

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

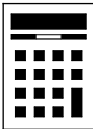
Tuesday 12 November 2024 07:00 GMT Time allowed: 1 hour 30 minutes

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	
22–23	
24	
TOTAL	



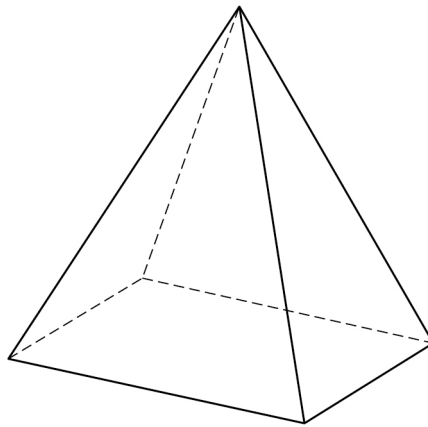
Answer **all** questions in the spaces provided.

- 1** Write down the value of the digit 5 in the number 5 230 471

[1 mark]

Answer _____

2



Write down the name of this solid.

[1 mark]

Answer _____



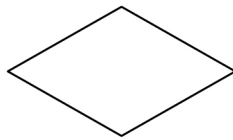
- 3 Work out the range of these numbers.

61 64 73 76 76

[1 mark]

Answer _____

- 4 Here is a rhombus.



Write down the order of rotational symmetry of the rhombus.

[1 mark]

Answer _____

- 5 Write the following decimals in order, starting with the **smallest**.

1.74 1.07 1.0704 1.704

[2 marks]

Answer _____



6 Saj wants to go to all 23 games at a football club.

For each game, a ticket costs \$36.50

A season ticket

costs \$799.25

and

gives entry to all 23 games.

In total, how much does Saj save by buying a season ticket?

[3 marks]

Answer \$ _____

7 Show that $x - y + 3(x + 2y) = 4x + 5y$

[2 marks]



