



Surname \_\_\_\_\_

Other Names \_\_\_\_\_

Centre Number \_\_\_\_\_

Candidate Number \_\_\_\_\_

Candidate Signature \_\_\_\_\_

**GCSE  
MATHEMATICS**

**F**

Foundation Tier      Paper 1 Non-Calculator

**8300/1F**

Thursday 24 May 2018

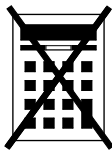
Morning

Time allowed: 1 hour 30 minutes

For this paper you must have:

- mathematical instruments

You must NOT use a calculator.

A simple line drawing of a calculator with a large 'X' drawn over it, indicating that calculators are not permitted for this paper.

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

[Turn over]



J U N 1 8 8 3 0 0 1 F 0 1

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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]

$$9a$$

$$6a^2$$

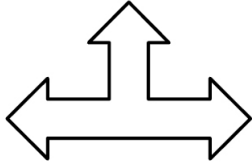
$$9a^2$$

$$6a$$



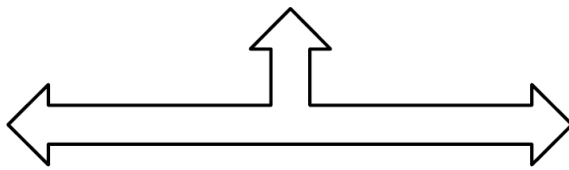
4 Which shape is SIMILAR to shape X?

X

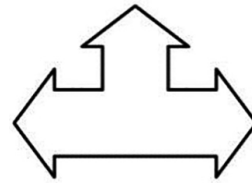


Circle the correct letter. [1 mark]

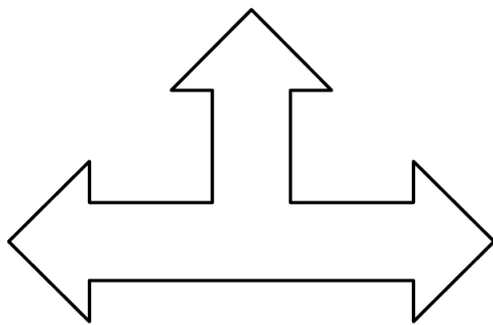
A



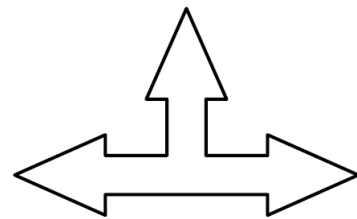
B



C



D



[Turn over]

4





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

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Answer \_\_\_\_\_

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

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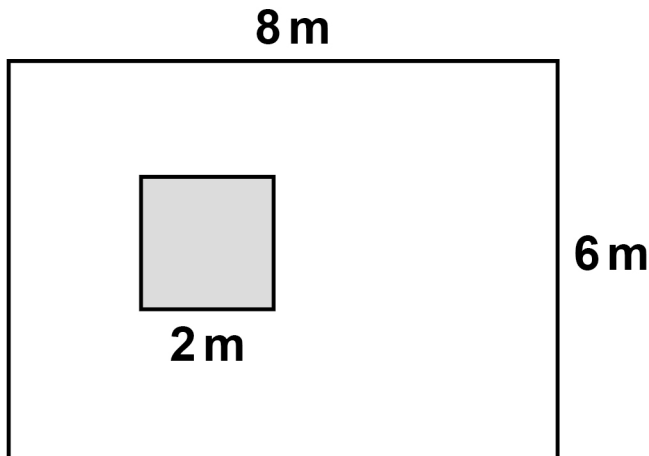
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Answer \_\_\_\_\_

[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]

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[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]

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Answer

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[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]

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Answer \_\_\_\_\_



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

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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.**

	<b>Cost for each coach</b>
<b>Pay for driver</b>	<b>£90</b>
<b>Fuel</b>	<b>70p per mile</b>

