



# Cambridge IGCSE™

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## MATHEMATICS

**0580/13**

## Paper 1 Non-calculator (Core)

May/June 2026

**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. Do **not** use correction fluid or tape.
- 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.

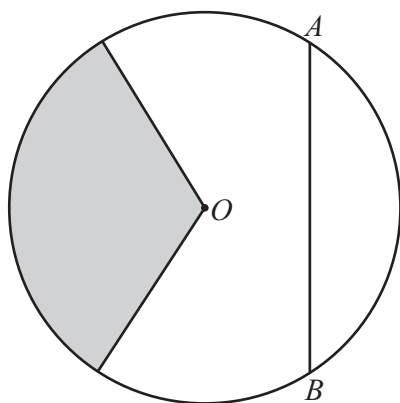
- 1 Write down the number that is 1 more than 4 999 499.

..... [1]

- 2 Write the number 707 700 in words.

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

3



$A$  and  $B$  are points on the circumference of a circle, centre  $O$ .

Write down the mathematical name for

- (a) the line  $AB$

..... [1]

- (b) the shaded region.

..... [1]



- 4 A car hire company uses this formula to work out the hire cost, in dollars.

$$\text{cost} = \text{fixed charge} + \text{rate per day} \times \text{number of days}$$

Find the cost of hiring a car for 7 days when the fixed charge is \$140 and the rate per day is \$30.

\$..... [2]

- 5 Sam takes 75 minutes to make a cake.

The time taken to make the cake is in the ratio preparing : cooking : decorating = 6 : 10 : 9.

- (a) Work out the number of minutes Sam takes to decorate the cake.

..... min [2]

- (b) Sam starts making the cake at 12 42.

Find the time Sam finishes making the cake.

..... [1]



- 6 A book has 420 pages.  
Meg reads 14 pages each day.  
Meg has read  $\frac{1}{3}$  of the number of pages so far.

Find how many days it will take Meg to finish reading the rest of the book.

..... [3]

- 7 Raj records the temperature, in  $^{\circ}\text{C}$ , at midday for each of 8 days.  
These are the results.

1, 10, 8, -3, -2, 10, 7, 9

- (a) Calculate the mean.

.....  $^{\circ}\text{C}$  [2]

- (b) Find the median.

.....  $^{\circ}\text{C}$  [2]

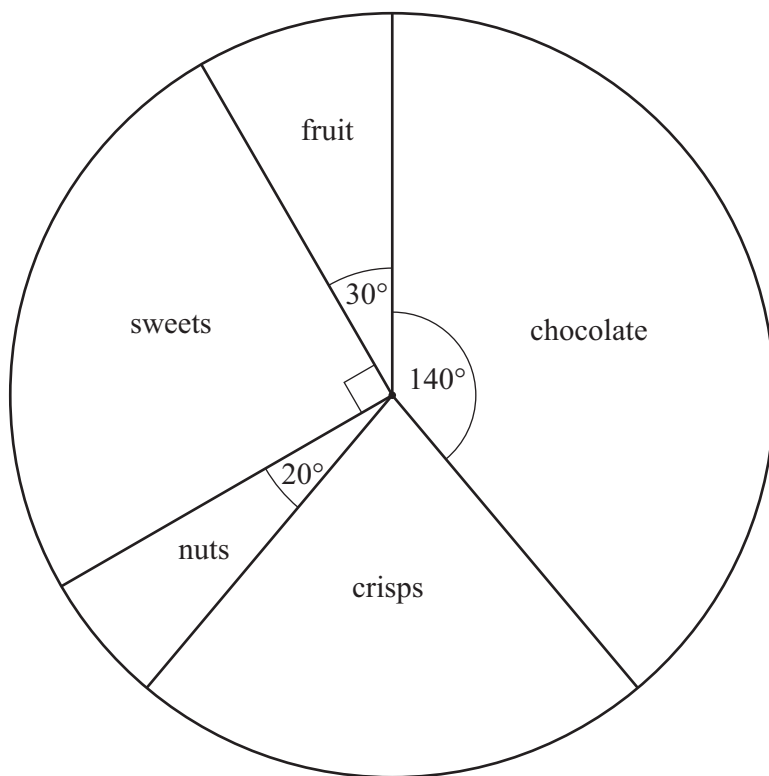
- (c) When another temperature is recorded, the range increases by 5.

