



# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



## MATHEMATICS

0580/11

Paper 1 Non-calculator (Core)

October/November 2025

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.



**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  $r$ .  $V = \frac{4}{3}\pi r^3$



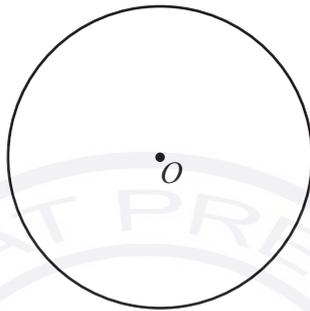


Calculators must **not** be used in this paper.

1 (a) Write the number four hundred and sixty thousand and five in figures.  
..... [1]

(b) Write 52 149 correct to the nearest hundred.  
..... [1]

2

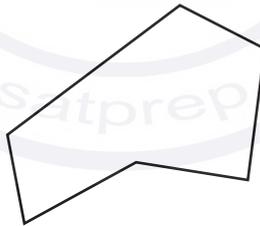


The diagram shows a circle, centre *O*.  
On the diagram

(a) draw a diameter [1]

(b) mark a point on the circumference and label it *C*. [1]

3



Write down the mathematical name of this polygon.

..... [1]

4 (a) Write down all the factors of 24.  
..... [2]

(b) Write down the reciprocal of  $\frac{3}{7}$ .  
..... [1]



DO NOT WRITE IN THIS MARGIN

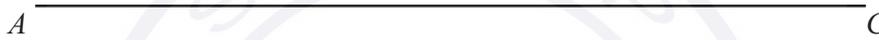


5 In triangle  $ABC$ ,  $AB = 8$  cm and  $BC = 6.4$  cm.

Using a ruler and compasses only, construct triangle  $ABC$ .

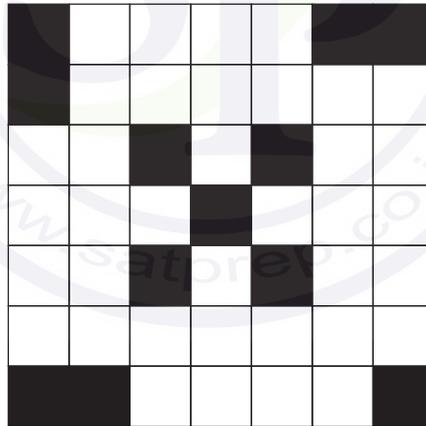
Leave in your construction arcs.

The line  $AC$  has been drawn for you.



[2]

6 Shade one square so that the diagram has rotational symmetry of order 4.



[1]





5

7 These are the first four terms of a sequence.

9 5 1 -3

(a) Find the next term.

..... [1]

(b) Explain how you worked out your answer.

..... [1]

8  $p = 3q - 2r$

Work out the value of  $q$  when  $p = 50$  and  $r = 5$ .

$q =$  ..... [2]

9 (a) Shade  $\frac{3}{4}$  of this grid.


[1]

(b) Work out 15% of 80.

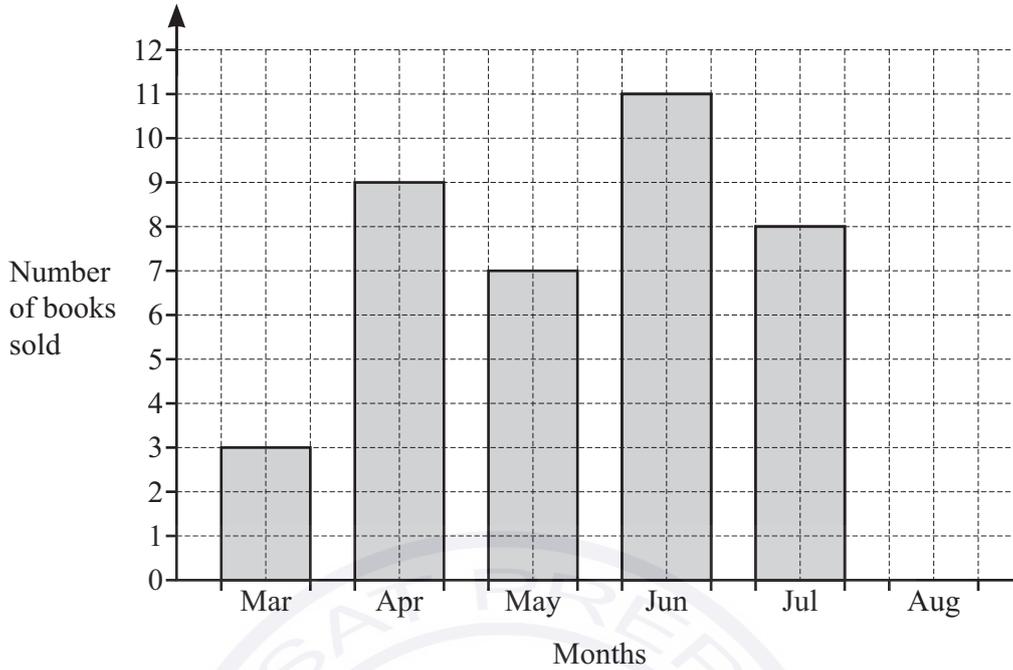
..... [2]



DO NOT WRITE IN THIS MARGIN



10 The bar chart shows the number of books sold in a shop in each of five months.



(a) 4 books were sold in August.

Complete the bar chart.

[1]

(b) Calculate the mean number of books sold in the six months.

..... [2]

11 The temperature at midnight is  $-2^{\circ}\text{C}$ .  
The temperature at noon is  $5^{\circ}\text{C}$ .

(a) Find the difference between these temperatures.

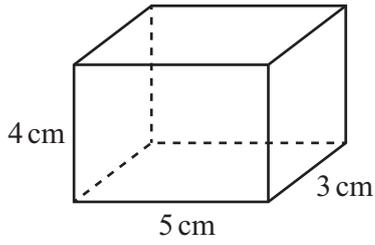
.....  $^{\circ}\text{C}$  [1]

(b) The temperature at 9 am is  $8^{\circ}\text{C}$  higher than the temperature at midnight.

Work out the temperature at 9 am.

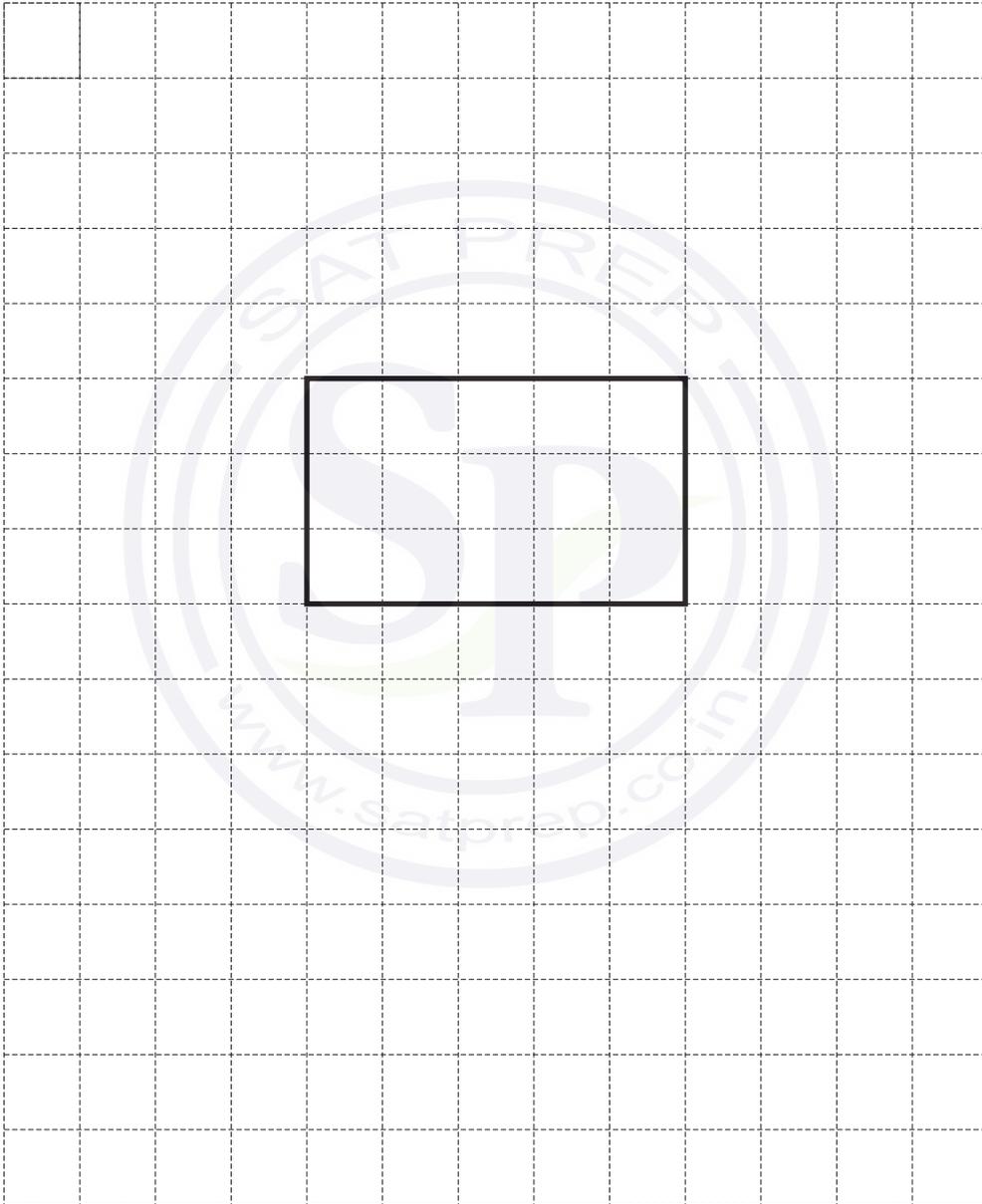
.....  $^{\circ}\text{C}$  [1]





NOT TO SCALE

Complete the net of this cuboid on the  $1 \text{ cm}^2$  grid.  
 One face has been drawn for you.



[3]



DO NOT WRITE IN THIS MARGIN



- 13 The scale drawing shows the positions of town *A* and town *B*.  
The scale is 1 centimetre represents 10 kilometres.



Scale: 1 cm to 10 km

- (a) Work out the actual distance from town *A* to town *B*.

..... km [2]

- (b) Measure the bearing of town *B* from town *A*.

..... [1]

- (c) Town *C* is 45 km from town *A* on a bearing of  $310^\circ$ .

On the scale drawing, mark the position of town *C*. [2]





14 These are the ages, in **months**, of each of 12 children.

11	27	8	10	26	17	28	12	9	13	22	12
----	----	---	----	----	----	----	----	---	----	----	----

(a) Complete the stem-and-leaf diagram to show this information.

0	
1	
2	

Key: 1 | 7 represents 17 months [2]

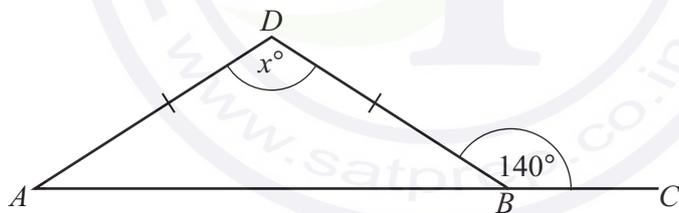
(b) Find the number of children over 2 years old.

..... [1]

(c) Show that the median is 12.5 .

[1]

15



NOT TO SCALE

$ABC$  is a straight line and  $ABD$  is an isosceles triangle.

Work out the value of  $x$ .

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



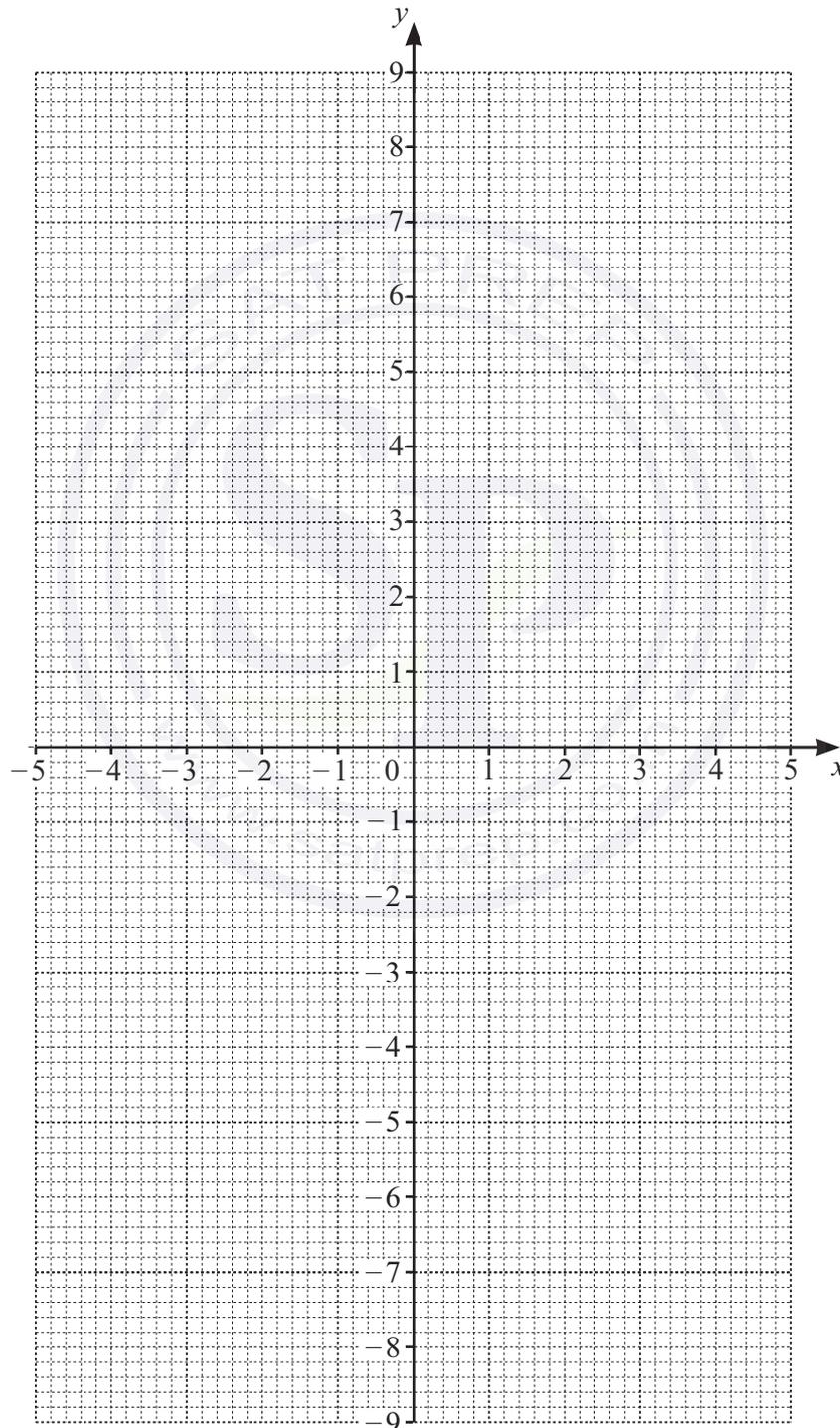
DO NOT WRITE IN THIS MARGIN

- 16 (a) Complete the table of values for  $y = \frac{9}{x}$ .

$x$	-4.5	-3	-2	-1.5	-1		1	1.5	2	3	4.5
$y$	-2	-3		-6	-9		9	6	4.5		2

[2]

- (b) On the grid, draw the graph of  $y = \frac{9}{x}$  for  $-4.5 \leq x \leq -1$  and  $1 \leq x \leq 4.5$ .



[4]





DO NOT WRITE IN THIS MARGIN

17 (a) Write down a prime number between 20 and 30.

..... [1]

(b) Simplify  $(\sqrt{9})^2$ .

..... [1]

18 Work out  $\frac{11}{18} - \frac{2}{9}$ .

Give your answer as a fraction in its simplest form.

..... [2]

19 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

$$\frac{5.3 \times 19.5}{2.49}$$

..... [2]

20 Some students take a test.  
75 of the students pass the test.  
This is  $\frac{3}{5}$  of the students who take the test.

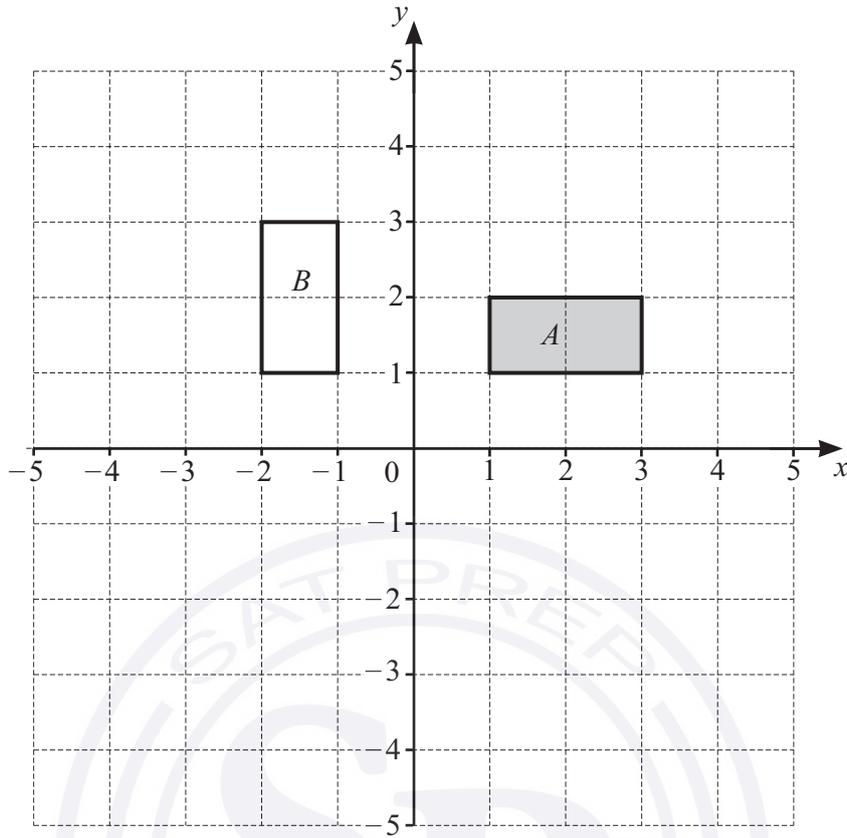
Work out how many students take the test.

..... [2]





21 Shapes *A* and *B* are shown on the grid.



(a) Describe fully the **single** transformation that maps shape *A* onto shape *B*.

.....  
.....

[3]

(b) Draw the image of shape *A* after a reflection in the line  $y = -1$ .

[2]





22

Chocolate cookies  
Makes 12

100 g flour  
55 g butter  
55 g sugar  
20 g cocoa  
1 egg

- (a) Sunita makes 24 chocolate cookies.

Work out how much flour she needs.

..... g [1]

- (b) Albie has 28 g of cocoa.

Does he have enough cocoa to make 18 cookies?  
Explain how you decide.

..... [2]

23 (a)  $a^8 \times a^x = a^{15}$

Find the value of  $x$ .

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

(b)  $(b^7)^y = b^{21}$

Find the value of  $y$ .

$y =$  ..... [1]

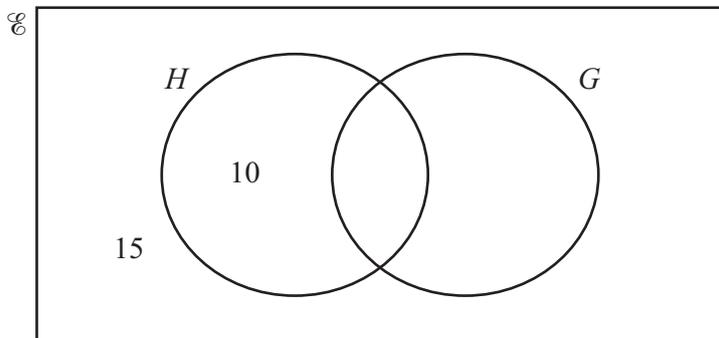


DO NOT WRITE IN THIS MARGIN



- 24  $\mathcal{C} = \{\text{students in a year group}\}$
- $H = \{\text{students who study History}\}$
- $G = \{\text{students who study Geography}\}$

80 students are in the year group.  
40 students study History.



(a) Complete the Venn diagram. [2]

(b) Find  $n(G)$ .  
..... [1]

(c) A student is chosen at random.  
Work out the probability that the student does not study History and does not study Geography.  
..... [1]

25 Expand and simplify.

$$(x + 3)(x - 2)$$

..... [2]

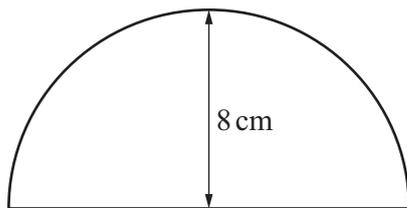
26 Write  $1.753 \times 10^8$  as an ordinary number.

..... [1]





27



NOT TO SCALE

The diagram shows a semicircle.  
 The radius of the semicircle is 8 cm.

Find the perimeter of the semicircle.  
 Give your answer in terms of  $\pi$  in its simplest form.

..... cm [3]

28 Work out  $8\frac{2}{3} \div 1\frac{5}{8}$ .

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

..... [3]

**Question 29 is printed on the next page.**

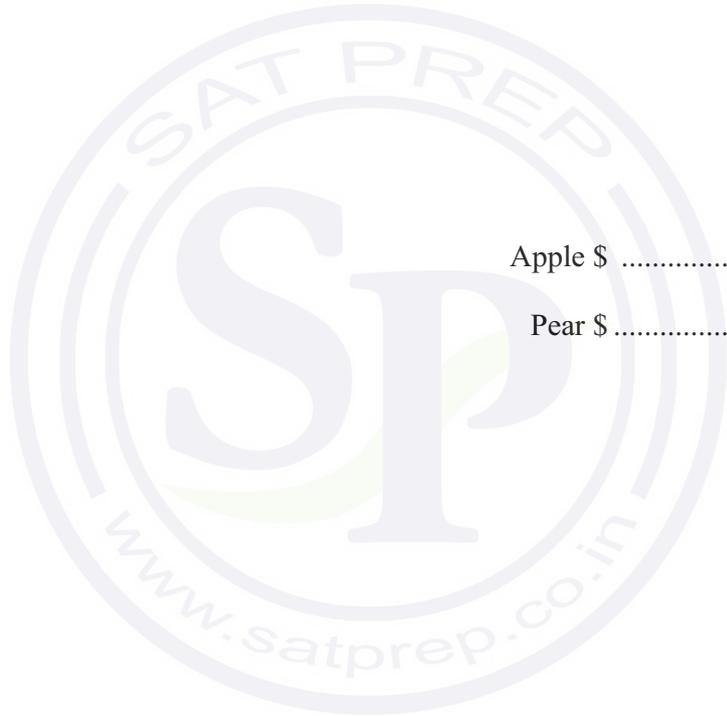


DO NOT WRITE IN THIS MARGIN



- 29 Jim buys 15 apples and 10 pears for \$42.50 .  
Li buys 4 apples and 5 pears for \$16.