**Each coach travels 200 miles.**

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

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

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Answer \_\_\_\_\_

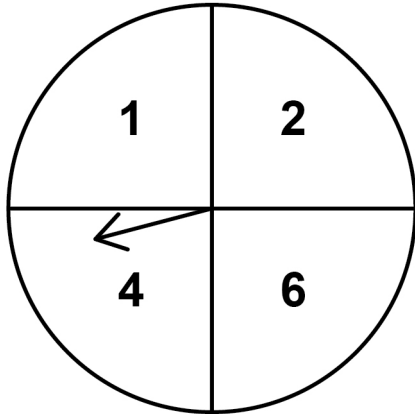
10

[Turn over]

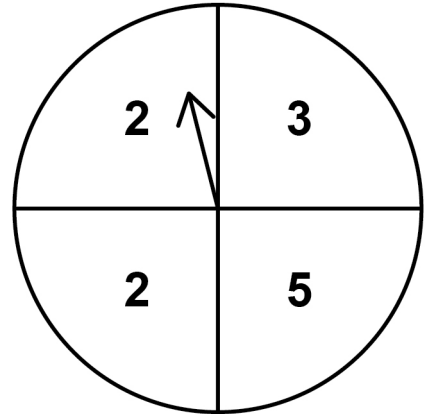


- 13 In a game, two fair spinners are spun.

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]

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Answer \_\_\_\_\_

[Turn over]



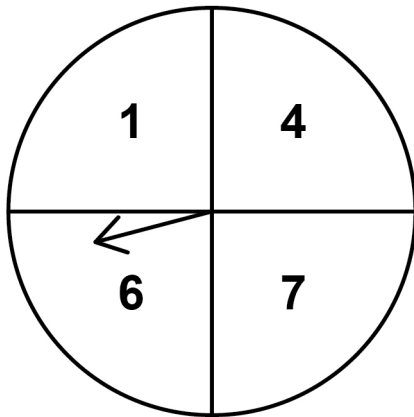
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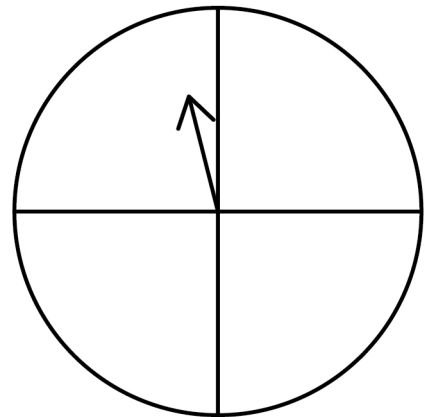
13 (c) The same game is played using spinners C and D.

The numbers on C are shown.

Spinner C



Spinner D



The table shows some of the possible scores.

		Spinner D			
Spinner C	1	4			
	4		0		
	6				
	7			0	8

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

[Turn over]

5
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**14 (b) In fact, the THIRD person works at a faster rate.  
How does this affect the time to paint the room?  
[1 mark]**

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**[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]

