

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

Thursday 30 May 2024

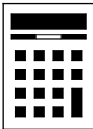
07:00 GMT

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

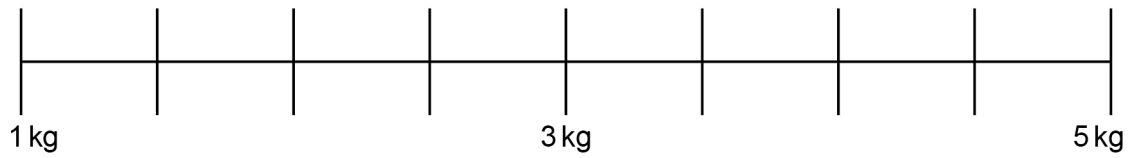
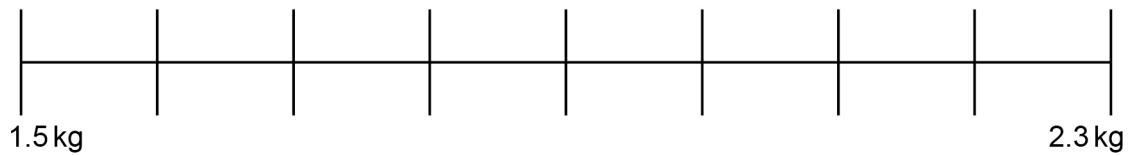
Show all necessary working; otherwise marks for method may be lost.

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	
TOTAL	

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

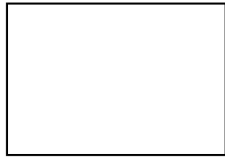
- 1** Mark with an arrow the position of 2 kg on each scale.

[2 marks]

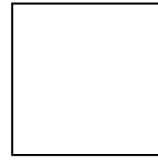


2 Here are four shapes.

A



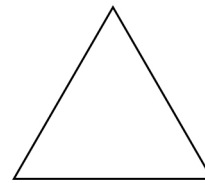
B



C



D



2 (a) Write down the letter of the shape with **exactly** two lines of symmetry.

[1 mark]

Answer _____

2 (b) Write down the letter of the shape with rotational symmetry of order 4

[1 mark]

Answer _____



- 3** The pictogram shows some information about the number of students that were late to school each day for one week.

Key: ○ represents 4 students

Monday	○ ○
Tuesday	○ ○ ○ ○
Wednesday	○ ○ ○
Thursday	
Friday	○ ○ ○ ○ ○ ◐

- 3 (a)** How many students were late on Wednesday?

[1 mark]

Answer _____

- 3 (b)** How many **more** students were late on Friday than on Monday?

[2 marks]

Answer _____

- 3 (c)** 10 students were late on Thursday.

Show this information in the pictogram.

[1 mark]



- 4 Carl bought pencils that cost 17 cents each.
He paid with a \$10 note.
He got \$6.09 change.

How many pencils did Carl buy?

[3 marks]

Answer _____

- 5 Draw a line to match each calculation to its answer.

[3 marks]