Write down a pair of simultaneous equations and solve them to find the cost of one apple and the cost of one pear.



Apple \$ .....

Pear \$ ..... [5]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.



DO NOT WRITE IN THIS MARGIN



# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--

## MATHEMATICS

0580/12

Paper 1 Non-calculator (Core)

October/November 2025

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. Any blank pages are indicated.

**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 Write down the value of the 3 in the number 23 679.

..... [1]

2 Tom buys 2 books costing \$8.20 each.

Work out how much change he receives from \$20.

\$ ..... [2]

3 (a) Write 17 469 correct to the nearest ten.

..... [1]

(b) Write 5.073 correct to 1 decimal place.

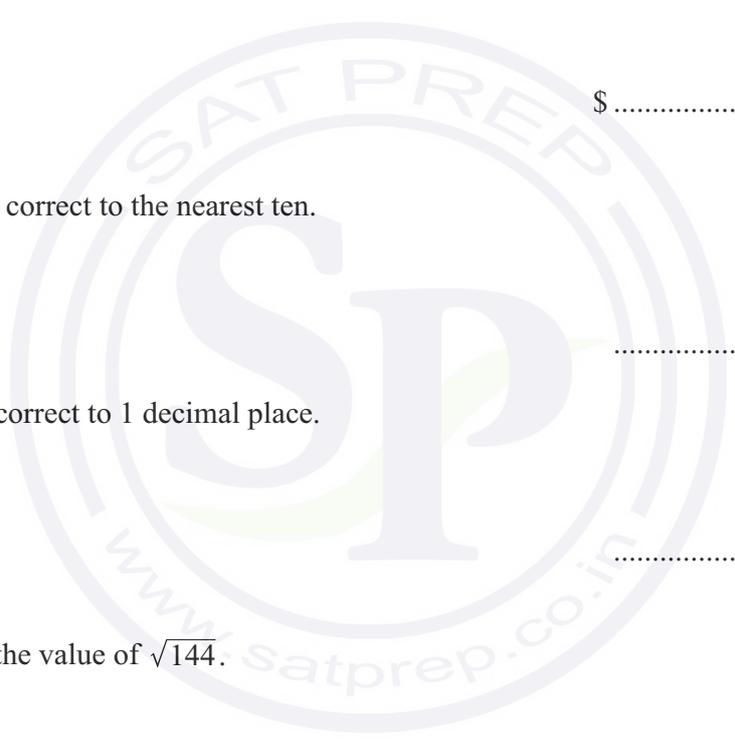
..... [1]

4 (a) Write down the value of  $\sqrt{144}$ .

..... [1]

(b) Work out the value of  $5^3$ .

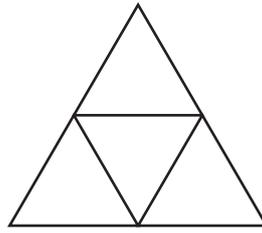
..... [1]



DO NOT WRITE IN THIS MARGIN



5 The diagram is made from equilateral triangles.



- (a) On the diagram, draw all the lines of symmetry. [2]
- (b) Write down the order of rotational symmetry.

..... [1]

6 (a) Write  $\frac{3}{4}$  as a decimal.

..... [1]

(b) Write  $\frac{9}{100}$  as a percentage.

..... % [1]

(c) Write 143% as a decimal.

..... [1]

7 A bag contains 8 discs numbered 1 to 8. A disc is picked at random from the bag.



On the probability scale, draw an arrow ( $\downarrow$ ) to show the probability that the number is

- (a) an even number, label the arrow A [1]
- (b) 9, label the arrow B [1]
- (c) less than 3, label the arrow C. [1]



DO NOT WRITE IN THIS MARGIN



8 A number,  $n$ , is a factor of 144 and a multiple of 9.

Find all the values for  $n$ .

..... [3]

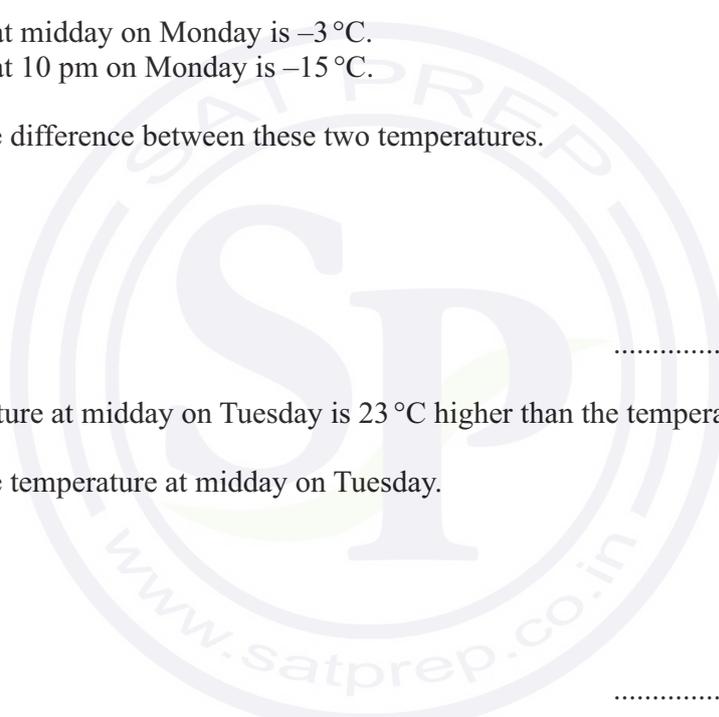
9 The temperature at midday on Monday is  $-3^{\circ}\text{C}$ .  
The temperature at 10 pm on Monday is  $-15^{\circ}\text{C}$ .

(a) Calculate the difference between these two temperatures.

.....  $^{\circ}\text{C}$  [1]

(b) The temperature at midday on Tuesday is  $23^{\circ}\text{C}$  higher than the temperature at 10 pm on Monday.  
Calculate the temperature at midday on Tuesday.

.....  $^{\circ}\text{C}$  [1]





- 10 A bag contains red balls and green balls.  
They are in the ratio red balls : green balls = 2 : 3.  
A ball is picked at random.

Find the probability that it is a red ball.

..... [1]

- 11 The stem-and-leaf diagram shows the number of customers entering a shop each day for 20 days.

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

Key : 3 | 0 represents 30 customers

- (a) Find the range.

..... [1]

- (b) Find the mode.

..... [1]

- (c) Work out the percentage of these 20 days when more than 55 customers enter the shop.

.....% [2]

- (d) (i) Find the median.

..... [1]

- (ii) On the next day 48 customers enter the shop.

Will the median increase or decrease?

Give a reason for your answer.

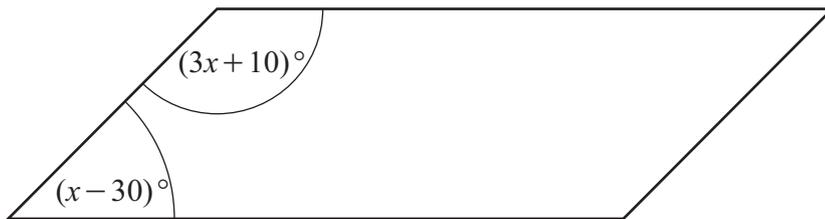
..... because .....

..... [1]





12 The diagram shows a parallelogram.



NOT TO SCALE

(a) Use the information in the diagram to write an equation and solve it to find the value of  $x$ .



$x = \dots\dots\dots$  [4]

(b) Find the value of the largest angle in this parallelogram.

$\dots\dots\dots$  [1]



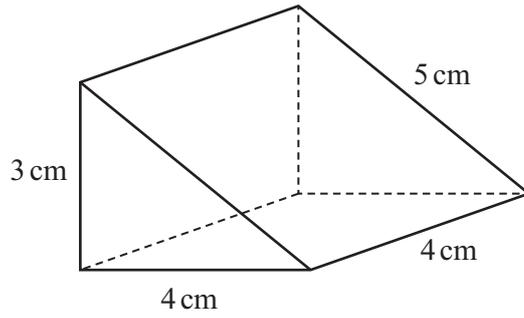
DO NOT WRITE IN THIS MARGIN



8



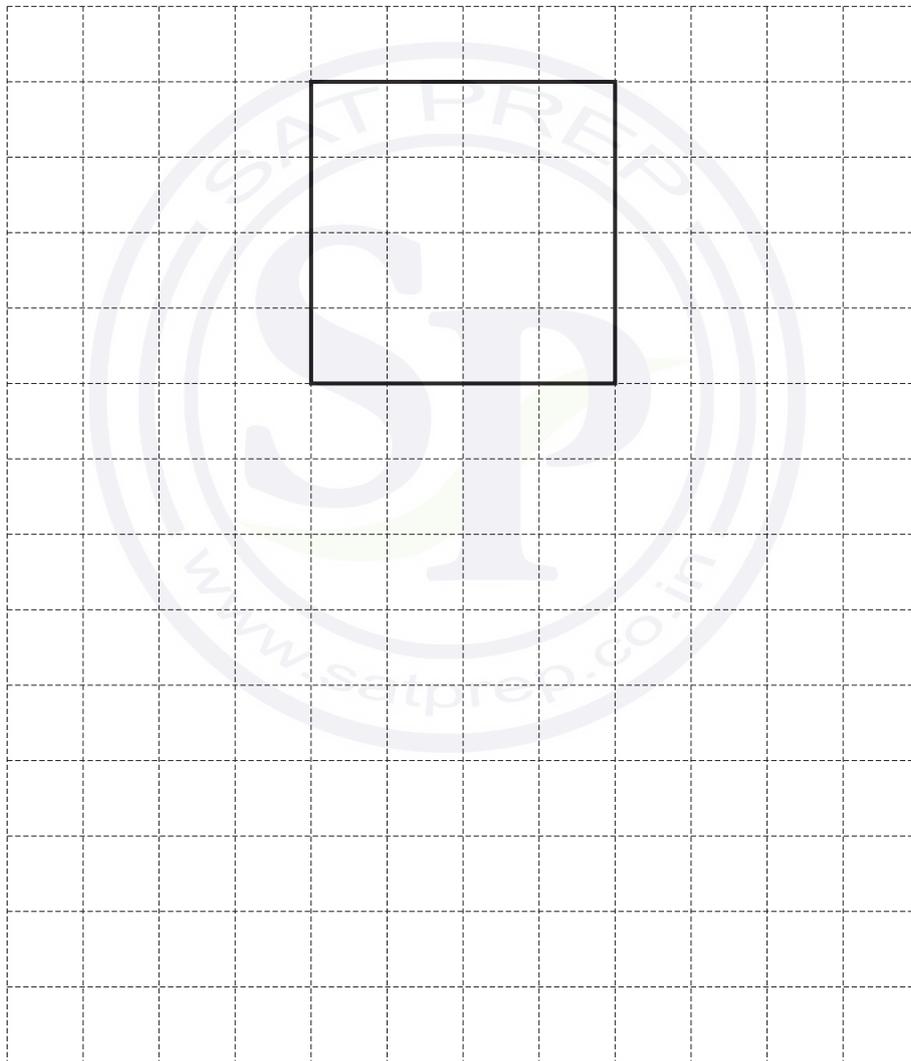
13



NOT TO SCALE

The diagram shows a right-angled triangular prism.

Complete the net of this prism on the 1 cm<sup>2</sup> grid.  
One face has been drawn for you.



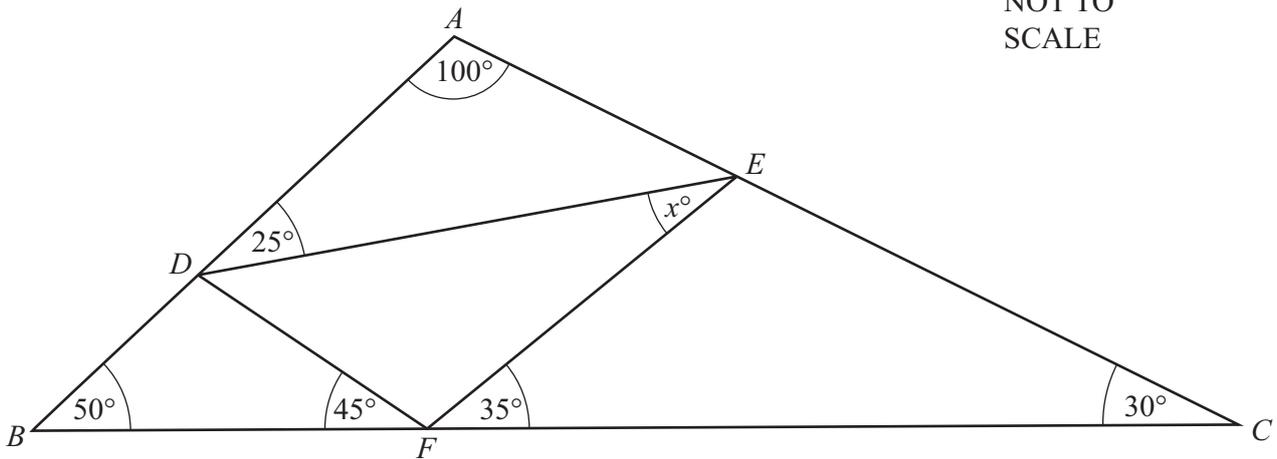
[3]





14 The diagram shows a smaller triangle  $DEF$  which has vertices on the sides of a larger triangle  $ABC$ .

NOT TO SCALE



Find the value of  $x$ .

$x = \dots\dots\dots$  [3]

15 Three sisters share  $\$n$  in the ratio  $10:3:2$ .  
The smallest share is  $\$120$ .

Find the value of  $n$ .

$n = \dots\dots\dots$  [3]

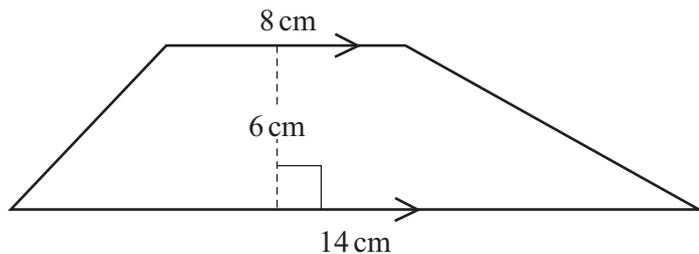
16  $9.857 \times 10^{-2}$        $3.5 \times 10^2$        $1.54 \times 10^1$        $6.5 \times 10^{-2}$

Write these numbers in order, starting with the smallest.

$\dots\dots\dots$  <  $\dots\dots\dots$  <  $\dots\dots\dots$  <  $\dots\dots\dots$  [2]  
*smallest*



DO NOT WRITE IN THIS MARGIN



NOT TO SCALE

Calculate the area of this trapezium.

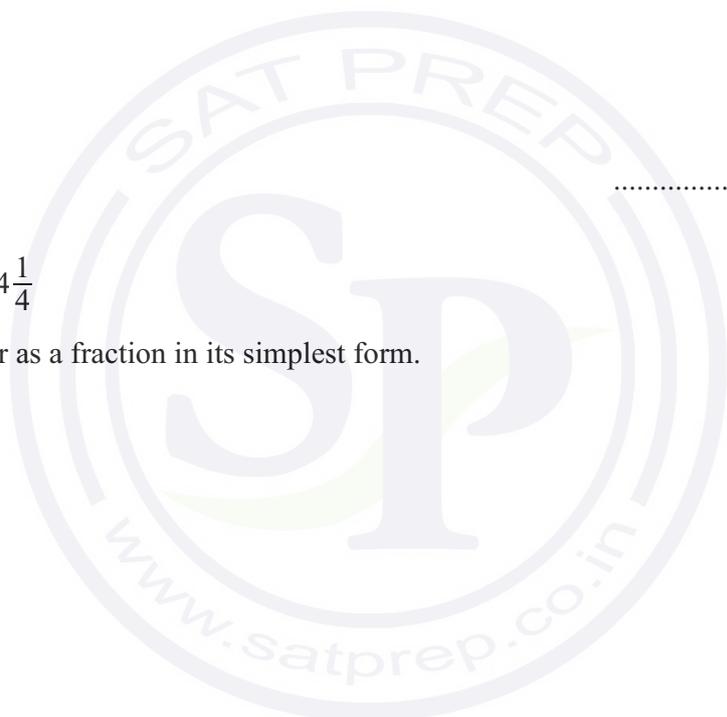
18 Work out.

$$2\frac{5}{6} \div 4\frac{1}{4}$$

Write your answer as a fraction in its simplest form.

..... cm<sup>2</sup> [2]

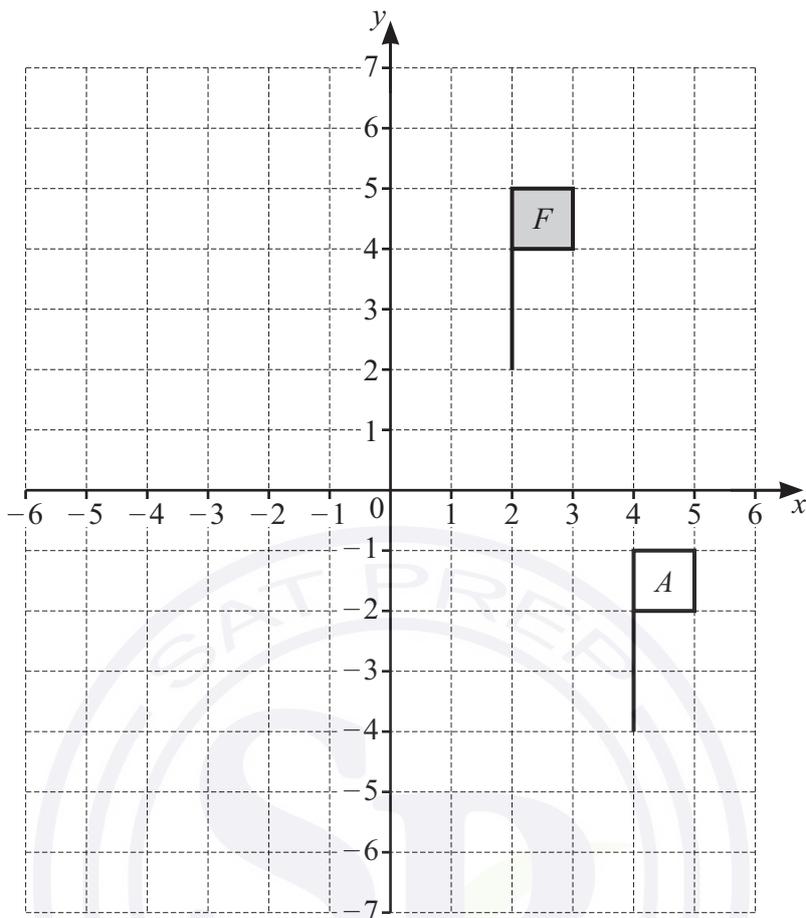
..... [3]



DO NOT WRITE IN THIS MARGIN



19 The grid shows two flags,  $F$  and  $A$ .



- (a) On the grid, draw the image of flag  $F$  after a reflection in the line  $x = -1$ . [2]
- (b) On the grid, draw the image of flag  $F$  after a rotation of  $180^\circ$  about  $(0, 0)$ . [2]
- (c) Describe fully the **single** transformation that maps flag  $F$  onto flag  $A$ .

..... [2]

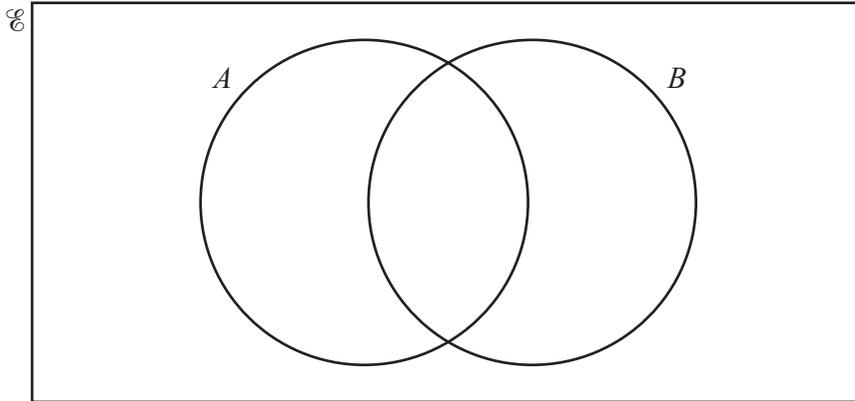
.....



DO NOT WRITE IN THIS MARGIN



- 20  $\mathcal{C} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$   
 $A = \{1, 3, 5, 7, 9\}$   
 $B = \{1, 3, 6, 10\}$



(a) Use this information to complete the Venn diagram. [2]

(b) List the elements of  $A \cap B$ .

(c) Find  $n(B')$ .

..... [1]

..... [1]

21 Simplify.

$$\frac{18x^8}{9x^2}$$

..... [2]

22 Work out the size of one interior angle of a regular hexagon.

..... [2]





23 There are two charges for crossing a bridge.

Cars	\$ $a$
Other vehicles	\$ $b$

On Monday 4 cars and 20 other vehicles pay a total of \$130.  
 On Tuesday 6 cars and 15 other vehicles pay a total of \$105.

Write down two equations and solve them to find the value of  $a$  and the value of  $b$ .



$a =$  .....

$b =$  .....

[6]

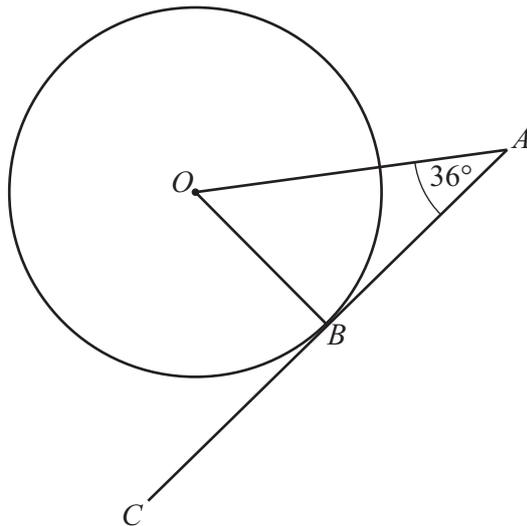


DO NOT WRITE IN THIS MARGIN



24

NOT TO SCALE



*B* is a point on the circle, centre *O*.  
*ABC* is a tangent to the circle at *B* and angle  $OAB = 36^\circ$ .

Work out the size of angle *AOB*.

Angle *AOB* = ..... [1]

25 (a) Expand and simplify.

$$(x - 5)(x + 2)$$

..... [2]

(b) Factorise.

$$5x^3 + 10x$$

..... [2]



DO NOT WRITE IN THIS MARGIN



DO NOT WRITE IN THIS MARGIN

26 The length,  $l$  metres, of a rope is 16.32 metres, correct to 2 decimal places.

Complete this statement about the value of  $l$ .

