Cambridge Assessment International Education

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.

© UCLES 2025

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

© UCLES 2025

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

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

View solution

..... [1]

2 Tom buys 2 books costing \$8.20 each.

View solution

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

\$ ..... [2]

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

View solution

..... [1]

(b) Write 5.073 correct to 1 decimal place.

View solution

..... [1]

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

View solution

..... [1]

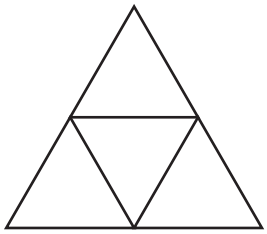
(b) Work out the value of 5^3.

View solution

..... [1]

© UCLES 2025

5 The diagram is made from equilateral triangles.



View solution

(a) On the diagram, draw all the lines of symmetry. [2]

(b) Write down the order of rotational symmetry.

View solution

..... [1]

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

View solution

..... [1]

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

View solution

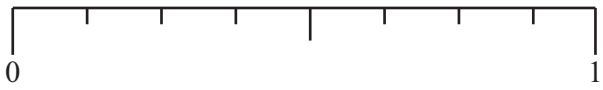
..... % [1]

(c) Write 143% as a decimal.

..... [1]

View solution

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 (↓) to show the probability that the number is

View solution

(a) an even number, label the arrow A [1]

View solution

(b) 9, label the arrow B [1]

(c) less than 3, label the arrow C. [1]

View solution

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

View solution

Find all the values for n.

..... [3]

9 The temperature at midday on Monday is –3 °C.
The temperature at 10 pm on Monday is –15 °C.

View solution

(a) Calculate the difference between these two temperatures.

..... °C [1]

(b) The temperature at midday on Tuesday is 23 °C higher than the temperature at 10 pm on Monday.

View solution

Calculate the temperature at midday on Tuesday.

..... °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.

View solution

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.

View solution

..... [1]

(b) Find the mode.

View solution

..... [1]

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

View solution

..... % [2]

(d) **(i)** Find the median.

View solution

..... [1]

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

View solution

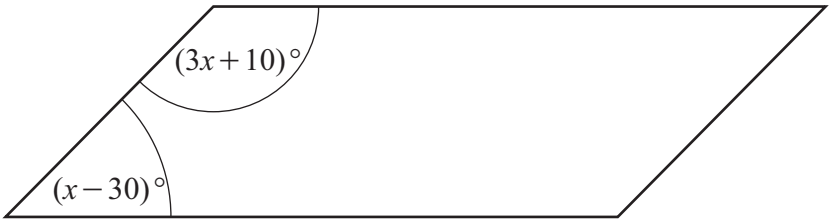
Will the median increase or decrease?
Give a reason for your answer.

..... because .....

..... [1]

© UCLES 2025

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.

View solution

$x =$ ..... [4]

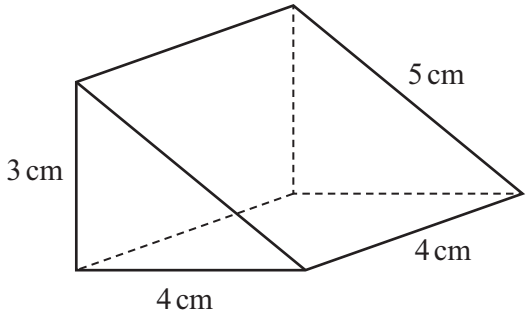
(b) Find the value of the largest angle in this parallelogram.