$$10 - 2 \times (3 - 1)$$

$$10 - 2 \times 3 - 1$$

$$(10 - 2) \times 3 - 1$$

3

6

16

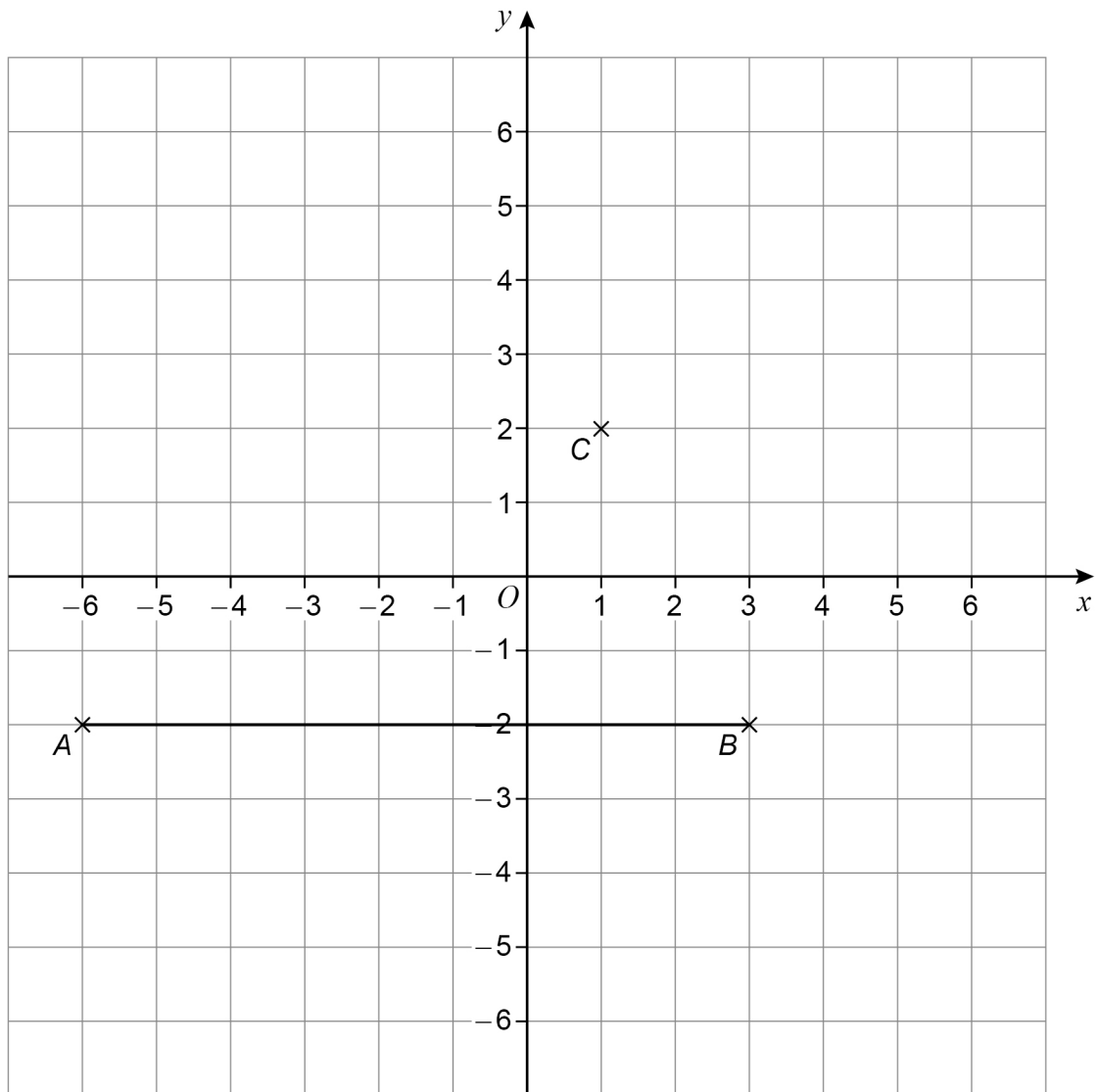
23

10

Turn over ►



6 Here are points A , B and C on a grid.



6 (a) Write down the coordinates of point C .

[1 mark]

Answer (_____ , _____)

6 (b) Mark point D on the grid so that $ABCD$ is an isosceles trapezium.

[2 marks]



7 Choose one of the following to make a correct statement each time.

[2 marks]

is less than

is equal to

is greater than

The range of 4, 6, 7, 7 _____ the mode of 1, 2, 2, 4, 4, 4

The median of 4, 7, 18 _____ the median of 2, 7, 15

8 (a) p is 3 times r .

Write an equation connecting p and r .

[1 mark]

Answer _____

8 (b) 2 is added to x .

The result is multiplied by 3 to get the answer.

