
(2)

(Total for Question 14 is 5 marks)

15 A cuboid has

- a volume of  $120 \text{ cm}^3$
- a height of 5 cm
- a width of 3 cm

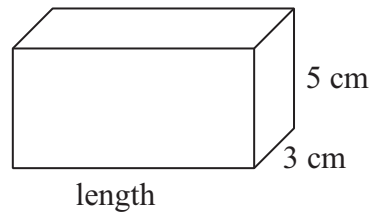


Diagram **NOT** accurately drawn

Work out the length of the cuboid.

..... cm

(Total for Question 15 is 2 marks)



**16** There are 80 counters in a bag.  
The counters are blue or yellow or green.

25% of the counters are blue.

$\frac{1}{10}$  of the counters are yellow.

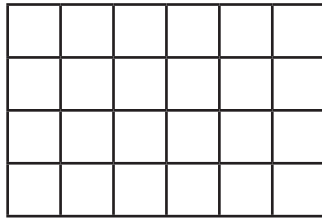
How many green counters are in the bag?

.....  
**(Total for Question 16 is 4 marks)**



17 (a) Shade this shape so that

the number of shaded squares : number of squares **not** shaded = 1 : 3



(2)

(b) Share 320 in the ratio 3 : 5

.....  
(3)

(Total for Question 17 is 5 marks)

18

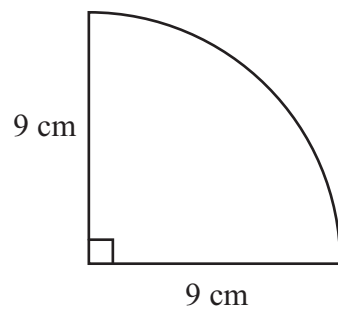


Diagram **NOT**  
accurately drawn

A quarter circle has a radius of 9 cm.

Work out the perimeter of the quarter circle.  
Give your answer correct to 1 decimal place.

..... cm

(Total for Question 18 is 4 marks)



19  $n$  is an integer and  $-1 \leq n < 4$

(a) Write down all the possible values of  $n$ .

.....  
(2)

(b) Solve  $2x - 5 > 11$

.....  
(2)

(Total for Question 19 is 4 marks)

\*20

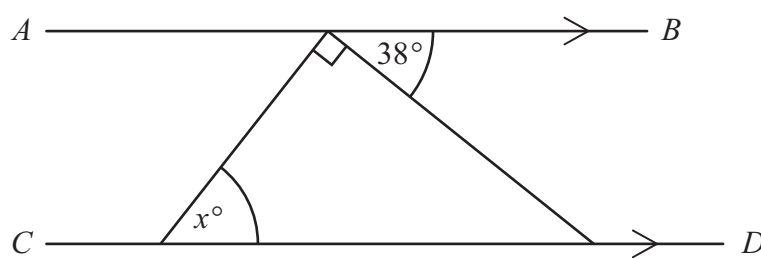


Diagram NOT  
accurately drawn

$AB$  is parallel to  $CD$ .

Work out the size of the angle marked  $x^\circ$ .  
Give reasons for your answer.

(Total for Question 20 is 3 marks)



21

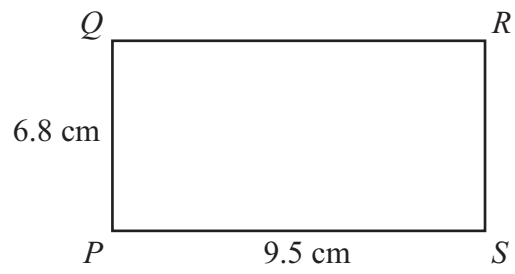


Diagram **NOT** accurately drawn

$PQRS$  is a rectangle.

Work out the length of the diagonal  $PR$ .  
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 21 is 3 marks)





22 The diagram shows a solid prism.

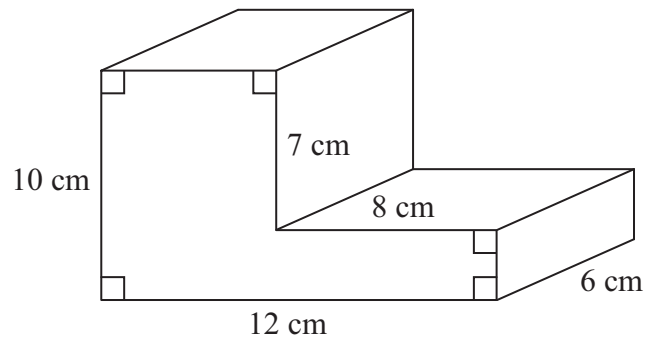


Diagram **NOT**  
accurately drawn

Work out the volume of the prism.

