Cambridge Assessment International Education

Cambridge IGCSE™

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MATHEMATICS **0580/01**

Paper 1 Non-calculator (Core) **For examination from 2025**

SPECIMEN PAPER B **1 hour 30 minutes**

You must answer on the question paper.

You will need: Geometrical instruments

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages.

[Turn over

List of formulas

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle of radius r.	$A = \pi r^2$
Circumference, C, of circle of radius r.	$C = 2\pi r$
Curved surface area, A, of cylinder of radius r, height h.	$A = 2\pi rh$
Curved surface area, A, of cone of radius r, sloping edge l.	$A = \pi rl$
Surface area, A, of sphere of radius r.	$A = 4\pi r^2$
Volume, V, of prism, cross-sectional area A, length l.	$V = Al$
Volume, V, of pyramid, base area A, height h.	$V = \frac{1}{3}Ah$
Volume, V, of cylinder of radius r, height h.	$V = \pi r^2 h$
Volume, V, of cone of radius r, height h.	$V = \frac{1}{3}\pi r^2 h$
Volume, V, of sphere of radius r.	$V = \frac{4}{3}\pi r^3$

Calculators must **not** be used in this paper.

1

3	4	10	23	25	27	37	120	130

From this list, write down

(a) a multiple of 30

..... [1]

(b) a factor of 50 that is a square number

..... [1]

(c) a common factor of 12 and 20

..... [1]

(d) a prime number between 20 and 30.

..... [1]

2 Find the reciprocal of 0.5 .

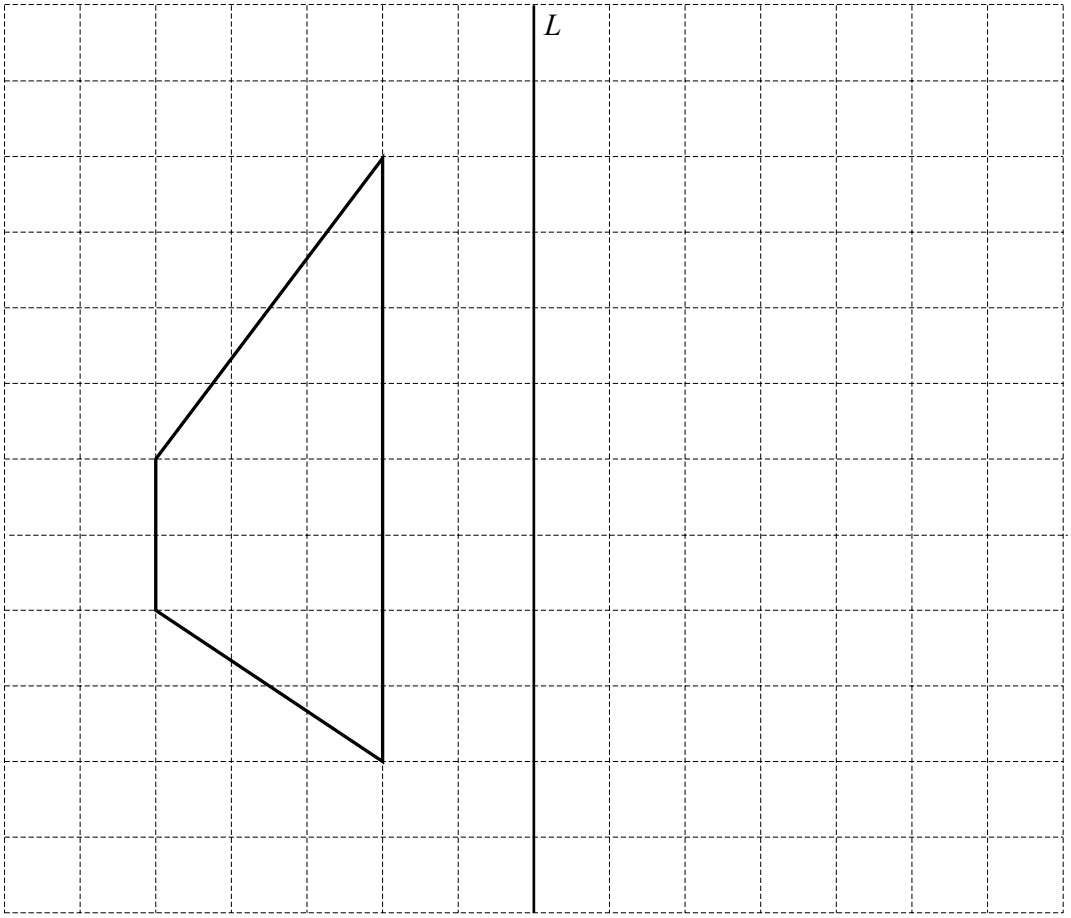
..... [2]

