OXFORD

INTERNATIONAL
AQA EXAMINATIONS

Please write clearly in block capitals.

Centre number | | | | | | Candidate number | | | | |

Surname _____

Forename(s) _____

Candidate signature _____

I declare this is my own work.

INTERNATIONAL GCSE

MATHEMATICS

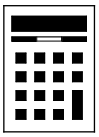
Core Tier Paper 1C

C

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:
- a calculator
- mathematical instruments
- the Formulae Sheet (enclosed).



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	

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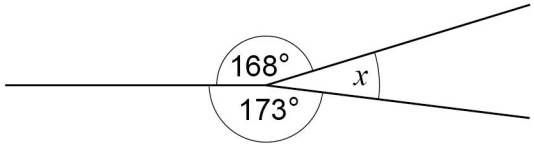
Answer **all** questions in the spaces provided.

1 Three straight lines meet at a point.



Not drawn accurately

Circle the size of angle x.

[1 mark]

7° 12° 19° 39°

2 Which of these has the largest value?

Circle your answer.

[1 mark]

$\frac{1}{7}$ of 35 $\frac{1}{5}$ of 20 $\frac{1}{8}$ of 36 $\frac{1}{10}$ of 30

3 A polygon has all sides equal and all angles equal.

Circle the word that describes the polygon.

[1 mark]

congruent regular scalene similar

Do not write outside the box

4 x is 4 less than y.

Circle the correct equation.

[1 mark]

$y = x - 4$ $\quad$ $y = 4 - x$ $\quad$ $x = y - 4$ $\quad$ $x = 4 - y$

5 The table shows information about 45 shapes.

	Triangle	**Square**
Small	10	17
Large	13	5

5 (a) How many large triangles are there?

[1 mark]

Answer _____

5 (b) What fraction of the 45 shapes are square?

[1 mark]

Answer _____

Turn over for the next question

6

Do not write outside the box

6 Anj is paid at a rate of $10.20 per hour.

6 (a) The table shows when Anj worked on three days.

Tuesday	09:00 to 12:30
Thursday	15:00 to 19:00
Friday	11:30 to 17:30

How much was she paid in **total** for the three days?

[3 marks]

Answer $ _____

6 (b) On Saturdays, the rate of pay is doubled.

Last Saturday Anj was paid $132.60

How many hours did she work last Saturday?

[2 marks]

Answer _____ hours

Do not write outside the box

7 The table shows the number of goals George scored in 14 games.

Goals scored	Frequency
0	5
1	3
2	2
3	2
4	0
5	2

In total, how many goals did George score?

[2 marks]

Answer _____

Turn over for the next question

7

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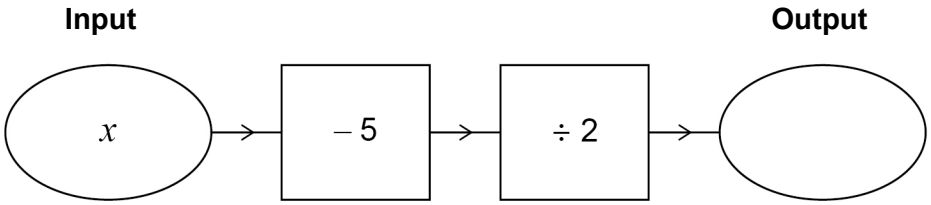
8 (a) Here is a number machine.

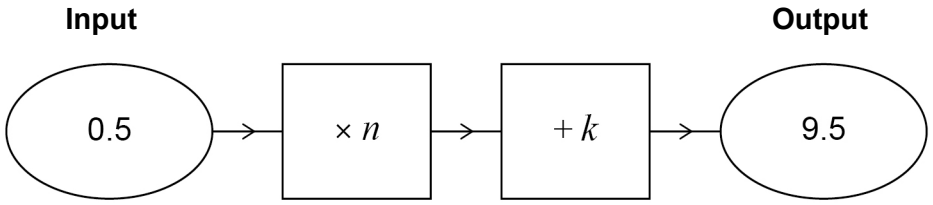


Work out the output when $x = -7$

[1 mark]

Answer _____

8 (b) Here is a different number machine.