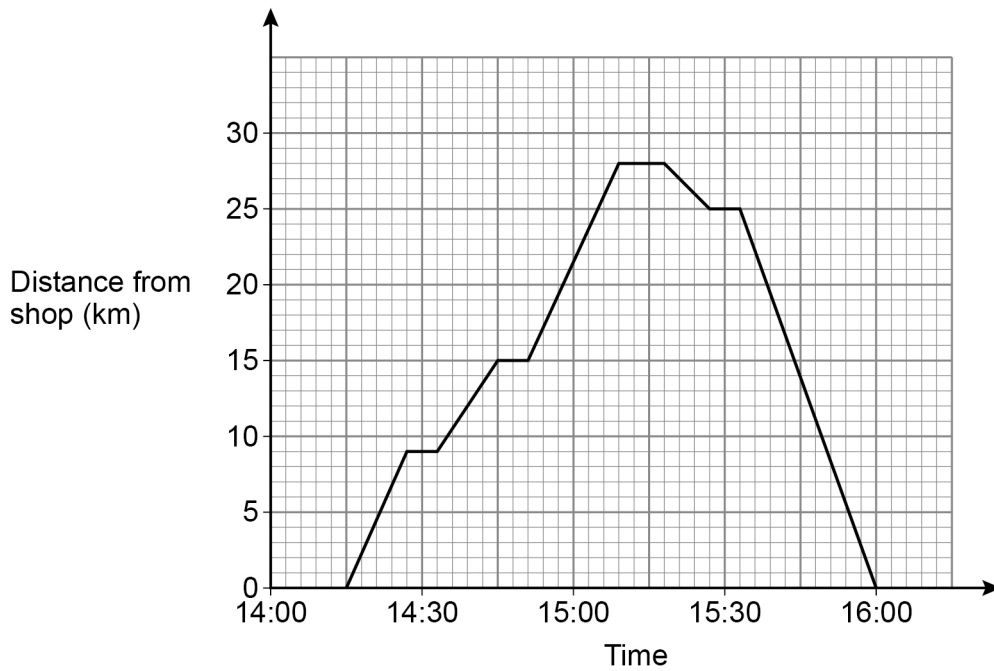
Write down the answer.

[1 mark]

Answer _____



- 9** Here is the distance-time graph for the delivery van of a shop.
The van only stopped to make deliveries.



- 9 (a)** How many times did the van stop to make deliveries?

[1 mark]

Answer _____

- 9 (b)** How long was the van away from the shop?
Give your answer in minutes.

[2 marks]

Answer _____ minutes



- 9 (c)** Work out the **total** distance that the van travelled.

[2 marks]

Answer _____ km

- 10** Two machines make items.
Machine A makes 480 items every 20 minutes.

- 10 (a)** Work out the number of items machine A makes in one hour.

[2 marks]

Answer _____

- 10 (b)** Machine B makes 23 items every minute.

Which machine makes items at a faster rate?

Tick a box.

Machine A ☐

Machine B ☐

Show working to support your answer.

[2 marks]

Turn over ►



- 11** Max has three caps and three T-shirts.

Cap	Red (R)	Blue (B)	White (W)
T-shirt	Green (G)	Purple (P)	Yellow (Y)

Max chooses one cap and one T-shirt at random.

- 11 (a)** List **all** the possible colour combinations.

One has been done for you.

[2 marks]

Cap	T-shirt
R	G

- 11 (b)** What is the probability that the cap is red and the T-shirt is **not** green?

[1 mark]

Answer _____



12

A pack of 8 tiles usually costs \$16

The cost is reduced by 5%

Andy buys enough packs to have 100 tiles.

How much does this cost?

[4 marks]

Answer \$ _____

13

Show that 152 can be written as

a cube number + a square number

[2 marks]

Answer _____ + _____

Turn over ►

14 Here are the heights in centimetres of 16 plants.

12	11	16	21	34	14	23	21
23	42	12	41	27	22	33	39

14 (a) What fraction of the 16 plants are **less than** 20 cm high?

[2 marks]

Answer _____

14 (b) Show the data on an **ordered** stem-and-leaf diagram.
You must complete the key.

[3 marks]

Key: _____ | _____ represents _____ cm

1	
2	
3	
4	



- 15** 49 shapes are circles or squares.
14 are circles.
- Work out the ratio circles : squares
Give your answer in its simplest form.

[2 marks]

Answer _____ :

- 16** Show that $\frac{5}{8} + \frac{17}{24} = 1\frac{1}{3}$
- You must **not** use decimals.