3 Sam has some money.
He spends 36% of the money and gives 22% of the money to his friend.

Find the percentage of the money that Sam has left.

.....% [2]

4 The grid shows a trapezium and a line L.



On the grid, draw the image of the trapezium after a reflection in line L.

[1]

5 Here is some information about five positive integers.

- The median is 7.
- The mode is 13.
- The range is 10.
- They add up to 40.

Find the five integers.

..... , ... , ... , ... , ... [3]

6 **(a)** Write down the value of the 5 in the number 1 252 800.

..... [1]

(b) Write 72.5796 correct to 3 decimal places.

..... [1]

(c) $0.28 \times 9.6 = 2.688$

Use this information to find the value of 28×9.6 .

..... [1]

7 $T = 2a - 3b$

Find the value of T when $a = 12$ and $b = 5$.

$T =$ ..... [2]

8 Lee sells books and magazines.

(a) He records the number of books he sells to each of 16 people.

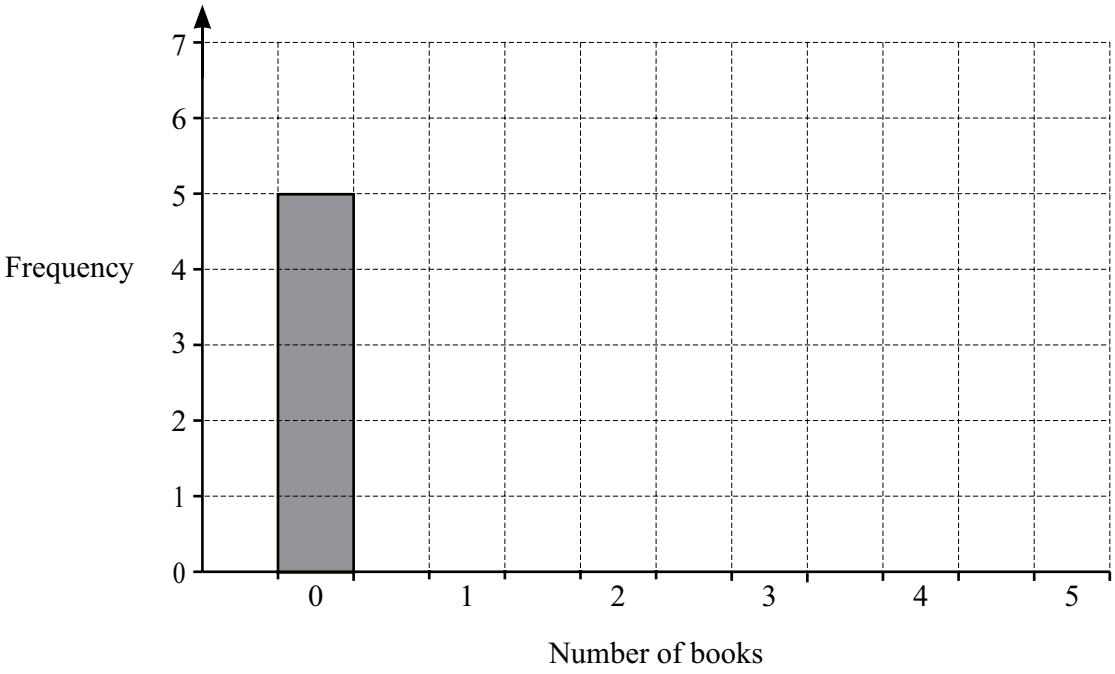
1	2	0	4	2	2	3	0
0	3	4	0	5	2	0	3

(i) Complete the table.
The first row has been completed for you.