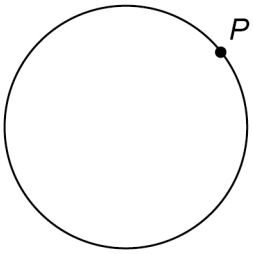
Work out **one** possible pair of values for n and k.

[1 mark]

$n =$ _____ $k =$ _____

Do not write outside the box

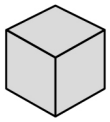
9 *P* is a point on a circle.



Draw a tangent to the circle at *P*.

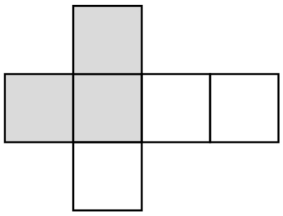
[1 mark]

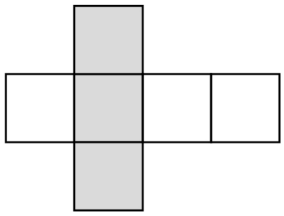
10 The diagram shows a cube with three grey faces.
The other three faces are white.

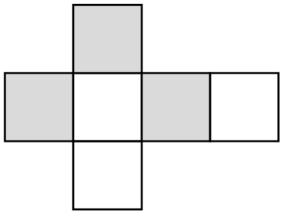


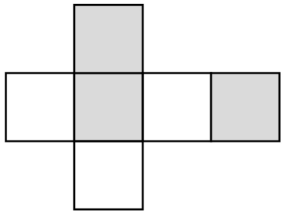
Circle a possible net of the cube.

[1 mark]









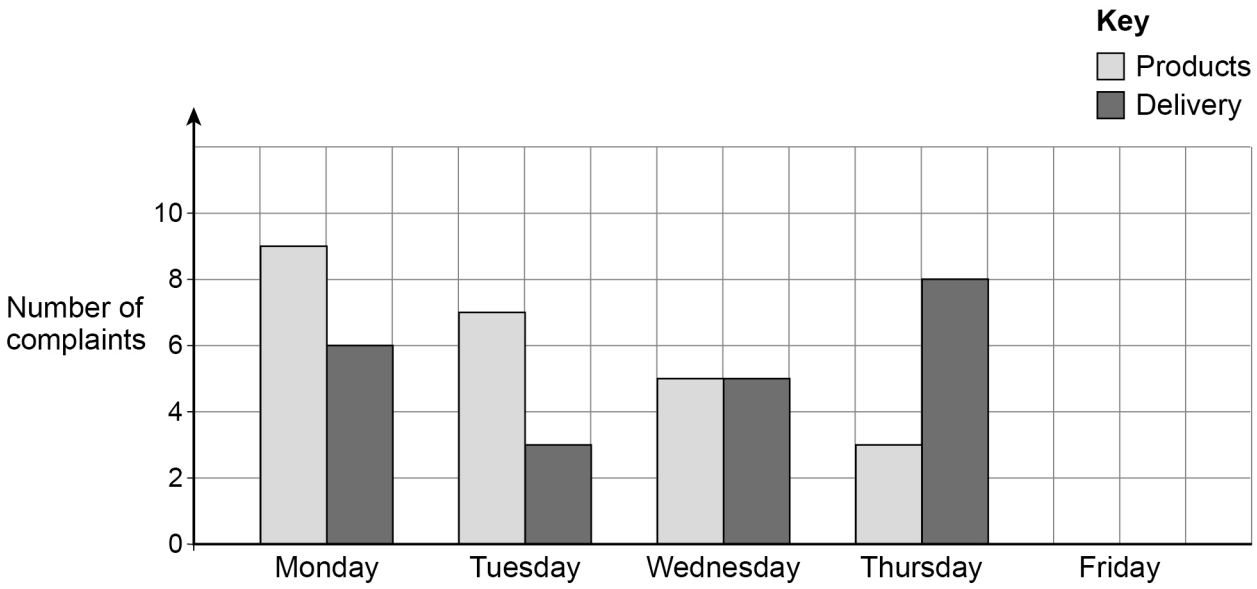
4

Turn over ►

Do not write outside the box

11 One week, a company records the two types of complaint it receives.

The bar chart shows the results for four days.