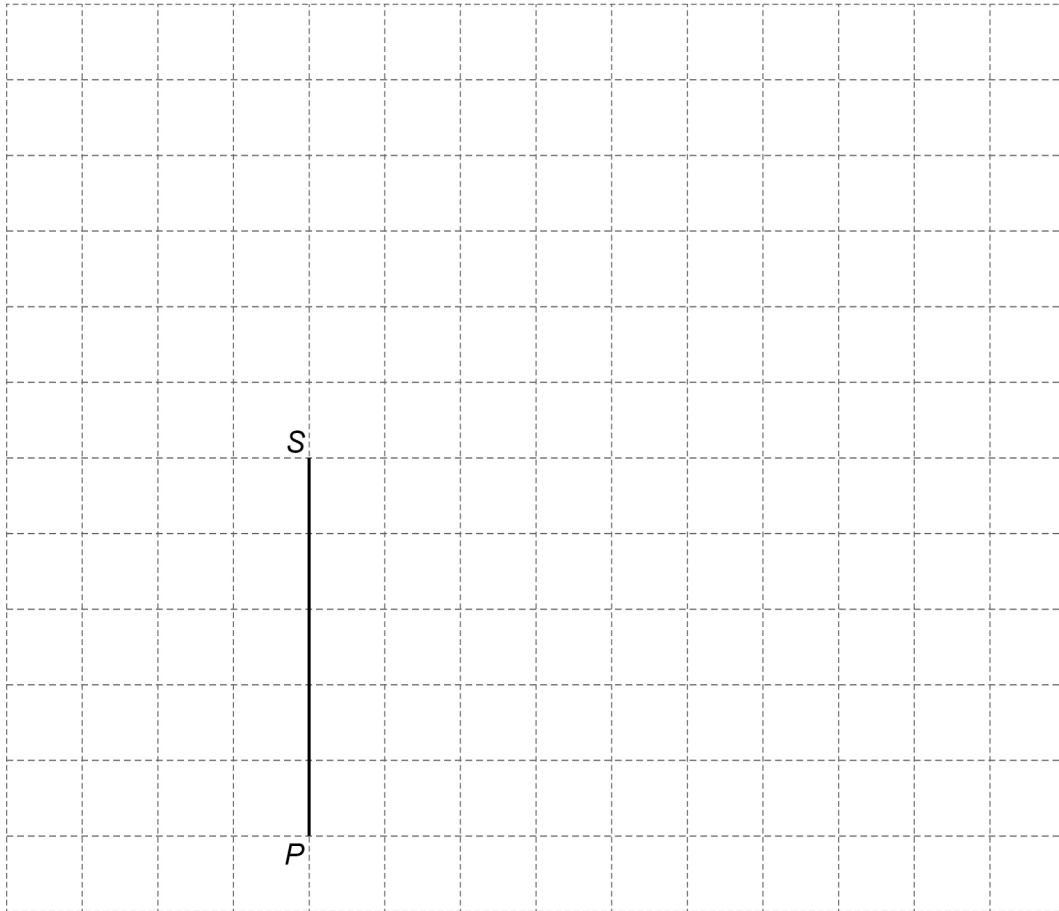
8

A quadrilateral $PQRS$ has $PS = 5\text{ cm}$ as drawn on the centimetre grid.

- $PQ = 6\text{ cm}$ and is perpendicular to PS .
- Angle $PSR = 120^\circ$
- QR is parallel to PS .

Complete the quadrilateral.

[4 marks]



- 9** The term-to-term rule of a sequence is

Add 5 and divide by 4

The first term of the sequence is -33

Work out the next two terms.

[2 marks]

Answer _____ and _____

- 10 (a)** Circle the fraction that is equal to 0.65

[1 mark]

$$\frac{1}{65}$$

$$\frac{6}{5}$$

$$\frac{2}{3}$$

$$\frac{13}{20}$$

- 10 (b)** Circle the fraction that is equal to $3\frac{1}{8}$

[1 mark]

$$\frac{4}{8}$$

$$\frac{12}{8}$$

$$\frac{25}{8}$$

$$\frac{31}{8}$$



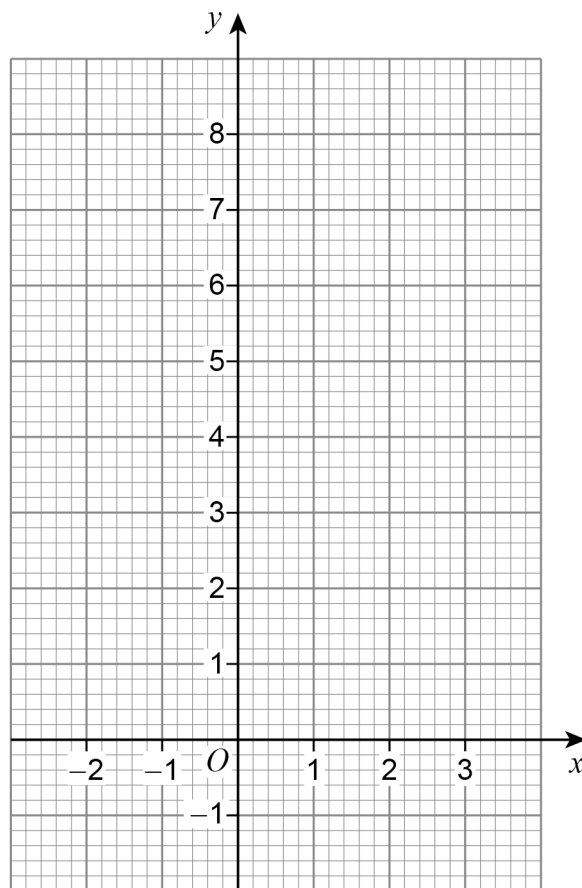
- 11 (a)** Complete the table of values for $y = x + 4$

[2 marks]

x	-2	-1	0	1	2	3
y						

- 11 (b)** Draw the graph of $y = x + 4$ for values of x from -2 to 3

[2 marks]



- 12** Gemma has four groups of friends on a social media site.

Group	Number of friends
Family	40
Netball	26
School	24
Dancing	24

- 12 (a)** Which group is the mode?

[1 mark]

Answer _____

- 12 (b)** Gemma has drawn the rows for School and Dancing on a pictogram.

Complete the key and the pictogram.