View solution

..... [1]

13

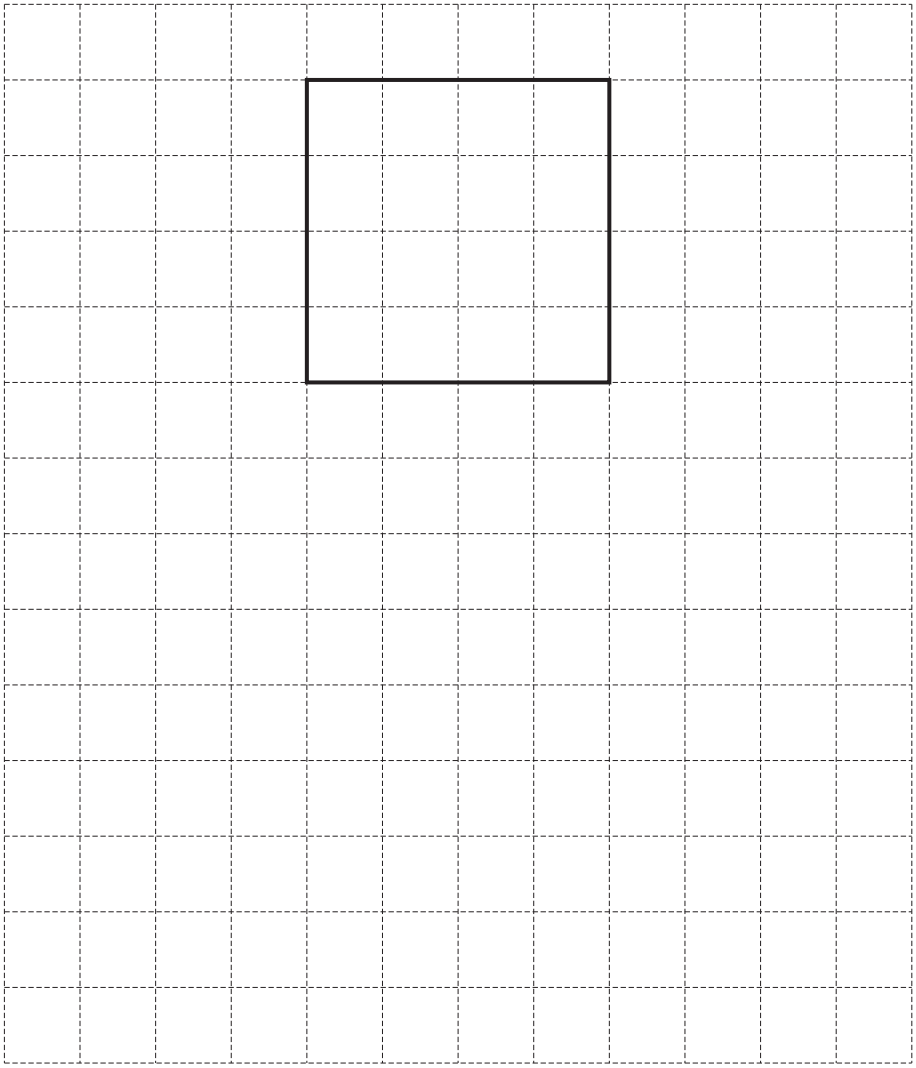
View solution



NOT TO SCALE

The diagram shows a right-angled triangular prism.

Complete the net of this prism on the 1 cm^2 grid.
One face has been drawn for you.

