

Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

I declare this is my own work.

INTERNATIONAL GCSE MATHEMATICS CORE

Paper 2C

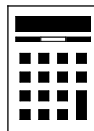
C

Wednesday 16 November 2022 07:00 GMT Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- a calculator
- mathematical instruments.



Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- 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 more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.
- If your calculator does not have a π button, take the value of π to be 3.142

Advice

- Show all necessary working; otherwise marks for method may be lost.

For Examiner's Use

Pages	Mark
2–3	
4–5	
6–7	
8–9	
10–11	
12–13	
14–15	
16–17	
18–19	
20–21	
22–23	
24	
TOTAL	



Answer **all** questions in the spaces provided.

- 1** 8 identical boxes have a total mass of 13.6 kg

Circle the mass of each box.

[1 mark]

1.7 kg

5.6 kg

21.6 kg

108.8 kg

- 2** Circle the decimal that has a value between $\frac{1}{2}$ and $\frac{3}{4}$

[1 mark]

0.2

0.4

0.6

0.8

- 3** How many vertices does a cube have?

Circle your answer.

[1 mark]

12

8

6

4



- 4 Circle the shape that does **not** have any pairs of parallel sides.

[1 mark]

rhombus

triangle

square

rectangle

- 5 Here are five digits.

7

1

4

9

3

In each part use **all** five digits.

- 5 (a) Write the **largest** possible five-digit number.

[1 mark]

Answer _____

- 5 (b) Write the **smallest** possible five-digit **even** number.

[2 marks]

Answer _____



6

A shop sells a laptop.

There are two ways to pay.

Option 1

Total price \$675

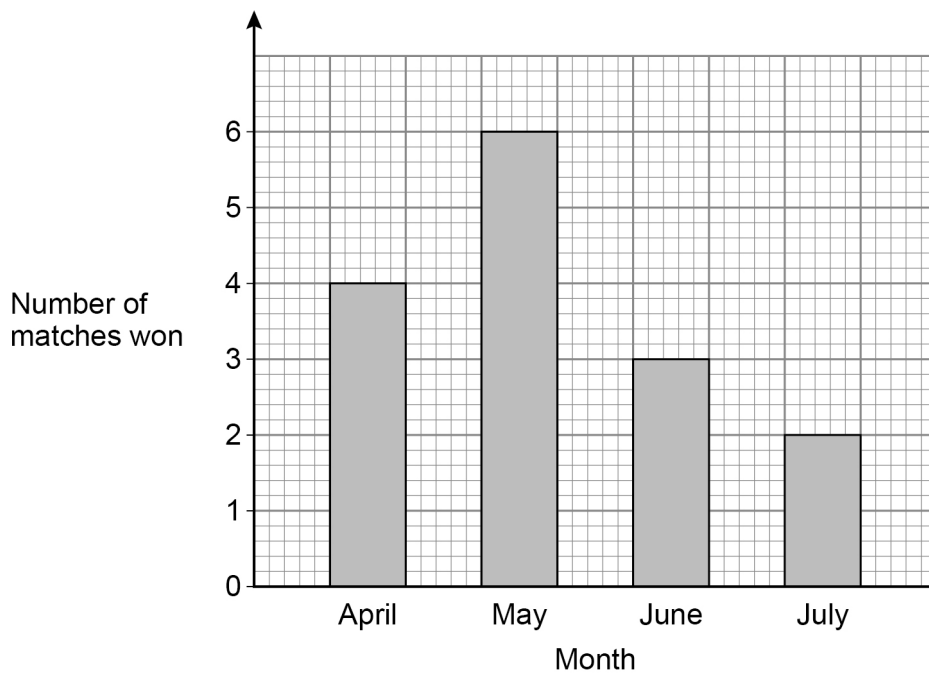
Option 236 monthly
payments of \$19Using Option 2, how much **more** does the laptop cost in total?**[3 marks]**

Answer \$ _____



7

The bar chart shows the number of matches a team won from April to July.