.....  $\leq l <$  ..... [2]

27 (a) These are the first four terms of a sequence.

2            8            14            20

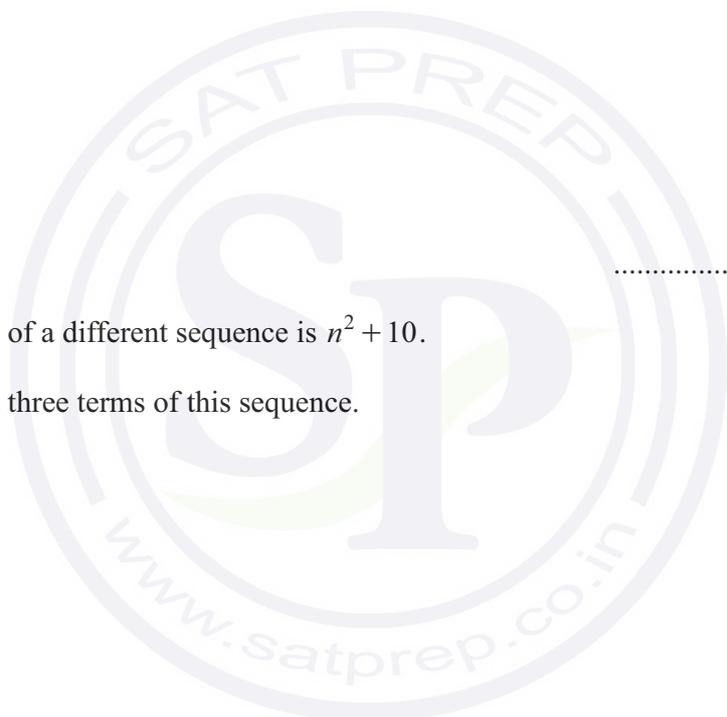
Find the  $n$ th term of this sequence.

..... [2]

(b) The  $n$ th term of a different sequence is  $n^2 + 10$ .

Find the first three terms of this sequence.

....., ....., ..... [2]





**BLANK PAGE**



DO NOT WRITE IN THIS MARGIN

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.





# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



## MATHEMATICS

0580/13

Paper 1 Non-calculator (Core)

October/November 2025

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.



**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  $h$ .  $V = \frac{1}{3}\pi r^2 h$

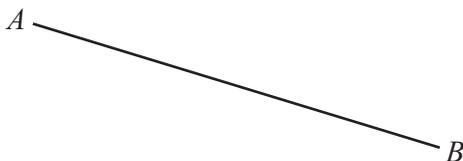
Volume,  $V$ , of sphere of radius  $r$ .  $V = \frac{4}{3}\pi r^3$





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

1



(a) Measure the length of line *AB* in centimetres.

..... cm [1]

(b) Draw a line that is parallel to line *AB*.

[1]

2 (a) Write the number 83 042 in words.

..... [1]

(b) Write down the value of the 7 in the number 346 709.

..... [1]

(c) Write 8453 correct to

(i) the nearest hundred

..... [1]

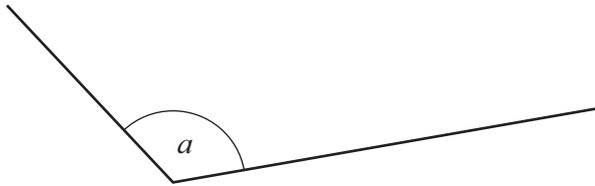
(ii) the nearest ten.

..... [1]



DO NOT WRITE IN THIS MARGIN

3



(a) Measure angle  $a$ .

..... [1]

(b) Write down the mathematical name of this type of angle.

..... [1]

4 Ben records the favourite sport of each of 20 students.

Football Cricket Hockey Rugby Football Tennis Rugby Football Football Rugby  
Tennis Football Rugby Football Cricket Football Rugby Football Cricket Cricket

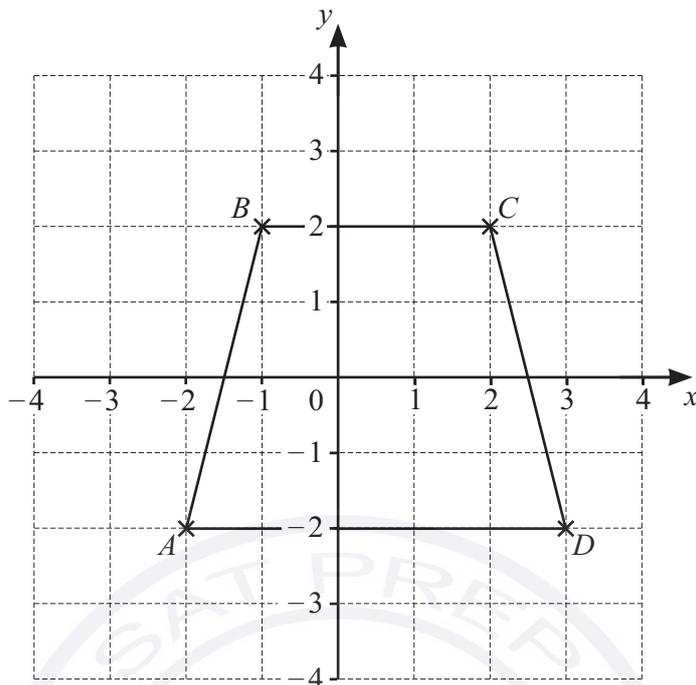
Complete the frequency table.  
You may use the tally column to help you.

Sport	Tally	Frequency
Cricket		
Football		
Hockey		
Rugby		
Tennis		

[2]



5 The diagram shows quadrilateral  $ABCD$  on a  $1 \text{ cm}^2$  grid.



(a) Write down the coordinates of point  $B$ .

(....., .....) [1]

(b) Write down the mathematical name of quadrilateral  $ABCD$ .

..... [1]

(c) Find the area of quadrilateral  $ABCD$ .

.....  $\text{cm}^2$  [1]

(d) On the grid, plot the point  $E$  at  $(-3, 2)$ .

[1]

6 Anna thinks of a number, she multiplies it by 2 and then finds the square root. The answer is 12.

What number did Anna think of?

..... [2]



DO NOT WRITE IN THIS MARGIN



7 A journey starts at 10 55 and ends at 16 10.

Find how long the journey takes.  
Give your answer in hours and minutes.

..... h ..... min [1]

8 These are the masses, in kg, of each of 11 bags.

23	16	8	10	27	19	4	17	13	4	14
----	----	---	----	----	----	---	----	----	---	----

(a) Complete the stem-and-leaf diagram to show this information.

0	_____
1	_____
2	_____

Key: 2 | 7 represents 27 kg [2]

(b) Find the median.

..... kg [1]

9 Find the value of

(a)  $2^5$

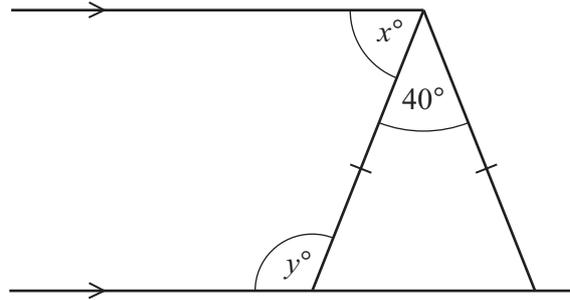
..... [1]

(b)  $6^0$ .

..... [1]



10



NOT TO SCALE

The diagram shows an isosceles triangle between a pair of parallel lines.

(a) Find the value of  $x$ .

$x = \dots\dots\dots$  [2]

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

$y = \dots\dots\dots$  because  $\dots\dots\dots$   
 $\dots\dots\dots$  [2]

11 (a) Sam buys 3 apples at 40 cents each.  
He also buys 5 peaches.  
The total cost is \$3.45 .

Find the cost of 1 peach.

$\dots\dots\dots$  cents [3]

(b) Pears cost 55 cents each.  
Bananas cost 36 cents each.

Write an expression, in cents, for the cost of  $x$  pears and  $y$  bananas.

$\dots\dots\dots$  [2]



DO NOT WRITE IN THIS MARGIN

12

(a) Simplify.

$$3y - 4y + 2y$$

..... [1]

(b) Solve.

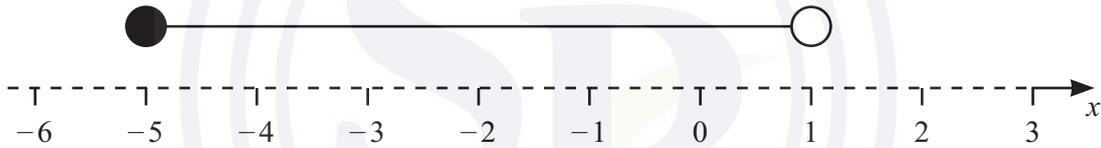
(i)  $x + 5 = 19$

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

(ii)  $6x - 5 = 7$

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

13



Write down the inequality represented on the number line.

..... [2]





14 Victoria invests \$2000 at a rate of 5% per year simple interest.

Calculate the value of her investment after 4 years.

\$ ..... [3]

15 Complete each statement.

(a)  $0.0000047 \text{ m}^2 = \dots\dots\dots \text{ cm}^2$ .

[1]

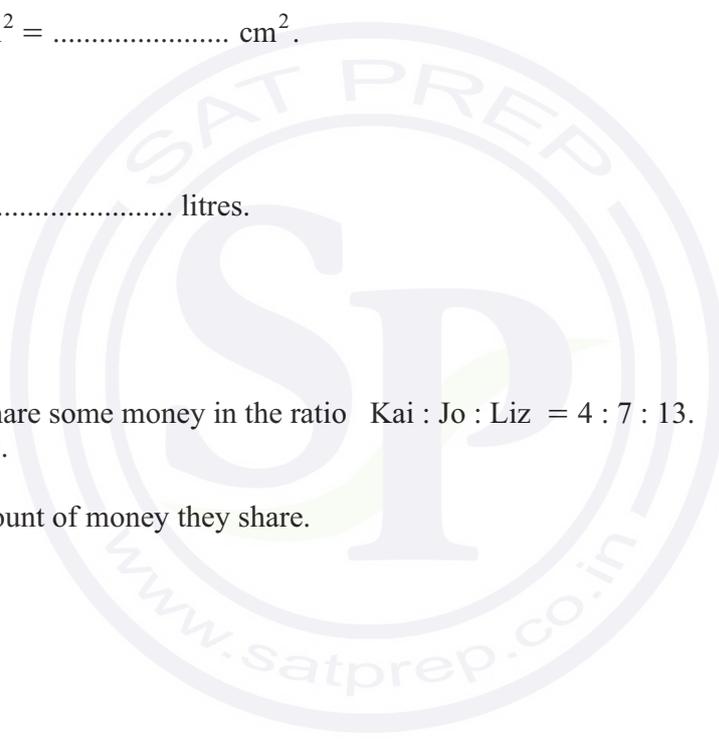
(b)  $8500 \text{ cm}^3 = \dots\dots\dots$  litres.

[1]

16 Kai, Jo and Liz share some money in the ratio Kai : Jo : Liz = 4 : 7 : 13.  
Jo receives \$1400.

Find the total amount of money they share.

\$ ..... [3]



DO NOT WRITE IN THIS MARGIN



17 (a)  $k^x \times k^5 = k^{20}$

Find the value of  $x$ .

$x = \dots\dots\dots$  [1]

(b) Expand and simplify.

$(x + 5)(x - 4)$

$\dots\dots\dots$  [2]

(c) Factorise.

$21r^3 - 7r$

$\dots\dots\dots$  [2]

18 The diameter of a circle is 16 cm.

Find the area of the circle.

Leave your answer in terms of  $\pi$ .

$\dots\dots\dots \text{ cm}^2$  [2]

19 Find the number of sides of a regular polygon with interior angle  $160^\circ$ .

$\dots\dots\dots$  [2]

DO NOT WRITE IN THIS MARGIN





20 The height,  $h$  cm, of a door is 180 cm, correct to the nearest centimetre.

Complete this statement about the value of  $h$ .

.....  $\leq h <$  ..... [2]

21 These are the first four terms of a sequence.

-6      1      8      15

(a) Write down the next term.

..... [1]

(b) Write down the term-to-term rule.

..... [1]

(c) (i) Find the  $n$ th term.

..... [2]

(ii) Is 688 a term in this sequence?

Explain how you decide.

..... because .....

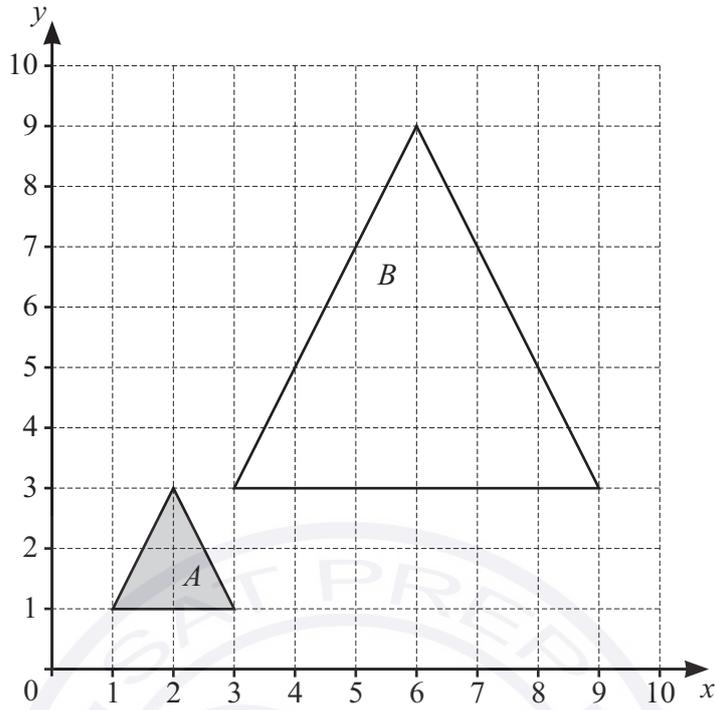
..... [2]



DO NOT WRITE IN THIS MARGIN



22 The diagram shows triangles *A* and *B*.



Describe fully the **single** transformation that maps triangle *A* onto triangle *B*.

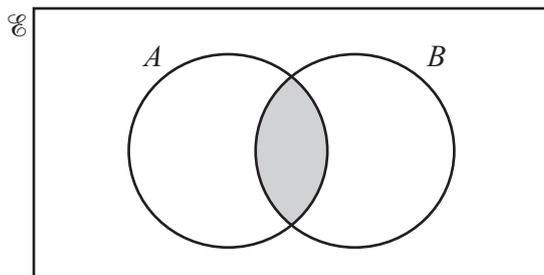
.....  
.....

[3]





23 (a)



Use set notation to describe the shaded region.

..... [1]

(b)

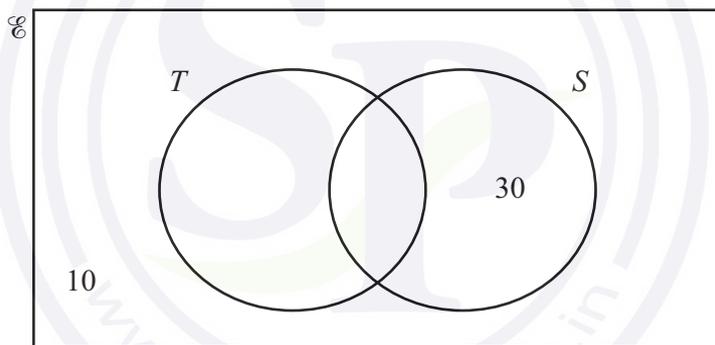
$\mathcal{U} = \{\text{people in a club}\}$

$T = \{\text{people who play tennis}\}$

$S = \{\text{people who go swimming}\}$

There are 60 people in the club.

36 people go swimming.



(i) Complete the Venn diagram. [2]

(ii) Find  $n(T')$ .

..... [1]



DO NOT WRITE IN THIS MARGIN



24 (a) The scale on a map is 1 cm represents 12 km.

Write this in the ratio 1 :  $n$ .

1 : ..... [1]

(b) The bearing of  $B$  from  $A$  is  $070^\circ$ .

Find the bearing of  $A$  from  $B$ .

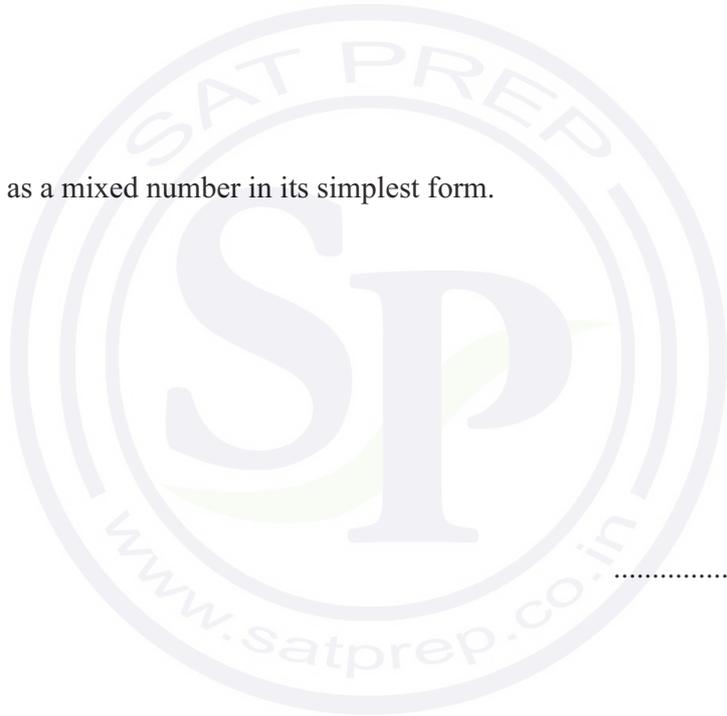
..... [2]

25 Work out.

$$\frac{3}{4} \times 1\frac{2}{3}$$

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

..... [3]

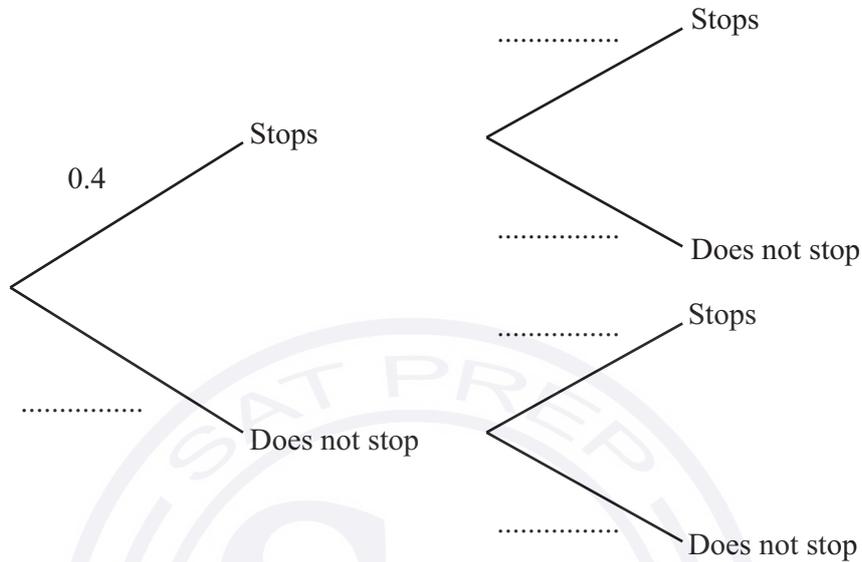




- 26 There are 2 sets of traffic lights on Li's journey to work.  
 The probability he stops at the first set of traffic lights is 0.4 .  
 The probability he stops at the second set of traffic lights is 0.7 .

First set of traffic lights

Second set of traffic lights



- (a) Complete the tree diagram. [2]  
 (b) Work out the probability that Li does not stop at both sets of traffic lights.

..... [2]

Question 27 is printed on the next page.



DO NOT WRITE IN THIS MARGIN



27 Sam writes 851 000 in standard form as  $85.1 \times 10^4$ .

Explain why  $85.1 \times 10^4$  is not a number in standard form.

.....

..... [1]



Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.





# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



**MATHEMATICS**

**0580/11**

Paper 1 Non-calculator (Core)

**May/June 2025**

**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.

**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 (a) Write the number 10 069 in words.

..... [1]

(b) Write 10 069 correct to the nearest ten.

..... [1]

(c) Convert 10 069 centimetres into metres.

..... m [1]

2 A bag of sweets costs \$0.34 .  
Arun buys 10 bags of sweets.

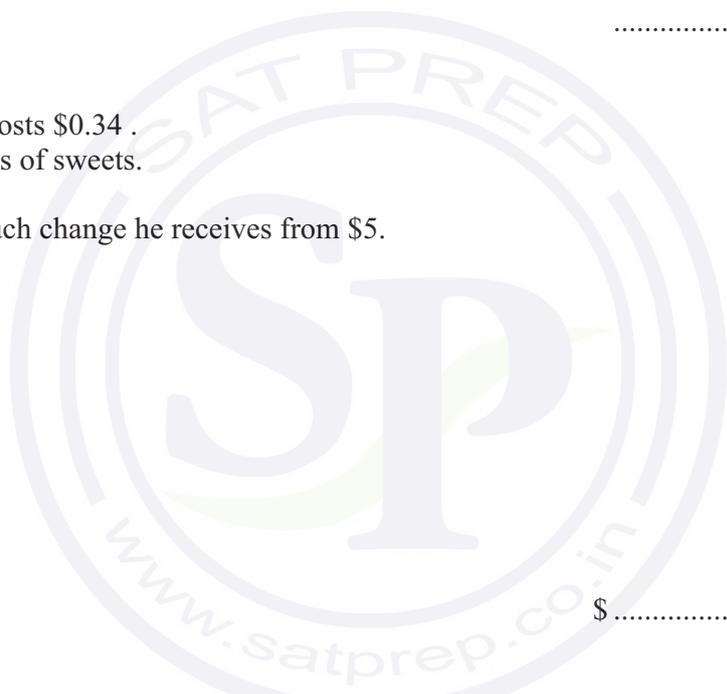
Work out how much change he receives from \$5.

\$ ..... [2]

3 Two numbers have a sum of  $-2$  and a product of  $-15$ .

Work out the two numbers.

..... and ..... [2]



DO NOT WRITE IN THIS MARGIN



4

- |   |    |    |    |    |     |
|---|----|----|----|----|-----|
| 7 | 27 | 39 | 49 | 99 | 112 |
|---|----|----|----|----|-----|

From the list of numbers, write down

(a) an even number

..... [1]

(b) a square number

..... [1]

(c) a factor of 56

..... [1]

(d) a prime number.

