

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 1C

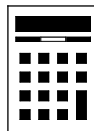
C

Monday 7 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	
24–25	
26–27	
TOTAL	



N 0 V 2 2 9 2 6 0 1 C 0 1

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

- 1** Circle the **largest** number. **[1 mark]**

0.703

0.73

0.713

0.7103

- 2** In a survey, which of these represents the most frequent answer?
Circle your answer. **[1 mark]**

mean

median

mode

range

- 3** Circle the value that **cannot** be a probability. **[1 mark]**

1

0.5

0

−0.5

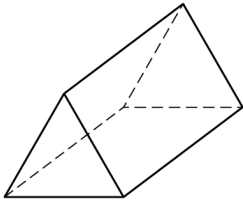


4 Three of these solids are prisms.

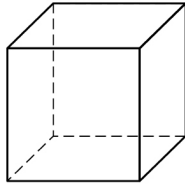
Circle the letter of the solid that is **not** a prism.

[1 mark]

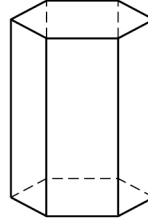
A



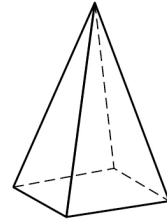
B



C



D



5 (a) Solve $x - 6 = 6$

[1 mark]

$x =$ _____

5 (b) Solve $5y = 5$

[1 mark]

$y =$ _____



6 (a) Write the time that is 8 hours before 21:00

[1 mark]

Answer _____

6 (b) Change 140 minutes into hours and minutes.

[1 mark]

Answer _____ hours _____ minutes

7 All the books on a market stall are the same price.

On Monday, Jack paid \$26 for 4 books.

On Tuesday, he paid for 3 books.

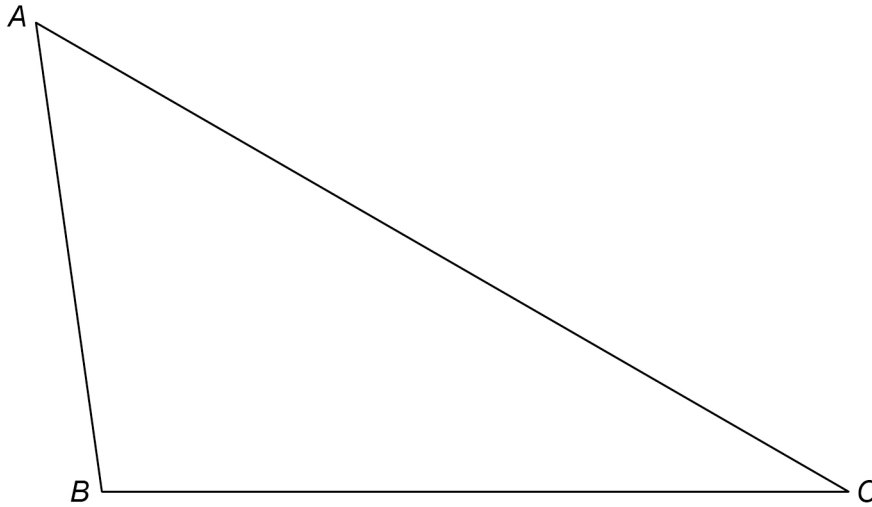
In **total**, how much did he pay for books?

[3 marks]

Answer \$ _____



8 Here is triangle ABC .



8 (a) Measure the obtuse angle ABC .

[1 mark]

Answer _____°

8 (b) Measure the side AC .
State the units of your answer.

[2 marks]

Answer _____



9 Simplify $7x + 4 - 2x$

[1 mark]

Answer _____

10 The stem-and-leaf diagram shows the heights of the cars at a car wash one day.

Key: 17 | 4 represents 174 cm

15	1	1	3	3	5	7	8
16	0	2	5	6	7	9	
17	1	4					
18	2	3					
19	7						
20	4	8					

10 (a) Work out the range.

[2 marks]

Answer _____ cm



10 (b) Here is the price list for the car wash.

Height of car	Price
less than 160 cm	\$6
160 cm to 180 cm	\$7.50
more than 180 cm	\$10

Work out the **total** price for the cars that day.

[3 marks]

Answer \$ _____

Turn over for the next question



- 11 (a)** The term-to-term rule for a sequence is

subtract 10

The 2nd term of this sequence is 80

Work out the 1st term.

[1 mark]

Answer _____

- 11 (b)** The term-to-term rule for a different sequence is

multiply by 3 then add 5

The 1st term of this sequence is 7

Work out the 2nd term and the 3rd term.