The team gets 5 points for each match won.

In total, how many points did the team get for these matches?

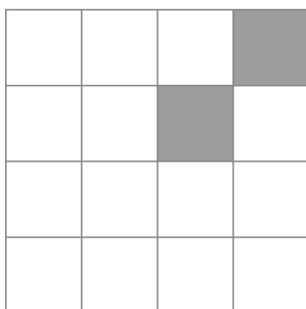
[3 marks]

Answer _____



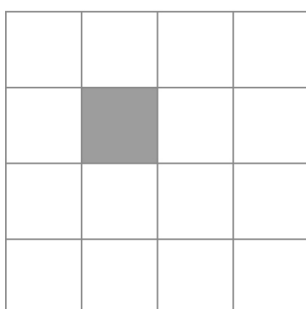
- 8 (a) Shade **one more** small square so that the grid has exactly one line of symmetry.

[1 mark]



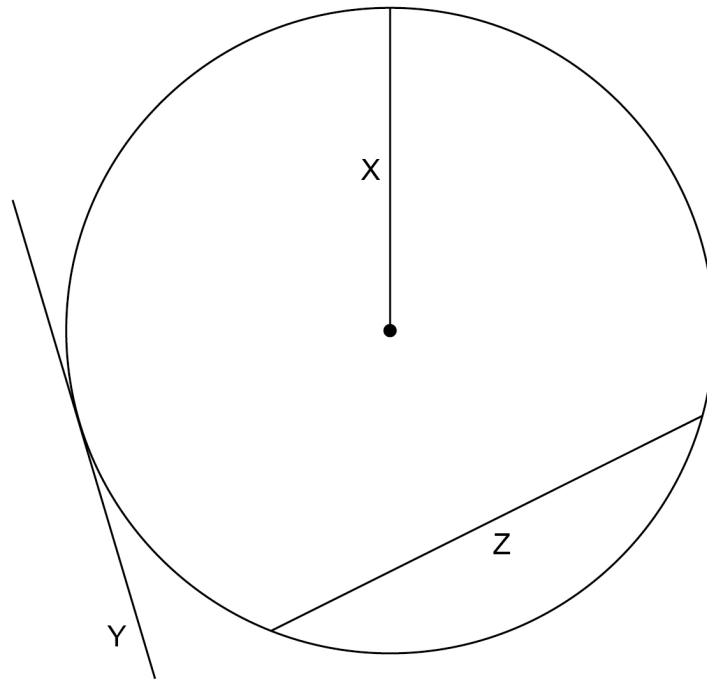
- 8 (b) Shade **three more** small squares so that this grid has rotational symmetry of order 2 and no lines of symmetry.

[2 marks]



9

Here is a circle and lines X, Y and Z.



Match each line to its correct name.

[3 marks]

X

tangent

Y

diameter

Z

radius

chord



10

A team of 9 people work in an office.

The data shows the number of hours each person works per week.

48	25	30	24	43
39	40	13	35	

10 (a) Work out the **mean** number of hours worked.**[2 marks]**

Answer _____ hours

10 (b) When Huan joins the team, the **median** number of hours worked is 36

Work out the number of hours Huan works.

[2 marks]

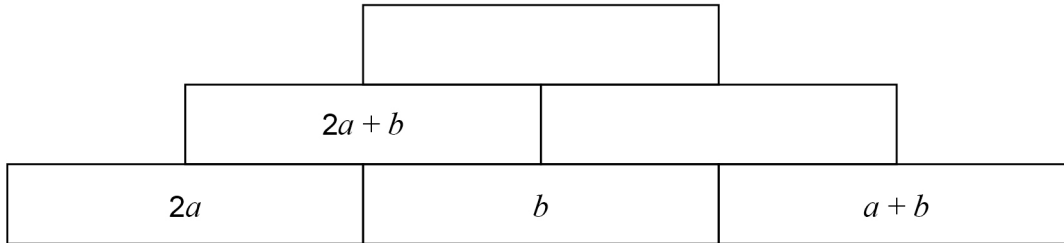
Answer _____ hours



- 11** In an algebra wall, each brick is the **total** of the two bricks below.
The expression in each brick must be in its simplest form.