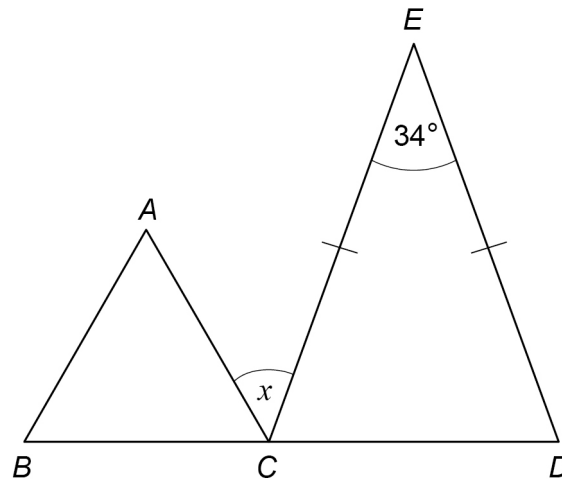
[3 marks]

Key: ○ represents _____ friends

Family	
Netball	
School	○ ○ ○
Dancing	○ ○ ○



13

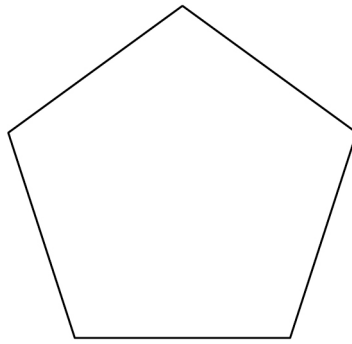
 BCD is a straight line.Triangle ABC is equilateral. $CE = DE$ Not drawn
accurately13 (a) Work out the size of angle x .**[4 marks]**

 $x =$ _____ $^\circ$

Question 13 continues on the next page



- 13 (b)** Anna is working out the size of an **interior** angle of a regular pentagon.



Her method is Interior angle = $360 \div 5$

Is her method correct?

Tick a box.

☐

Yes

☐

No

Give a reason for your answer.

[1 mark]



[1 mark]

$$d = \underline{\hspace{10cm}}$$

[1 mark]

Answer _____

Turn over for the next question



15 There are 124 people on a plane.

In **Business Class**

there are 16 people in total

7 are flying for the first time.

$\frac{1}{3}$ of the people **not** in Business Class are flying for the first time.

15 (a) In the Venn diagram,

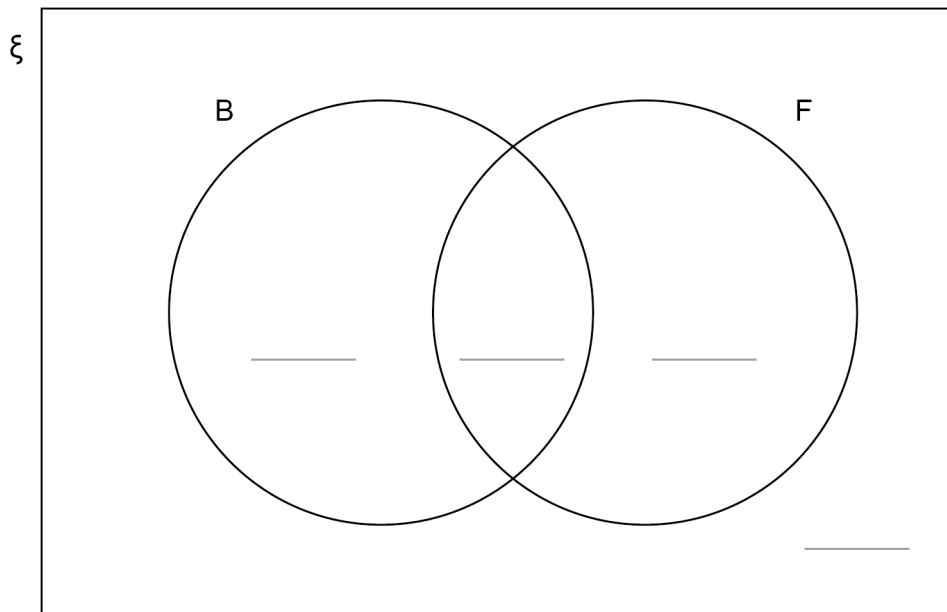
ξ = people on the plane

B = people in Business Class

F = people flying for the first time.

Complete the Venn diagram.

[4 marks]





15 (b) One person is chosen at random.

Work out the probability that this person is flying for the first time.