[3 marks]



- 17** A train track with length t metres needs n supports.
Here is a formula.

$$n = \frac{t - 0.25}{0.65} + 1$$

- 17 (a)** A track has length 283 metres.
Work out the number of supports needed.

[2 marks]

Answer _____

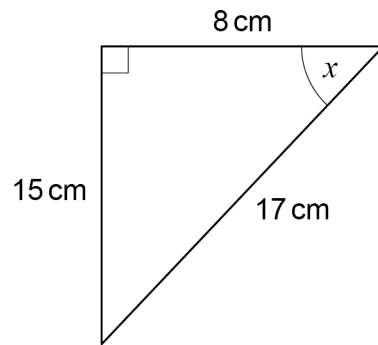
- 17 (b)** A different track needs 646 supports.
Work out the length of this track.

[3 marks]

Answer _____ metres



- 18** Here is a right-angled triangle.



Not drawn
accurately

- 18 (a)** Write down the length of the hypotenuse.

[1 mark]

Answer _____ cm

- 18 (b)** Circle the value of $\tan x$

[1 mark]

$\frac{8}{15}$ $\frac{15}{8}$ $\frac{8}{17}$ $\frac{17}{8}$ $\frac{15}{17}$ $\frac{17}{15}$

- 19** The first four terms of a linear sequence are

12 5 -2 -9

Work out an expression for the n th term.

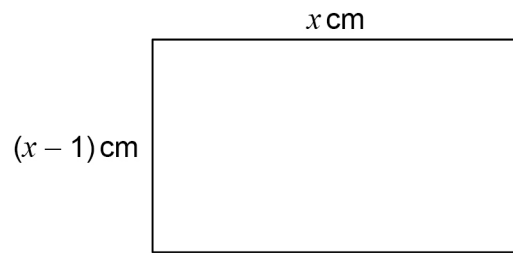
[2 marks]

Answer _____

Turn over ►



20 Here is a rectangle.



Not drawn
accurately

20 (a) The area of the rectangle is 6 cm^2

Show that $x^2 - x - 6 = 0$

[1 mark]

20 (b) Work out the value of x .

[2 marks]

$x =$ _____



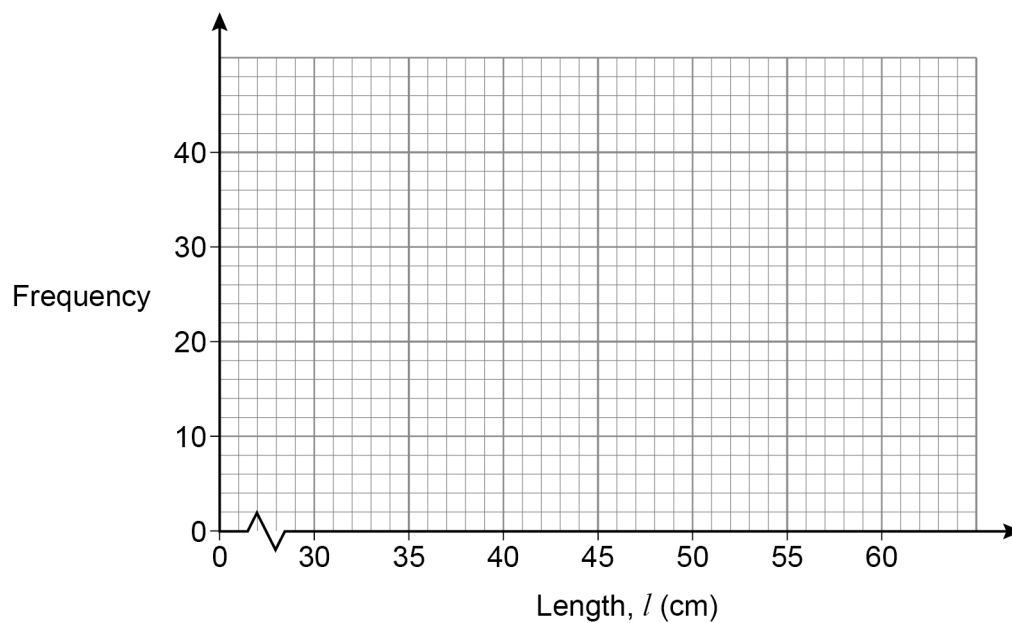
21

The table shows information about the length of babies.