[2 marks]

2nd term _____

3rd term _____



12 Here is a list of numbers.

2 3 4 5 6 7 8

12 (a) Use one number from the list to make this statement correct.

The answer to $1 + 1 + 12 + \square$ is a multiple of 6

[1 mark]

12 (b) Use one number from the list to make this statement correct.

The answer to $20 - 9 + \square$ is a factor of 36

[1 mark]

12 (c) Use one number from the list to make this statement correct.

The answer to $(9 + 15) \div \square$ is a prime number

[1 mark]

Turn over for the next question

Turn over ►



- 13** A group of people are going to an event.
They use this formula.

$$\text{Cost per person} = \frac{\text{total cost of tickets} + \text{total cost of travel}}{\text{number of people in the group}}$$

- 13 (a)** With 15 people in the group,
the total cost of tickets is \$510
and
the total cost of travel is \$294

Work out the cost per person.

[2 marks]

Answer \$ _____



- 13 (b)** With 12 people in the group,
the total cost of tickets is \$408
and
the cost per person is \$57

Work out the total cost of travel.

[3 marks]

Answer \$ _____

- 14** Factorise $12y - 9$

[1 mark]

Answer _____



15 (a) Write $72 : 32$ in its simplest form.

[1 mark]

Answer _____ :

15 (b) Arpa and Fen share some money in the ratio Arpa : Fen = 7 : 5
Arpa receives \$63

Work out the **total** amount of money.

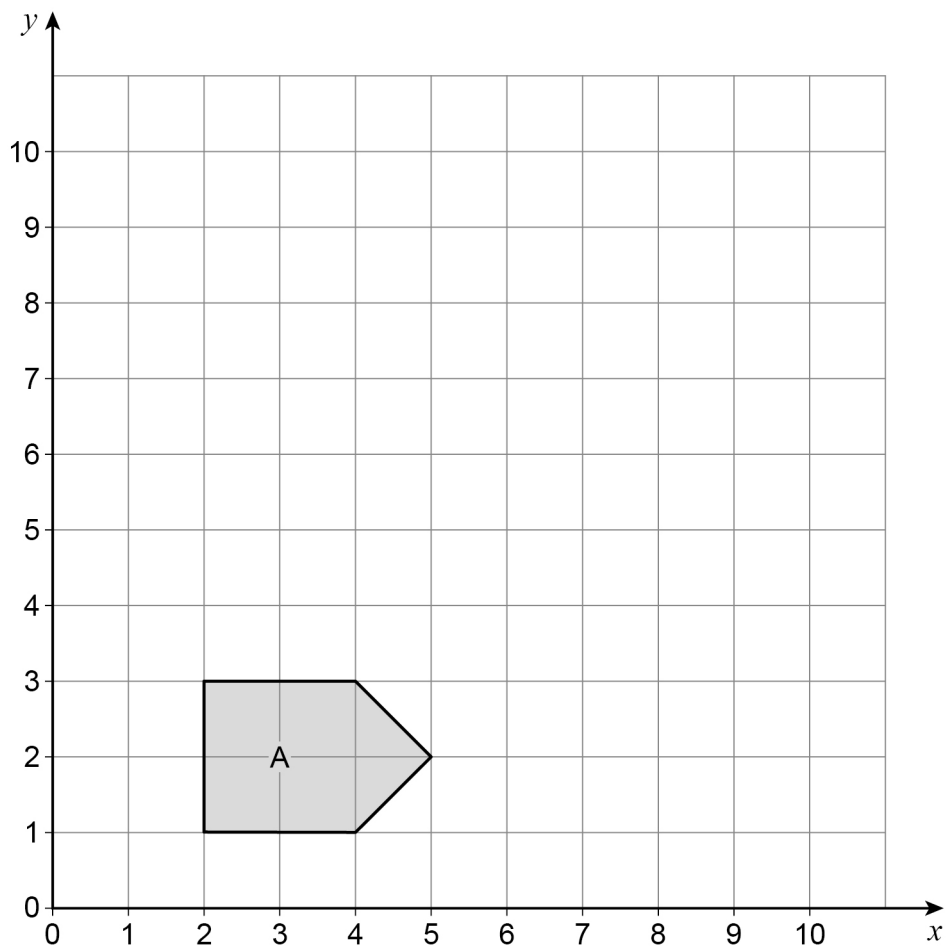
[3 marks]

Answer \$ _____



16

Shape A is shown on the grid.