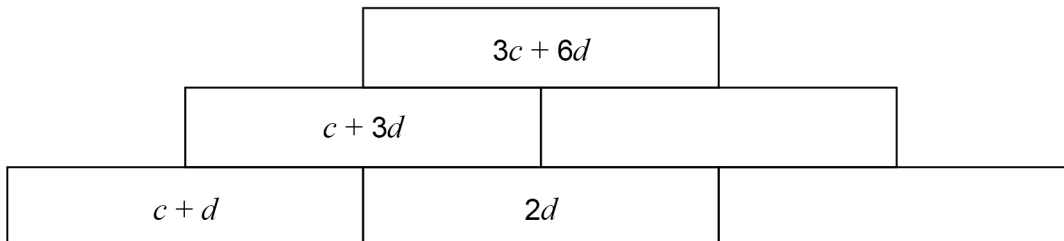
- 11 (a)** Complete this algebra wall.

[2 marks]



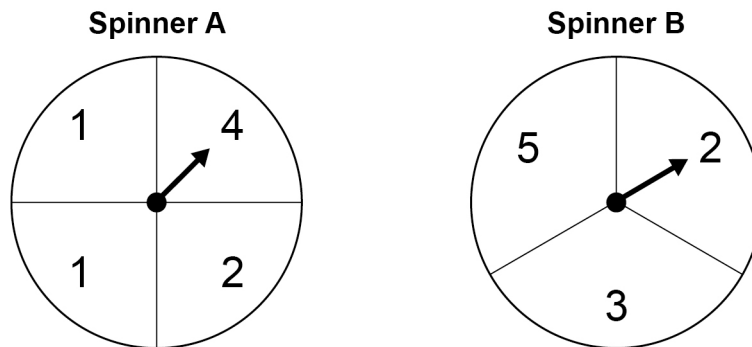
- 11 (b)** Complete this algebra wall.

[2 marks]





- 12** Two fair spinners are spun.



The results are multiplied together to give the score.

- 12 (a)** Complete the table of scores.

[2 marks]

		Spinner A			
Spinner B	×	1	1	2	4
	2			4	
	3				12
	5	5	5		

- 12 (b)** Is there an even chance of the score being a prime number?

Tick a box.

Yes

☐

No

☐

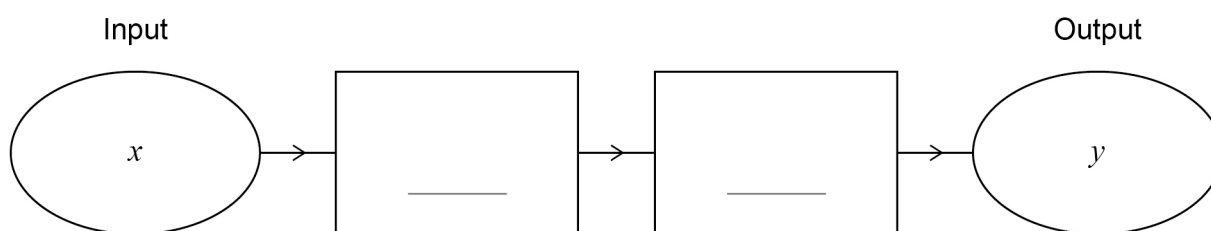
Give a reason for your answer.