..... [1]

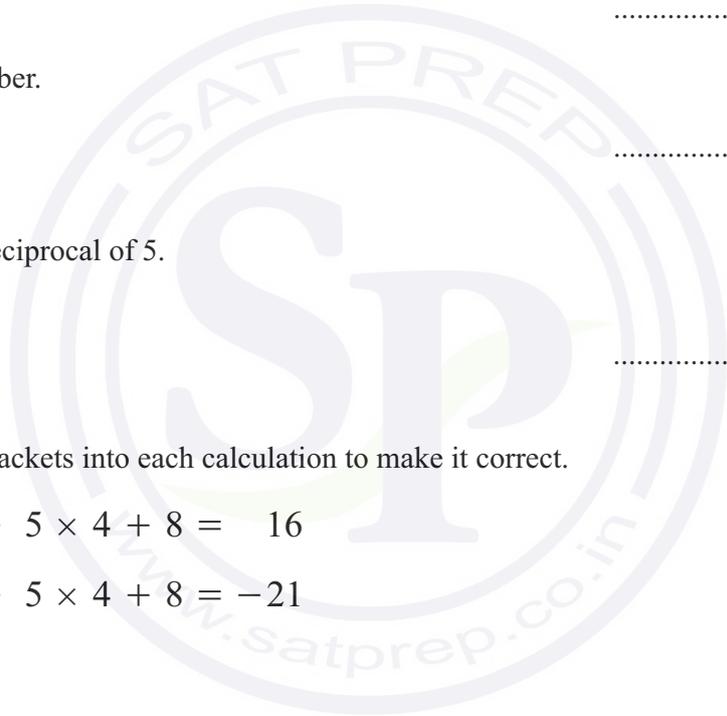
5 Write down the reciprocal of 5.

..... [1]

6 Put **one** pair of brackets into each calculation to make it correct.

(a)  $7 - 5 \times 4 + 8 = 16$  [1]

(b)  $7 - 5 \times 4 + 8 = -21$  [1]





DO NOT WRITE IN THIS MARGIN

- 7 (a) A ticket costs \$18.

Write down an expression, in dollars, for the cost of  $t$  tickets.

\$ ..... [1]

- (b) A bag contains  $n$  red balls and 16 green balls.

Write down an expression for the total number of balls in the bag.

..... [1]

- 8 (a) Write 90% as a fraction in its simplest form.

..... [1]

- (b) Write  $\frac{3}{100}$  as a decimal.

..... [1]

- 9 (a) These are the first four terms of a sequence.

33    26    19    12

- (i) Write down the term-to-term rule for this sequence.

..... [1]

- (ii) Work out the next two terms in this sequence.

....., ..... [2]

- (b) These are the first four terms of another sequence.

19    23    27    31

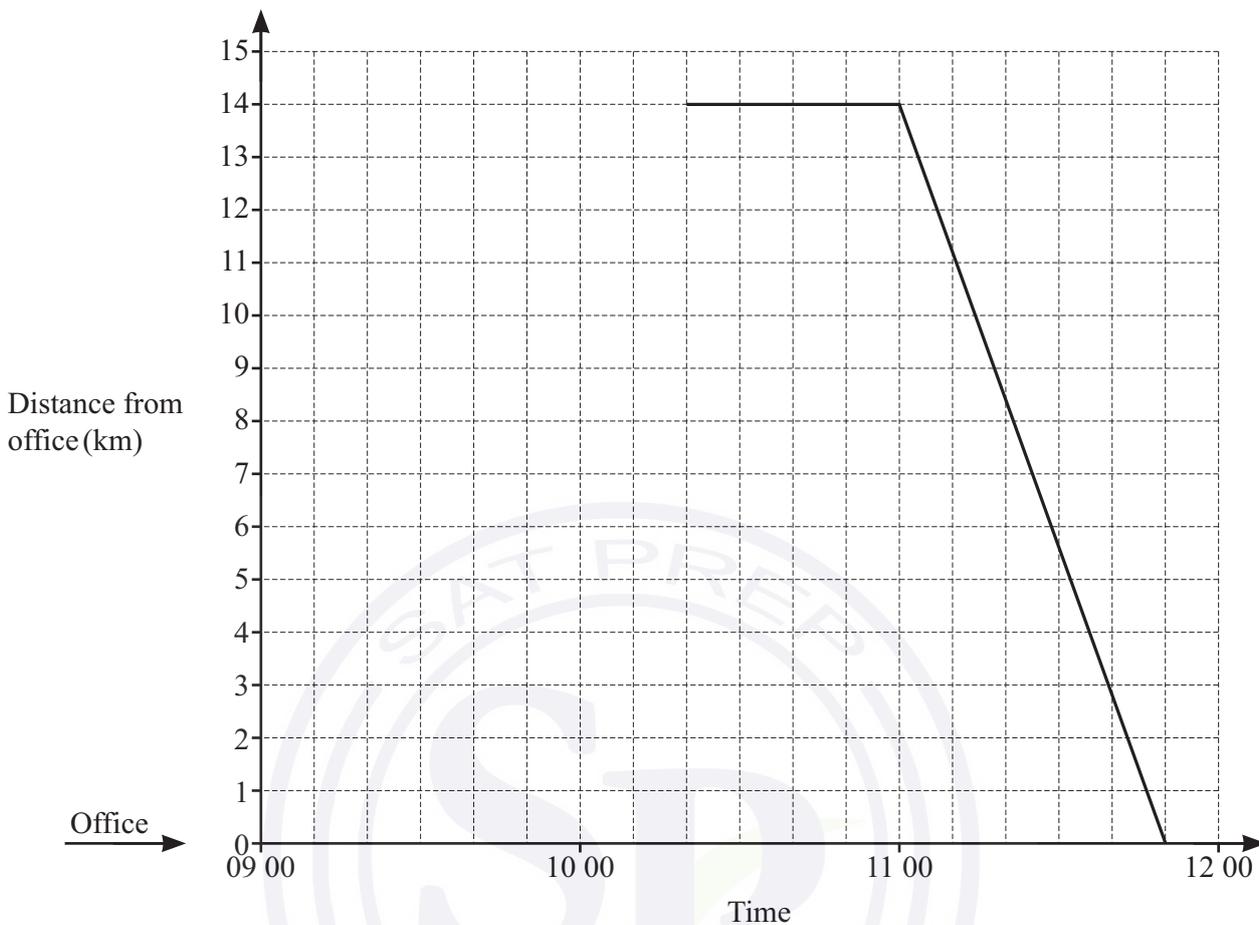
Find the  $n$ th term.

..... [2]





- 10 Ky cycles from his office to a meeting and back again.  
The travel graph shows his time at the meeting and his journey back.



- (a) How far is the meeting from his office?

..... km [1]

- (b) How long is Ky at the meeting for?

..... min [1]

- (c) Write down the time Ky arrives back at his office after the meeting.

..... [1]

- (d) Ky cycles from his office to the meeting at a constant speed of 21 km/h.

Complete the travel graph.

[2]



DO NOT WRITE IN THIS MARGIN



11 Calculate the volume of a cube with side length 3 cm.

..... cm<sup>3</sup> [1]

12 Solve.

$5x + 8 = 3x - 2$

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

13 Work out.

(a)  $-5 \times -4$

..... [1]

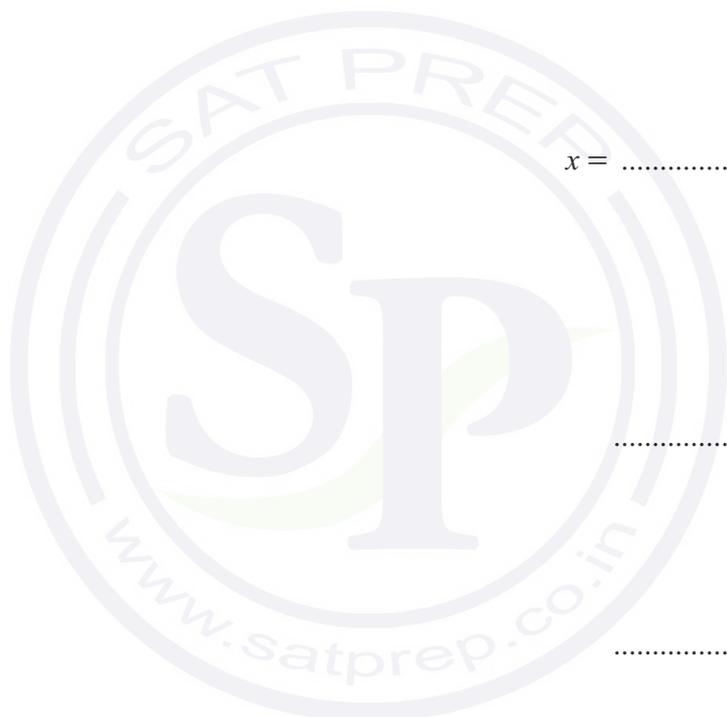
(b)  $-8 + (-3)$

..... [1]

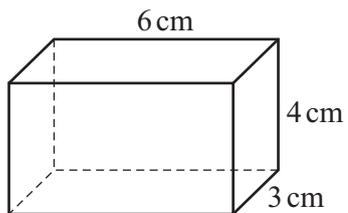
14  $3^p \times 3^4 = 3^{10}$

Find the value of  $p$ .

$p =$  ..... [1]

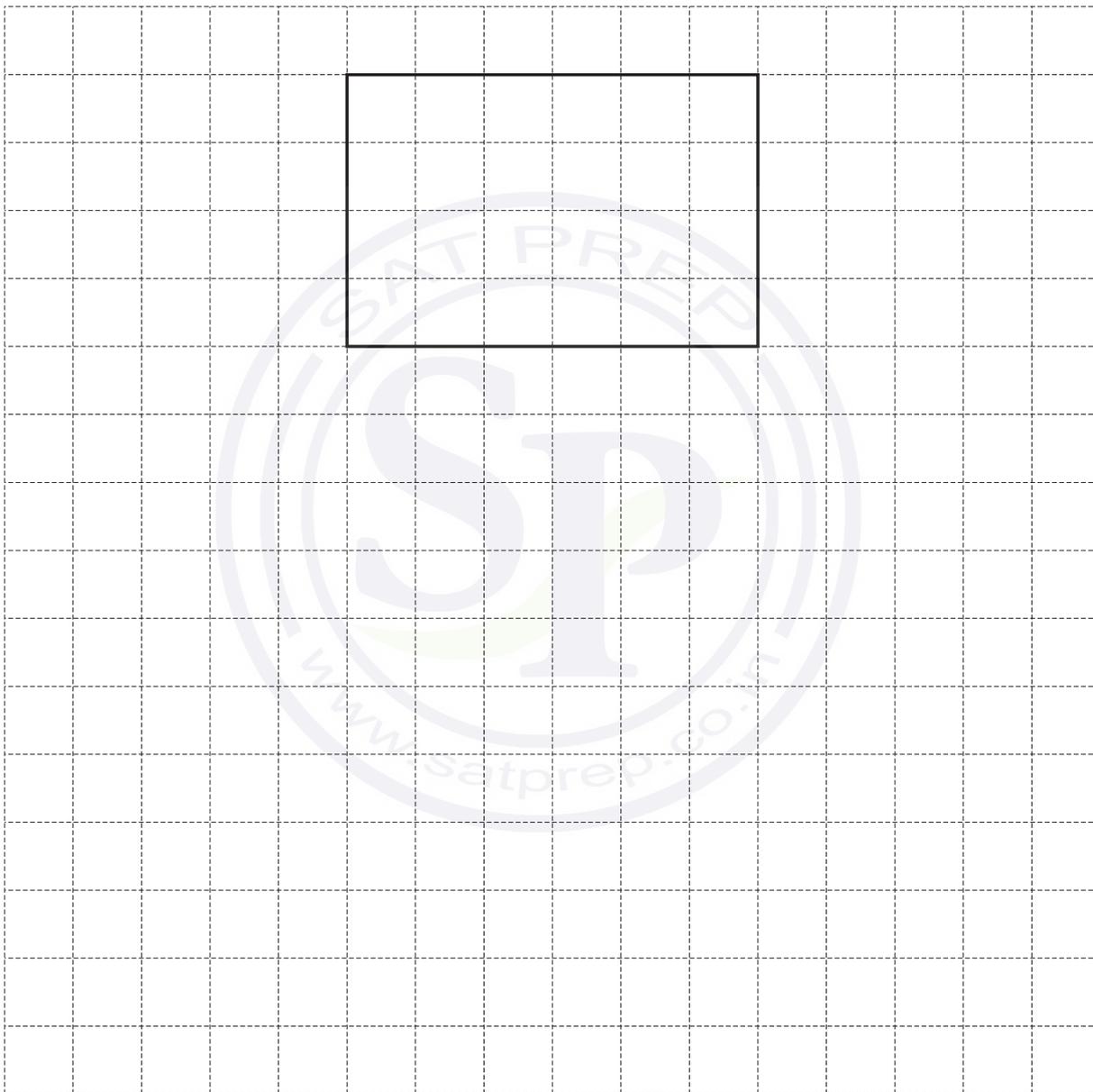


DO NOT WRITE IN THIS MARGIN



NOT TO SCALE

Complete a net of this cuboid on the  $1\text{ cm}^2$  grid.  
One face has been drawn for you.



[3]





DO NOT WRITE IN THIS MARGIN

16 (a) Simplify.

$$6a + 4b - a - 5b$$

..... [2]

(b) Factorise.

(i)  $6x + 15y$

..... [1]

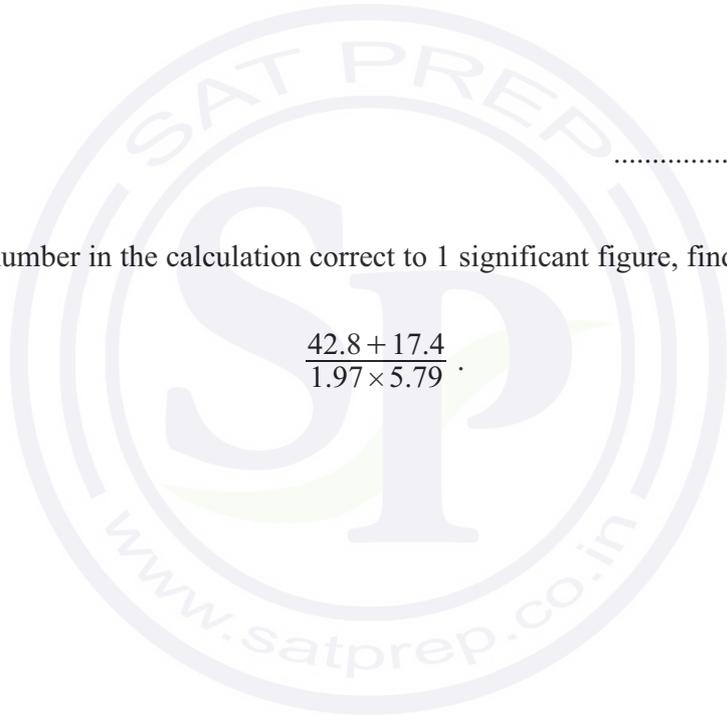
(ii)  $x^2y - 5xy$

..... [2]

17 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

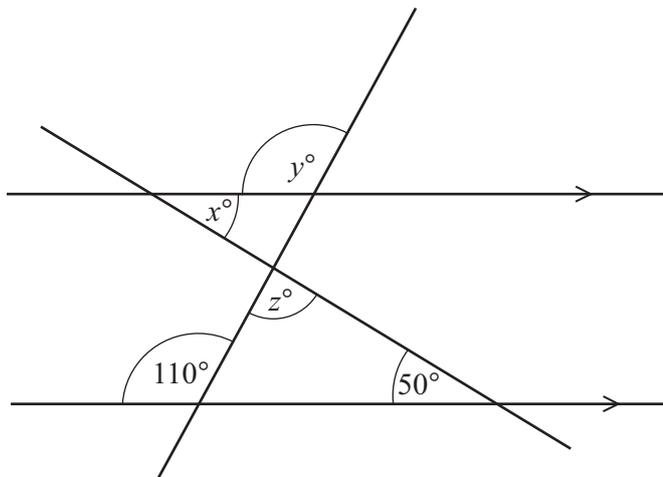
$$\frac{42.8 + 17.4}{1.97 \times 5.79}$$

..... [2]





18 The diagram shows two straight lines intersecting two parallel lines.



NOT TO SCALE

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

$x = \dots\dots\dots$  because  $\dots\dots\dots$   
 $\dots\dots\dots$  [2]

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

$y = \dots\dots\dots$  because  $\dots\dots\dots$   
 $\dots\dots\dots$  [2]

- (c) Find the value of  $z$ .

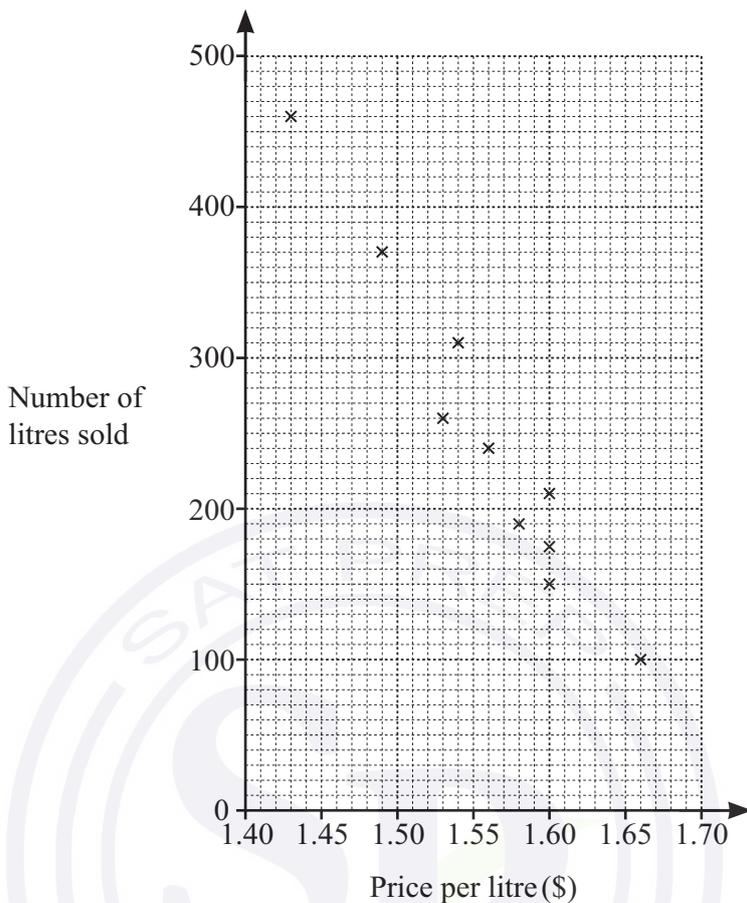
$z = \dots\dots\dots$  [2]

DO NOT WRITE IN THIS MARGIN





20 The scatter diagram shows the price of petrol per litre and the number of litres sold at a petrol station on each of ten days.



(a) These are the results for two more days.

Price per litre (\$)	1.68	1.47
Number of litres sold	90	380

Plot this information on the scatter diagram. [1]

(b) What type of correlation is shown in the scatter diagram? ..... [1]

(c) (i) On the scatter diagram, draw a line of best fit. [1]

(ii) One day the price of petrol was \$1.55 per litre.

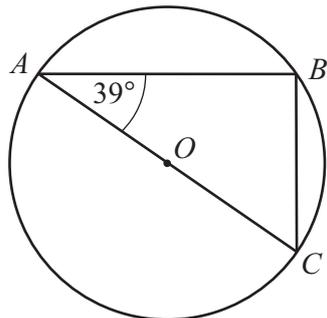
Use your line of best fit to estimate the number of litres sold.

..... litres [1]





21 Points  $A$ ,  $B$  and  $C$  lie on the circle, centre  $O$ .



NOT TO SCALE

Work out angle  $BCA$ .

Angle  $BCA = \dots\dots\dots$  [2]

22  $A = 2^3 \times 3$        $B = 3^2 \times 5$

(a) Find the highest common factor (HCF) of  $A$  and  $B$ .

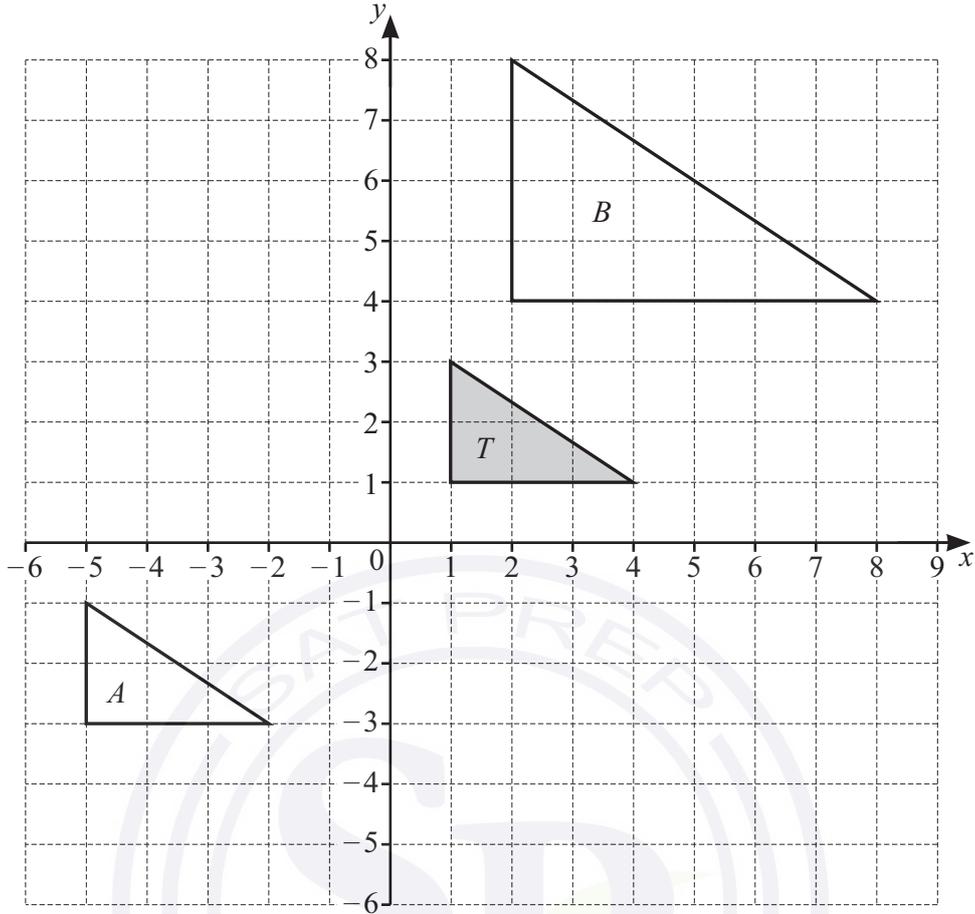
$\dots\dots\dots$  [1]

(b) Find the lowest common multiple (LCM) of  $A$  and  $B$ .

$\dots\dots\dots$  [2]



DO NOT WRITE IN THIS MARGIN



(a) On the grid, draw the image of triangle *T* after a rotation,  $90^\circ$  clockwise, centre  $(0, 0)$ . [2]

(b) Describe fully the **single** transformation that maps triangle *T* onto triangle *A*.  
 ..... [2]

(c) Describe fully the **single** transformation that maps triangle *T* onto triangle *B*.  
 ..... [3]





24 Work out  $1\frac{1}{3} + 1\frac{3}{4}$ .

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

25 (a) Write 32 500 in standard form.