11 (a) Which of the four days has the greatest difference in types of complaint?

[1 mark]

Answer _____

11 (b) On Friday there are two **more** complaints about products than about delivery.

The total number of complaints for the five days is 60

Complete the chart for Friday.

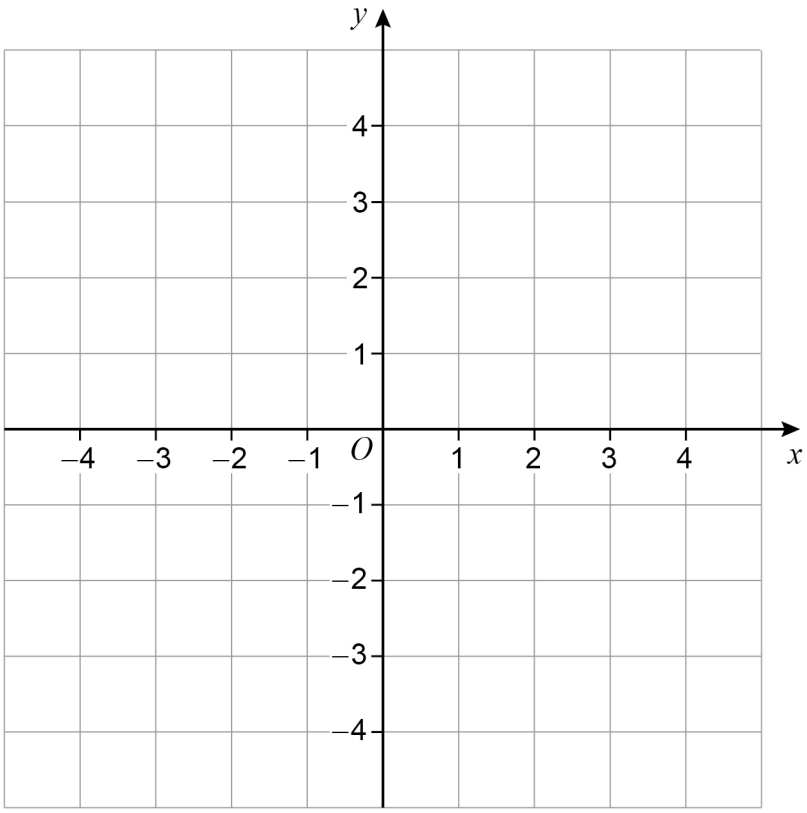
[3 marks]

Do not write outside the box

12 The coordinates of three vertices of a square are (–3, 4), (2, 4) and (2, –1)

Work out the coordinates of the fourth vertex.

[2 marks]



Answer (_____ , _____)