[1 mark]

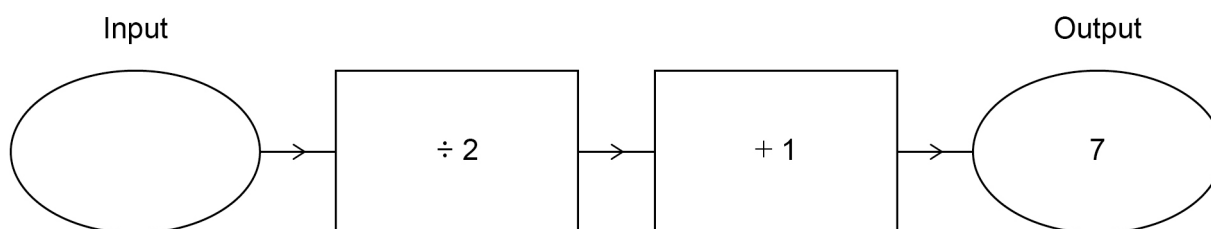


- 13 (a)** Complete the number machine so that $y = 3x - 5$

[1 mark]



- 13 (b)** Here is a different number machine.



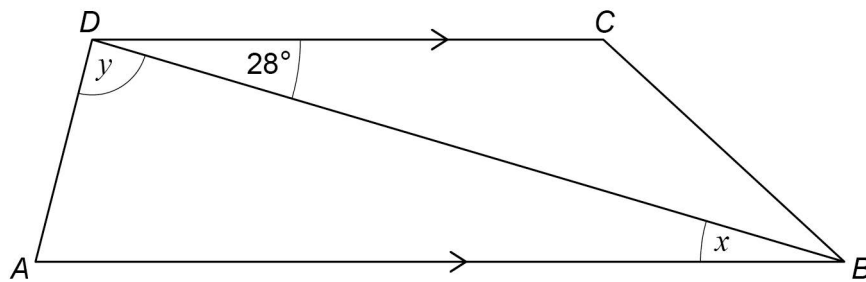
Work out the input.

[2 marks]

Answer _____



14 $ABCD$ is a trapezium.



Not drawn
accurately

14 (a) Write down the size of angle x .

[1 mark]

$x =$ _____ $^\circ$

14 (b) $AB = BD$

Work out the size of angle y .

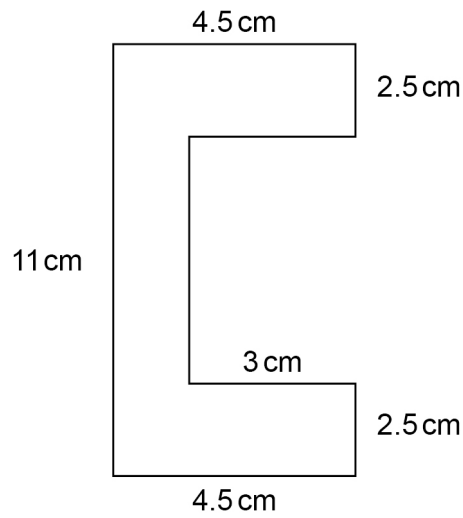
[2 marks]

$y =$ _____ $^\circ$



15

Here is a shape made from three rectangles.

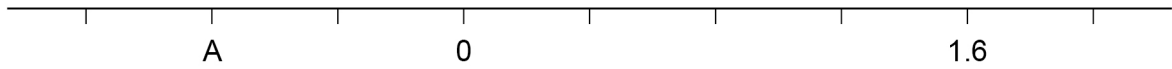
Not drawn
accurately

Work out the area of the shape.

[3 marks]

Answer _____ cm^2 

- 16** Here is part of a number line.



Work out the value of A.

[2 marks]

Answer _____

- 17** Ellie ran two laps of a track in a **total** time of 2 minutes 5 seconds.
She took 11 seconds longer to run lap two than lap one.

How many seconds did it take Ellie to run **lap two**?

[3 marks]

Answer _____ seconds



18

Counters in a box are black or white.

	Black	White
Number of counters	$6n - 3$	$4n$

There are 75 black counters.

Work out the **total** number of counters.**[4 marks]**

Answer _____

19

 x is a reflex angle.What type of angle is $\frac{1}{2}x$?

Circle your answer.