Length, l (cm)	Frequency
$35 \leq l < 40$	12
$40 \leq l < 45$	26
$45 \leq l < 50$	34
$50 \leq l < 55$	16

Draw a frequency polygon to represent the information.

[2 marks]

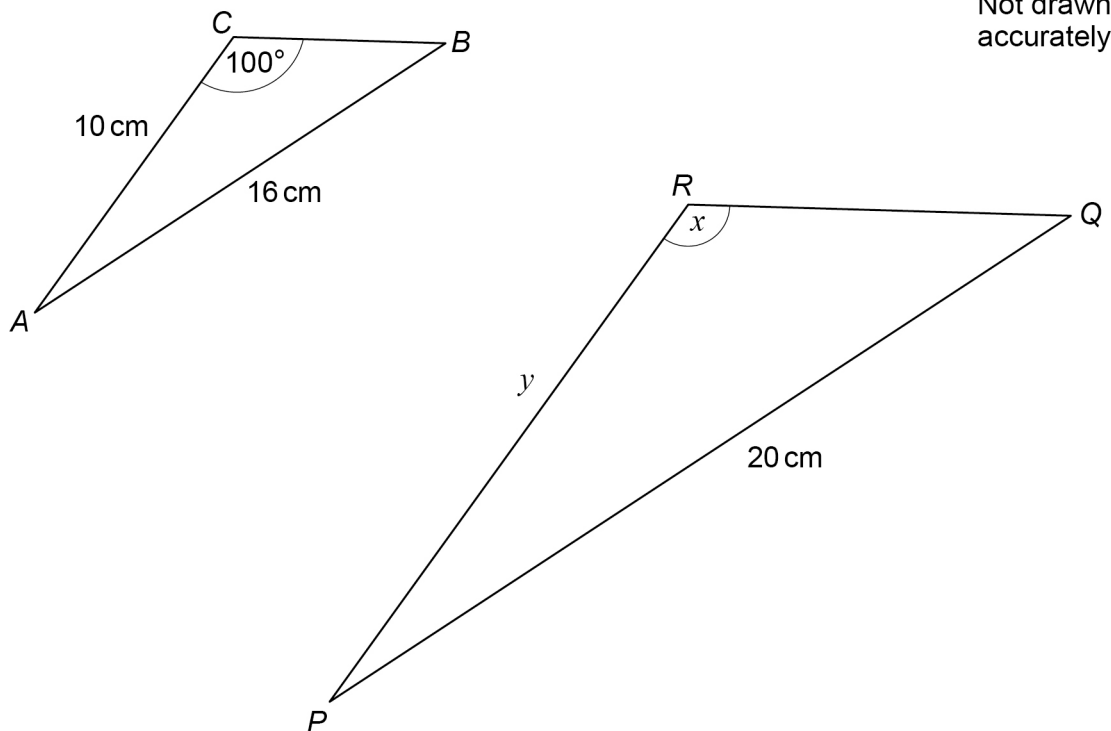


Turn over for the next question

Turn over ►



22

Triangles ABC and PQR are similar.22 (a) Write down the size of angle x .

[1 mark]

 $x =$ _____ $^{\circ}$ 22 (b) Work out the value of y .

[2 marks]