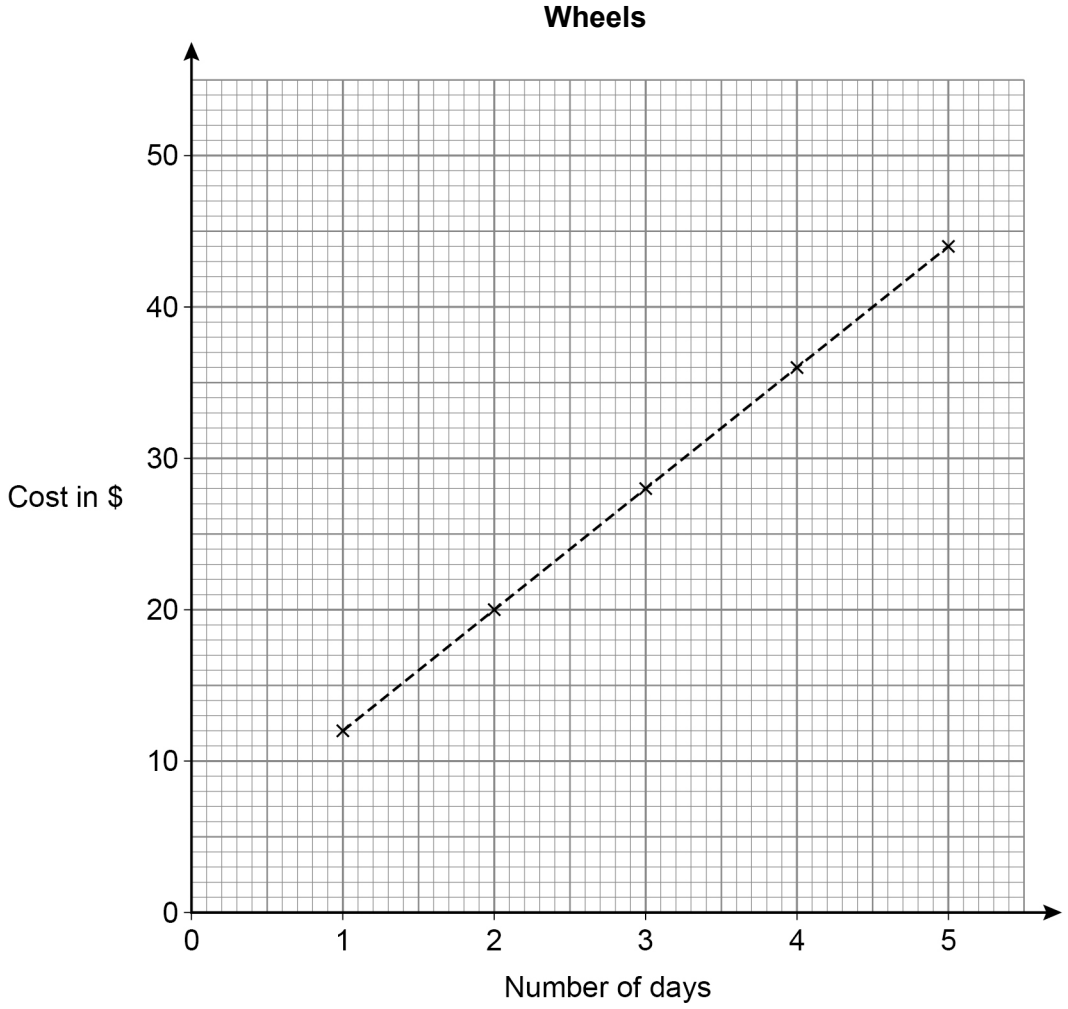
Turn over for the next question

6

Do not write outside the box

13 Wheels and Rollers are two companies that hire out bicycles.

The graph shows the cost of hiring a bicycle from Wheels.



Here is the cost at Rollers.

Rollers
number of days × $9.75

How much less is the cost of hiring a bicycle for 3 days from Wheels than from Rollers?

[3 marks]

Answer $ _____

Do not write outside the box

14 Ben has a tin containing 96 sweets.

12 of the sweets are yellow.

The other sweets are red or green.

Ben takes a sweet at random.

The probability that the sweet is red is 0.25

How many of the sweets are green?

[3 marks]

Answer _____

Turn over for the next question

6

Do not write outside the box

15 At least one adult is needed for every eight students on a school trip.

There are 216 students and 28 adults on the trip.

15 (a) Show that there are enough adults on the trip.

[1 mark]

15 (b) Buses are hired for the trip.

Each bus can carry up to 55 of the people on the trip.

Hire cost per bus is $372 10% reduction in the total cost when hiring more than one bus

Work out the amount paid to hire all the buses needed.