[1 mark]

acute

right angle

obtuse

reflex



20

Simplify fully $\frac{10acd}{4abc}$

[2 marks]

Answer _____

21

Show that 382 can be written as
a power of 5 – a power of 3

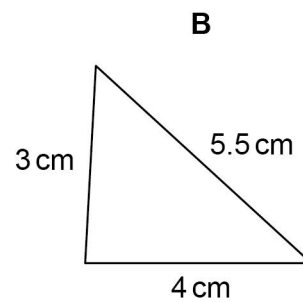
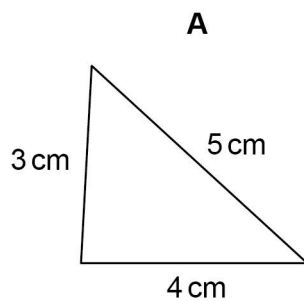
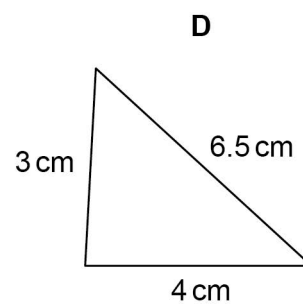
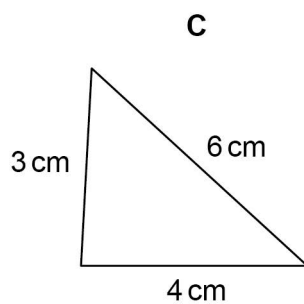
[2 marks]



22

Circle the letter of the right-angled triangle.

[1 mark]

Not drawn
accurately

23

Circle the reciprocal of 0.3

[1 mark]

-0.3

0.7

3

 $\frac{10}{3}$ 

24 (a) The first four terms of a linear sequence are

4 13 22 31

Work out an expression for the n th term.

[2 marks]

Answer _____

24 (b) A different sequence has n th term $\sqrt{n}$

Is one of the terms in the sequence equal to 7 ?

Tick a box.

Yes

☐

No

☐

Give a reason for your answer.

[1 mark]



25

Show that $\frac{2}{5} \times 3\frac{3}{4} = 1\frac{1}{2}$

[2 marks]

26

Lexi spins a biased coin 50 times.

Arran spins the same coin 70 times.

Here are the results.

	Number of heads	Number of tails
Lexi	24	26
Arran	42	28

Use the results to work out the **best** estimate of the probability of getting a head.

[2 marks]

Answer _____



27

Circle the equation that means

 x is 5 less than the square of y

[1 mark]