.....  
(Total for Question 22 is 5 marks)

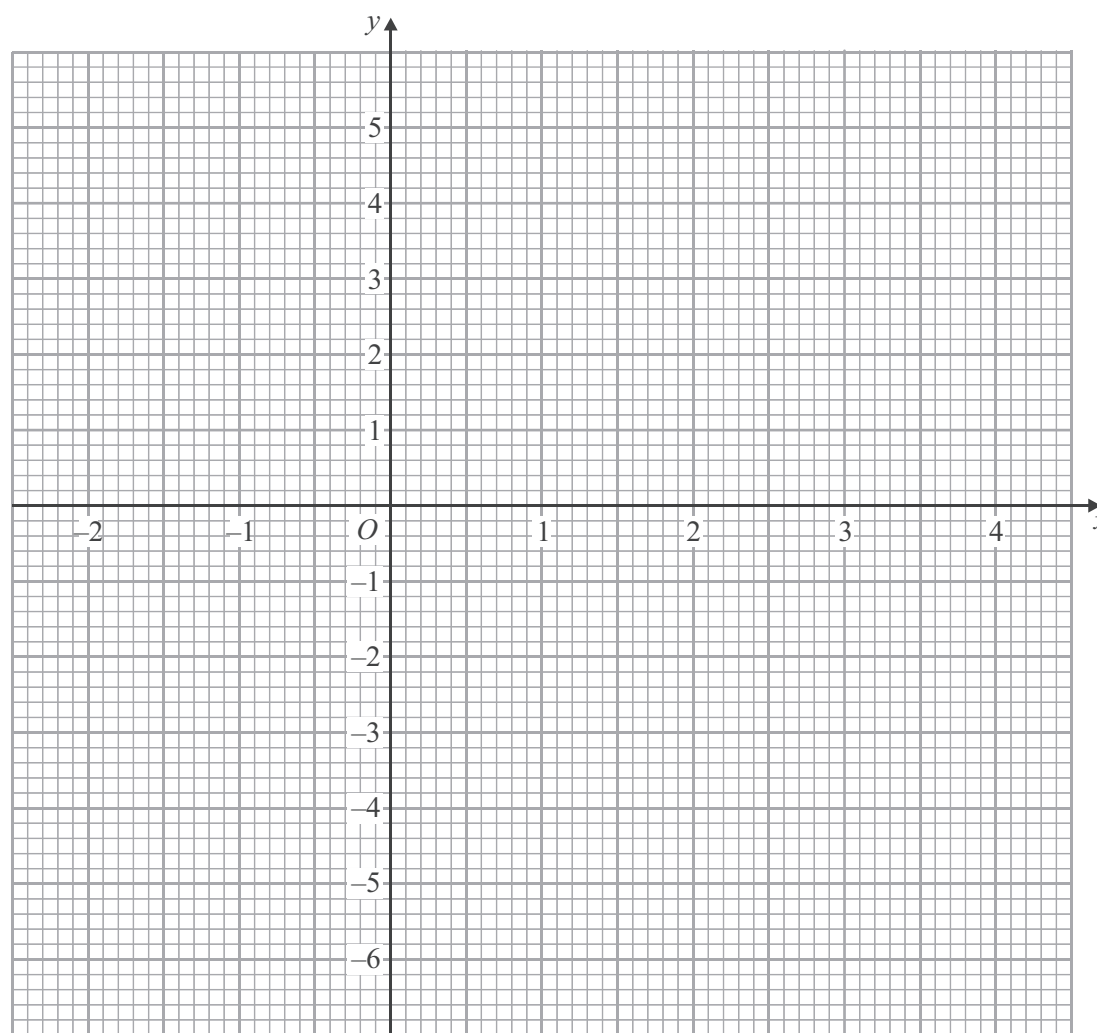


23 (a) Complete the table for  $y = x^2 - 2x - 4$

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

(2)