Translate shape A by the vector $\begin{pmatrix} 3 \\ 4 \end{pmatrix}$

[2 marks]

Turn over for the next question

Turn over ►



- 17 Circle the point that lies on the line $y = 4x - 2$

[1 mark]

$(-1, -2)$

$(-2, 0)$

$(2, 6)$

$(4, 8)$

- 18 An exam has two parts.

The first part is out of 60 marks.

The second part is out of 100 marks.

Karl scores 56 marks on each part.

What percentage of the 160 marks does Karl score?

[3 marks]

Answer _____ %

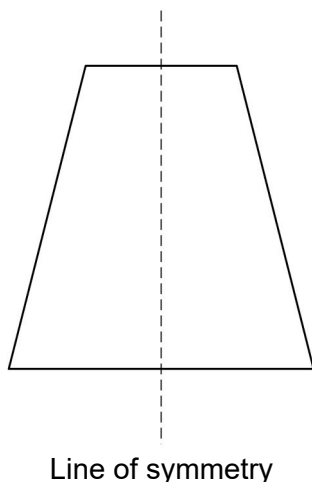


19

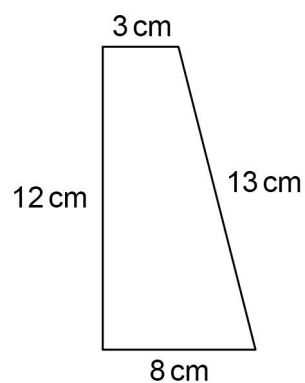
An isosceles trapezium is folded along its line of symmetry.

The diagrams show it unfolded and folded.

Unfolded



Folded



Not drawn
accurately

19 (a) Work out the perimeter of the **unfolded** trapezium.

[2 marks]

Answer _____ cm

19 (b) Work out the area of the **unfolded** trapezium.

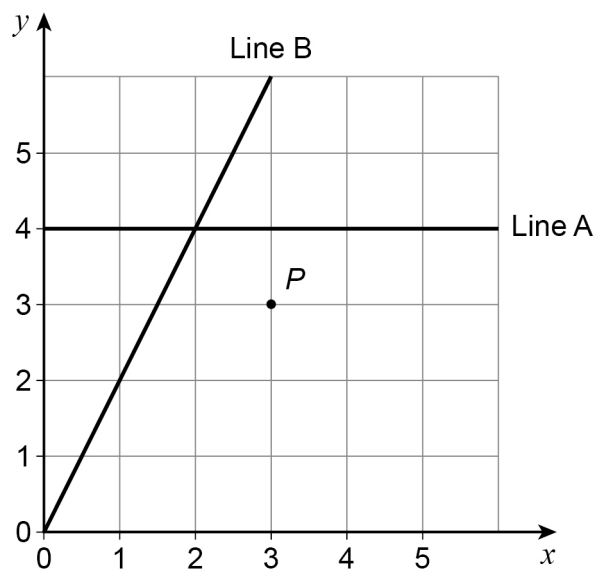
[2 marks]

Answer _____ cm²

Turn over ►



- 20 (a)** Line A and line B are drawn on a grid.
Point P is also shown.

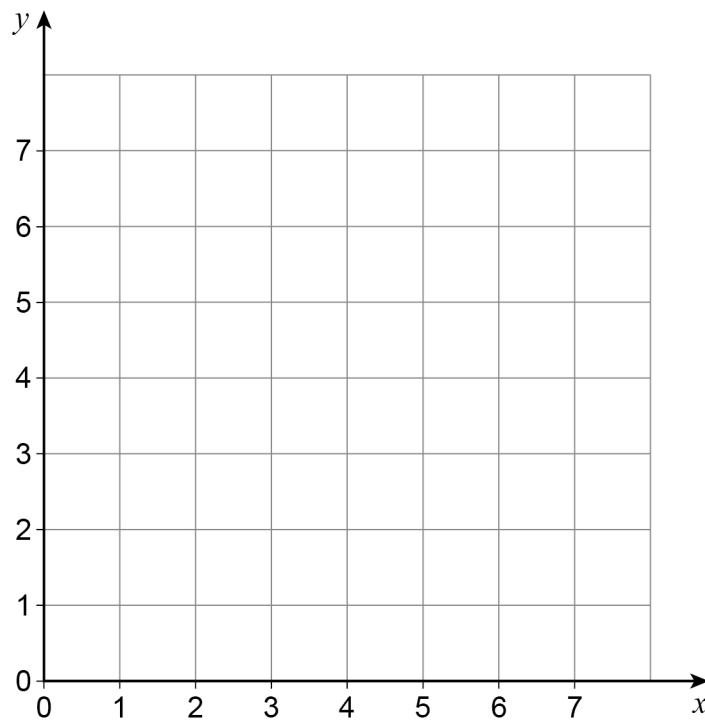


Tick one box for each statement.