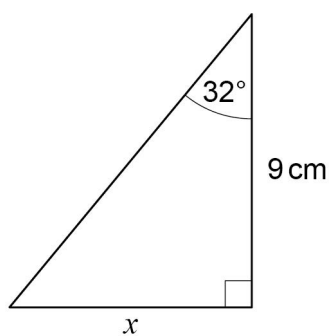
$x = y^2 - 5$

$x = (y - 5)^2$

$x = 5 - y^2$

$x = (5 - y)^2$

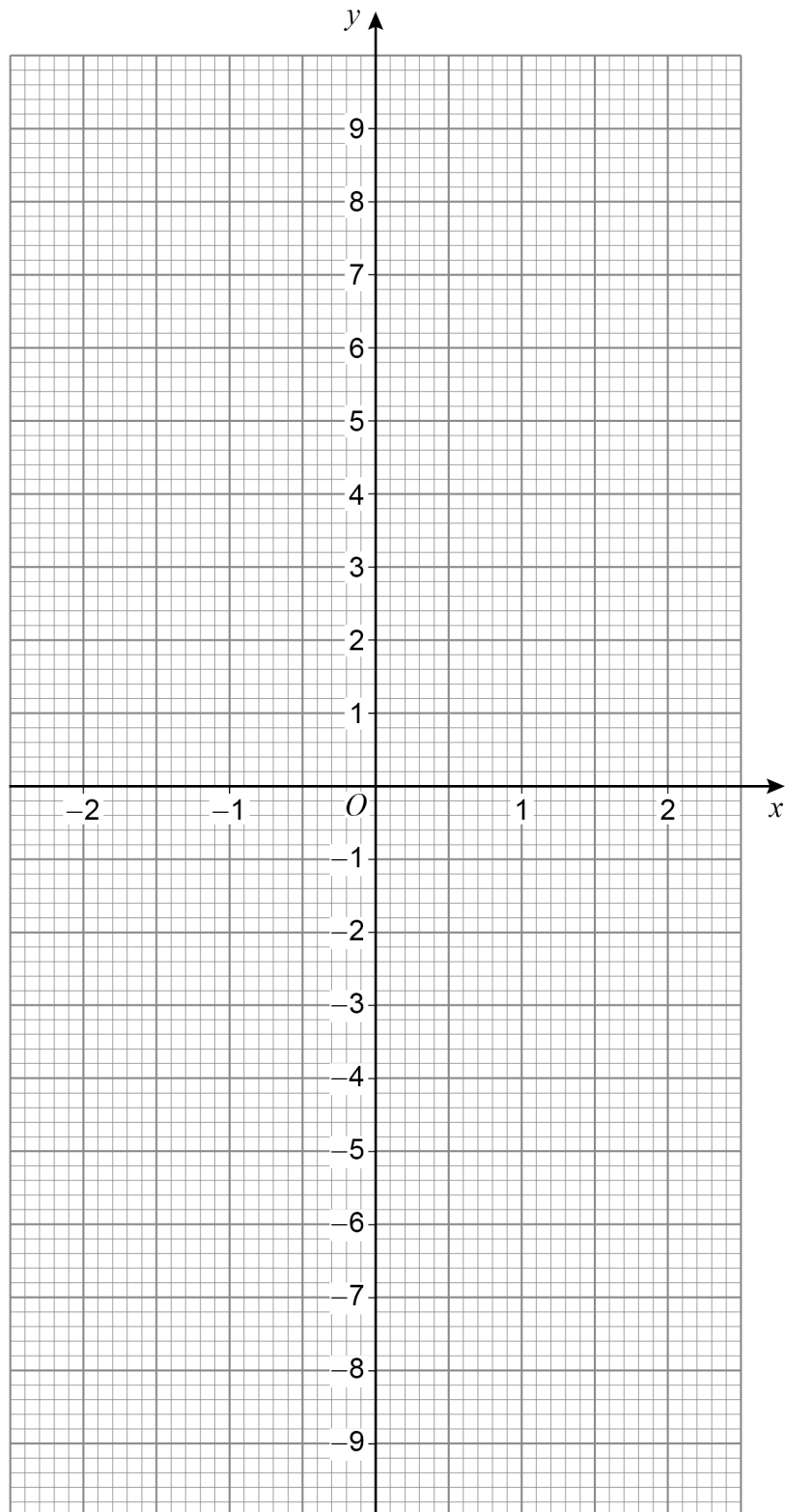
28

Not drawn
accuratelyUse trigonometry to work out the value of x .

[2 marks]

 $x =$ _____ cm

29

Draw the graph of $y = x^3 + 1$ for values of x from -2 to 2 **[3 marks]**

Turn over ►



- 30** Use approximations to 1 significant figure to estimate the value of $0.103^2 \times 79\,128$
You **must** show your working.

[2 marks]

Answer _____

- 31** Aisha invests \$30 000 at a compound interest rate of 8% per year.
Work out the value of her investment after 4 years.