..... [3]

(b) Write  $5.6 \times 10^{-3}$  as an ordinary number.

..... [1]

..... [1]

Question 26 is printed on the next page.



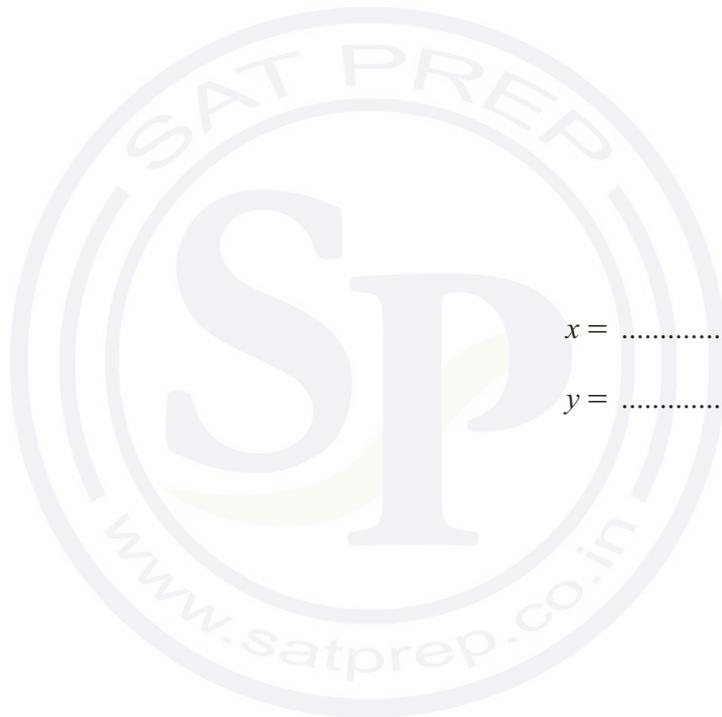
DO NOT WRITE IN THIS MARGIN



26 Solve the simultaneous equations.

$$2x + 5y = 5$$

$$3x + 4y = 11$$



$x =$  .....

$y =$  ..... [4]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.



DO NOT WRITE IN THIS MARGIN



# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



**MATHEMATICS**

**0580/12**

Paper 1 Non-calculator (Core)

**May/June 2025**

**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. Any blank pages are indicated.



**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 Write the number sixteen thousand and sixty-two in figures.

..... [1]

2 Write three-quarters as

(a) a decimal

..... [1]

(b) a percentage.

..... % [1]

3 Write down the value of

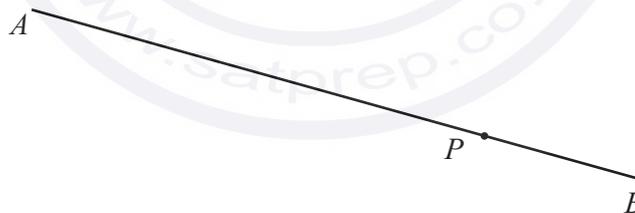
(a)  $\sqrt{36}$

..... [1]

(b)  $10^3$ .

..... [1]

4 The diagram shows a line  $AB$  and a point  $P$ .



(a) Measure the length of line  $AB$  in millimetres.

..... mm [1]

(b) Draw a line through point  $P$  that is perpendicular to line  $AB$ .

[1]



DO NOT WRITE IN THIS MARGIN

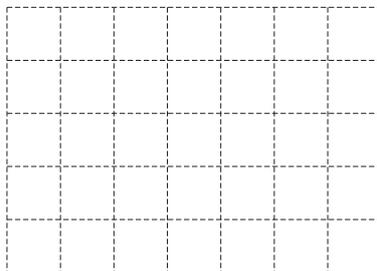


5 Complete this statement.

10 weeks is ..... days.

[1]

6



Shade  $\frac{2}{5}$  of the rectangle.

[1]

7 (a) Find the value of the reciprocal of  $\frac{1}{3}$ .

[1]

(b) Write  $2^{-3}$  as a fraction.

[1]

8 Put **one** pair of brackets into each calculation to make it correct.

(a)  $-12 + 4 \div 2 - 3 = -16$

[1]

(b)  $-3 - 4 + 5 - 7 = -5$

[1]

9 Write these fractions in order, starting with the smallest.

$\frac{5}{8}$     $\frac{11}{12}$     $\frac{2}{3}$     $\frac{3}{4}$     $\frac{13}{24}$

..... < ..... < ..... < ..... < ..... [2]  
*smallest*

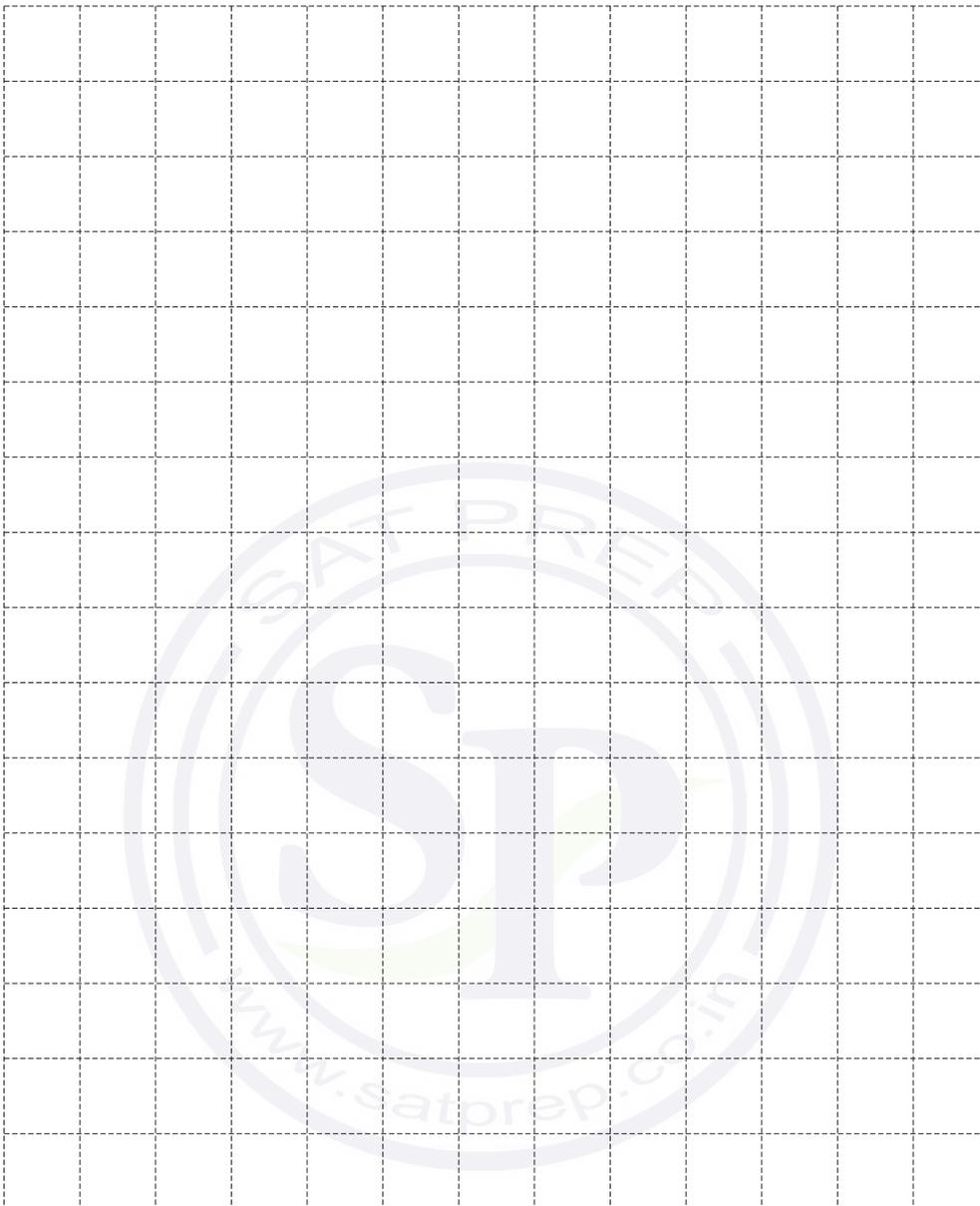
DO NOT WRITE IN THIS MARGIN





10 A cuboid has length 5 cm, width 2 cm and height 3 cm.

(a) Draw a net of the cuboid on the 1 cm<sup>2</sup> grid.



[3]

(b) Work out the volume of the cuboid.  
Give the units of your answer.

..... [2]



DO NOT WRITE IN THIS MARGIN



11

0	2	2	3	4	7
---	---	---	---	---	---

For these six numbers

(a) write down the mode

..... [1]

(b) work out the range

..... [1]

(c) work out the median

..... [1]

(d) work out the mean.

..... [2]

12 Tim has a method for multiplying a number by 99. He shows his method for  $53 \times 99$ .

$53 \times 99$
$= 53 \times 100 - 53$
$= 5300 - 53$
$= 5247$

Work out  $85 \times 99$  using Tim's method.

..... [2]





13 (a) A quadrilateral has the geometrical properties

- 4 equal length sides
- 2 lines of symmetry
- rotational symmetry of order 2.

Write down the mathematical name of this quadrilateral.

..... [1]

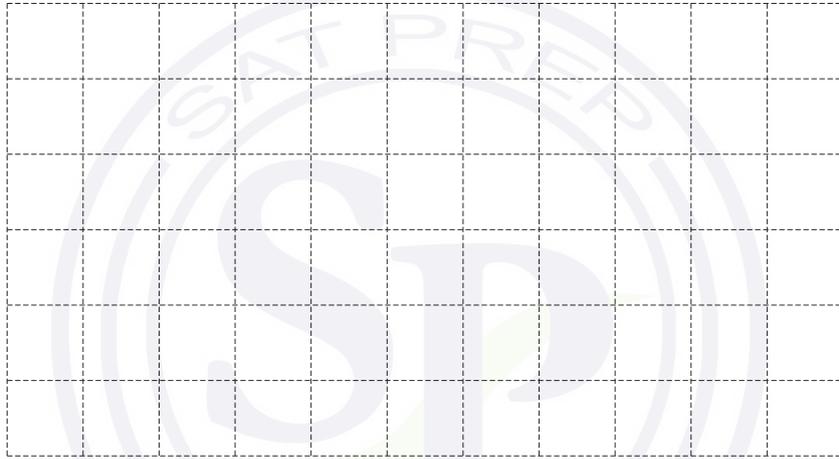
(b) Write down two geometrical properties of a rectangle.

1. ....

2. ....

[2]

(c)



The parallel sides of a trapezium have lengths 6 cm and 4 cm.

The area of the trapezium is 15 cm<sup>2</sup>.

On the 1 cm<sup>2</sup> grid, draw a trapezium with these lengths and area.

[3]



DO NOT WRITE IN THIS MARGIN

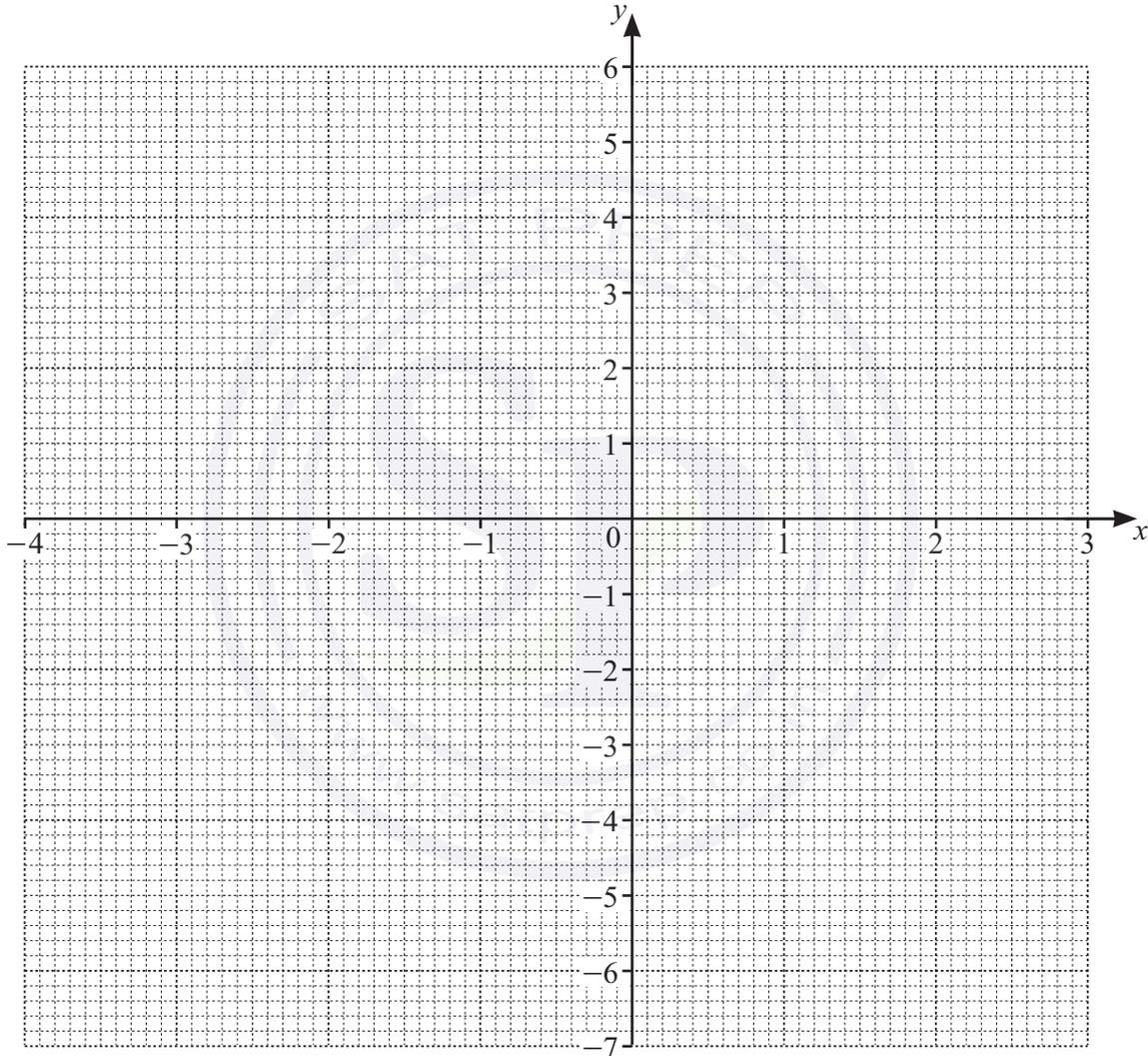


14 (a) Complete the table of values for  $y = (x + 3)(x - 2)$ .

$x$	-4	-3	-2	-1	0	1	2	3
$y$	6		-4			-4		

[3]

(b) On the grid, draw the graph of  $y = (x + 3)(x - 2)$  for  $-4 \leq x \leq 3$ .



[4]



(c) Write down the coordinates of the lowest point of the graph.

( ..... , ..... ) [1]

(d) Write down the equation of the line of symmetry of the graph.

..... [1]

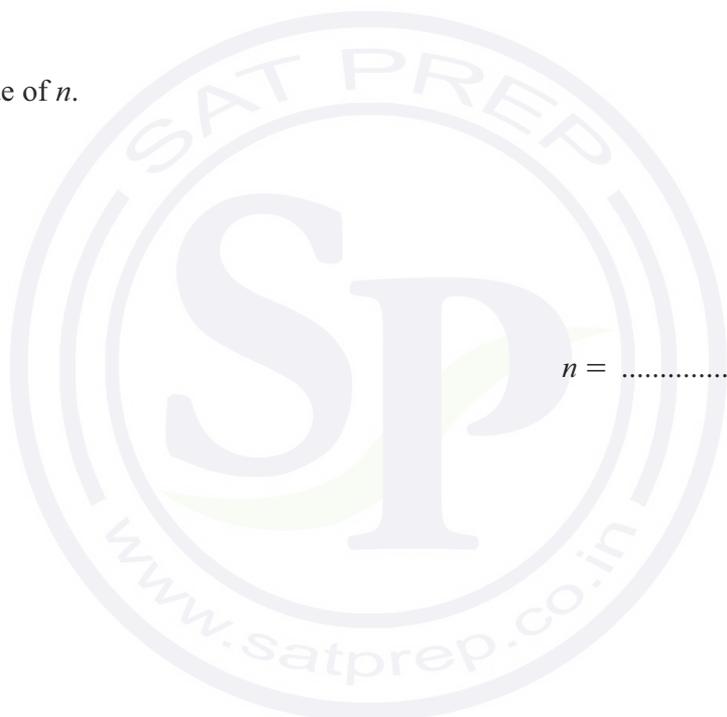
(e) Use your graph to solve the equation  $(x + 3)(x - 2) = 3$ .

$x = \dots\dots\dots$  or  $x = \dots\dots\dots$  [2]

15 Beth thinks of a positive number,  $n$ .  
She squares  $n$  then subtracts 55.  
The answer is 9.

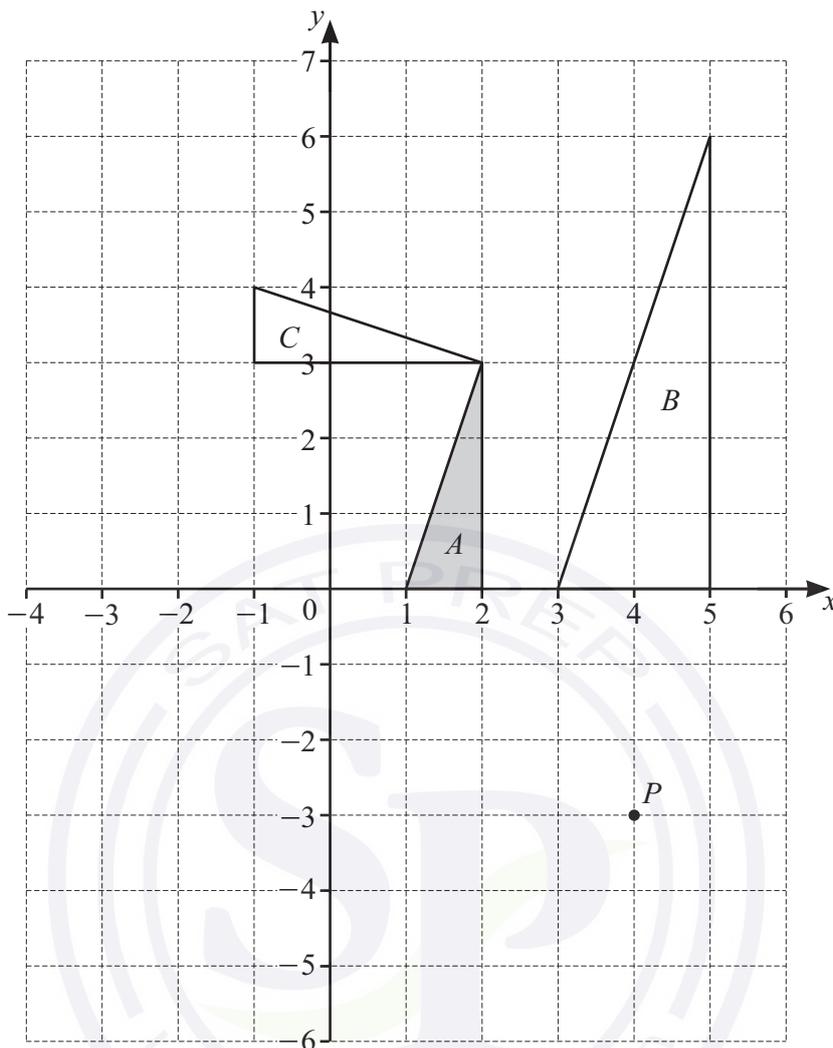
Work out the value of  $n$ .

$n = \dots\dots\dots$  [2]



DO NOT WRITE IN THIS MARGIN

16 The diagram shows a point  $P$  and three triangles,  $A$ ,  $B$  and  $C$ , on a  $1 \text{ cm}^2$  grid.



(a) Find the area of triangle  $B$ .

.....  $\text{cm}^2$  [1]

(b) (i) Write down the coordinates of point  $P$ .

( ..... , ..... ) [1]

(ii) Work out the coordinates of point  $P$  after a translation by the vector  $\begin{pmatrix} -20 \\ 12 \end{pmatrix}$ .

( ..... , ..... ) [1]





(c) Draw the image of triangle  $A$  after a reflection in the line  $y = -1$ .

[2]

(d) Describe fully the **single** transformation that maps

(i) triangle  $A$  onto triangle  $B$

.....  
.....

[3]

(ii) triangle  $A$  onto triangle  $C$ .

.....  
.....

[3]



DO NOT WRITE IN THIS MARGIN





17 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

$$\frac{17.8 + 10.3}{5.5}$$

..... [2]

18 Find the highest common factor (HCF) of 66 and 110.

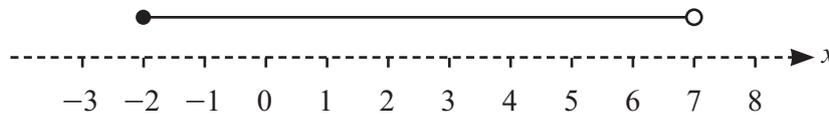
..... [2]

19 (a)  $P$  is a prime number.

Write down the value of  $P$  that satisfies the inequality  $13 < P < 19$ .

$P =$  ..... [1]

(b) Write down the inequality represented on the number line.

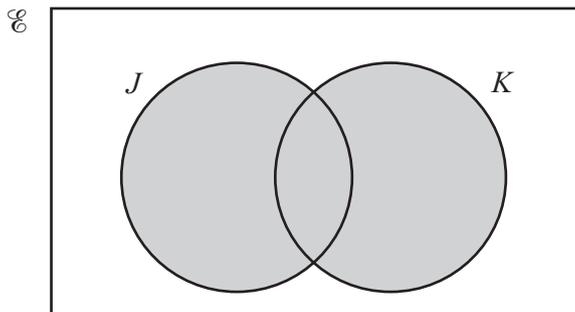


..... [2]





20

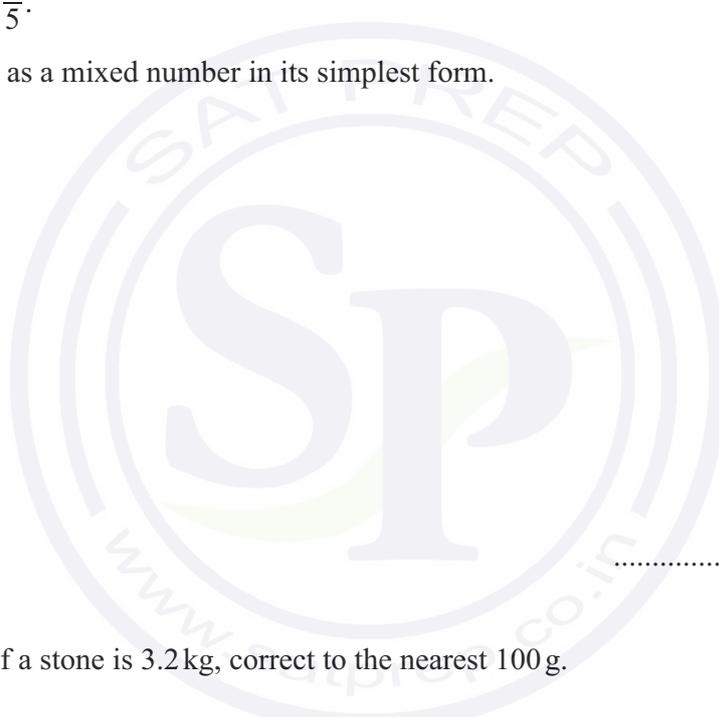


Use set notation to describe the shaded region.

