

Surname _____

Other Names _____

Centre Number _____

Candidate Number _____

Candidate Signature _____

**GCSE
MATHEMATICS**

F

Foundation Tier Paper 1 Non-Calculator

8300/1F

Thursday 24 May 2018

Morning

Time allowed: 1 hour 30 minutes

For this paper you must have:
• **mathematical instruments**
You must NOT use a calculator.



At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]



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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.**
- **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 graph paper, tracing paper and more answer 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 Work out $\frac{1}{2} \times 5$

Circle your answer. [1 mark]

$$\frac{5}{10}$$

$$2\frac{1}{2}$$

$$\frac{1}{10}$$

$$2\frac{1}{5}$$

2 Circle the number that is 5 LESS than -2
[1 mark]

$$-10$$

$$-7$$

$$-3$$

$$3$$

3 Simplify $3 \times a \times 3 \times a$

Circle your answer. [1 mark]

$$9a$$

$$6a^2$$

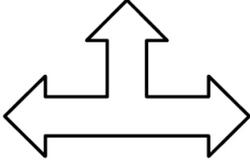
$$9a^2$$

$$6a$$



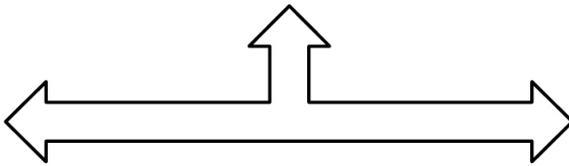
4 Which shape is SIMILAR to shape X?

X

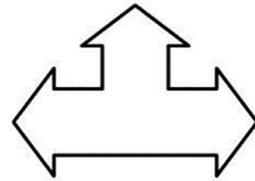


Circle the correct letter. [1 mark]

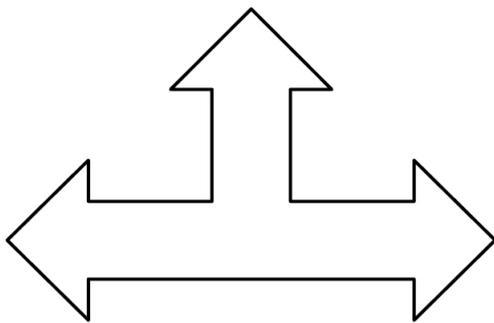
A



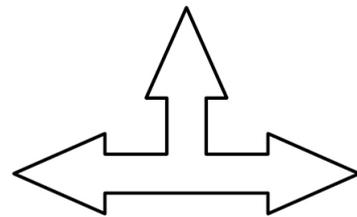
B



C



D



[Turn over]

4



5 Work out 20% of 14 000 [2 marks]

Answer _____



- 6 (a) Write 0.85 as a fraction in its simplest form.
[2 marks]

Answer _____

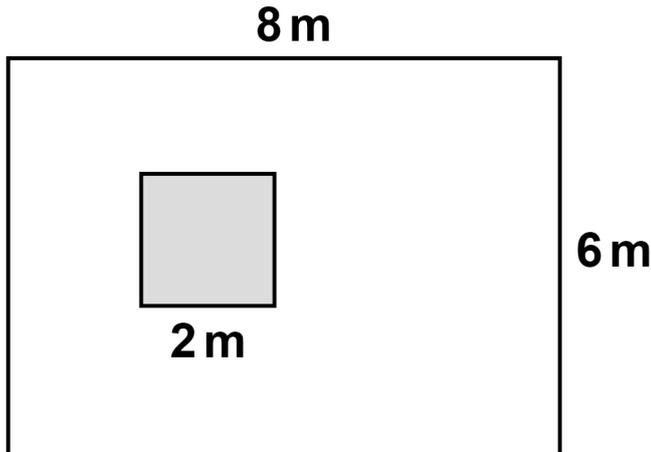
- 6 (b) Write $\frac{5}{8}$ as a decimal. [1 mark]

Answer _____

[Turn over]



- 7 A rectangular carpet measures 8 m by 6 m
Part of the carpet is covered by a square rug of length 2 m
The diagram is not drawn accurately.