[5 marks]

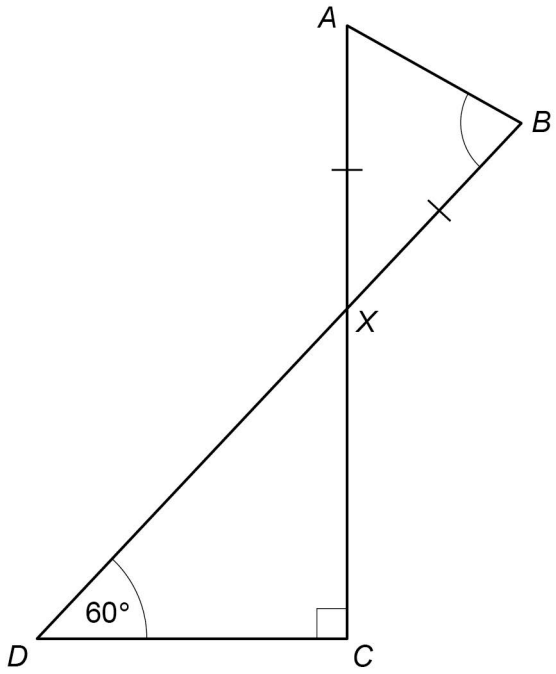
Answer $ _____

Do not write outside the box

16 In the diagram,

AXC and *BXD* are straight lines

AX = *BX*



Not drawn accurately

Work out the size of angle *ABX*.

[3 marks]

Answer _____ °

9

Turn over ►

Do not write outside the box

17 (a) Simplify fully $12c - c + \frac{10c}{2c}$

[2 marks]

Answer _____

17 (b) Work out the value of $a^2 + 64b^2$ when $a = -3$ and $b = \frac{1}{2}$

[2 marks]

Answer _____

Do not write outside the box

18 Five **different** positive whole numbers have a median of 10

What is the smallest possible value for the mean?

[3 marks]

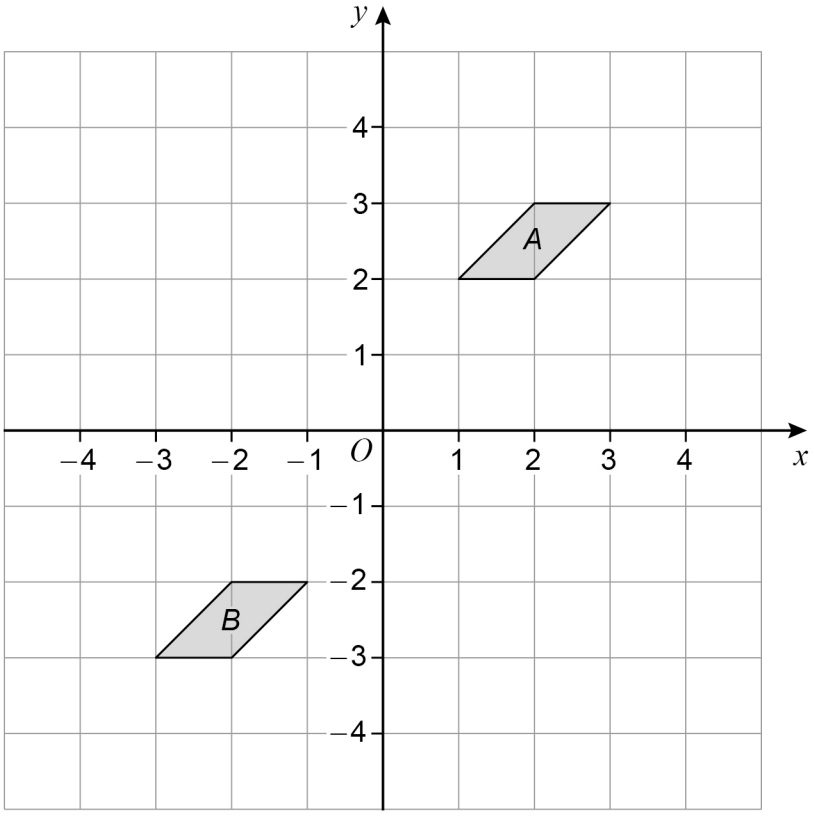
Answer _____

Turn over for the next question

7

Do not write outside the box

19 The diagram shows shapes *A* and *B*.



19 (a) *A* can be translated to *B*.