[1 mark]

Answer _____

Turn over for the next question



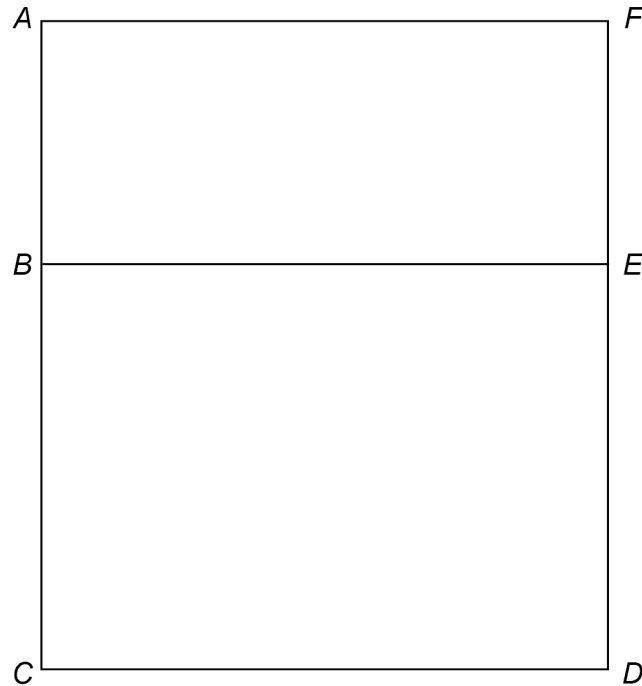
16

Rectangles $ABEF$ and $BCDE$ are joined to make rectangle $ACDF$.

$AF = 14 \text{ cm}$

$AB = 6 \text{ cm}$

$BC = 10 \text{ cm}$

Not drawn
accuratelyWork out perimeter $ABEF$: perimeter $BCDE$

Give your answer in its simplest form.

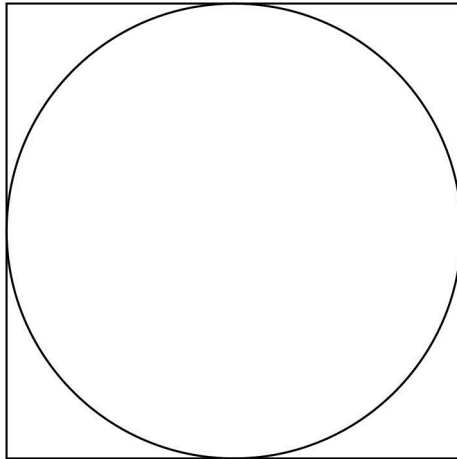
[3 marks]

Answer _____ : _____



17

Here is a circle touching a square.

Not drawn
accuratelyThe area of the square is 144 cm^2

Work out the area of the circle.

[3 marks]

Answer _____ cm^2 

$\frac{1}{5}$ of the employees receive a pay rise.

$\frac{2}{3}$ of the employees who receive a pay rise are managers.

18 (a) Work out an estimate of the **total** amount the company pays in pay rises and bonuses.

[illegible]

Answer \$ _____



18 (b) In fact, the managers' pay rises were greater than the mean.

How does this affect your answer to part **(a)**?

Tick **one** box.

[1 mark]

