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 2C

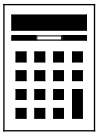
C

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	
24–25	
TOTAL	

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

Do not write outside the box

1 Convert 500 seconds to minutes and seconds.

Circle your answer.

[1 mark]

8 min 18 s 8 min 20 s 8 min 30 s 8 min 33 s

2 Circle one million as a power of 10

[1 mark]

10^4 10^5 10^6 10^7

3 Circle the smallest fraction.

[1 mark]

$\frac{2}{9}$ $\frac{1}{3}$ $\frac{5}{18}$ $\frac{1}{6}$

Do not write outside the box

4 A sports event will take place in 2020

It takes place every four years.

Circle the year in which the event took place.

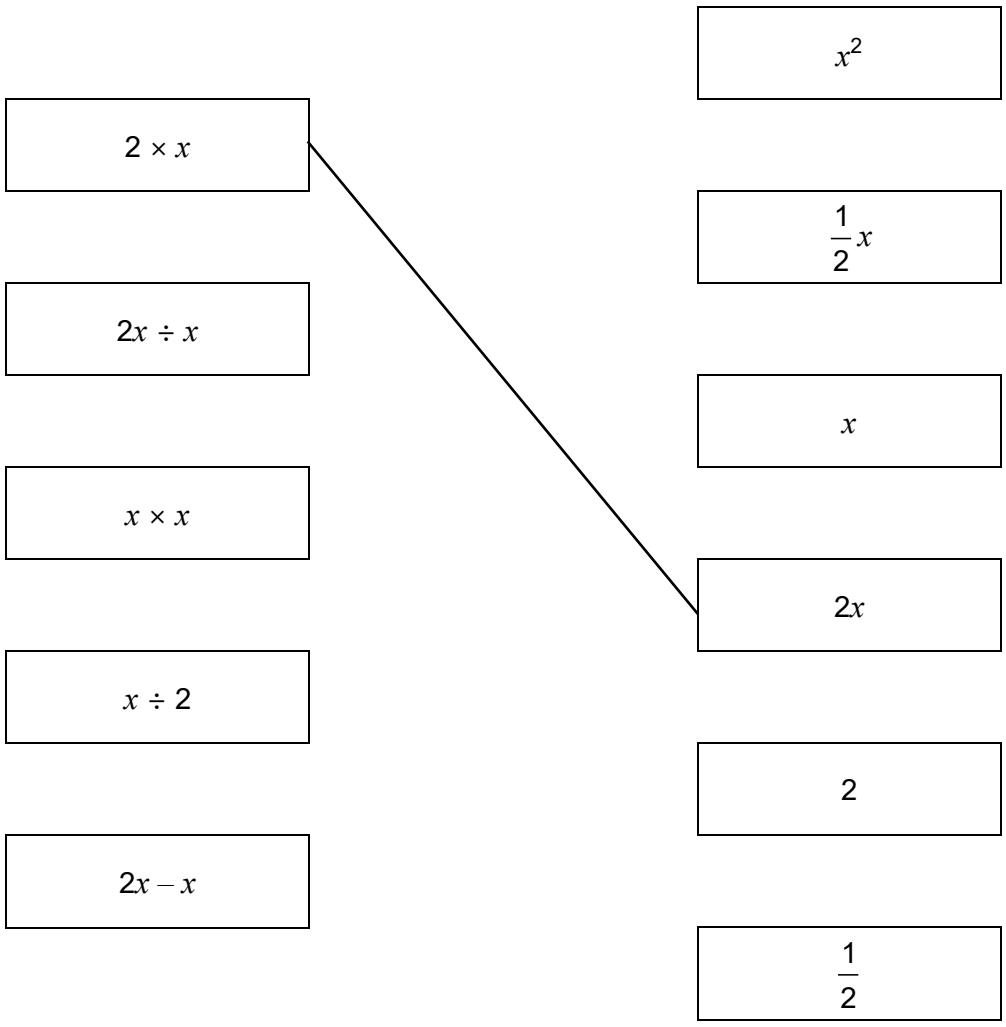
[1 mark]

1958 1976 1994 2002

5 Match each expression to its simplified form.

One has been done for you.