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Answer \_\_\_\_\_

7

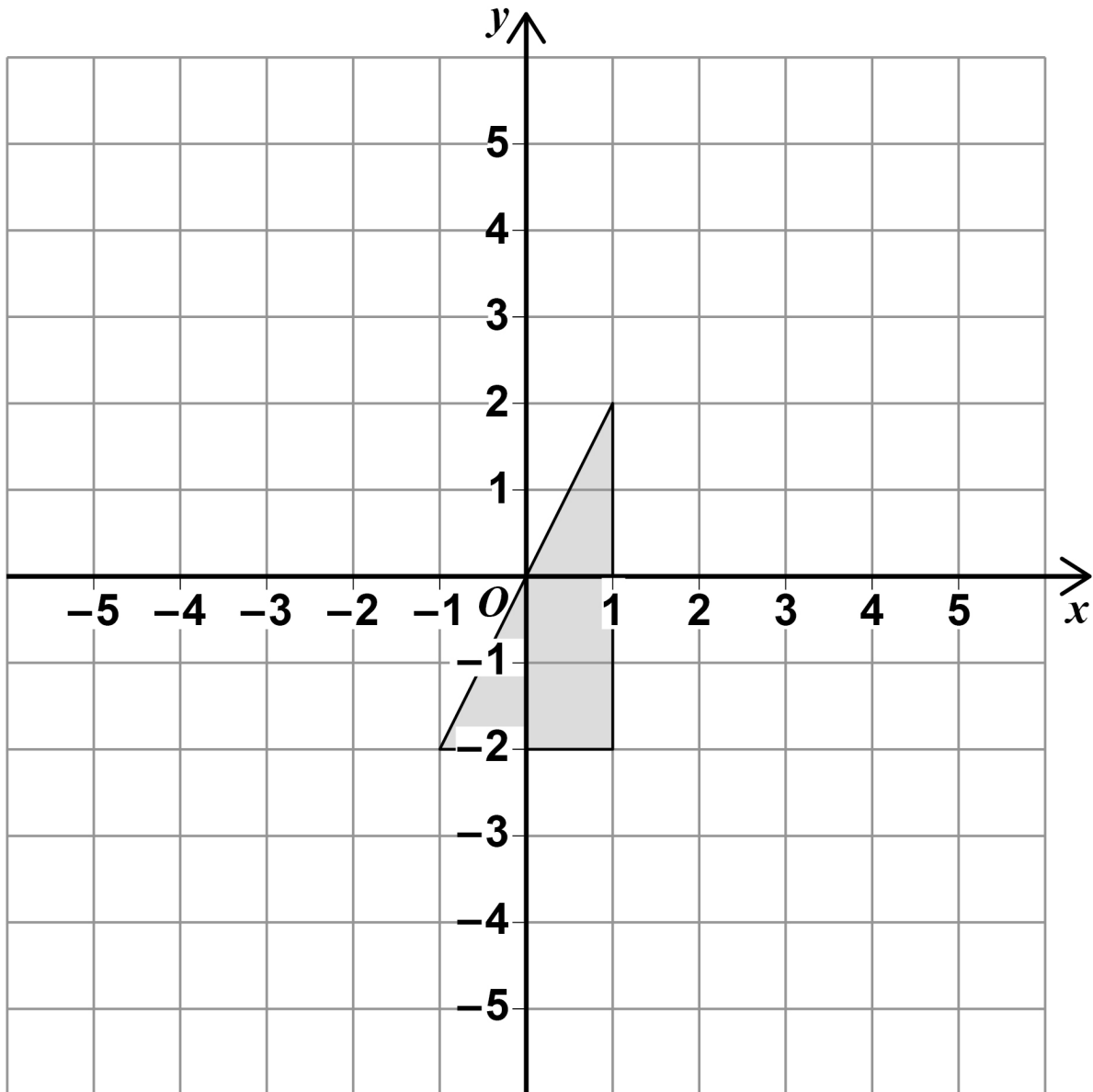


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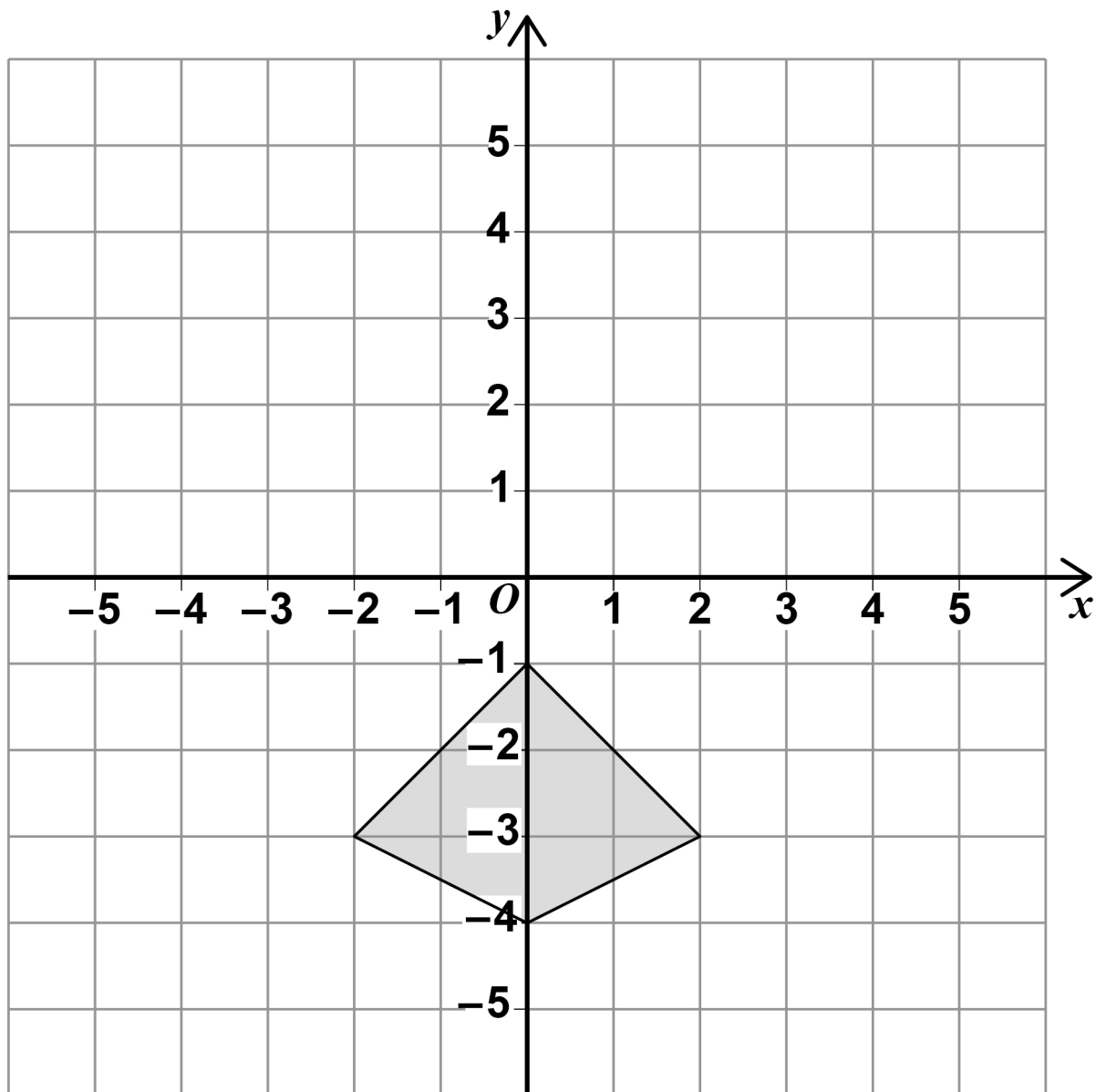
**[Turn over]**



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



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



[Turn over]