Number of books	Tally	Frequency
0	𝍸	5
1		
2		
3		
4		
5		

[3]

(ii) Use your table to complete the bar chart.



[2]

(b) Lee records the number of magazines he sells to each of 20 people.
The results are shown in the table.

Number of magazines	Frequency
1	8
2	2
3	4
4	2
5	4

(i) Work out the mean.

..... [3]

(ii) Lee says 'The mode is 8.'

Explain why Lee is wrong.

.....

..... [1]

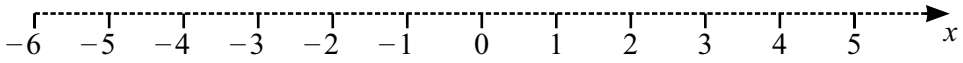
9 **(a)** Convert 600 m into km.

..... km [1]

(b) Convert 3 m^2 into cm^2.

..... cm^2 [1]

10 Represent the inequality $x > -2$ on the number line.



[1]

11 Shirts cost \$28.40 each.
Scarves cost \$5.25 each.
Anna buys 6 shirts and 4 scarves.

By writing the cost of each item correct to 1 significant figure, work out an estimate for the amount Anna pays.

\$ ..... [2]

12 Work out.

$-8 \times 2 + 3$

..... [1]

13 Find the value of

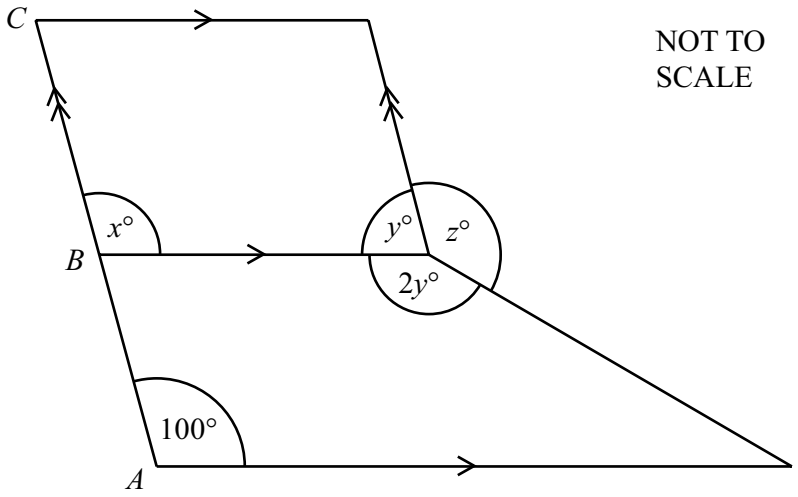
(a) 5^{-1}

..... [1]

(b) $\left(\sqrt{16}\right)^3$.

..... [2]

14



The diagram shows a parallelogram and a trapezium.
The parallelogram and the trapezium are joined along a common side.
ABC is a straight line.

(a) Find the value of x.
Give a geometrical reason for your answer.

x = ... because .....

..... [2]

(b) Find the value of y.
Give a geometrical reason for your answer.

y = ... because .....

..... [2]

(c) Find the value of z.