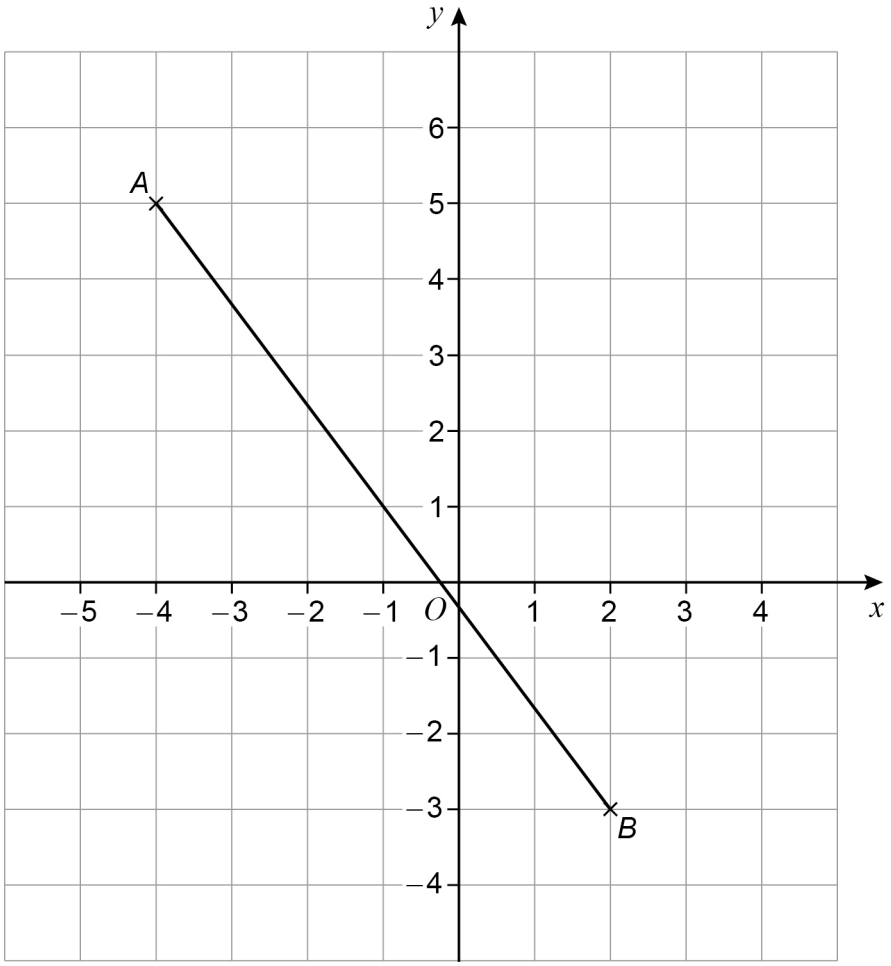
[3 marks]



7

Do not write outside the box

6 The line *AB* is shown on the grid.



6 (a) Work out the coordinates of the midpoint of *AB*.

[1 mark]

Answer (_____ , _____)

6 (b) Plot and label point *C* so that

CB is parallel to the x-axis

and

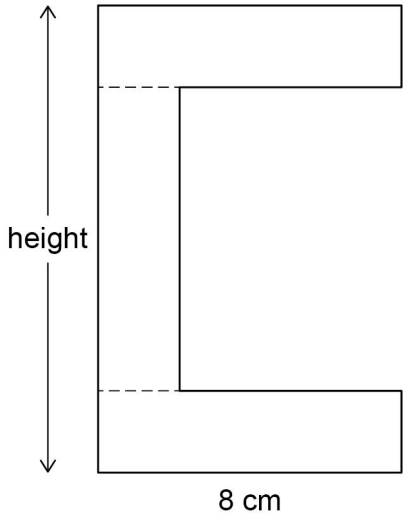
angle $ACB = 90°$

[2 marks]

Do not write outside the box

7 A shape is made from three **identical** rectangles.

The shape has width 8 cm



Not drawn accurately

The area of the shape is 36 cm^2

Work out the height of the shape.

[3 marks]

Answer _____ cm

6

Turn over ►

Do not write outside the box

8 Paul started training for a race.

On day 1 his training time was 14 minutes.

Each day he increased his training time by 4 minutes.

8 (a) On day 6, how long was his training time?

[1 mark]

Answer _____ minutes

8 (b) On which day was his training time 90 minutes?