 $y =$ _____ cm

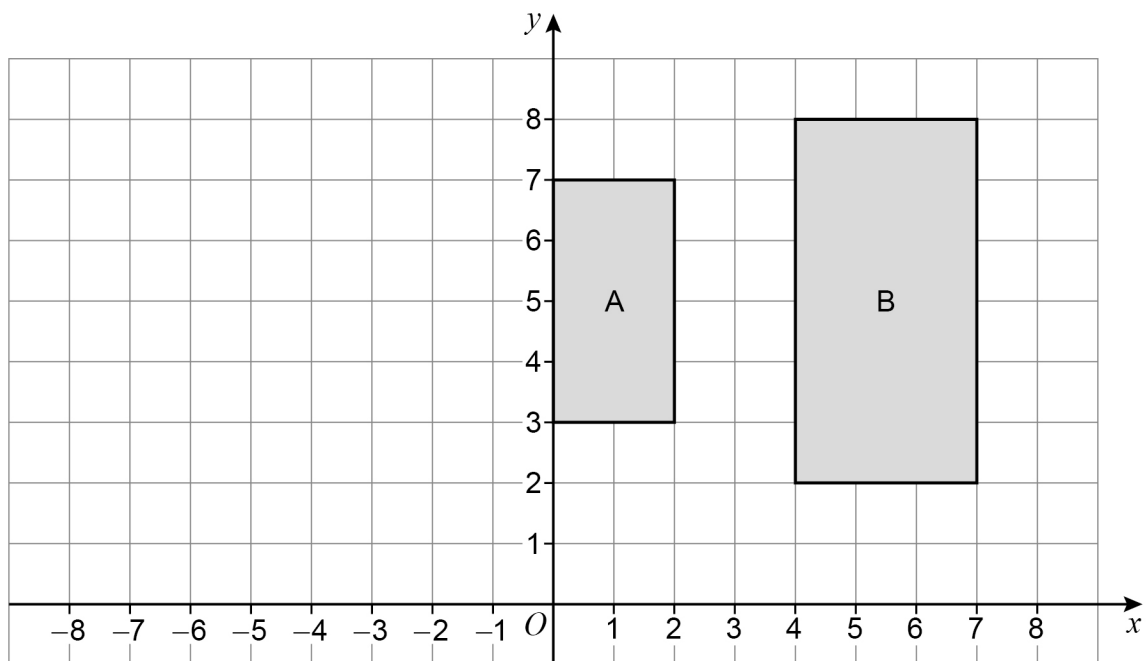
- 23 (a)** Point $(12, -6)$ is translated to point $(3, 1)$

Work out the translation vector.

[2 marks]

Answer $\left(\begin{array}{c} \\ \end{array} \right)$

- 23 (b)** Rectangles A and B are shown on the grid.



Complete the following statement.

[2 marks]

B is an enlargement of A with scale factor _____ and centre (_____ , _____)



24 (a) Simplify fully $a^6 \times a^3 \times a$

[2 marks]

Answer _____

24 (b) Simplify fully $\frac{(x^6)^3}{x^2}$

[2 marks]

Answer _____

25 A pyramid has 5 vertices.

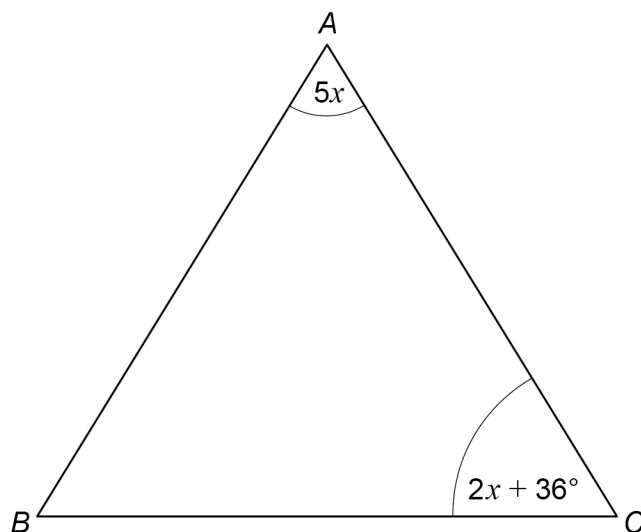
How many edges does the pyramid have?

[1 mark]

Answer _____



26

Here is triangle ABC .Not drawn
accuratelyAngle $BAC = \text{angle } ACB$

Is this triangle equilateral?

Tick a box.

Yes

☐

No

☐

Show working to support your answer.

[3 marks]



27

A regular polygon has n sides.

Each interior angle is 165°

Not drawn
accurately



Work out n .

[2 marks]

$n =$ _____

END OF QUESTIONS



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