[2 marks]

	True	False
Line A is parallel to line B	☐	☐
Point P is the same distance from line A as it is from line B	☐	☐
The equation of line A is $y = 4$	☐	☐

20 (b) Here is a different grid.



On the grid, draw a straight line from the point $(1, 0)$ that has gradient 2

[2 marks]

Turn over for the next question

Turn over ►



21

A bag contains 112 discs.

Each disc is blue, red or green.

The probability of choosing a blue disc at random is $\frac{3}{8}$

There are more red discs than green discs.

Work out the least possible number of **red** discs in the bag.

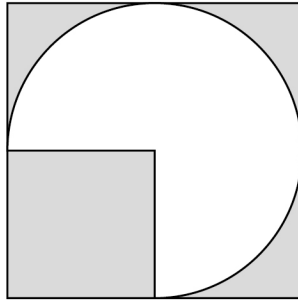
[3 marks]

Answer _____



22

Three quarters of a circle just fits inside a square.

Not drawn
accurately

The circle has radius 12 cm

Work out the shaded area.

[3 marks]

Answer _____ cm²**Turn over for the next question****Turn over ►**

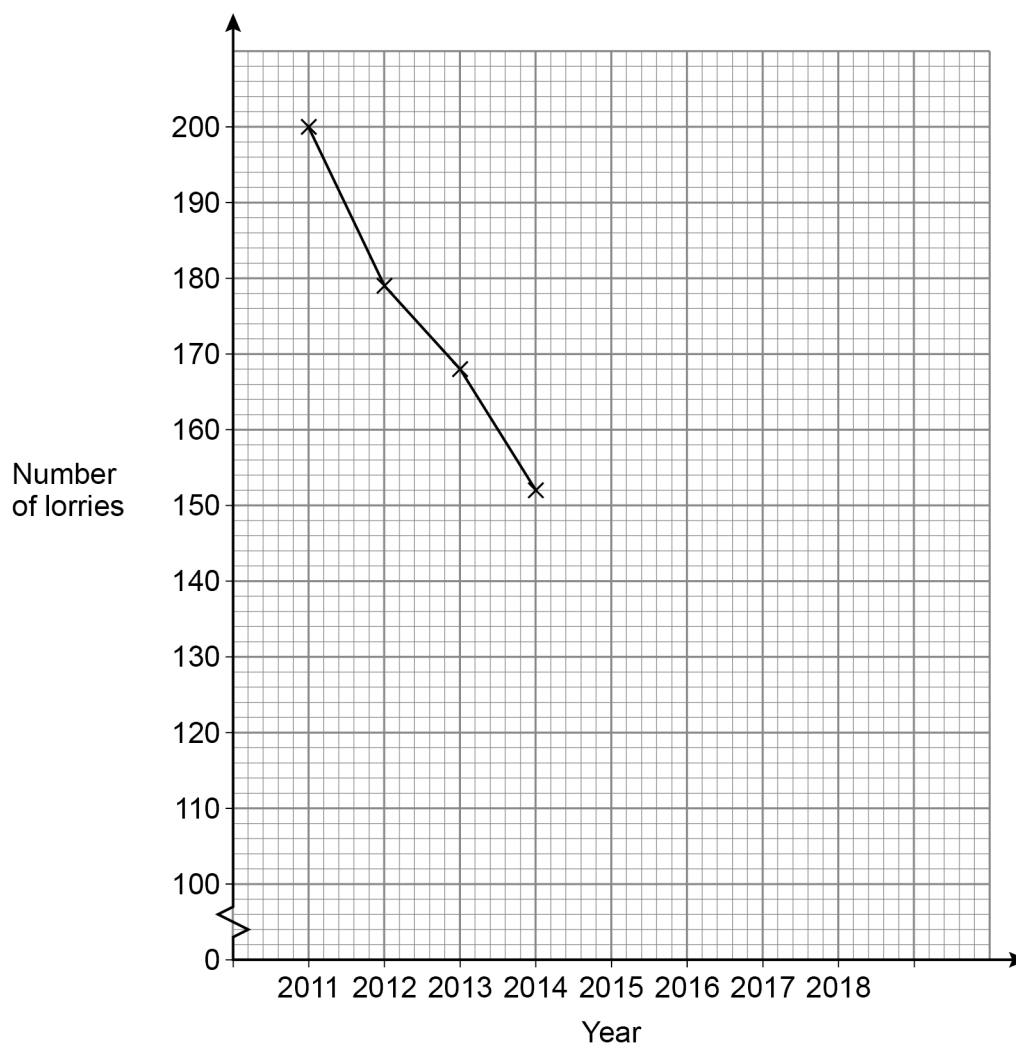
23

The table shows the number of lorries passing through a village from 2011 to 2018