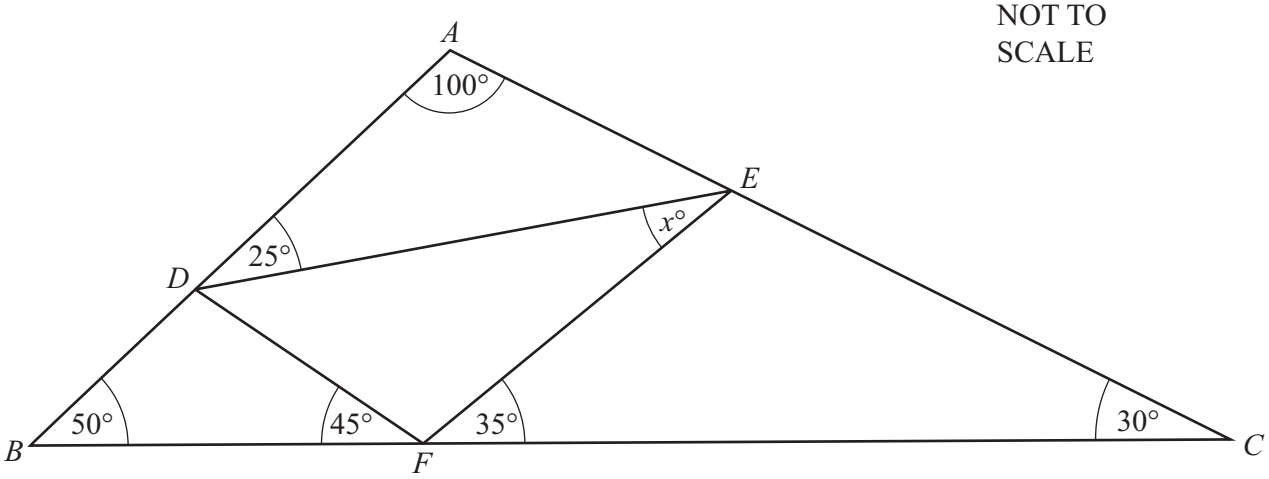


[3]

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

View solution

NOT TO SCALE



Find the value of x.

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

View solution

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

Find the value of n.

$n =$ ..... [3]

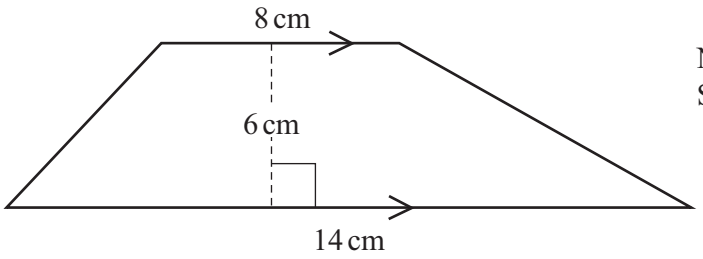
View solution

16 9.857×10^{-2} 3.5×10^{2} 1.54×10^{1} 6.5×10^{-2}

Write these numbers in order, starting with the smallest.

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

17



NOT TO SCALE

View solution

Calculate the area of this trapezium.

..... cm^2 [2]

18 Work out.

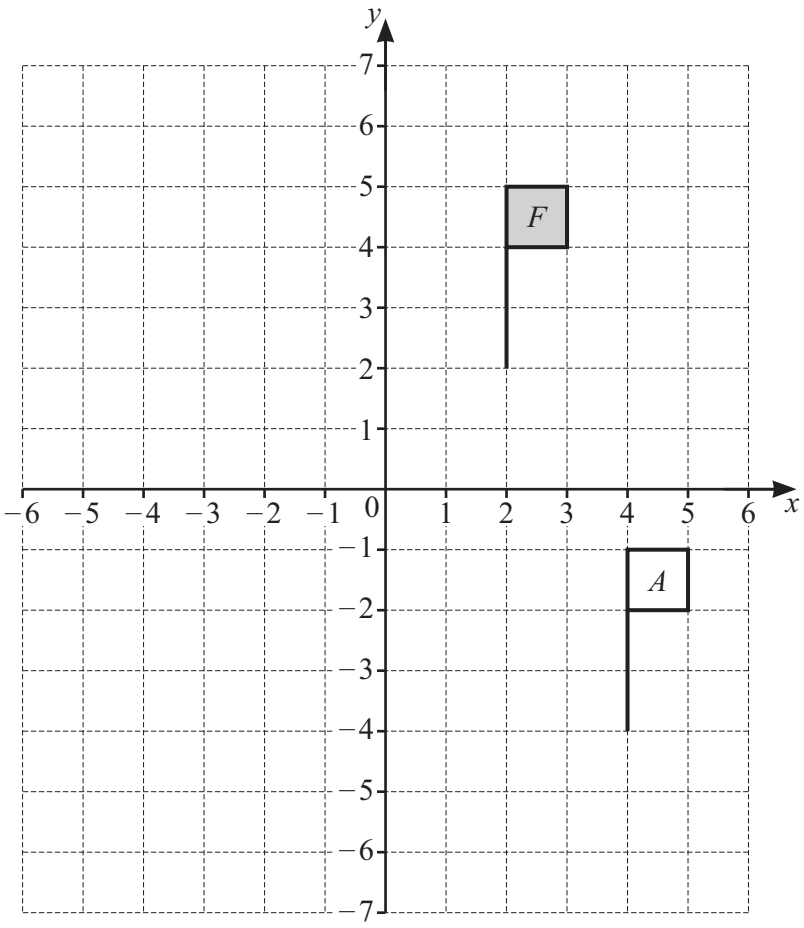
View solution

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

Write your answer as a fraction in its simplest form.