..... [1]

21 Work out  $2\frac{7}{9} \times 1\frac{1}{5}$ .

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



..... [3]

22 The mass,  $m$  kg, of a stone is 3.2kg, correct to the nearest 100 g.

Complete this statement about the value of  $m$ .

.....  $\leq m <$  ..... [2]



DO NOT WRITE IN THIS MARGIN



23 (a) Factorise.

$$9x - 6xy$$

..... [2]

(b) Expand and simplify.

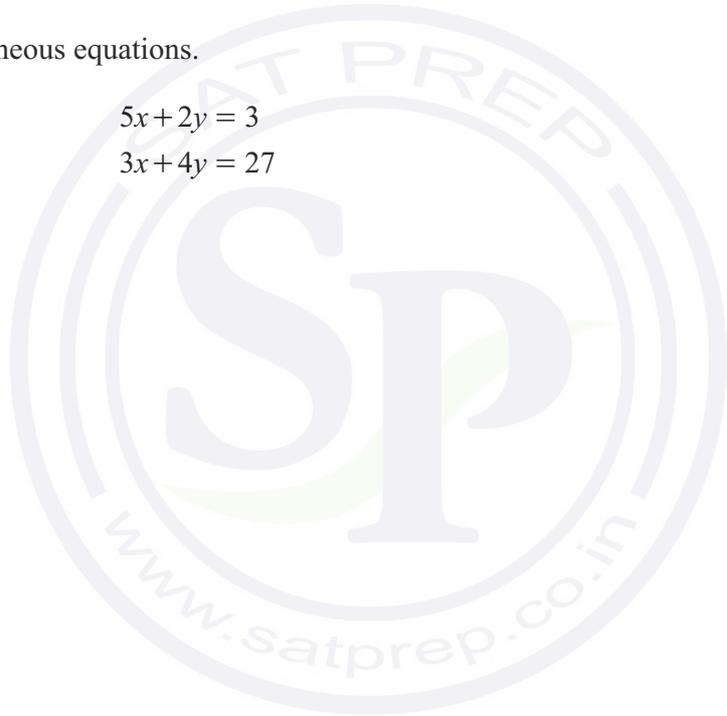
$$(2x + 3)(x - 4)$$

..... [2]

24 Solve the simultaneous equations.

$$5x + 2y = 3$$

$$3x + 4y = 27$$



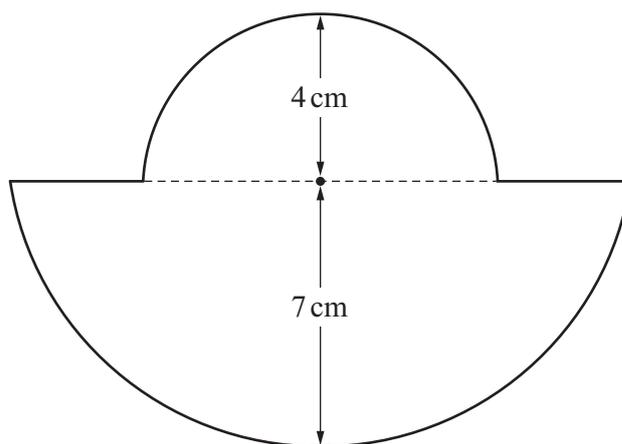
$x =$  .....

$y =$  ..... [3]





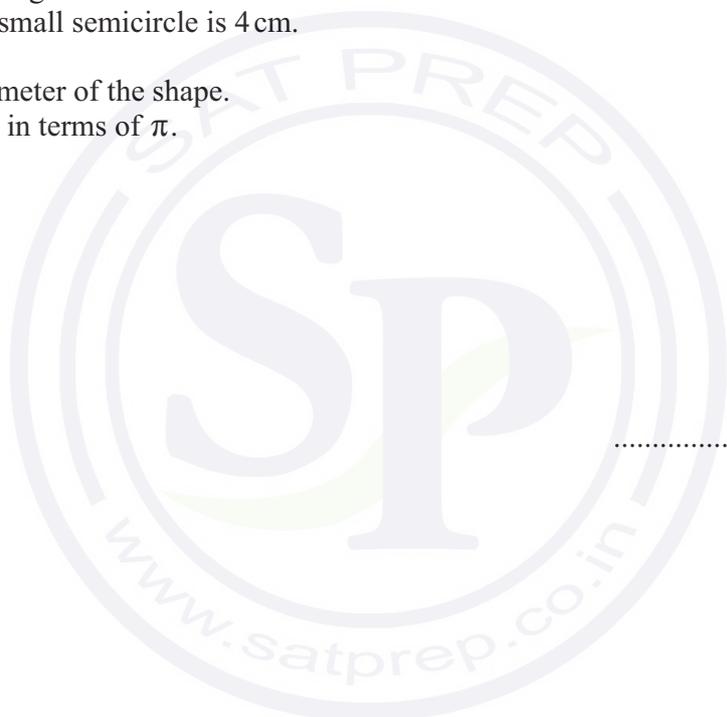
25 The diagram shows a shape made from two different semicircles, with the same centre.



NOT TO SCALE

The radius of the large semicircle is 7 cm.  
The radius of the small semicircle is 4 cm.

Work out the perimeter of the shape.  
Give your answer in terms of  $\pi$ .



..... cm [3]





DO NOT WRITE IN THIS MARGIN

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.





# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



## MATHEMATICS

0580/13

Paper 1 Non-calculator (Core)

May/June 2025

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 **20** pages. Any blank pages are indicated.



**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 (a) Write the number 70 000 000 in words.

..... [1]

(b) (i) Write down the value of the 5 in the number 0.25 .  
Give your answer as a fraction.

..... [1]

(ii) Find the value of the reciprocal of 0.25 .

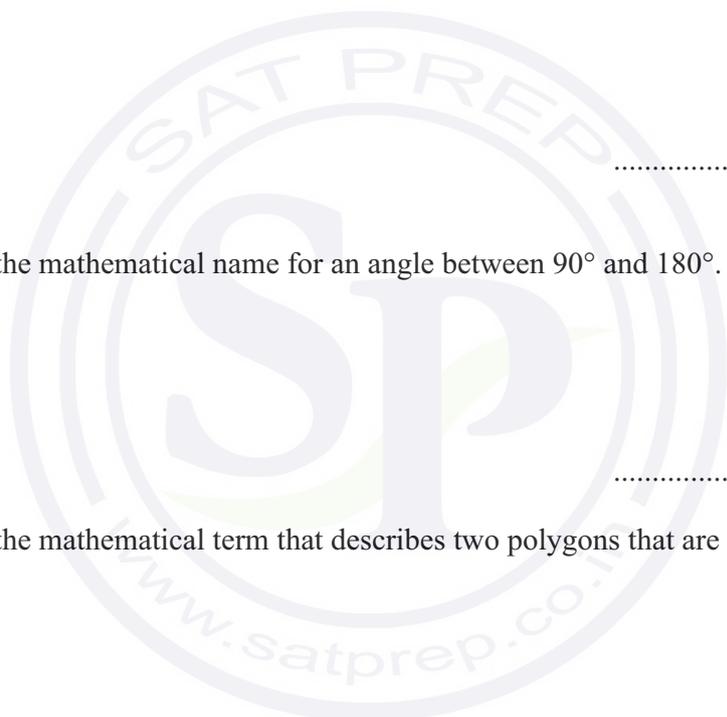
..... [2]

2 (a) Write down the mathematical name for an angle between 90° and 180°.

..... [1]

(b) Write down the mathematical term that describes two polygons that are the same shape and size.

..... [1]



DO NOT WRITE IN THIS MARGIN



3 (a) Write down  $\sqrt{169}$ .

..... [1]

(b) Work out the value of  $2^4$ .

..... [1]

(c) Work out the value of  $10^{-2}$ .

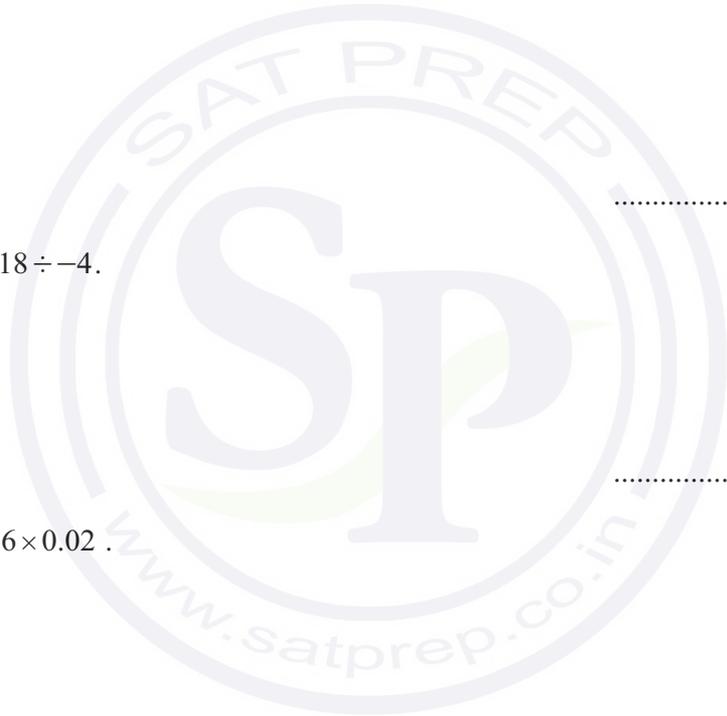
..... [1]

(d) Work out  $-18 \div -4$ .

..... [1]

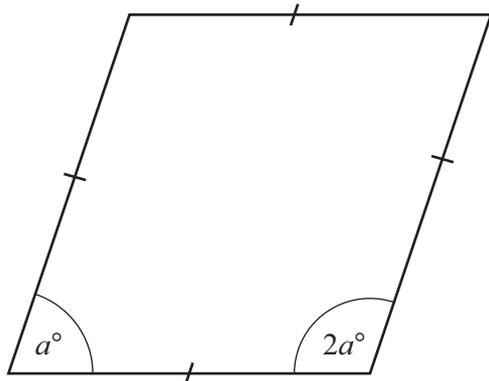
(e) Work out  $1.6 \times 0.02$ .

..... [1]





4 The diagram shows a quadrilateral with sides of equal length.



NOT TO SCALE

(a) Write down the mathematical name for this quadrilateral.

..... [1]

(b) Work out the value of  $a$ .

$a =$  ..... [2]

5 Find the next term in each sequence.

(a) 1, 5, 10, 16, 23, ...

..... [1]

(b) 1, 2, 4, 8, 16, ...

..... [1]



DO NOT WRITE IN THIS MARGIN



6 These are the lengths of time, in minutes, of seven phone calls.

10 22 5 7 35 8 75

(a) (i) Find the median.

..... min [2]

(ii) Find the range.

..... min [1]

(b) The longest phone call is 75 minutes.

Write 75 minutes in hours.

..... h [1]

7 70 students study one of French, Spanish and German.

The ratio number who study French : number who study Spanish = 3 : 7.  
15 students study French.

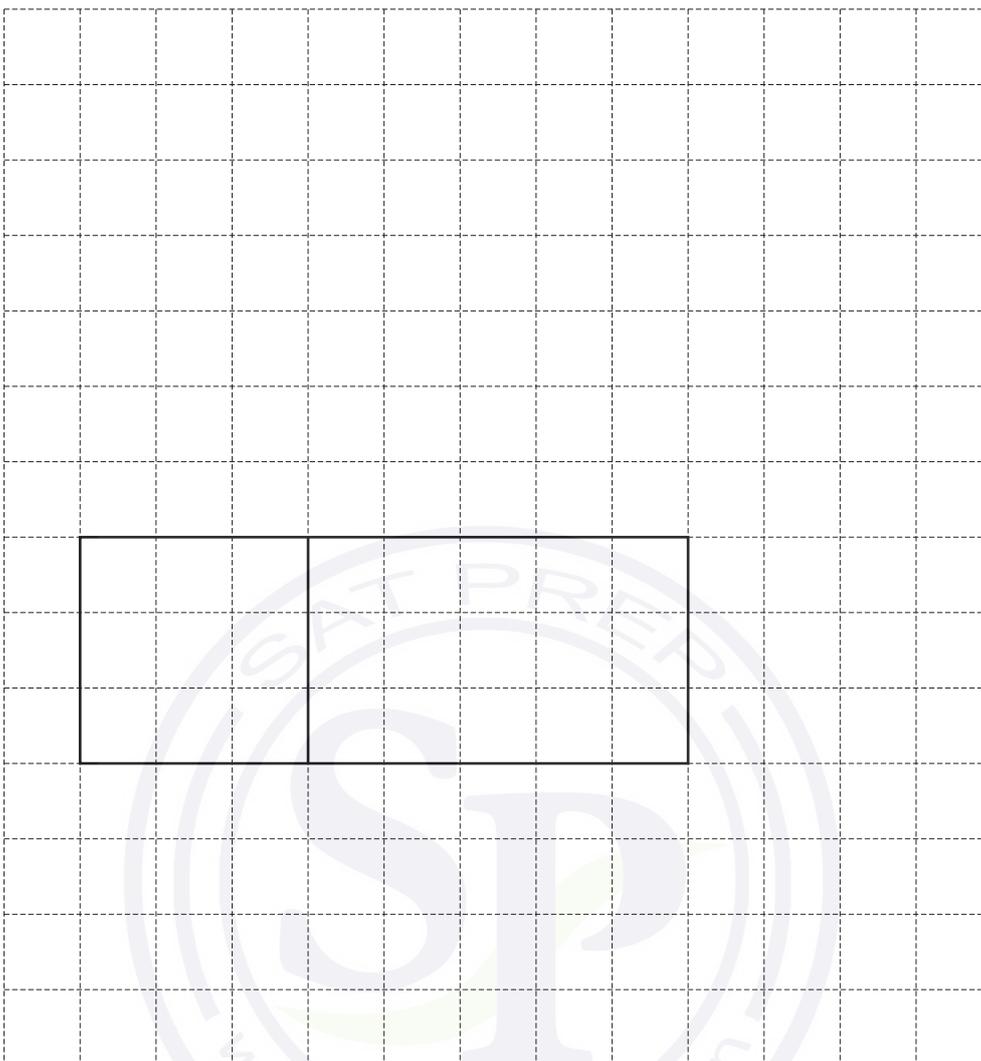
Find the number of students who study German.

..... [3]





8 The diagram shows two faces of a net of a cuboid on a 1 cm<sup>2</sup> grid.



(a) Complete the statement.

The dimensions of the cuboid are ..... cm by ..... cm by ..... cm.

[1]

(b) On the grid, complete a net of the cuboid.

[3]

(c) Work out the volume of the cuboid.

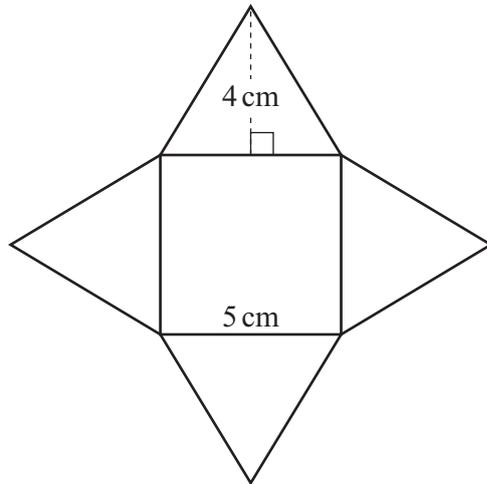
..... cm<sup>3</sup> [2]



DO NOT WRITE IN THIS MARGIN



9 The diagram shows the net of a square-based pyramid.



NOT TO SCALE

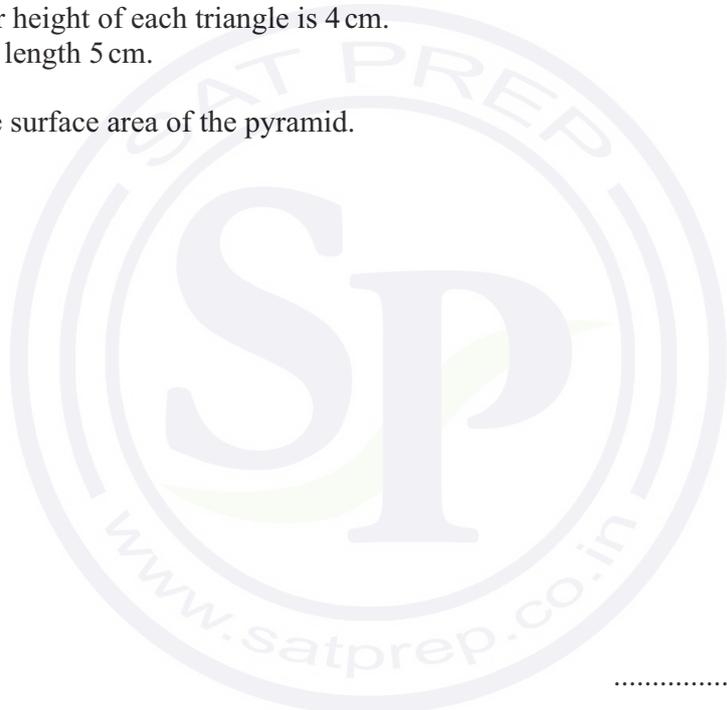
The perpendicular height of each triangle is 4 cm.  
The base has side length 5 cm.

(a) Calculate the surface area of the pyramid.

..... cm<sup>2</sup> [2]

(b) Write down the number of edges of the square-based pyramid.

..... [1]





- 10 (a) Line  $A$  has equation  $y = 3x + 1$ .  
 Line  $B$  has equation  $y = 3x - 1$ .

Draw a ring around the description that is correct.

Line  $A$  intersects  
line  $B$

Line  $A$  has a  
steeper gradient  
than line  $B$

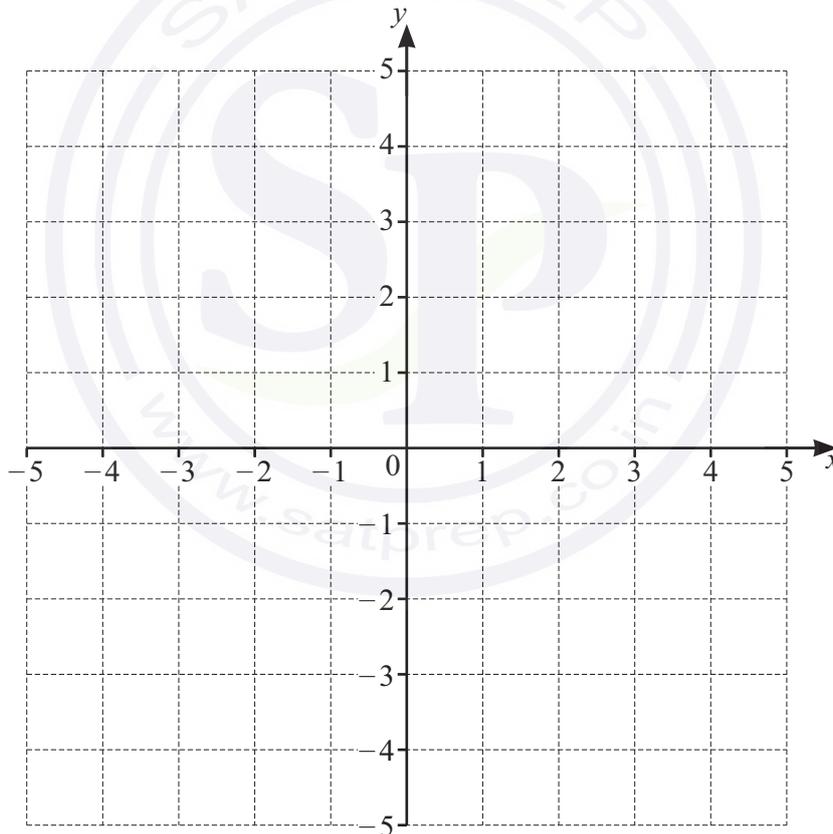
Line  $A$  is  
perpendicular to  
line  $B$

Line  $A$  is parallel  
to line  $B$

Line  $A$  and Line  $B$   
intersect the  $y$ -axis  
at the same point

[1]

(b)



On the grid, draw the graph of  $y = 2x - 1$ .

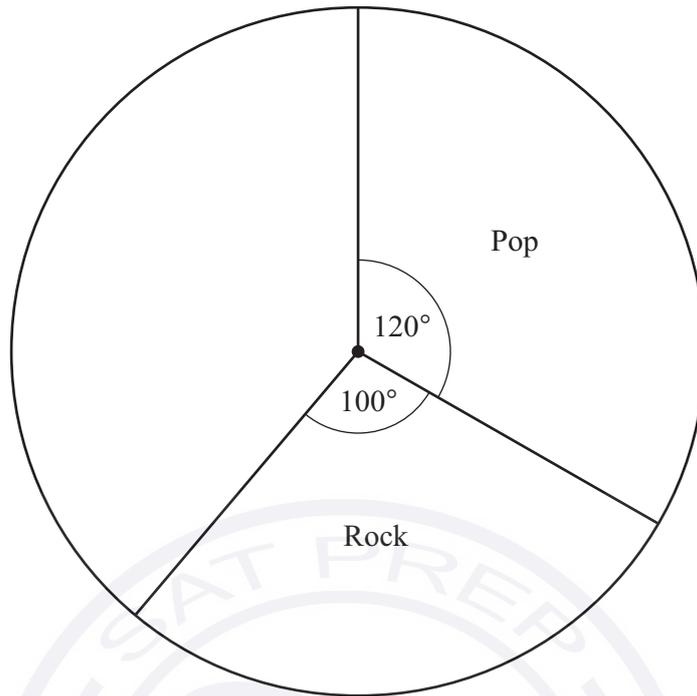
[2]



DO NOT WRITE IN THIS MARGIN



11 Jo asks 90 people whether they prefer pop, rock, classical, jazz or folk music. The pie chart shows some of the results.



(a) Work out the number of people who prefer pop.

..... [2]

(b) The sector angle for classical is  $80^\circ$ .

Draw this sector on the pie chart.

[1]

(c) 9 people prefer jazz and the rest prefer folk.