Year	2011	2012	2013	2014	2015	2016	2017	2018
Number of lorries	200	179	168	152	144	135	130	126

A time-series graph is drawn to represent the data.

The first four points have been plotted.



23 (a) Complete the graph.

[2 marks]

23 (b) Use the graph to estimate the number of lorries passing through the village in 2019

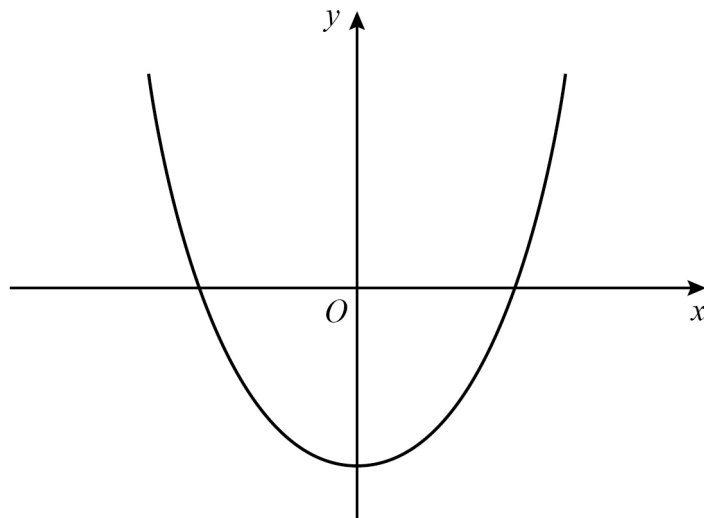
[1 mark]

Answer _____



24

Here is a sketch of a quadratic graph.



Circle the possible equation of the graph.

[1 mark]

$y = x^2 + 3$

$y = x^2 - 3$

$y = -3 - x^2$

$y = 3 - x^2$

Turn over for the next question

Turn over ►



25 The table shows the areas of three oceans.

Ocean	Area (km ²)
Indian	6.86×10^7
Atlantic	7.80×10^7
Pacific	1.56×10^8

25 (a) Write the area of the Indian Ocean as an ordinary number.

[1 mark]

Answer _____ km²

25 (b) Work out area of Atlantic Ocean : area of Pacific Ocean

Give your answer in the form $1 : n$

[2 marks]

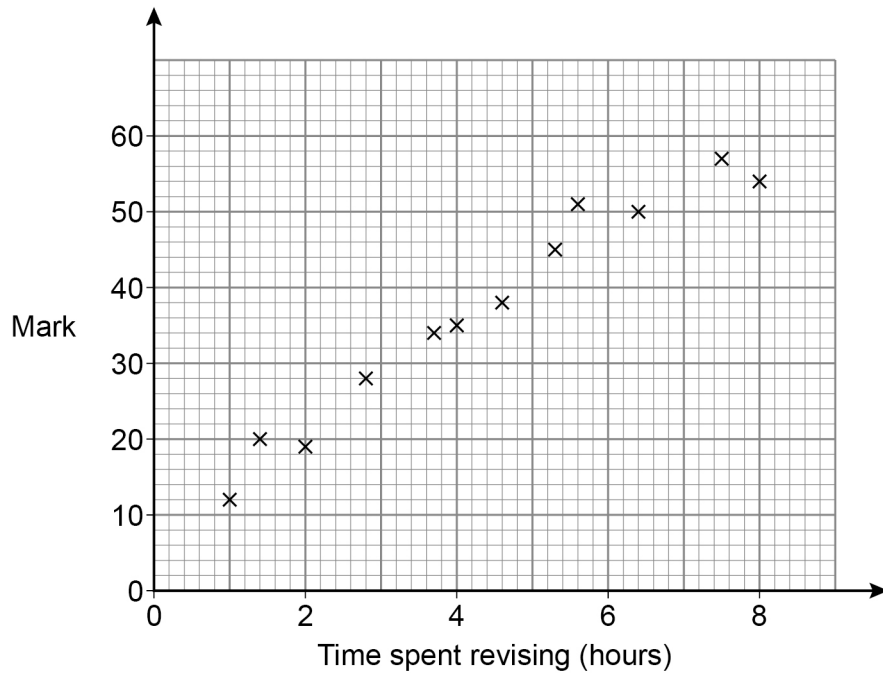
Answer _____ :



26

Twelve students take an exam.