Describe the translation.

[1 mark]

19 (b) *A* can also be rotated to *B*.

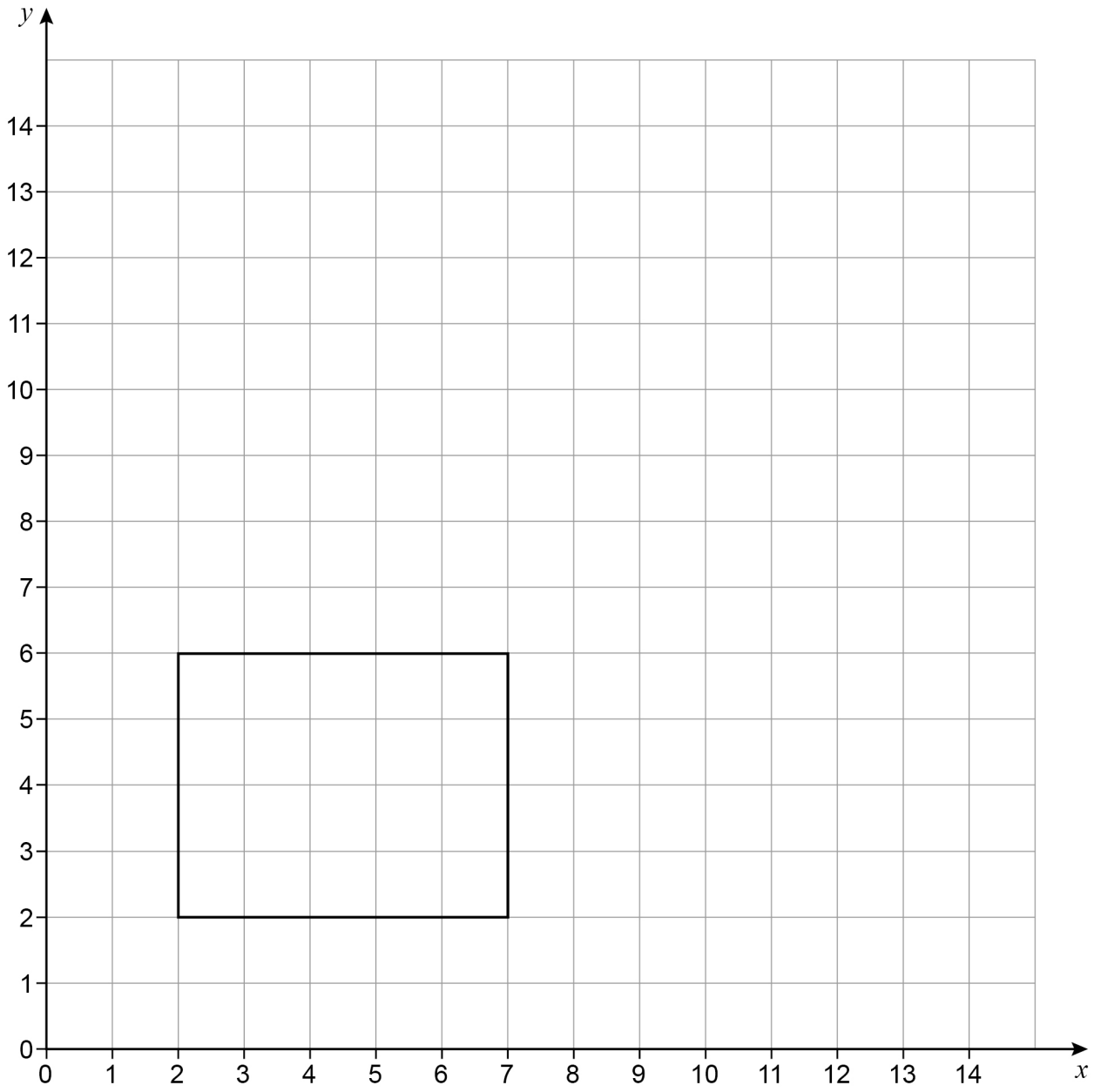
Describe the rotation.