☐

It should be less

☐

It should be greater

☐

It should stay the same

Turn over for the next question

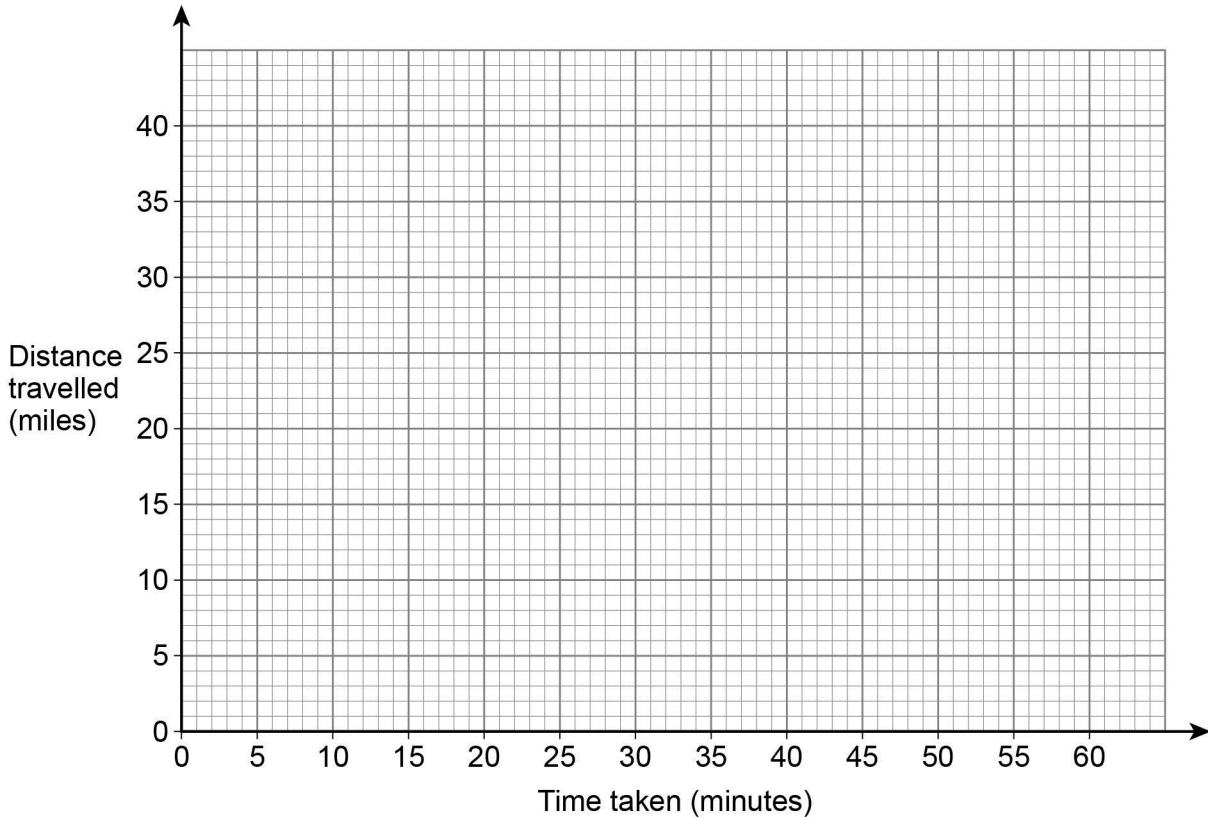


19 Naz goes on a car journey.

- For the first 20 minutes his average speed is 30 miles per hour.
- He then stops for 10 minutes.
- He then completes the journey at an average speed of 50 miles per hour.
- The total journey time is 60 minutes.

19 (a) Draw a possible distance-time graph for his journey.

[3 marks]



19 (b) Write down the average speed, in miles per hour, for the total journey.

[1 mark]

Answer _____ mph



20

The mass of a potato is 0.2 kilograms.

The mass of a carrot is 75 grams.

Write the mass of the potato as a **fraction** of the mass of the carrot.

Give your answer in its simplest form.

[2 marks]

Answer _____

21

Faisal and Akila share \$544 in the ratio 10 : 7

Faisal gives Akila some of his money.

Akila now has the same amount as Faisal.

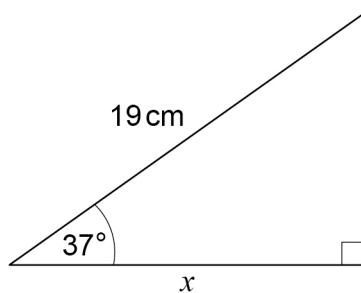
How much does Faisal give Akila?

[3 marks]

Answer \$ _____



- 22 (a)** Use trigonometry to work out the value of x .

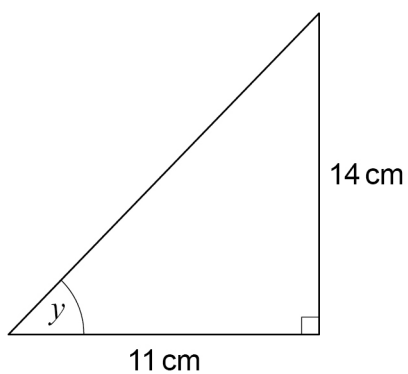


Not drawn
accurately

[2 marks]

$x =$ _____ cm

- 22 (b)** Use trigonometry to work out the size of angle y .



Not drawn
accurately

[2 marks]

$y =$ _____ °



- 23 (a)** Show that the lines $y = 5x + 3$ and $2y - 10x = 8$ are parallel.
Do **not** draw the graphs.

[3 marks]

- 23 (b)** Is the point $(-1, -8)$ above, below or on the line $y = 5x + 3$?
Tick **one** box.

☐

Above

☐

Below

☐

On the line

Show working to support your answer.

Do **not** draw the graph.**[2 marks]**



24

 x is an integer.

$$-3 < x \leq 4$$

and

$$1 \leq x + 2 < 8$$

Work out all the possible values of x .**[3 marks]**

Answer _____



25 (a) Work out $\frac{1.5 \times 10^{15}}{6 \times 10^{10}}$

Give your answer in standard form.

[2 marks]

Answer _____

25 (b) $8100.09 = (8.1 \times 10^c) + (9 \times 10^d)$

Work out the values of c and d .