[2 marks]

Answer _____

Do not write outside the box

9 Eli thinks of a number.

He adds 3 to the number.

He then multiplies the total by 5

His answer is 10

Work out Eli's number.

[2 marks]

Answer _____

10 People choose one sandwich and one drink from this list.

Sandwich	Egg (E)	Cheese (C)	Salad (S)
Drink	Tea (T)	Juice (J)	Water (W)

List **all** the possible choices.

One has been done for you.

[2 marks]

E T

7

Do not write outside the box

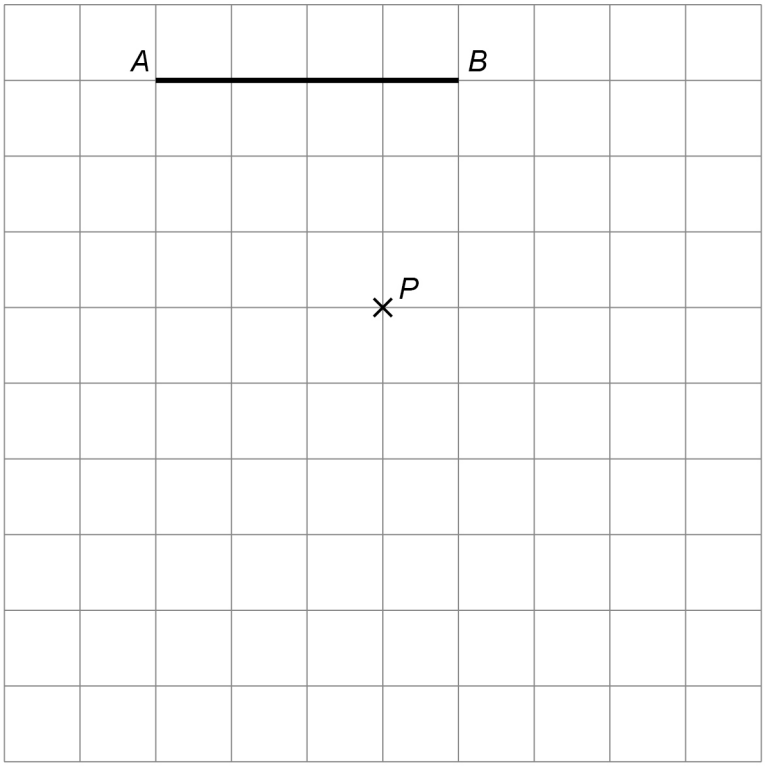
11 On the square grid

AB is one side of a parallelogram

P is the point where the diagonals intersect.

Complete the parallelogram.

[2 marks]



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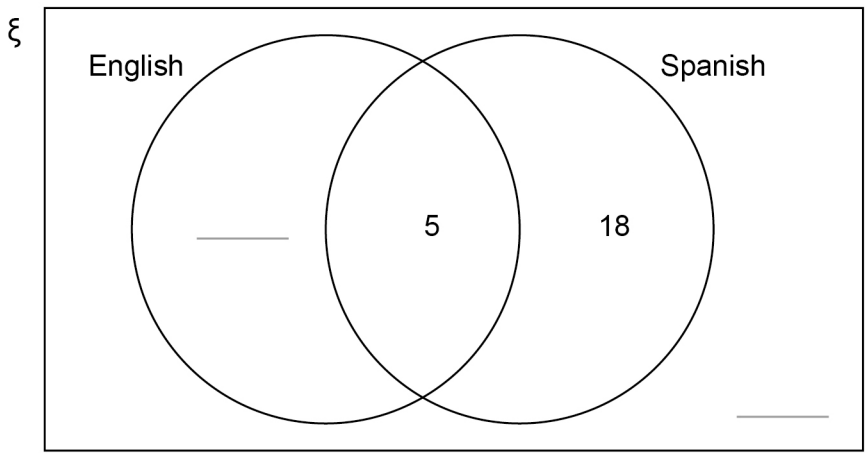
12 A language school has 50 students.

19 students are learning English.

12 (a) Complete the Venn diagram.

[2 marks]



12 (b) A student is chosen at random.

Work out the probability that the student is learning Spanish.