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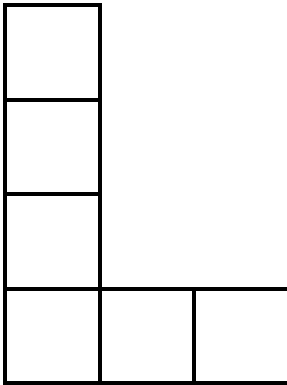
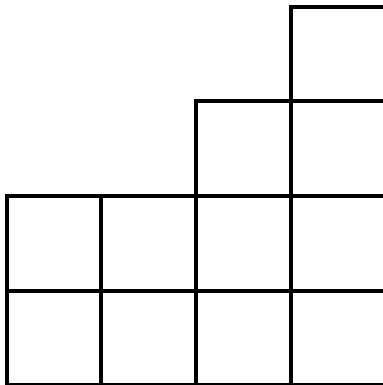
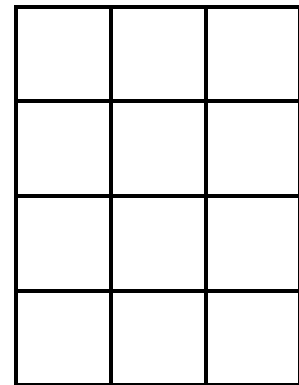
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**Answer** \_\_\_\_\_ :

**[Turn over]**

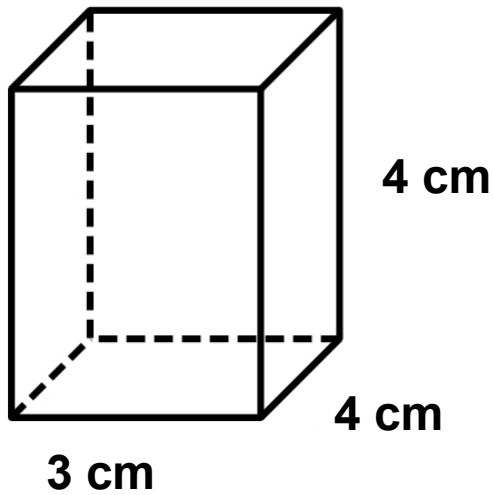


- 23** A solid shape is made from centimetre cubes.  
Here are the plan, side elevation and front elevation of the shape.