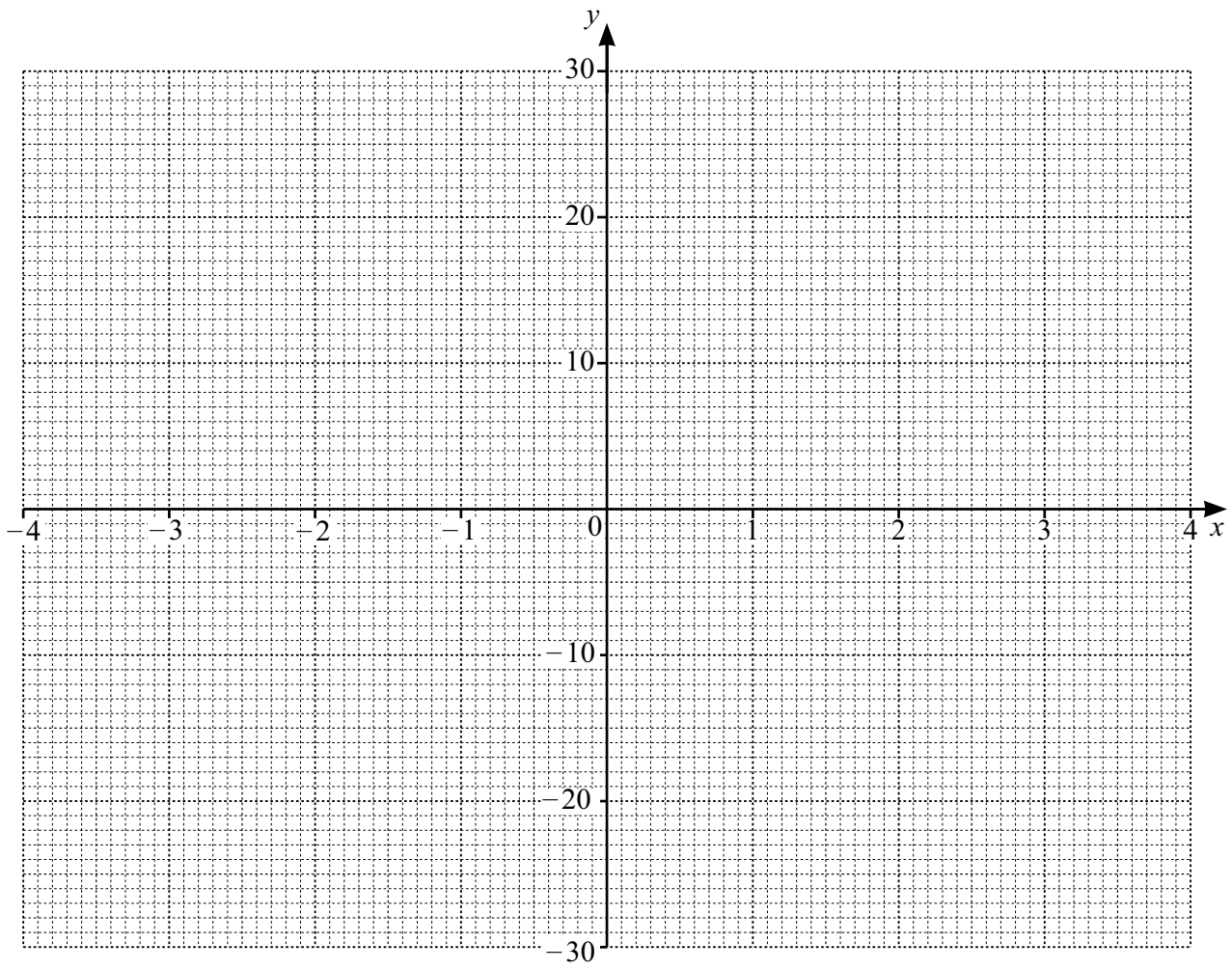
z = ... [2]

15 **(a)** Complete the table of values for $y = \frac{30}{x}$.

x	–4	–3	–2	–1		1	2	3	4
y	–7.5								7.5

[3]

(b) On the grid, draw the graph of $y = \frac{30}{x}$ for $-4 \leqslant x \leqslant -1$ and $1 \leqslant x \leqslant 4$.



[4]

(c) Write down the order of rotational symmetry of the graph.

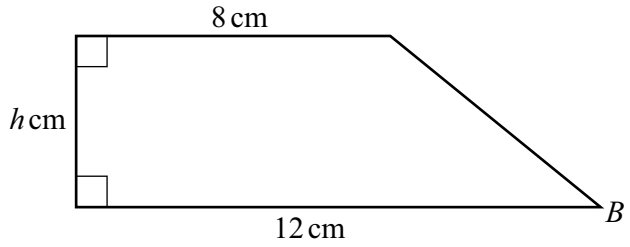
..... [1]

(d) (i) On the grid, draw the line $y = 25$. [1]

(ii) Use your graph to solve $\frac{30}{x} = 25$.