[1 mark]

Answer _____

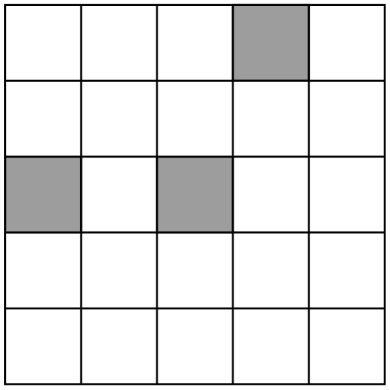
5

Turn over ►

Do not write outside the box

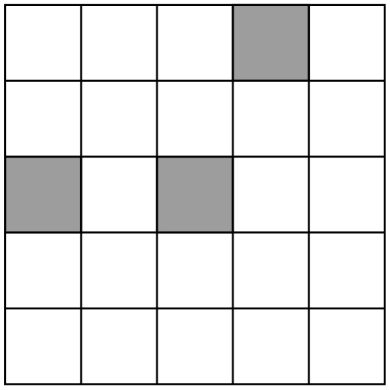
13 (a) Shade **two** more squares so that this grid has a vertical line of symmetry.

[1 mark]



13 (b) Shade **two** more squares so that this grid has a diagonal line of symmetry.

[1 mark]



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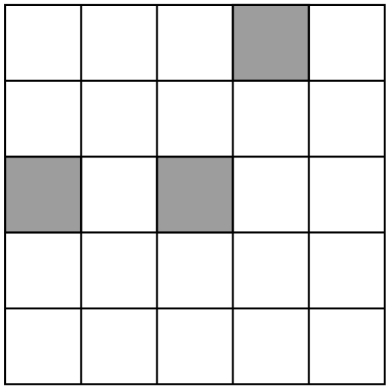
13 (c) Shade **two** more squares so that this grid has rotational symmetry of order 2

[1 mark]



14 A box of chocolates will last 8 days if Maren eats 3 chocolates a day.

How many days will it last if she eats 4 chocolates a day?

[2 marks]

Answer _____ days

Turn over for the next question

5

Do not write outside the box

15 25 people are given a puzzle to solve.

The stem-and-leaf diagram shows the times taken, in seconds, to solve the puzzle.

Key: 4 | 5 represents 45 seconds

4	5	6	8	9			
5	1	2	2	3	4	5	8
6	0	7	7	7	8	9	
7	1	2	3	5	8	9	
8	0	1					

15 (a) Why is the mode 67 seconds?

[1 mark]

15 (b) Show that the range is 36 seconds.

[1 mark]

Do not write outside the box

15 (c) Three more people are given the puzzle to solve.

When their times are included in the data

the mode is still 67 seconds

the range increases to 40 seconds.

One of the three people solved the puzzle in 52 seconds.

Work out possible times for the other two people.

[2 marks]

Answer _____ seconds and _____ seconds

16 x is an integer.

$x + 1 > 4$ and $2x \leqslant 16$

Work out **all** the possible values of x.

[2 marks]

Answer _____

6

Turn over ►

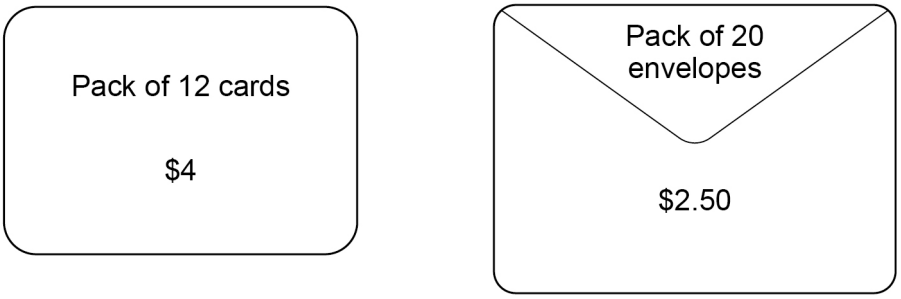
Do not write outside the box

17 Tamir buys some packs of cards and packs of envelopes.

He buys

an **equal** number of cards and envelopes

the **smallest** possible number of packs.



Tamir draws pictures on the cards.

He sells each card with an envelope for $3.25

How much profit does he make if he sells them all?

[5 marks]

Answer $ _____

Do not write outside the box

18 900 people were asked to choose their favourite fruit.