Show that $\frac{1}{12}$ of the carpet is covered by the rug. [2 marks]



[Turn over]

7



9 The time in Rio is three hours behind London.
The time in New York is five hours behind London.

What is the time in New York when it is 1.00 am in Rio? [2 marks]

Answer _____

[Turn over]



10 Here is a list of numbers.

5 6 1 3 5 5 8 4 2 2

10 (a) Work out the median. [2 marks]

Answer _____



10 (b) Work out the mean. [2 marks]

Answer _____

8

[Turn over]



- 11 **300 passengers go on a coach trip.
Each coach takes 50 passengers.
Each passenger pays £25**
- The table shows the costs for the coach company.**

	Cost for each coach
Pay for driver	£90
Fuel	70p per mile

Each coach travels 200 miles.

Work out the TOTAL profit the company makes from this trip. [6 marks]



12 (b) Work out $2843.61 \div 7$
[2 marks]

Answer _____

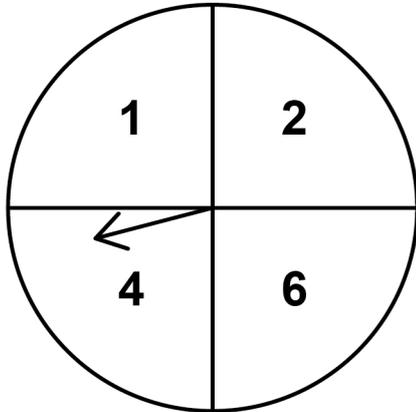
10

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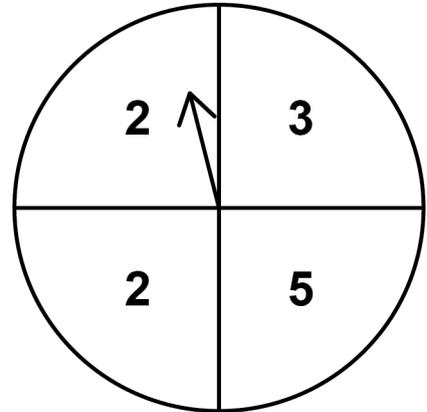


13 In a game, two fair spinners are spun.

Spinner A



Spinner B



If the numbers the arrows land on are different, the score is the HIGHER number.

If the numbers the arrows land on are the same, the score is 0

13 (a) Complete the table to show the possible scores. [2 marks]

		Spinner B			
		2	2	3	5
Spinner A	1	2			
	2		0		
	4				
	6				



13 (b) Write down the probability that the score is an ODD number. [1 mark]

Answer _____

[Turn over]



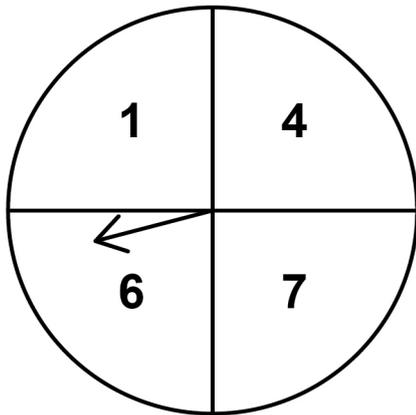
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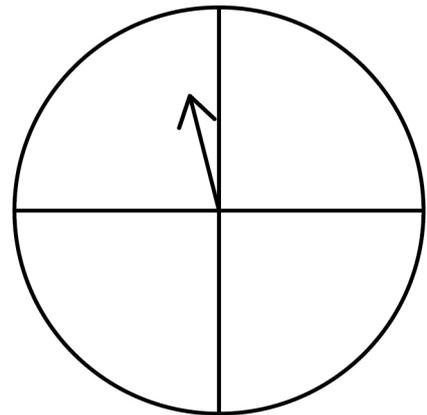
13 (c) The same game is played using spinners C and D.

The numbers on C are shown.

Spinner C



Spinner D



The table shows some of the possible scores.