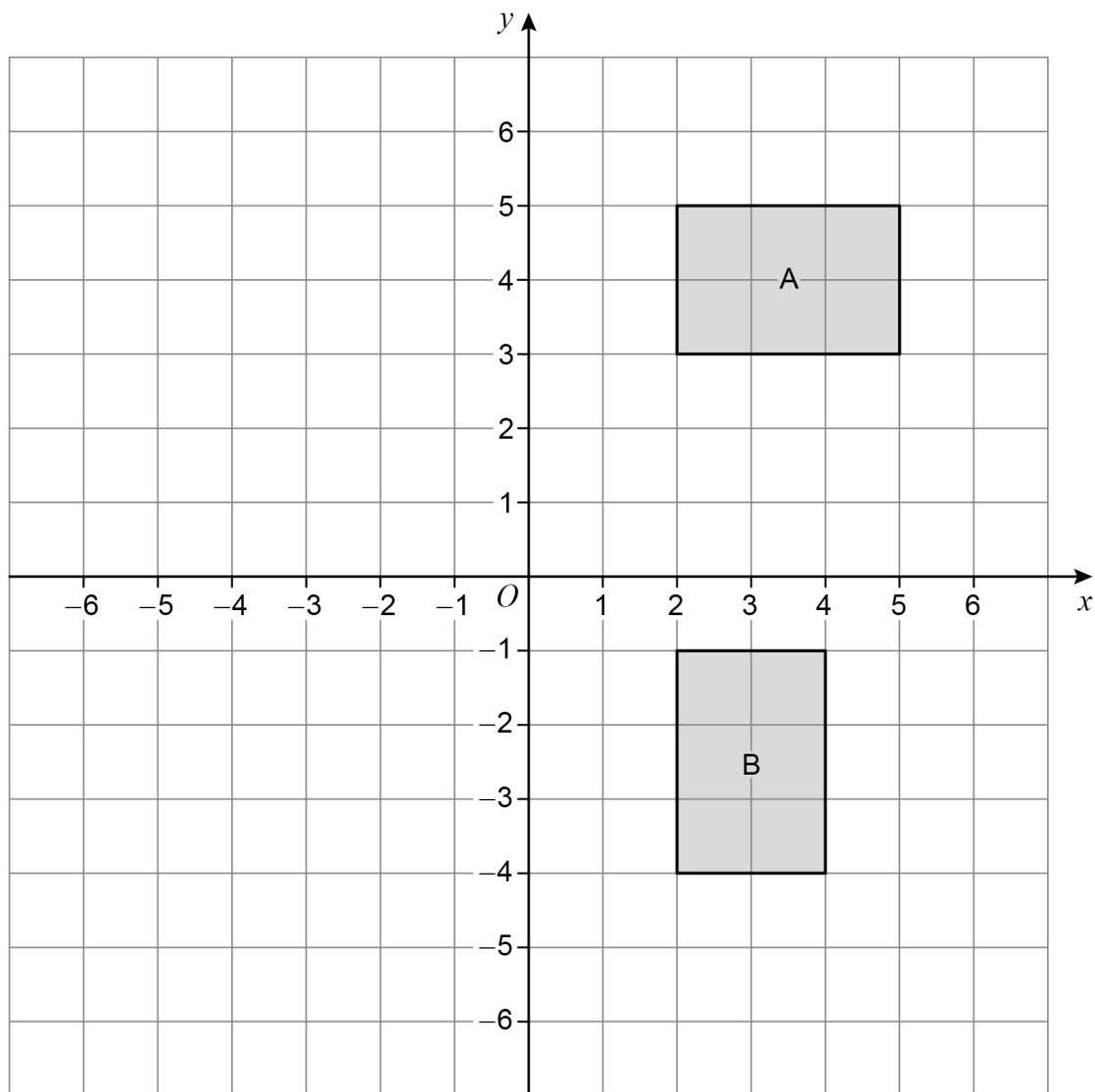
[3 marks]

Answer \$ _____



32

Shapes A and B are shown on the grid.

Describe fully the **single** transformation that maps shape A to shape B.**[3 marks]**



33

$$s = ut + \frac{1}{2}at^2$$

$$u = 1.9 \quad t = 3.5 \quad a = -0.4$$

Work out the value of s .

[2 marks]

$$s = \underline{\hspace{10cm}}$$

34

Show that when x is odd and y is even $8x + 5y$ is always even.

[2 marks]

END OF QUESTIONS

There are no questions printed on this page

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outside the
box*

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



[illegible]