**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]

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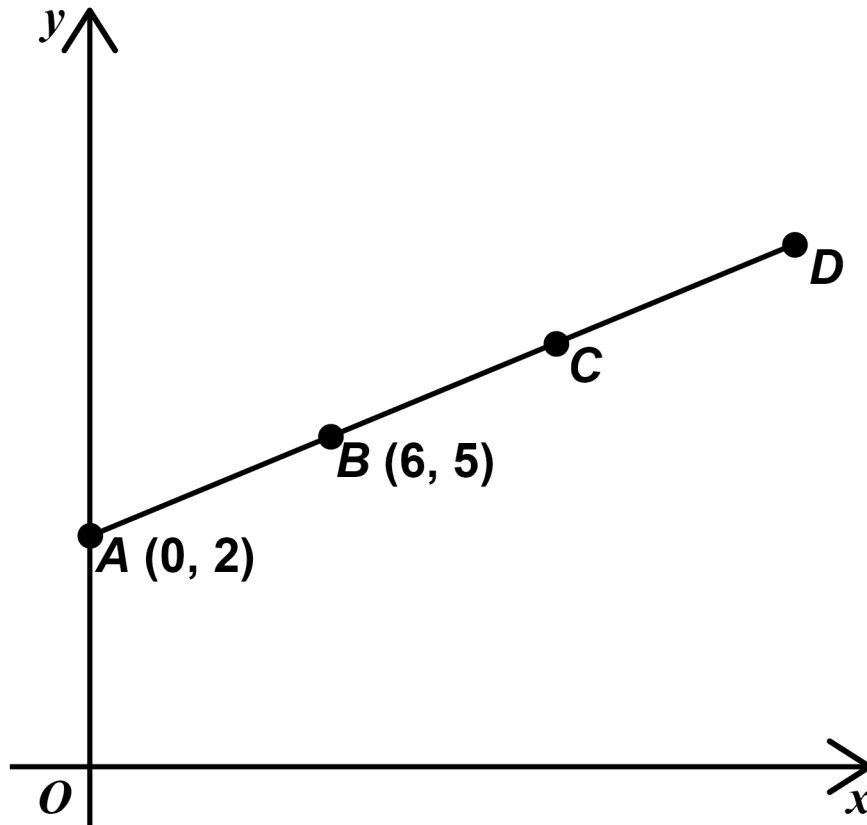
Answer \_\_\_\_\_

[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]

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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]**

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

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Answer

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[Turn over]







30  $y$  is inversely proportional to  $x$ .

Complete the table. [2 marks]

$x$	12	6	
$y$		4	8

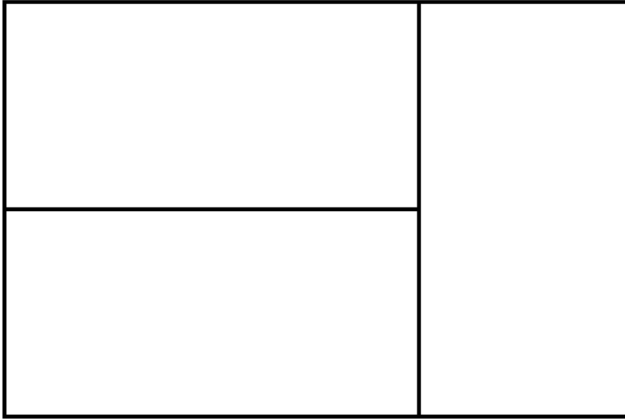
9

[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]

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Answer \_\_\_\_\_ cm

[Turn over]



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

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

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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	
<b>TOTAL</b>	

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