The scatter diagram shows the time each student spent revising and their mark.

**26 (a)** The scatter diagram shows positive correlation.

Describe the relationship between the time spent revising and the mark.

[1 mark]

26 (b) Another student spent 5 hours revising.

Draw a line of best fit and use it to estimate this student's mark.

[2 marks]

Answer _____



27

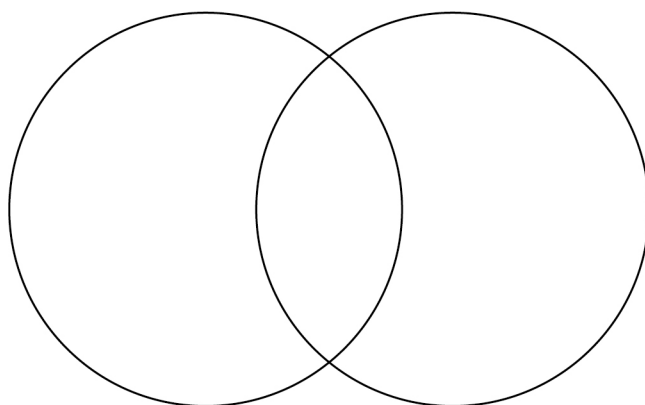
A group of people are visiting a palace and gardens.

85% visit the palace and 35% visit the gardens.

28 people visit both the palace and the gardens.

How many people are in the group?

You may use the diagram to help you.

[3 marks]

Answer _____



28

T is a triangle.

Tick **one** box for each statement about T.

[3 marks]

	Always true	Sometimes true	Never true
Rotation changes its side lengths.	☐	☐	☐
Enlargement changes its angles.	☐	☐	☐
Reflection changes its position.	☐	☐	☐

29

C is the set of cube numbers that are less than 100

Circle the value of $n(C)$

[1 mark]

9

10

3

4

30

Multiply out $x(x^2 + 2)$

Circle your answer.

[1 mark]

$x^3 + 2$

$x^2 + 2x$

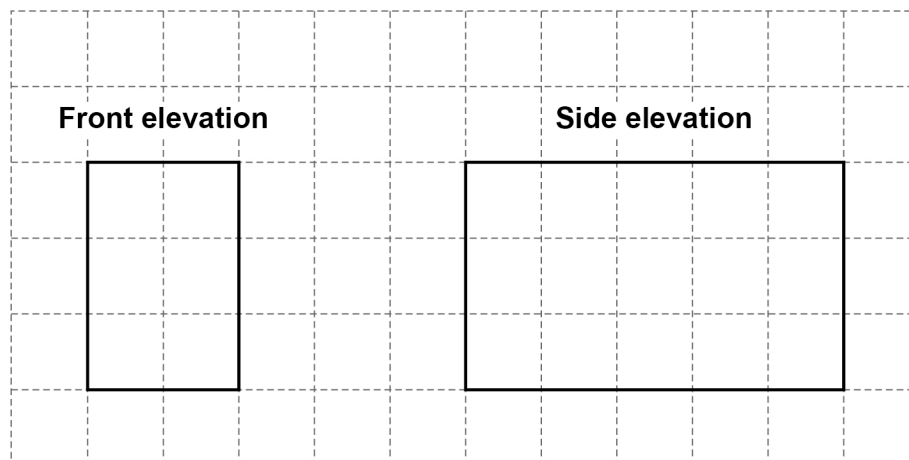
$x^3 + 2x$

$2x^3$



31

The front elevation and side elevation of a cuboid are shown on a centimetre grid.



Work out the **total** surface area of the cuboid.

[3 marks]

Answer _____ cm^2



32 (a) Solve $4(x - 5) > 32$

[2 marks]

Answer _____

32 (b) The integer solutions of an inequality in y are

$-4, -3, -2, -1, 0$ and 1

Complete the inequality by inserting the correct symbol into each space.

Choose from $<$, $\leq$, $>$ and $\geq$

[1 mark]

-12 _____ $3y$ _____ 3

END OF QUESTIONS



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