$x =$ ..... [1]

16 The diagram shows a trapezium.



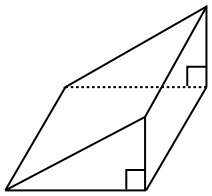
NOT TO SCALE

The area of the trapezium is $60\,\text{cm}^2$.

Find the value of h.

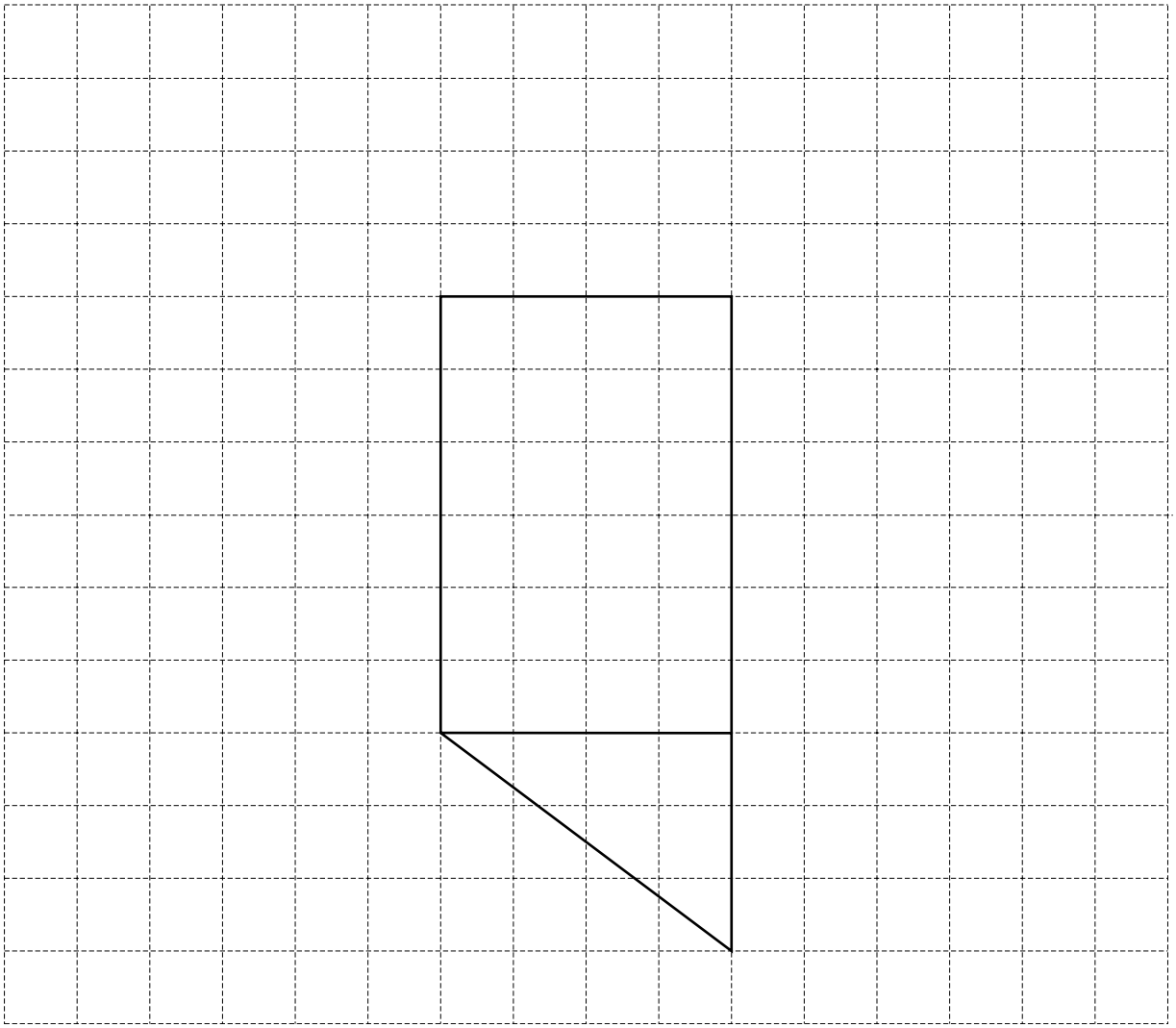
$h =$ ..... [2]

17 **(a)** The diagram shows a triangular prism.