Fruit	Apple	Banana	Grape	Other
Number of people	300	250	220	130

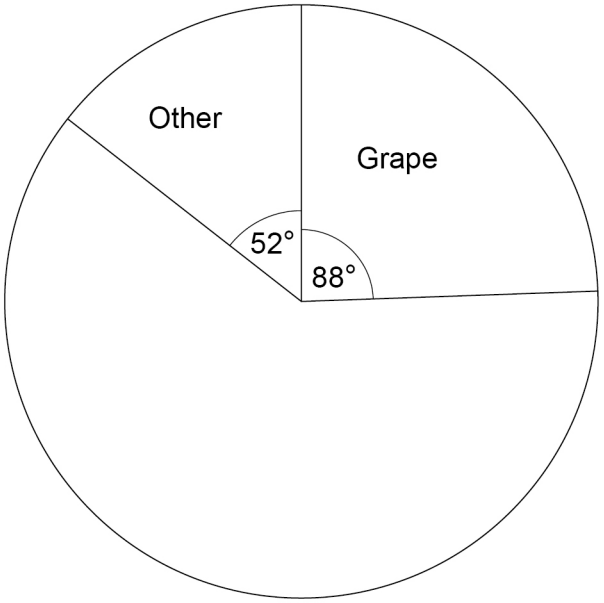
18 (a) One of the 900 people is picked at random.

Show that the probability they chose Banana is **more than** 0.25

[2 marks]

18 (b) Complete the pie chart for the information in the table.

[3 marks]



10

Turn over ►

Do not write outside the box

19 Three numbers add up to 70

The first number is a square number less than 50

The second number is a cube number greater than 1

The third number is a prime number less than 10

Work out **one** possible set of numbers.

[3 marks]

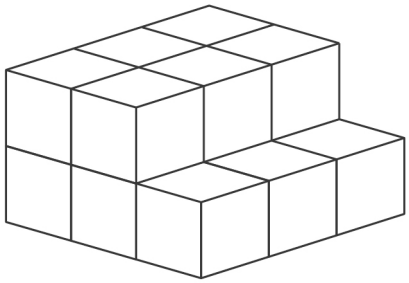
Square number _____

Cube number _____

Prime number _____

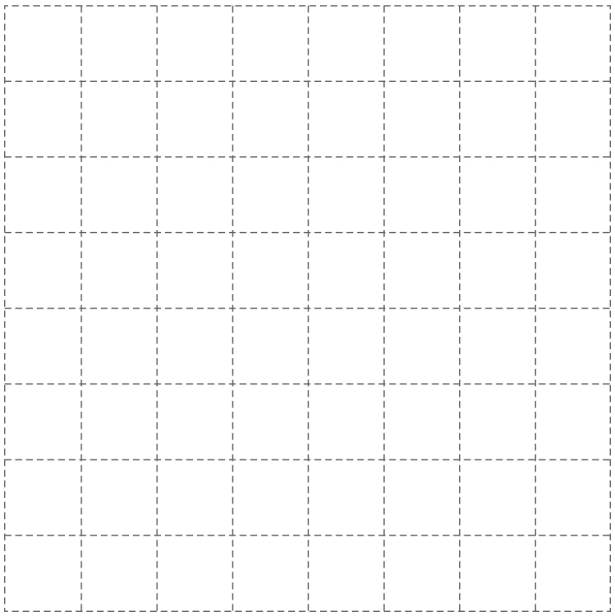
Do not write outside the box

20 This solid prism is made from centimetre cubes.



20 (a) Draw a plan view of the prism.

[1 mark]



20 (b) A cuboid is made with exactly the same number of centimetre cubes as the prism.

Work out **one** possible set of dimensions for the cuboid.

[2 marks]

Length _____ cm Width _____ cm Height _____ cm

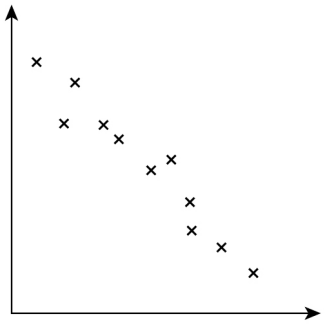
6

Turn over ►

Do not write outside the box

21 Here are three scatter diagrams.

A



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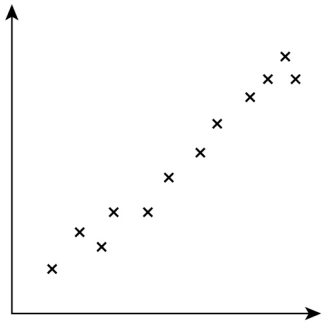
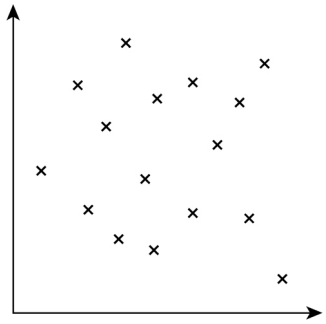