(i) Work out the size of the sector angle for jazz.

..... [2]

(ii) Complete the pie chart.

[1]





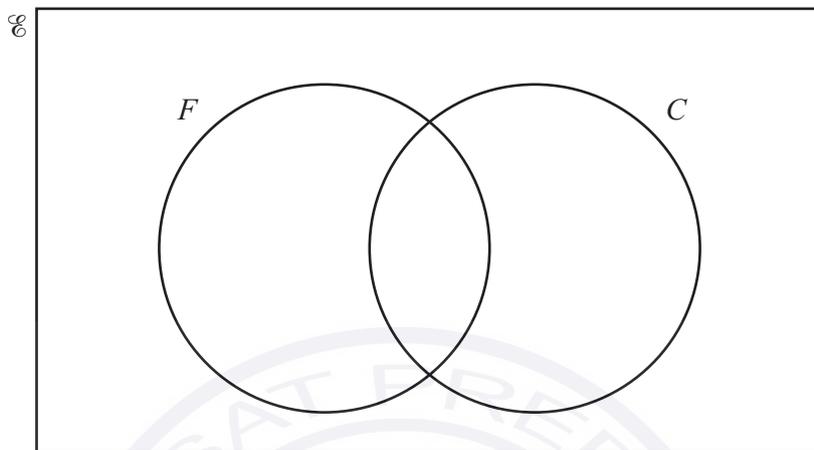
12 A music group has 30 members.

7 members play a flute ( $F$ ) and play a clarinet ( $C$ ).

12 members play a flute.

1 member does not play a flute and does not play a clarinet.

(a) Use this information to complete the Venn diagram.



[2]

(b) Find  $n(C)$ .

..... [1]

13 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

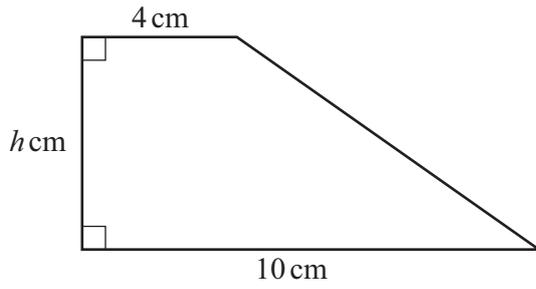
$$\frac{62.5}{9.7 \times 0.52}$$

..... [2]



DO NOT WRITE IN THIS MARGIN

14



NOT TO SCALE

The diagram shows a trapezium.  
 The area of the trapezium is  $42 \text{ cm}^2$ .

Work out the value of  $h$ .

$h = \dots\dots\dots$  [2]

15 (a) Write down the inequality represented on the number line.



$\dots\dots\dots$  [2]

(b) Write down the smallest integer that satisfies the inequality  $d > -3\frac{1}{4}$ .

$\dots\dots\dots$  [1]





- 16 On Monday the cost of a concert ticket is \$ $x$ .  
 On Tuesday the cost of a ticket for the same concert is 20% more than the cost on Monday.

Jack buys 4 tickets on Monday and 5 tickets on Tuesday.  
 Jack pays \$270 in total.

Work out the value of  $x$ .

$x = \dots\dots\dots$  [3]

- 17 Simplify.

(a)  $y^4 \times y^6$

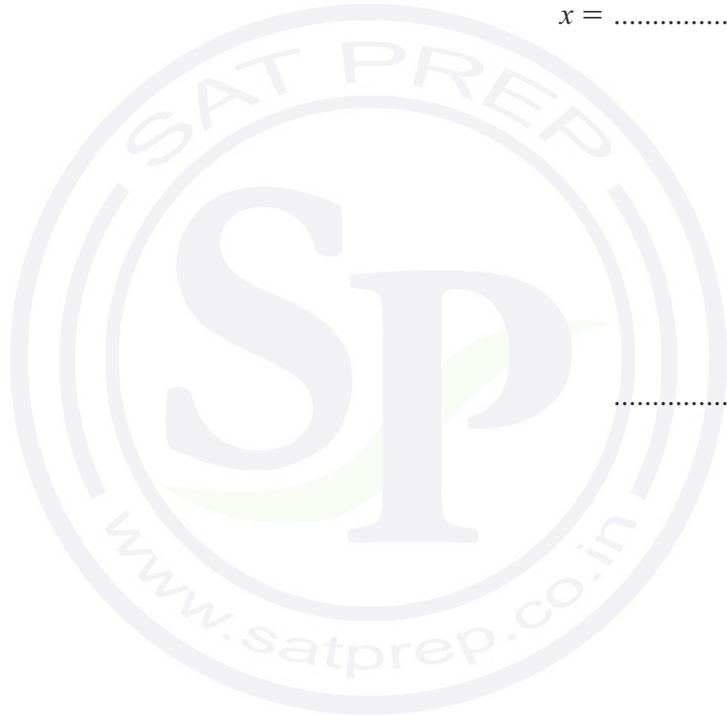
$\dots\dots\dots$  [1]

(b)  $\frac{p^5}{p^8}$

$\dots\dots\dots$  [1]

(c)  $(w^4)^3$

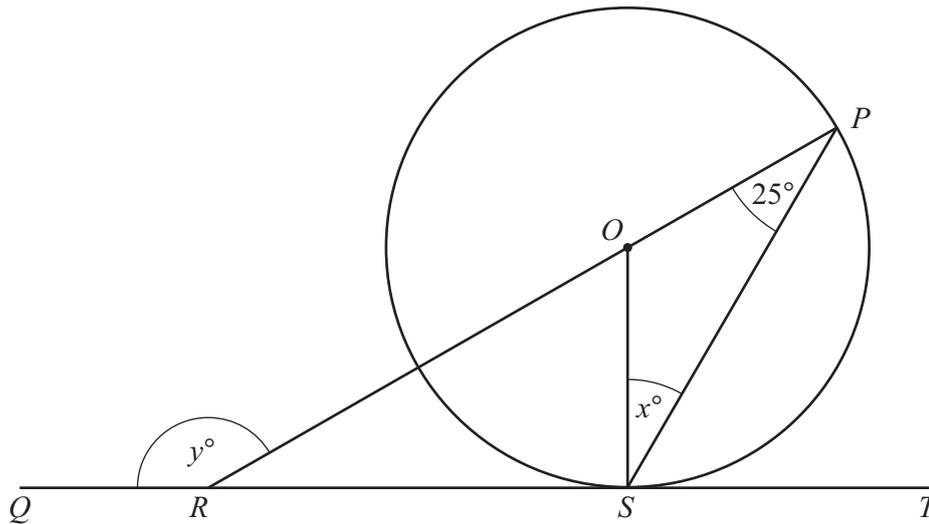
$\dots\dots\dots$  [1]



DO NOT WRITE IN THIS MARGIN



NOT TO SCALE



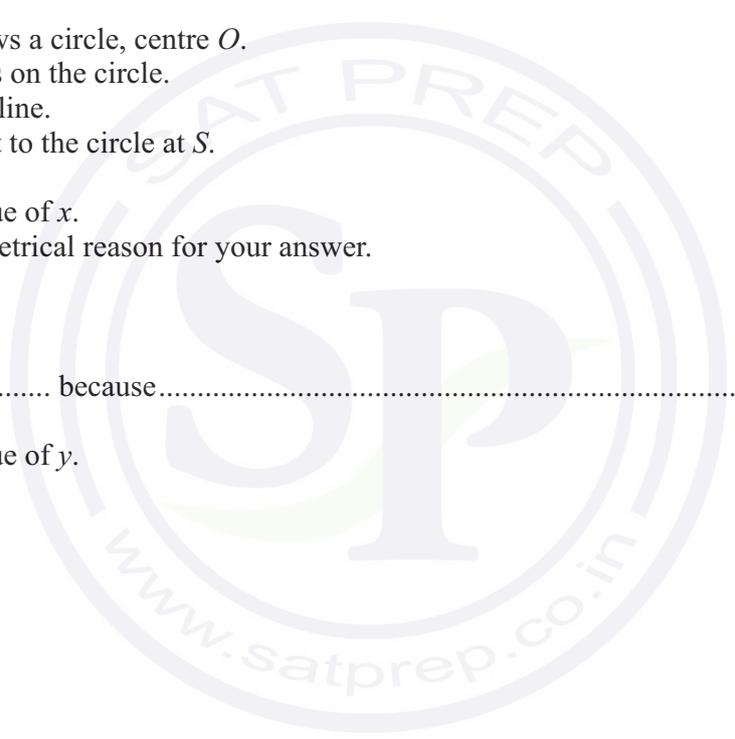
The diagram shows a circle, centre  $O$ .  
 $P$  and  $S$  are points on the circle.  
 $POR$  is a straight line.  
 $QRST$  is a tangent to the circle at  $S$ .

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

$x = \dots\dots\dots$  because..... [2]

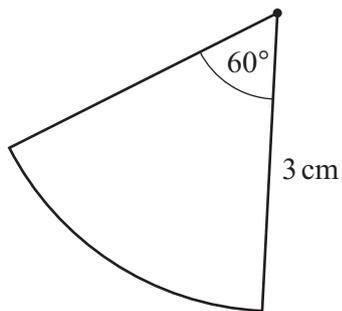
- (b) Find the value of  $y$ .

$y = \dots\dots\dots$  [3]





19

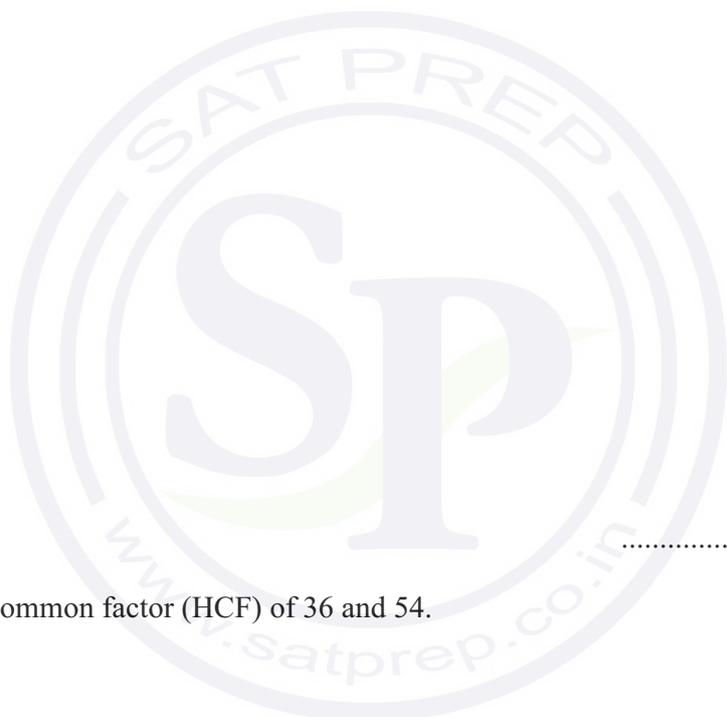


NOT TO SCALE

The diagram shows a sector of a circle with radius 3 cm and sector angle  $60^\circ$ .

Calculate the area of the sector.

Give your answer in terms of  $\pi$  in its simplest form.



.....  $\text{cm}^2$  [2]

20 Find the highest common factor (HCF) of 36 and 54.

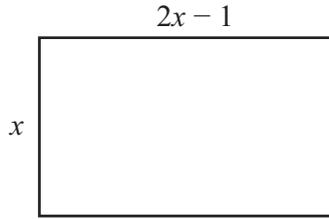
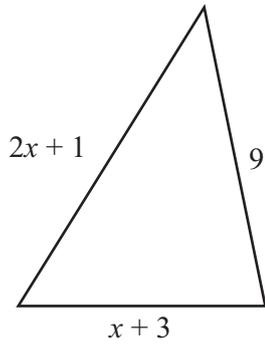
..... [2]



DO NOT WRITE IN THIS MARGIN



21 In this question, all lengths are in centimetres.



NOT TO SCALE

The perimeter of the triangle is equal to the perimeter of the rectangle.

Form an equation and solve it to find the value of  $x$ .



$x = \dots\dots\dots$  [4]

22  $g = \frac{h}{3} - 8$

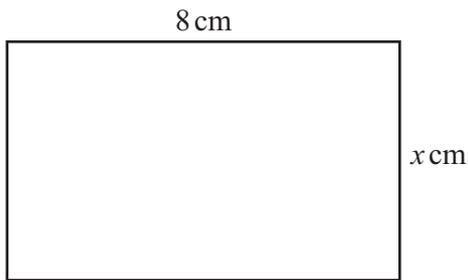
Rearrange the formula to make  $h$  the subject.

$h = \dots\dots\dots$  [2]

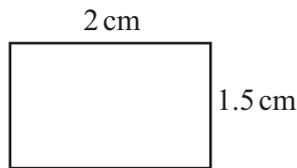




23



Rectangle *A*



Rectangle *B*

NOT TO SCALE

Rectangle *A* is mathematically similar to rectangle *B*.

Work out the value of *x*.

*x* = ..... [2]

24 Work out  $3\frac{1}{2} - 1\frac{4}{7}$ .

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

..... [3]



DO NOT WRITE IN THIS MARGIN



25 Solve the simultaneous equations.

$$8x + 5y = 4$$

$$2x - y = 10$$



$x =$  .....

$y =$  .....

[3]





DO NOT WRITE IN THIS MARGIN





DO NOT WRITE IN THIS MARGIN

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.





# Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



## MATHEMATICS

0580/12

Paper 1 Non-calculator (Core)

February/March 2025

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 **20** pages. Any blank pages are indicated.

**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 Write the number twenty thousand in figures.

..... [1]

2 Write 0.07

(a) as a percentage

..... % [1]

(b) as a fraction

..... [1]

(c) in standard form.

..... [1]

3 Write down all the factors of 18.

..... [2]

4 Find the value of

(a)  $10^3$

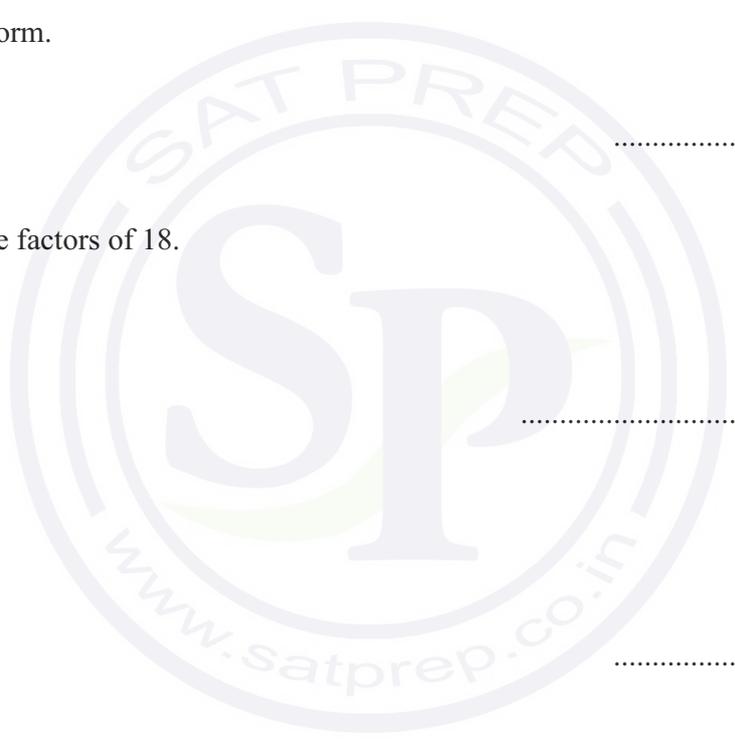
..... [1]

(b)  $\sqrt[3]{27}$

..... [1]

(c)  $7^0$ .

..... [1]



DO NOT WRITE IN THIS MARGIN

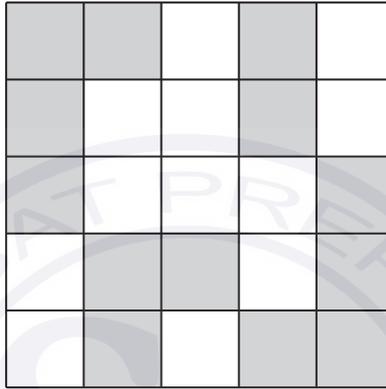


5 (a) On the diagram, draw all the lines of symmetry.



[2]

(b) Shade one square so that the diagram has rotational symmetry of order 2.



[1]

6 Find the value of the reciprocal of 0.25 .

[2]





7 Work out  $-6 \times -3 + 7 \times 2$ .

..... [2]

8 Write these numbers in order, starting with the smallest.

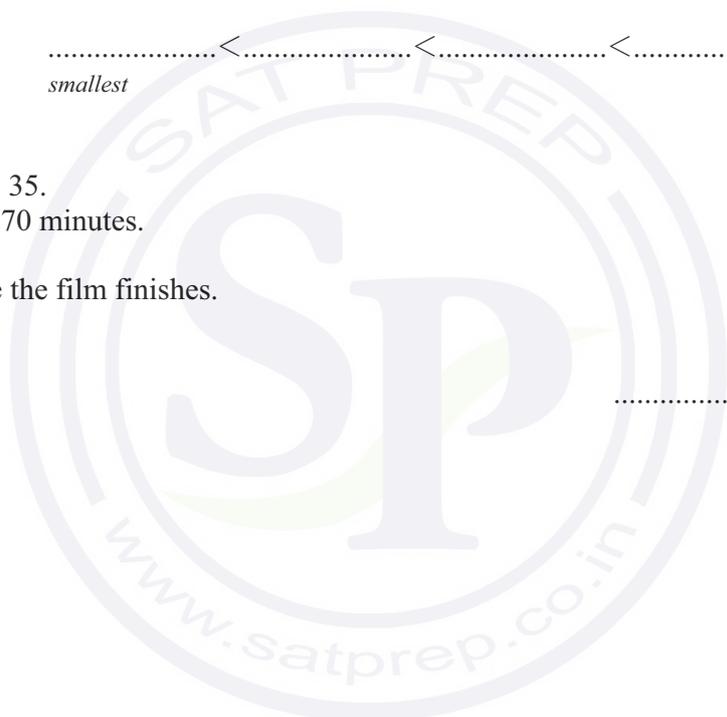
34%       $\pi$        $\frac{1}{3}$       3       $\frac{3}{10}$

..... < ..... < ..... < ..... [2]  
*smallest*

9 A film starts at 19 35.  
The film lasts for 70 minutes.

Work out the time the film finishes.

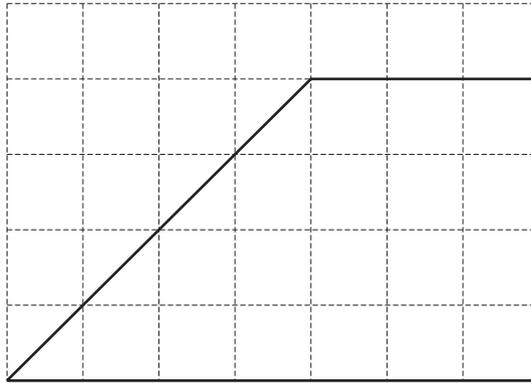
..... [1]



DO NOT WRITE IN THIS MARGIN



10 A shape is drawn on a 1 cm<sup>2</sup> grid.



(a) Find the area of the shape.

..... cm<sup>2</sup> [1]

(b) On the grid, shade 50% of the shape.

[1]

11

19.5 × 20.4 = 397.8

Work out.

(a) 1.95 × 2.04

..... [1]

(b) 3978 ÷ 204

..... [1]





- 12 (a) Kat has a method for finding the difference between two square numbers,  $a^2 - b^2$ . Her method is  
 (the sum of  $a$  and  $b$ )  $\times$  (the difference between  $a$  and  $b$ ).

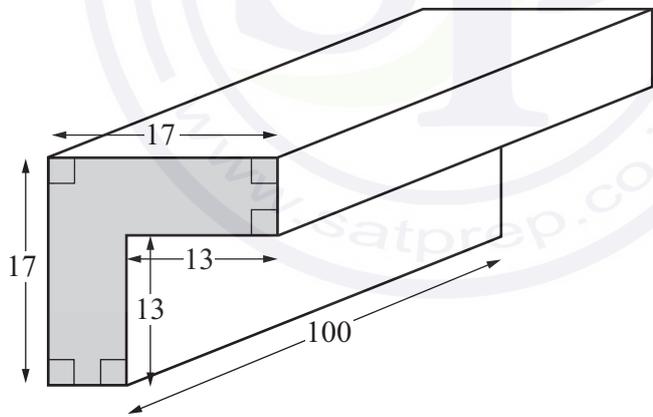
She shows her method for  $17^2 - 13^2$ .

$$\begin{aligned}
 &17^2 - 13^2 \\
 &= (17 + 13) \times (17 - 13) \\
 &= 30 \times 4 \\
 &= 120
 \end{aligned}$$

Work out  $29^2 - 21^2$  using Kat's method.

..... [2]

- (b) In this part, all lengths are in centimetres.



NOT TO SCALE

The diagram shows a prism.

Work out the volume of the prism.

.....  $\text{cm}^3$  [2]



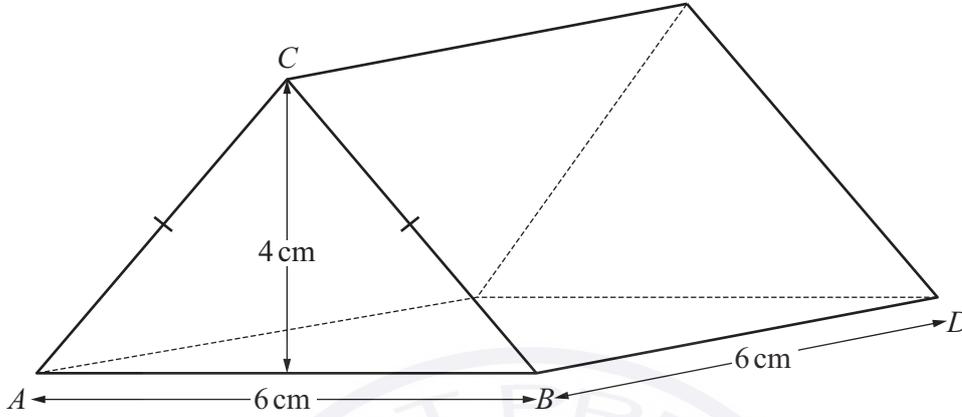
DO NOT WRITE IN THIS MARGIN



13 Convert 8 litres into  $\text{cm}^3$ .

.....  $\text{cm}^3$  [1]

14



The diagram shows a triangular prism.  
 $ABC$  is an isosceles triangle with  $AC = BC$ .  
 The perpendicular height of triangle  $ABC$  is 4 cm.  
 $AB = 6$  cm and  $BD = 6$  cm.

(a) Complete this statement.