[2 marks]

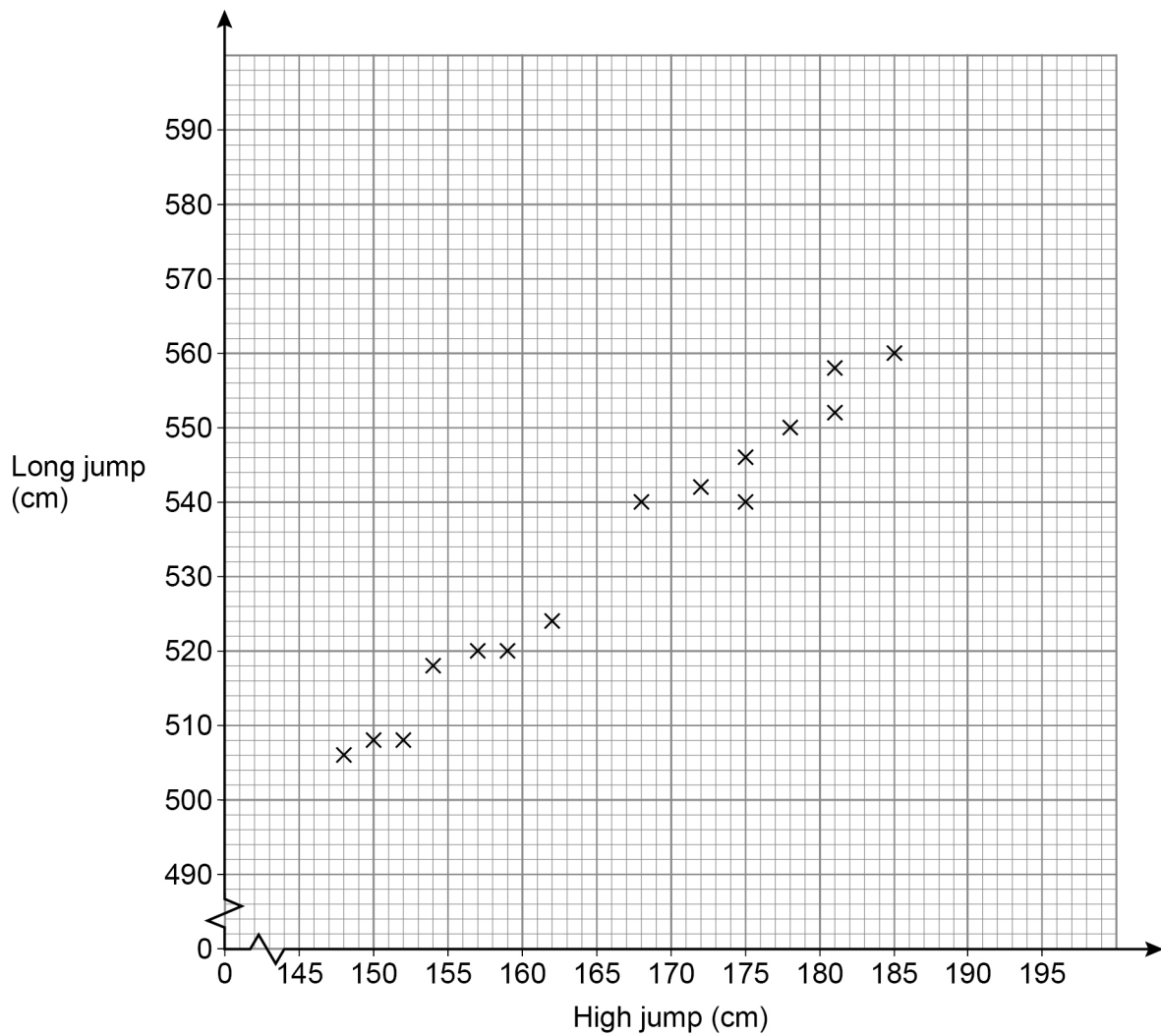
$c =$ _____ $d =$ _____

Turn over for the next question



26

The scatter graph shows the best high jump and the best long jump for 15 boys.



26 (a) Write down the type of correlation shown.

[1 mark]

Answer _____

26 (b) Pran has a best high jump of 164 cm

Use a line of best fit to estimate his best long jump.

[2 marks]

Answer _____ cm

END OF QUESTIONS



There are no questions printed on this page

*Do not write
outside the
box*

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ANSWER IN THE SPACES PROVIDED**



[illegible]

[illegible]