..... [3]

19 The grid shows two flags, F and A.



View solution

(a) On the grid, draw the image of flag F after a reflection in the line $x = -1$. [2]

View solution

(b) On the grid, draw the image of flag F after a rotation of 180° about (0, 0). [2]

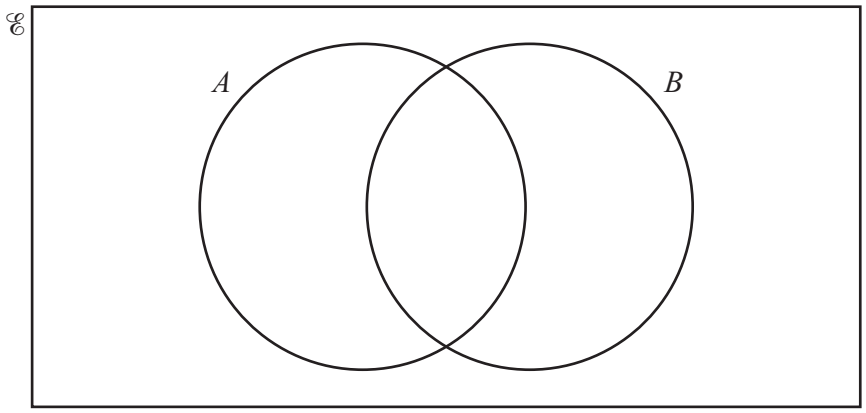
(c) Describe fully the **single** transformation that maps flag F onto flag A.

View solution

.....

..... [2]

20 $\mathscr{E} = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
$A = \{1, 3, 5, 7, 9\}$
$B = \{1, 3, 6, 10\}$



View solution

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

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

View solution

..... [1]

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

View solution

..... [1]

View solution

21 Simplify.

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

..... [2]

View solution

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

..... [2]

© UCLES 2025

23 There are two charges for crossing a bridge.

View solution

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.

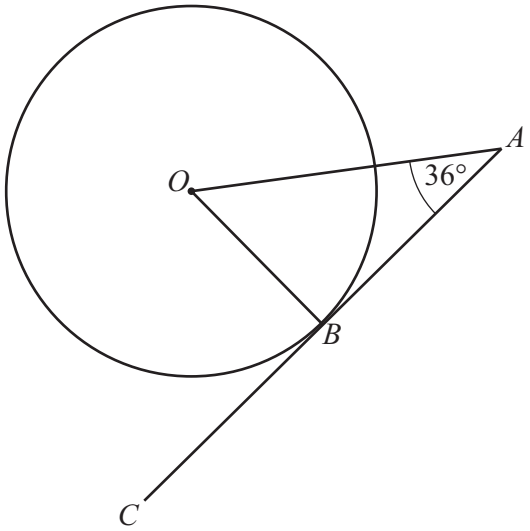
Write down two equations and solve them to find the value of a and the value of b.

$a =$ .....

$b =$ .....

[6]

24



NOT TO SCALE

View solution

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

Work out the size of angle AOB.

Angle $AOB =$ ..... [1]

View solution

25 **(a)** Expand and simplify.

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

..... [2]

(b) Factorise.

View solution

$$5x^3 + 10x$$

..... [2]

© UCLES 2025

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.

View solution

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

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

View solution

2 8 14 20

Find the nth term of this sequence.

..... [2]

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

View solution

Find the first three terms of this sequence.

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

© UCLES 2025

BLANK PAGE

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 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.

© UCLES 2025