1	4			
4		0		
6				
7			0	8

Write the missing numbers on spinner D.
[2 marks]

[Turn over]

5



**14 (b) In fact, the THIRD person works at a faster rate.
How does this affect the time to paint the room?
[1 mark]**

[Turn over]



16 Circle the point that lies on the line $x - 3 = 0$
[1 mark]

(3, 0)

(0, 3)

(-3, 0)

(0, -3)

17 a is a negative odd number.

Circle the words that describe a^2
[1 mark]

negative and odd

negative and even

positive and odd

positive and even

18 Circle the ratio which is the same as the scale
1 cm represents 1 km [1 mark]

1 : 100

1 : 1000

1 : 10 000

1 : 100 000

[Turn over]



- 19 Circle the percentage that is closest in value to $\frac{1}{3}$
[1 mark]

30%

33%

33.3%

33.4%

- 20 Work out $\sqrt{121} - (13 - 5 \times 2)^2$
[3 marks]

Answer _____

7

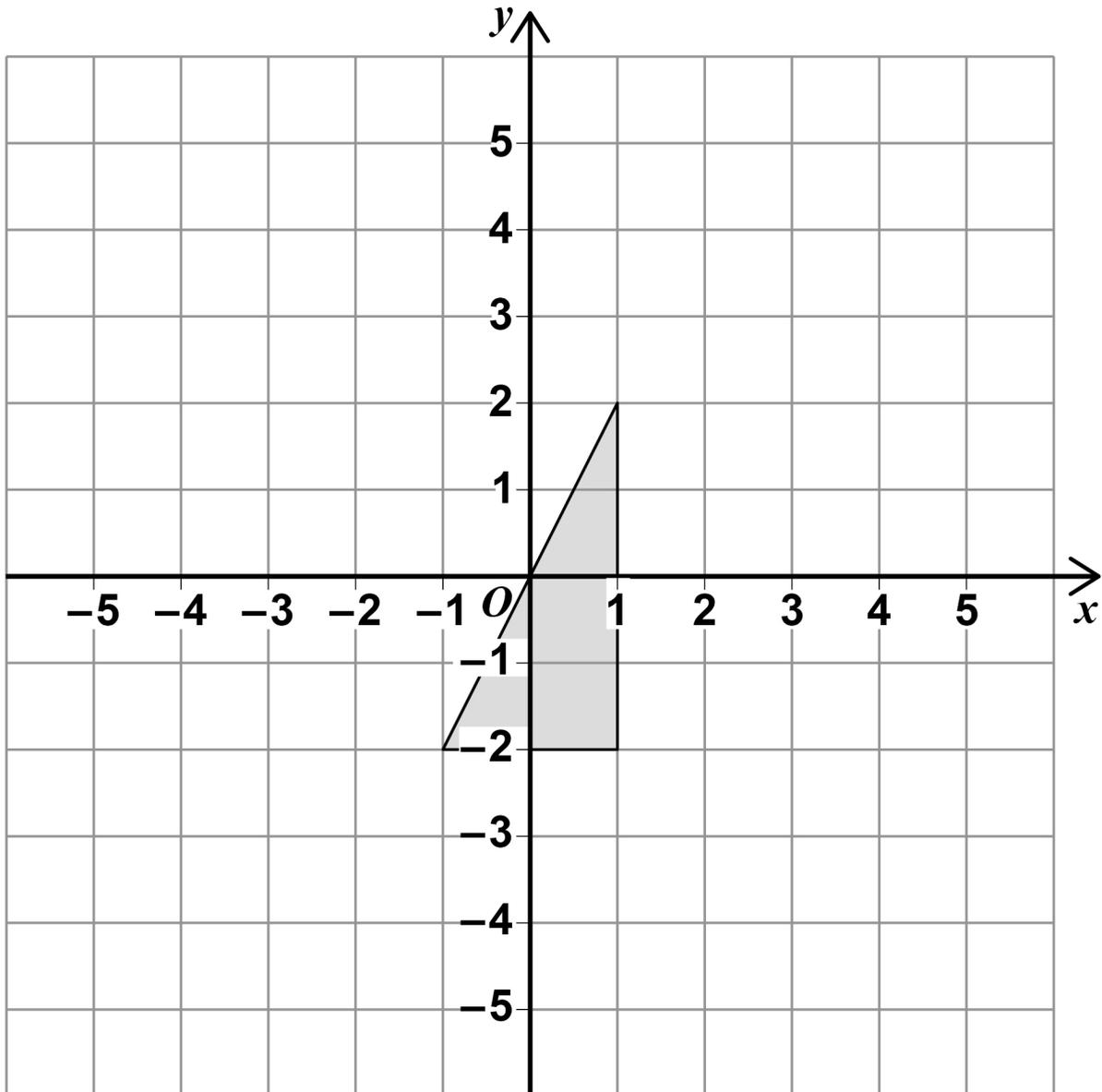


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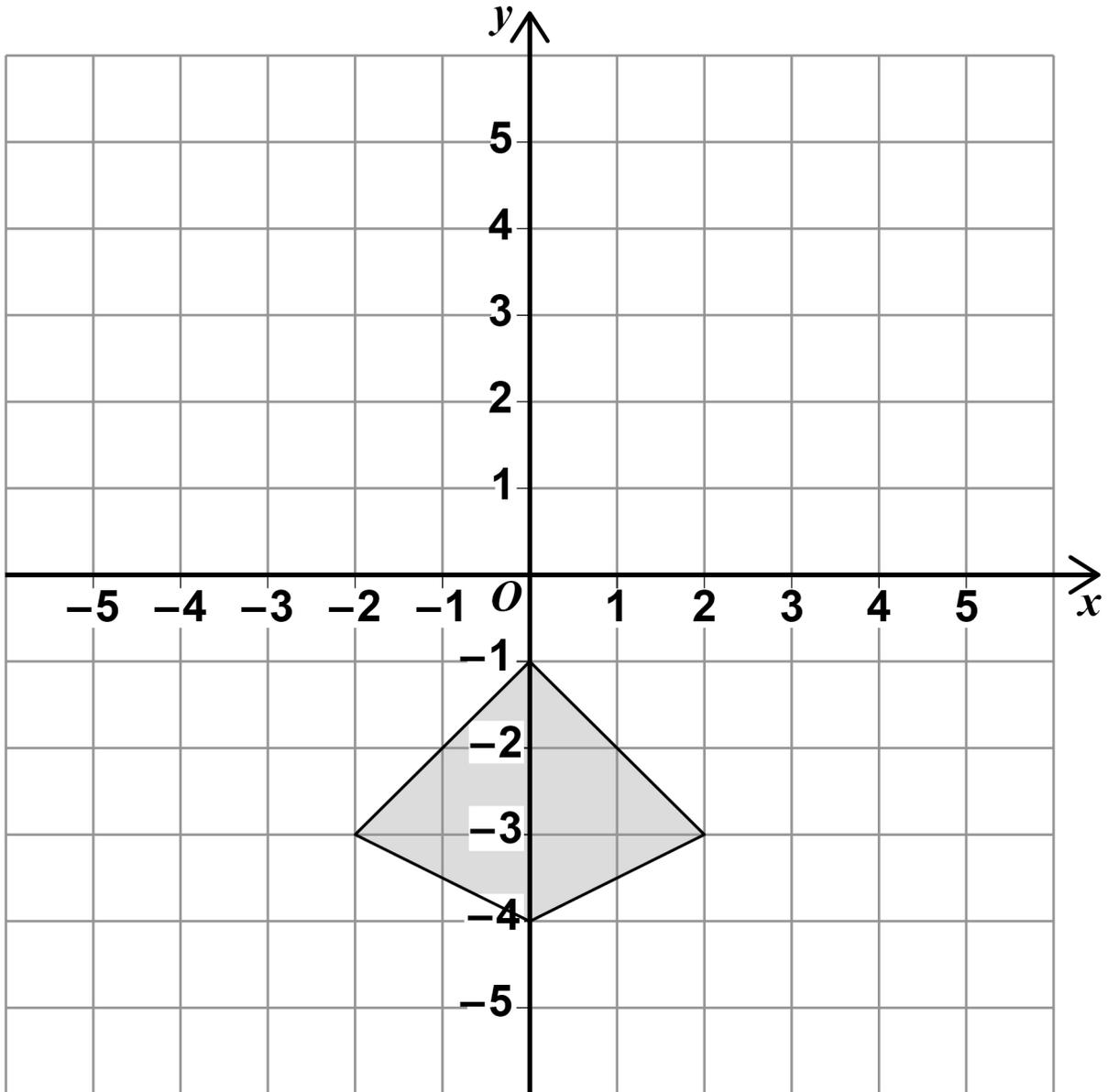
[Turn over]