[2 marks]

Do not write outside the box

19 (c) On the grid, enlarge the rectangle by scale factor 2, centre (0, 0)

[2 marks]

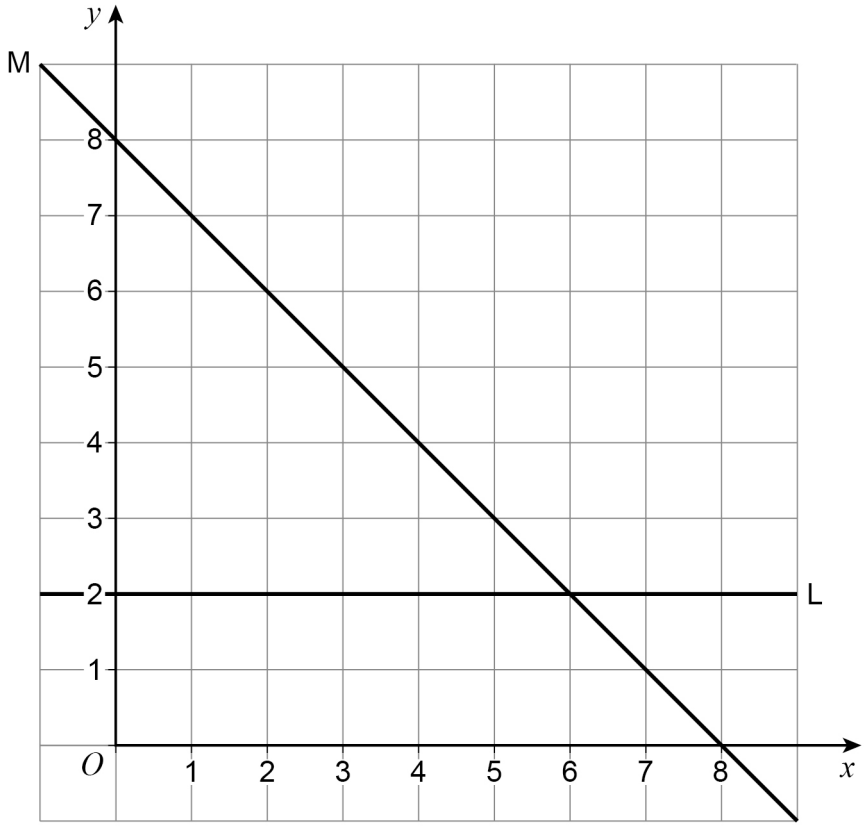


5

Turn over ►

Do not write outside the box

20 Here are two straight lines, L and M.



20 (a) Circle the equation of line L.

[1 mark]

$x + 2 = 0$ $x - 2 = 0$ $y + 2 = 0$ $y - 2 = 0$

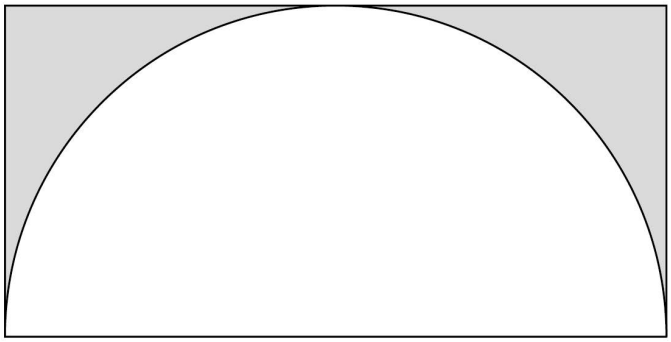
20 (b) Work out the equation of line M.