C



Complete the table by matching each pair of variables to a diagram.

[2 marks]

	Diagram
The amount of tea drunk by an adult in a week and the height of the adult	
The distance from home to school and the time it takes to walk from home to school	

Do not write outside the box

22 (a) At an athletics event, France won 42 medals.

At the previous event, France won 32 medals.

Work out the percentage increase in the medals won by France.

[3 marks]

Answer _____ %

22 (b) At the event, China won 70 medals.

The medals were gold, silver or bronze.

The number of gold medals was

8 more than the number of silver medals

the same as the number of bronze medals.

Work out the number of **gold** medals.

[3 marks]

Answer _____

8

Do not write outside the box

23 Circle the reciprocal of 0.5

[1 mark]

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

24 Use your calculator to work out $\frac{2.5 \times 10^4 + 3 \times 10^{-1}}{5 \times 10^3}$

Circle your answer.

[1 mark]

5.000 06 25 000.000 06 25 060 5 000 060

25 The total cost of 4 tickets is x dollars.

Circle the total cost, in dollars, of n tickets.

[1 mark]

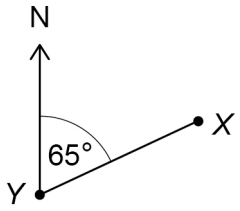
$\frac{n}{4x}$ $\frac{nx}{4}$ $\frac{4n}{x}$ $\frac{x}{4n}$

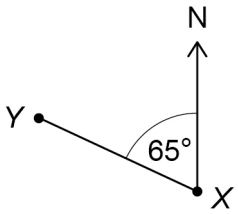
Do not write outside the box

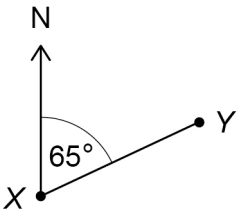
26 The bearing of X from Y is 065°

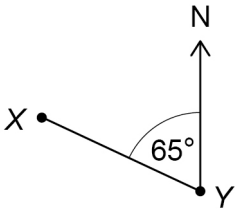
Circle the diagram that shows this.

[1 mark]









27 Factorise fully $5x^2y - 35xy^2$

[2 marks]

Answer _____

Turn over for the next question

6

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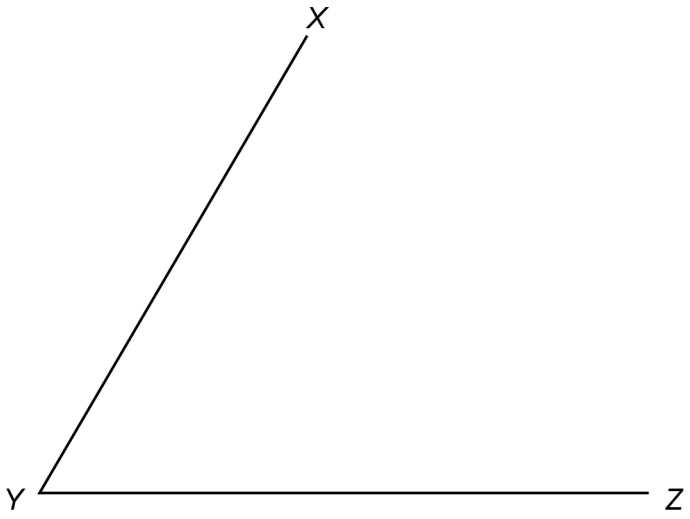
28 Using ruler and compasses, show the position of point *P* so that

PY bisects angle *XYZ*

PY = 6 cm

[3 marks]