Find the two possible values of this temperature.

.....  $^{\circ}\text{C}$  or .....  $^{\circ}\text{C}$  [2]



- 8 Ben asks some children to choose their favourite type of snack. The pie chart shows the results.



- (a) Measure the sector angle for crisps.

..... [1]

- (b) Find the fraction of the children who chose chocolate. Give your answer in its simplest form.

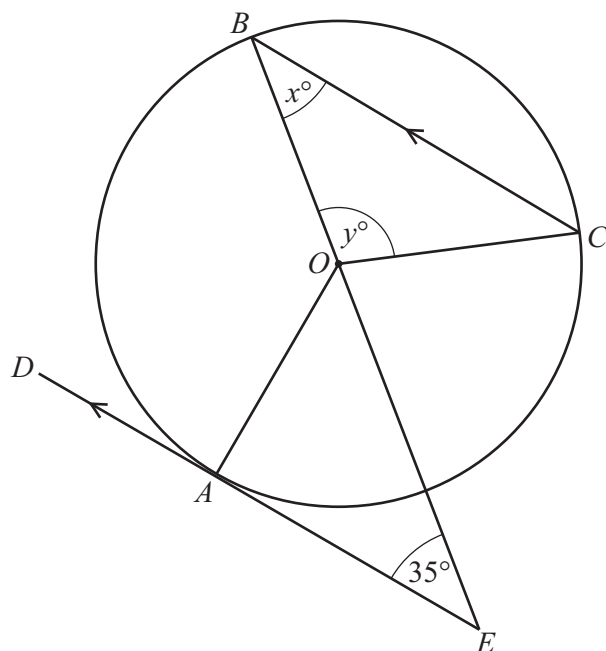
..... [2]

- (c) 8 more children chose fruit than those who chose nuts.

Work out the number of children who chose fruit.

..... [2]





NOT TO SCALE

$A$ ,  $B$  and  $C$  are points on the circumference of the circle, centre  $O$ .

$DAE$  is a tangent to the circle at  $A$ .

$DE$  is parallel to  $BC$ .

$BOE$  is a straight line.

(a) Write down the two geometrical reasons to explain why angle  $AOE = 55^\circ$ .

1 .....

2 ..... [2]

(b) Find the value of  $x$ .

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

(c) Find the value of  $y$ .

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

10  $K = 2x + \sqrt{y}$

Find the value of  $K$  when  $x = 5$  and  $y = 169$ .

$K = \dots\dots\dots$  [2]

11  $\frac{2}{5}$  of the area of a shape is blue,  $\frac{3}{7}$  is green and the rest is red.

(a) What fraction of the shape is red?

$\dots\dots\dots$  [3]

(b)  $12 \text{ cm}^2$  of the shape is green.

Find the total area of the shape.

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

12 Factorise.

$5c - 15c^2d$

$\dots\dots\dots$  [2]