NOT TO SCALE

On the 1 cm^2 grid, complete a net of the triangular prism.
Two faces have been drawn for you.



[3]

(b) Work out the volume of this triangular prism.
Give the units of your answer.

.... [4]

18 **(a)** Find the fraction that lies exactly halfway between $\frac{2}{5}$ and $\frac{4}{7}$.

..... [2]

(b) Work out.

$$3\frac{2}{3} - 1\frac{2}{5}$$

Give your answer as a mixed number in its simplest form.

..... [3]

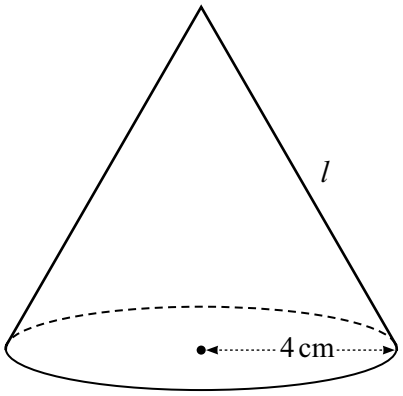
19 Work out.

$$4000 \times 70$$

Give your answer in standard form.

..... [2]

20



NOT TO SCALE

The diagram shows a solid cone with a radius of 4 cm.
The **total** surface area of the cone is $56\pi\,\text{cm}^2$.

Work out the length, l, of the sloping edge of the cone.

$l =$ ..... cm [3]

21 Expand and simplify.

$$(y - 6)(y + 5)$$

..... [2]

22 **(a)** $8^3 \times 8^b = 8^{12}$

Find the value of b.

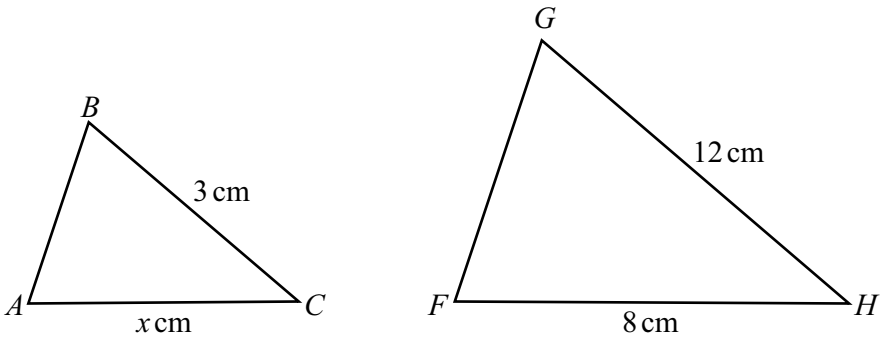
$b =$ ..... [1]

(b) Simplify.

$8x^5y^4 \div 2x^{-7}y^3$

..... [2]

23



NOT TO SCALE

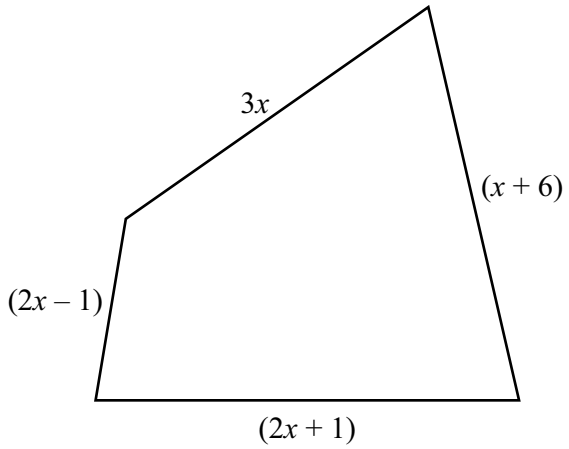
Triangle ABC is mathematically similar to triangle FGH.

Work out the value of x.

$x =$ ..... [2]

24 In this question, all measurements are in centimetres.

The diagram shows a quadrilateral.



NOT TO SCALE

The perimeter of the quadrilateral is 26 cm.

Write down an equation and solve it to find the value of x.

$x =$ ..... [3]