The prism has ..... faces and ..... edges. [2]

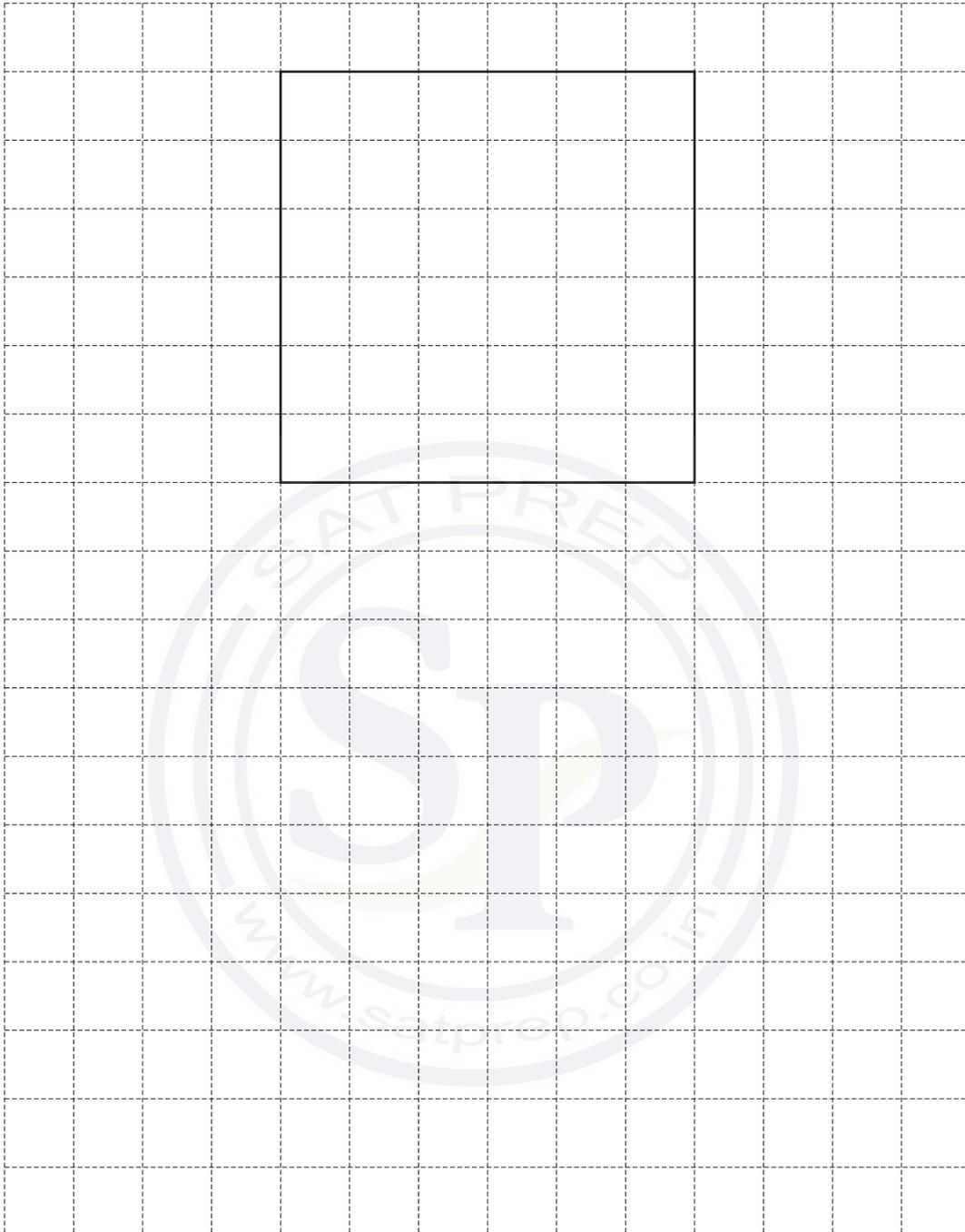
(b) Show that the length of  $BC$  is 5 cm.

[2]



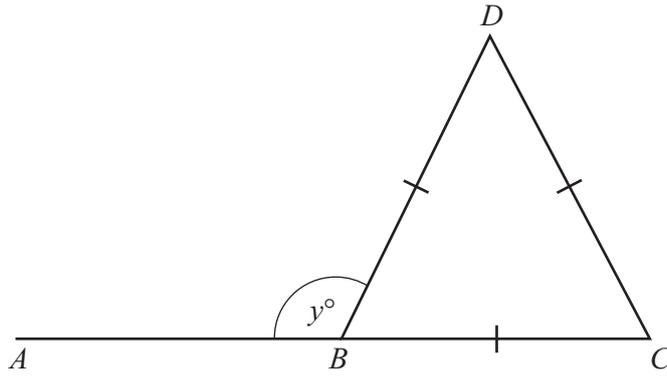


- (c) Complete the net of the prism on the  $1\text{ cm}^2$  grid.  
The base has been drawn for you.



[3]





NOT TO SCALE

The diagram shows a triangle  $BCD$  and a straight line  $ABC$ .  
 $DB=DC=BC$ .

(a) Write down the mathematical name for triangle  $BCD$ .

..... [1]

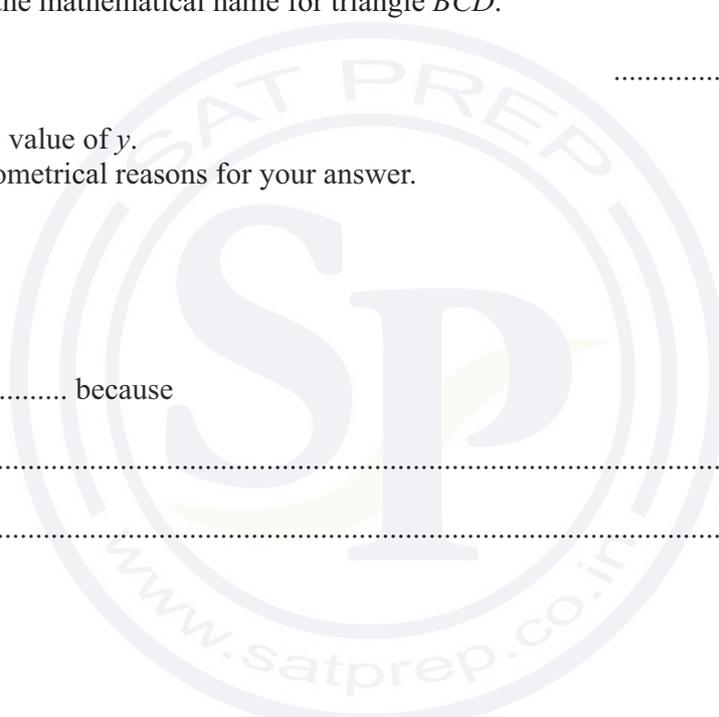
(b) Work out the value of  $y$ .  
Give two geometrical reasons for your answer.

$y =$  ..... because

1. ....

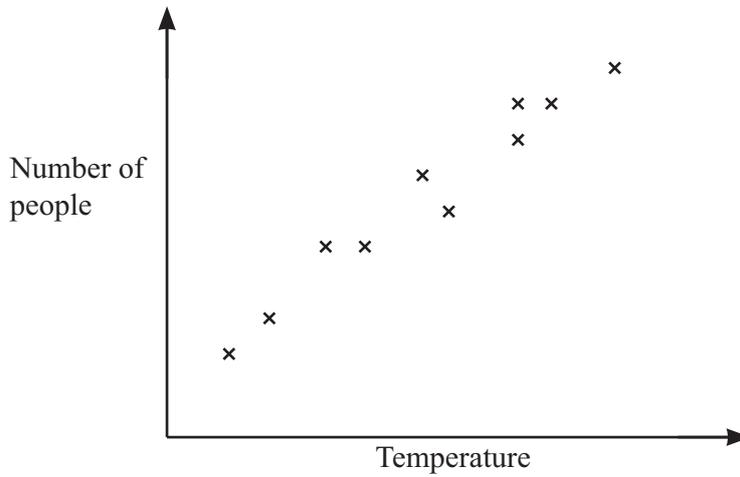
2. ....

[4]





- 16 Jill records the temperature and the number of people on a beach for each of ten days. The results are shown in the scatter diagram.

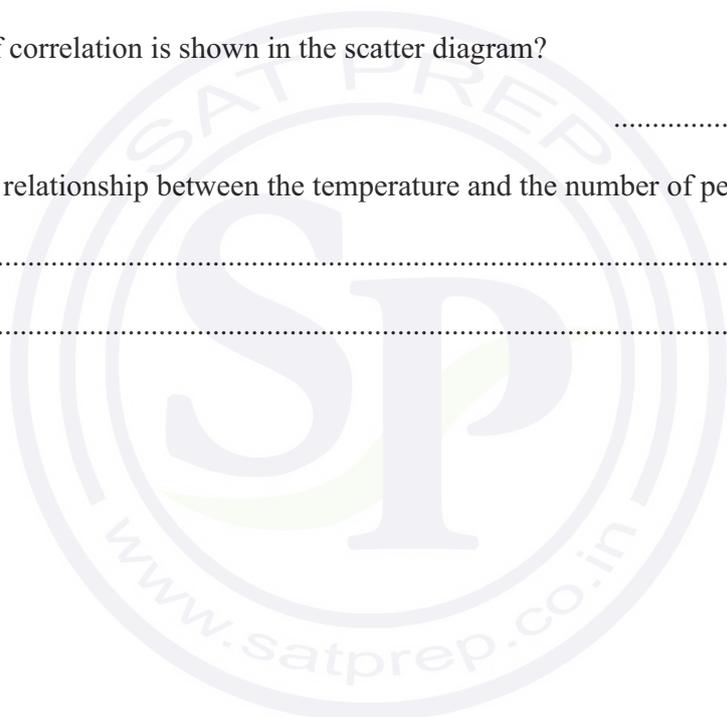


- (a) What type of correlation is shown in the scatter diagram?

..... [1]

- (b) Describe the relationship between the temperature and the number of people on the beach.

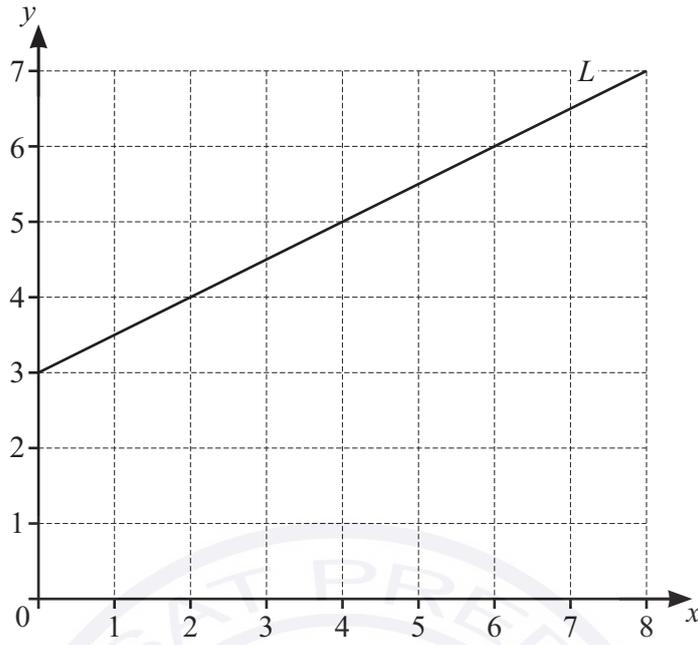
.....  
 ..... [1]



DO NOT WRITE IN THIS MARGIN



17 Line  $L$  is shown on the grid.



(a) Find the equation of line  $L$  in the form  $y = mx + c$ .

$y = \dots\dots\dots$  [2]

(b) Line  $L$  crosses the  $x$ -axis at  $P$ .

Find the coordinates of  $P$ .

( $\dots\dots\dots$ ,  $\dots\dots\dots$ ) [2]



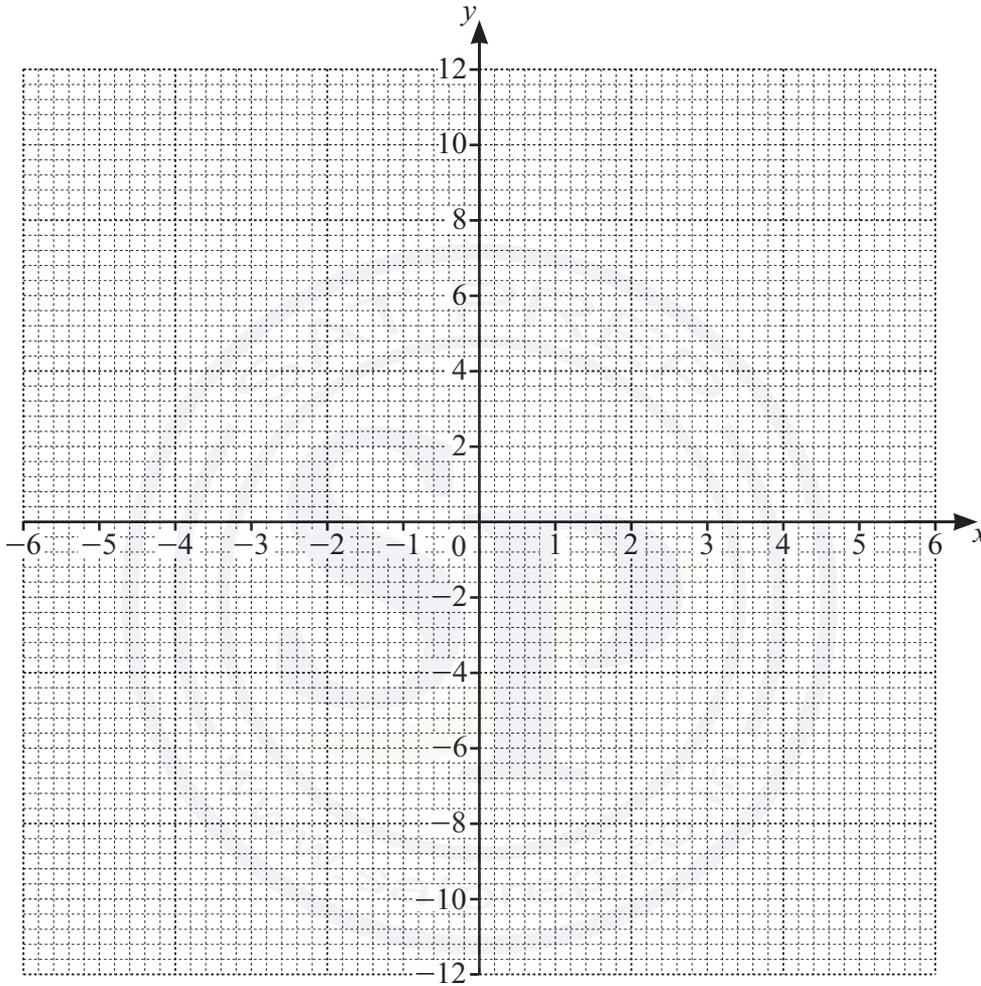


18 (a) Complete the table of values for  $y = \frac{12}{x}$ .

$x$	-6	-4	-3	-2	-1		1	2	3	4	6
$y$		-3		-6				6		3	

[3]

(b) On the grid, draw the graph of  $y = \frac{12}{x}$  for  $-6 \leq x \leq -1$  and  $1 \leq x \leq 6$ .



[4]

(c) On the grid, draw the line  $y = -9$ .

[1]

(d) Use your graph to solve  $\frac{12}{x} = -9$ .

$x = \dots\dots\dots$  [1]



DO NOT WRITE IN THIS MARGIN

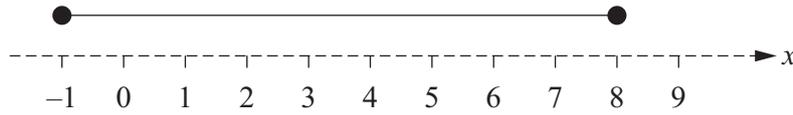


19 (a)  $n$  is an **odd** number.

Write down the values of  $n$  that satisfy  $7 < n \leq 15$ .

..... [2]

(b)



Pip thinks  $-1 < x < 8$  is the inequality represented on the number line.

Complete the statement.

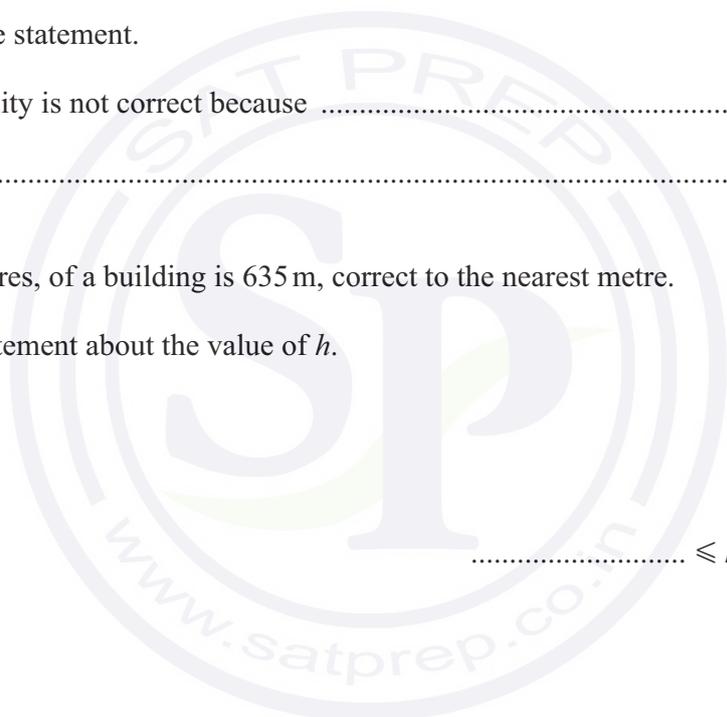
Pip's inequality is not correct because .....

..... [1]

20 The height,  $h$  metres, of a building is 635 m, correct to the nearest metre.

Complete this statement about the value of  $h$ .

.....  $\leq h <$  ..... [2]





21

$$X = \frac{1}{3}w^2p$$

(a) Find the value of  $X$  when  $w = 5$  and  $p = 6$ .

$X = \dots\dots\dots$  [2]

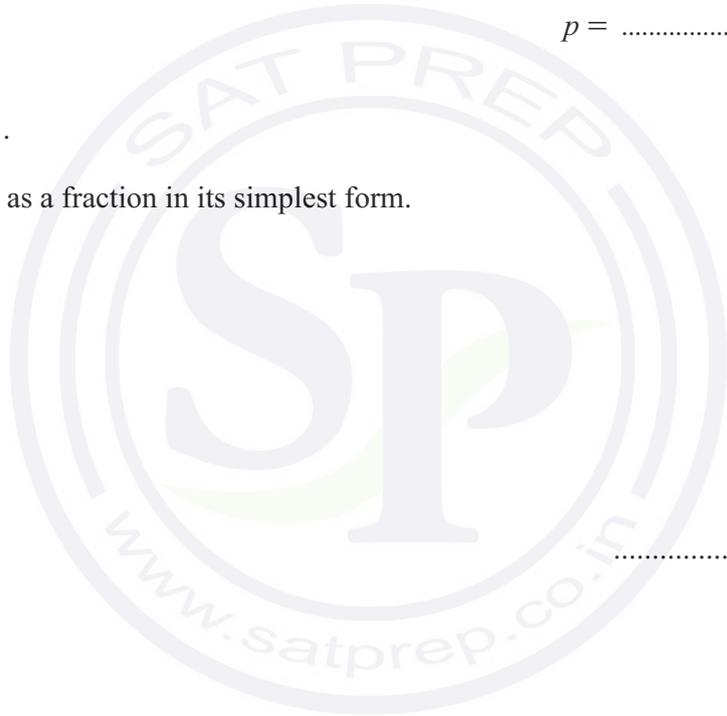
(b) Make  $p$  the subject of the formula.

$p = \dots\dots\dots$  [2]

22 Work out  $1\frac{7}{15} - \frac{4}{5}$ .

Give your answer as a fraction in its simplest form.

$\dots\dots\dots$  [3]



DO NOT WRITE IN THIS MARGIN



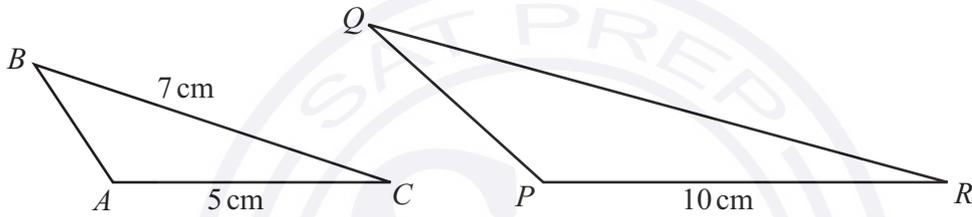


- 24 A circle has radius 7 cm.  
 A square has side  $x$  cm.  
 The circumference of the circle is the same length as the perimeter of the square.

Find the value of  $x$ .  
 Give your answer in terms of  $\pi$ .

$x = \dots\dots\dots$  [3]

25



Triangle  $ABC$  is mathematically similar to triangle  $PQR$ .

Show that  $QR = 14$  cm.

[1]



DO NOT WRITE IN THIS MARGIN

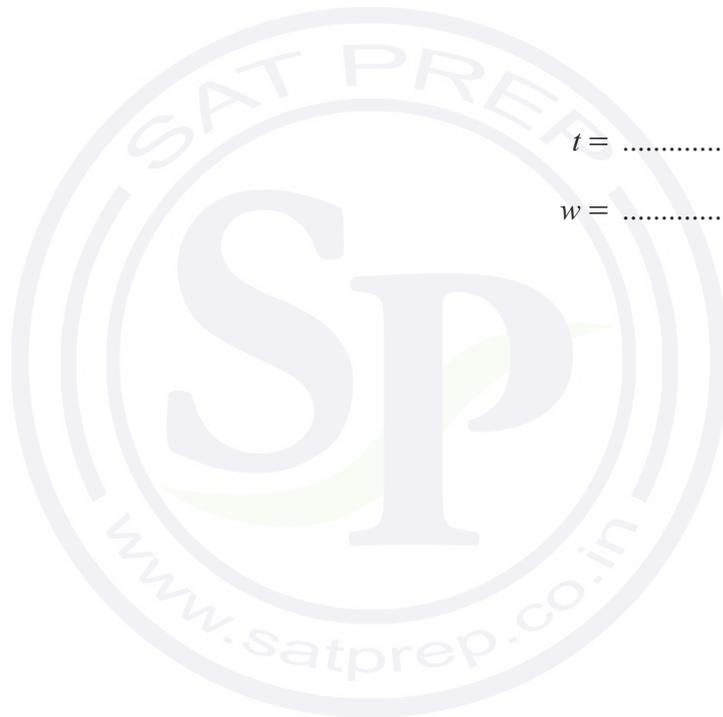


26 Solve the simultaneous equations.

$$\begin{aligned} 4t - 3w &= 11 \\ 6t + 2w &= -3 \end{aligned}$$

$t =$  .....

$w =$  ..... [4]



DO NOT WRITE IN THIS MARGIN





DO NOT WRITE IN THIS MARGIN





**BLANK PAGE**



DO NOT WRITE IN THIS MARGIN

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