- 21 (a) Reflect the triangle in the line $x = 2$
[2 marks]



21 (b) Rotate the kite 90° anticlockwise about $(0, 0)$
[2 marks]



[Turn over]

4



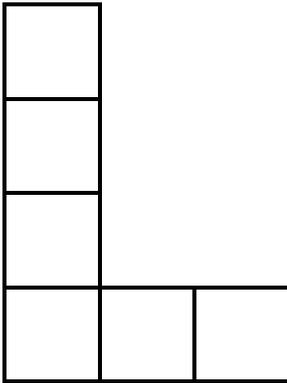
Answer _____ :

[Turn over]

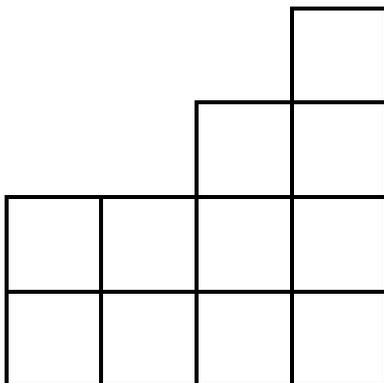


- 23** A solid shape is made from centimetre cubes. Here are the plan, side elevation and front elevation of the shape.

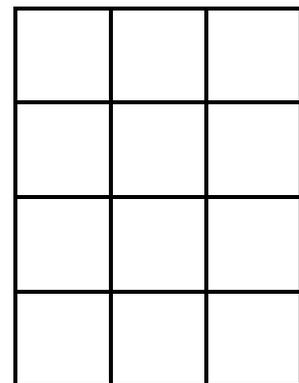
Plan



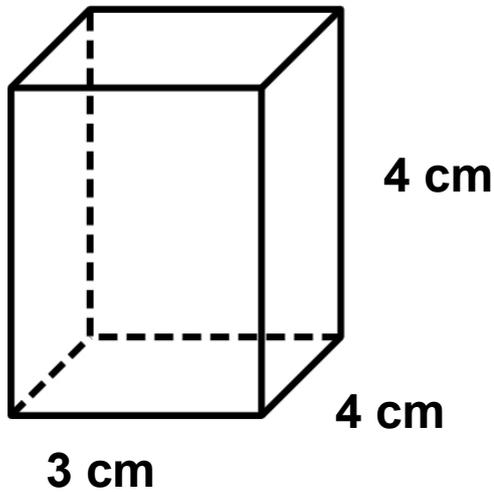
Side elevation



Front elevation



Centimetre cubes are added to make this cuboid.



The width of the cuboid is 3 cm, the height is 4 cm and the depth is 4 cm.

How many cubes are added? [3 marks]

Answer _____

[Turn over]

6



25 The height of Zak is 1.86 metres.
The height of Fred is 1.6 metres.

Write the height of Zak as a fraction of the height of Fred.

Give your answer in its simplest form. [3 marks]