(b) On the grid, draw the graph of  $y = x^2 - 2x - 4$



(2)

(c) Use the graph to find estimates of the values of  $x$  for which  $x^2 - 2x - 4 = 0$

.....  
(2)

(Total for Question 23 is 6 marks)

TOTAL FOR PAPER IS 100 MARKS



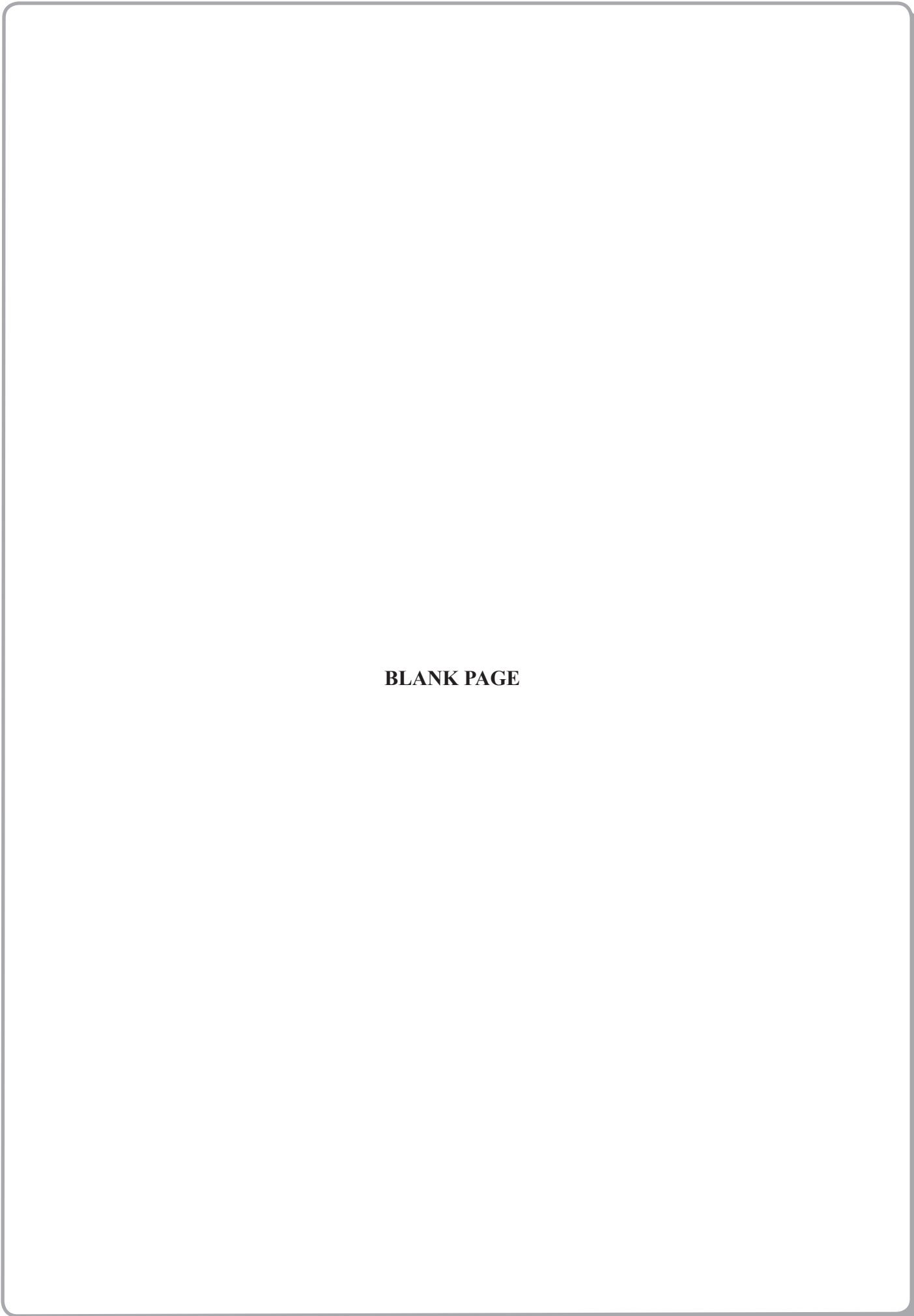


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