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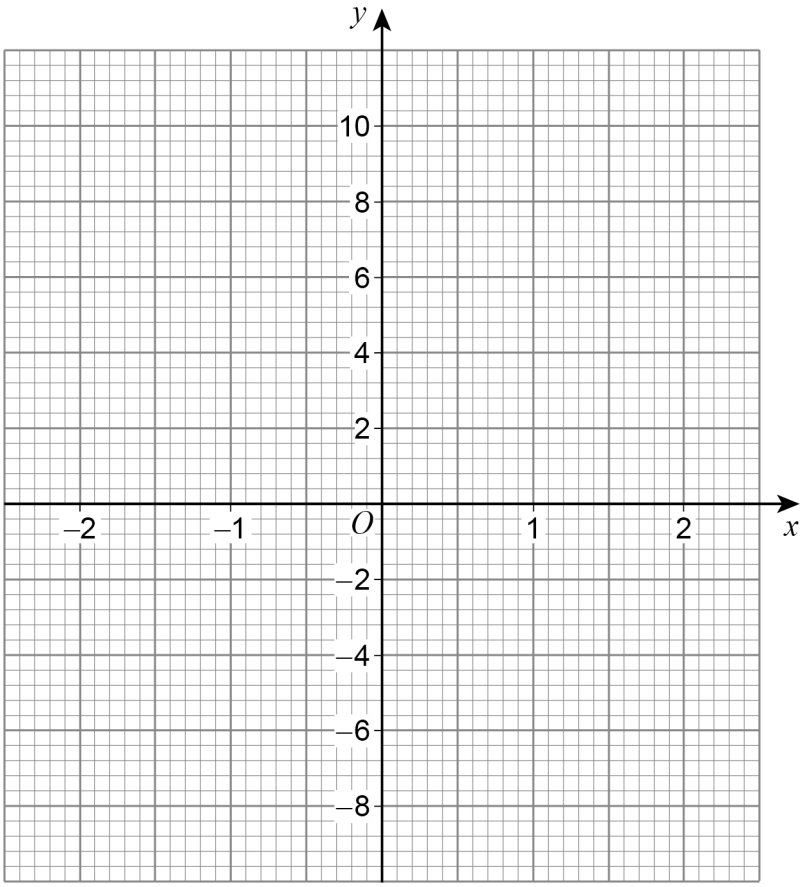
29 (a) Complete the table of values for $y = x^3 + 2$

[2 marks]

x	-2	-1	0	1	2
y		1			10

29 (b) Draw the graph of $y = x^3 + 2$ for values of x from -2 to 2

[2 marks]



7

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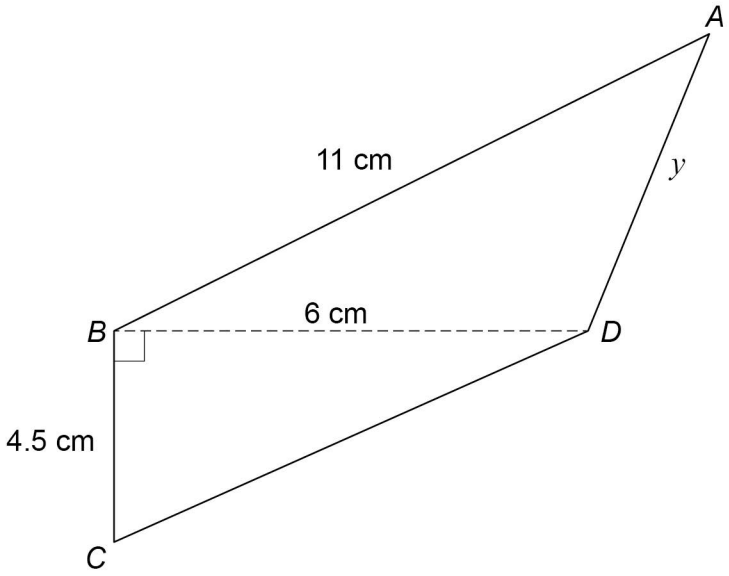
30 The perimeter of quadrilateral *ABCD* is 30 cm



Not drawn accurately

Work out the value of y.

[4 marks]

Answer _____ cm

Do not write outside the box

31 $9(p^2 + 5p) - 3(2p^2 + 8p) + 7p \equiv cp^2 + dp$

Work out the values of c and d.

[3 marks]

$c =$ _____ $d =$ _____

END OF QUESTIONS

7

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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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