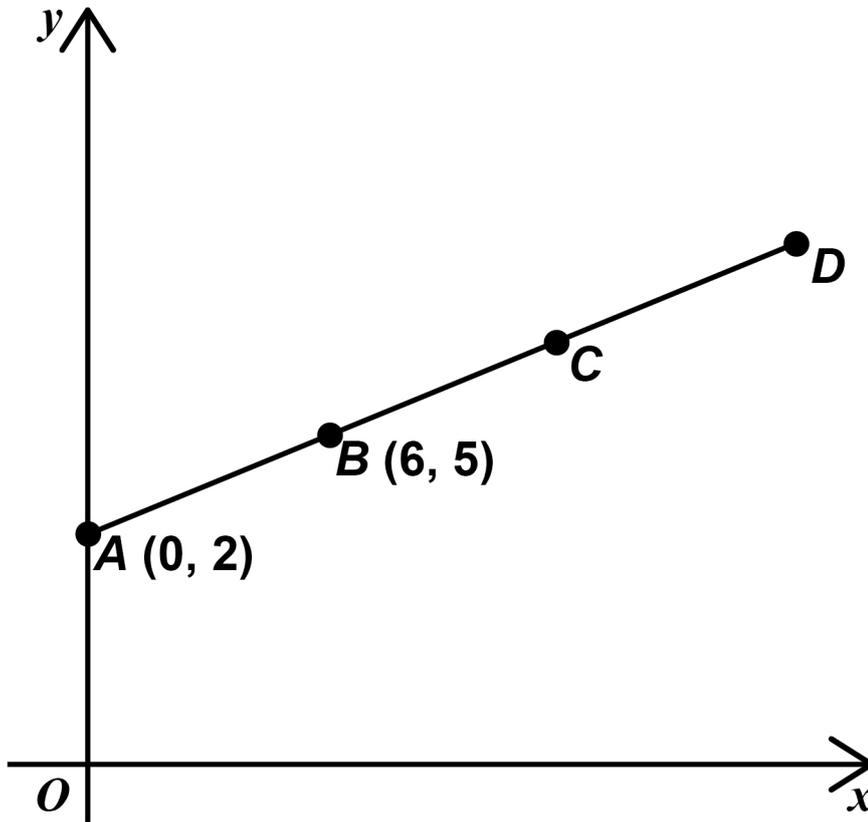
Answer _____

[Turn over]



- 26 $A(0, 2)$ and $B(6, 5)$ are points on the straight line $ABCD$.

The diagram is not drawn accurately.



$$AB = BC = CD$$

Work out the coordinates of D . [3 marks]

Answer (_____ , _____)

[Turn over]

9



27 A coin is thrown 50 times.
It lands on heads 31 times.

27 (a) Write down the relative frequency it lands on heads. [1 mark]

Answer _____

27 (b) Raj says,

“The coin is biased towards heads.”

Use the data to give a reason why he might be correct. [1 mark]

28 Solve $5(x + 3) < 60$
[2 marks]

Answer _____

[Turn over]



30 y is inversely proportional to x .

Complete the table. [2 marks]

x	12	6	
y		4	8

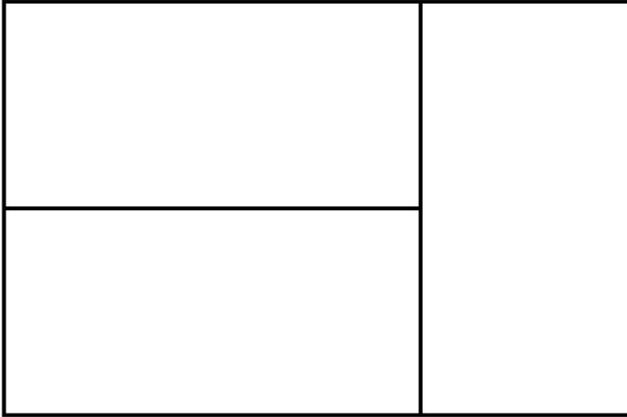
9

[Turn over]



- 31 A large rectangle is made by joining three identical small rectangles as shown.

The diagram is not drawn accurately.



The perimeter of one small rectangle is 15 cm

Work out the perimeter of the large rectangle.
[4 marks]



Answer _____ **cm**

[Turn over]



32 Put these numbers in order from smallest to largest. [2 marks]

$$8 \times 10^{-4} \quad 4 \times 10^{-2} \quad 6 \times 10^{-4} \quad 0.07$$

Smallest _____

Largest _____

END OF QUESTIONS

6



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For Examiner's Use	
Pages	Mark
4–5	
6–9	
10–13	
14–17	
18–21	
22–24	
25–26	
28–29	
30–33	
34–37	
38–41	
42–44	
TOTAL	

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