[2 marks]

Answer _____

Do not write outside the box

21 A semicircle of radius 9 cm just fits inside a rectangle as shown.

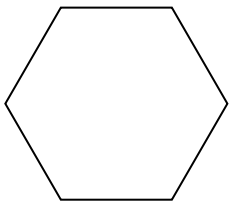


Not drawn accurately

Show that the shaded area is **more** than 20% of the area of the rectangle.

[4 marks]

22 The diagram shows the base of a pyramid.



Circle the **total** number of edges of the pyramid.

[1 mark]

6 7 12 18

8

Turn over ►

Do not write outside the box

23 A biased spinner is spun 10 times.

Here are the results.

Red	Not Red
3	7

23 (a) Write down the relative frequency of Red.

[1 mark]

Answer _____

23 (b) Is the answer to part (a) a **reliable** estimate of the probability of Red for this spinner?

Give a reason for your answer.

[1 mark]

_____

_____

_____

23 (c) The spinner is spun another 10 times.

How many of these spins will be Red?

Tick **one** box.

[1 mark]

Less than 3 ☐

Exactly 3 ☐

More than 3 ☐

Cannot tell ☐

Do not write outside the box

24 Simplify $\frac{3x + 1}{2} + \frac{x}{4}$

Give your answer as a single fraction in its simplest form.

[3 marks]

Answer _____

25 Jamal invests $2800 in a savings account for 5 years.

The account has a compound interest rate of 2% per year.

How much is in the account after the 5 years?

[3 marks]

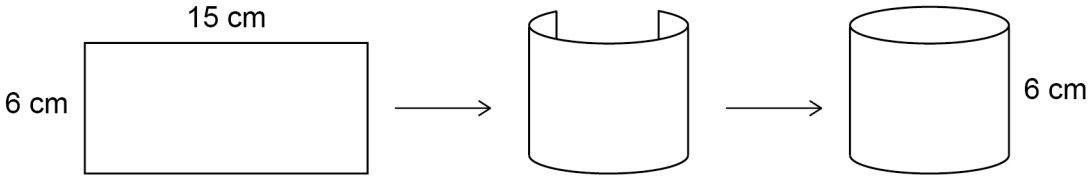
Answer $ _____

9

Turn over ►

Do not write outside the box

26 A 15 cm by 6 cm rectangular card is rolled to form a cylinder, with no overlap.



Work out the radius of the cylinder.

[2 marks]

Answer _____ cm

27 Simplify fully $\dfrac{15w^{16}}{3w^4 \times w^2}$

[2 marks]

Answer _____

Do not write outside the box

28 A farmer has 3850 trees.

They are apple trees and pear trees in the ratio apple : pear = 2 : 5

He plants

300 more apple trees

50 more pear trees.

What fraction of the trees are now apple trees?

Give your answer in its simplest form.

[4 marks]

Answer _____

Turn over for the next question

8

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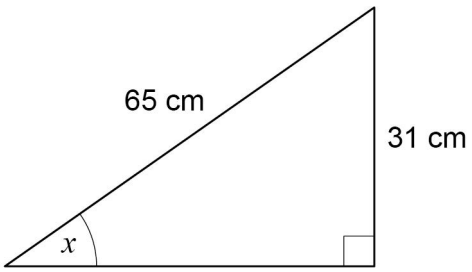
29 Use trigonometry to work out the size of angle x.

[2 marks]

Not drawn accurately



Answer _____ °

30 (a) Factorise $x^2 + 2x - 15$

[2 marks]

Answer _____

30 (b) Write down the roots of $(x + 2)(x - 8) = 0$

[1 mark]

Answer _____

END OF QUESTIONS

5

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ANSWER IN THE SPACES PROVIDED

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Question number	**Additional page, if required.** **Write the question numbers in the left-hand margin.**

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