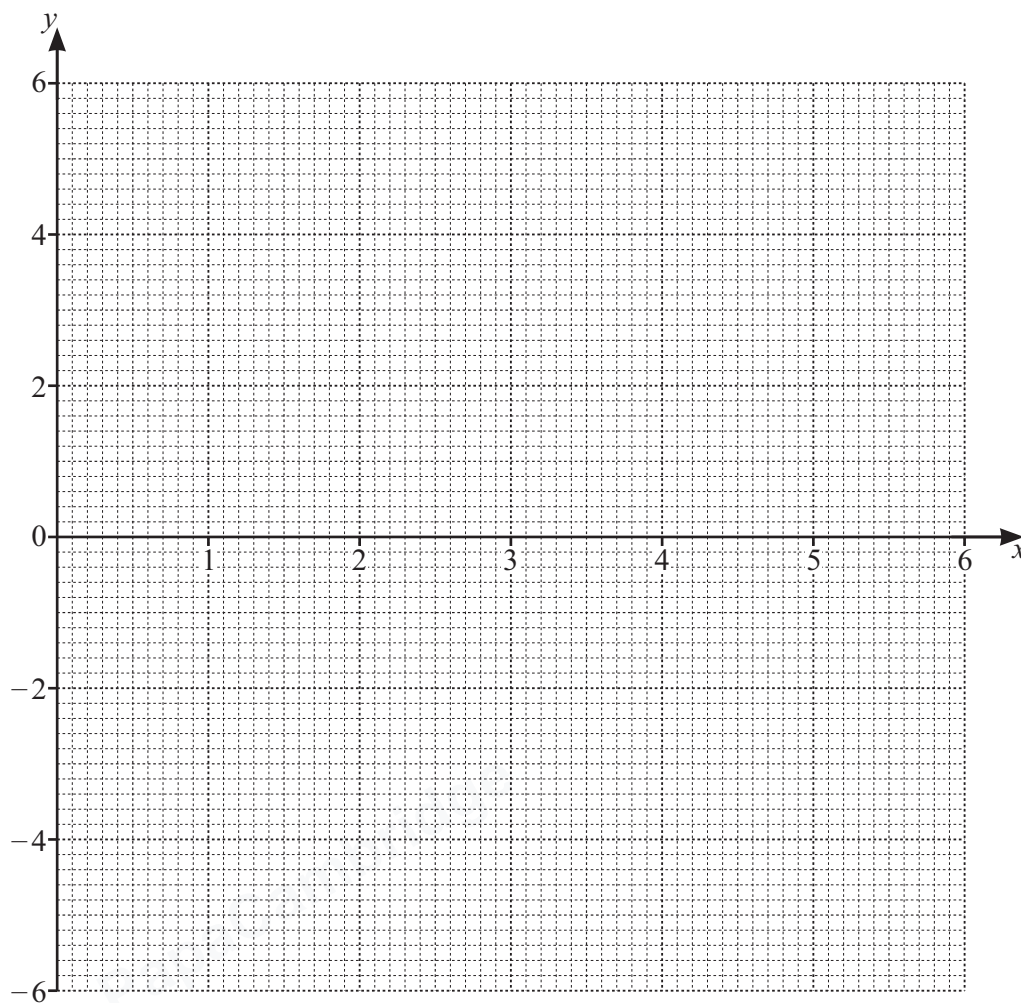


- 13 (a) Complete the table of values for  $y = 6x - x^2 - 4$ .

|     |   |   |   |   |   |   |    |
|-----|---|---|---|---|---|---|----|
| $x$ | 0 | 1 | 2 | 3 | 4 | 5 | 6  |
| $y$ |   |   |   | 5 | 4 | 1 | -4 |

[2]

- (b) On the grid, draw the graph of  $y = 6x - x^2 - 4$  for  $0 \leq x \leq 6$ .



[4]

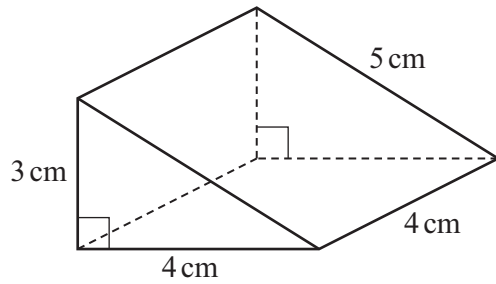
- (c) On the grid, draw the line  $y = 3$ .

[1]

- (d) Use your graph to solve  $6x - x^2 - 4 = 3$ .

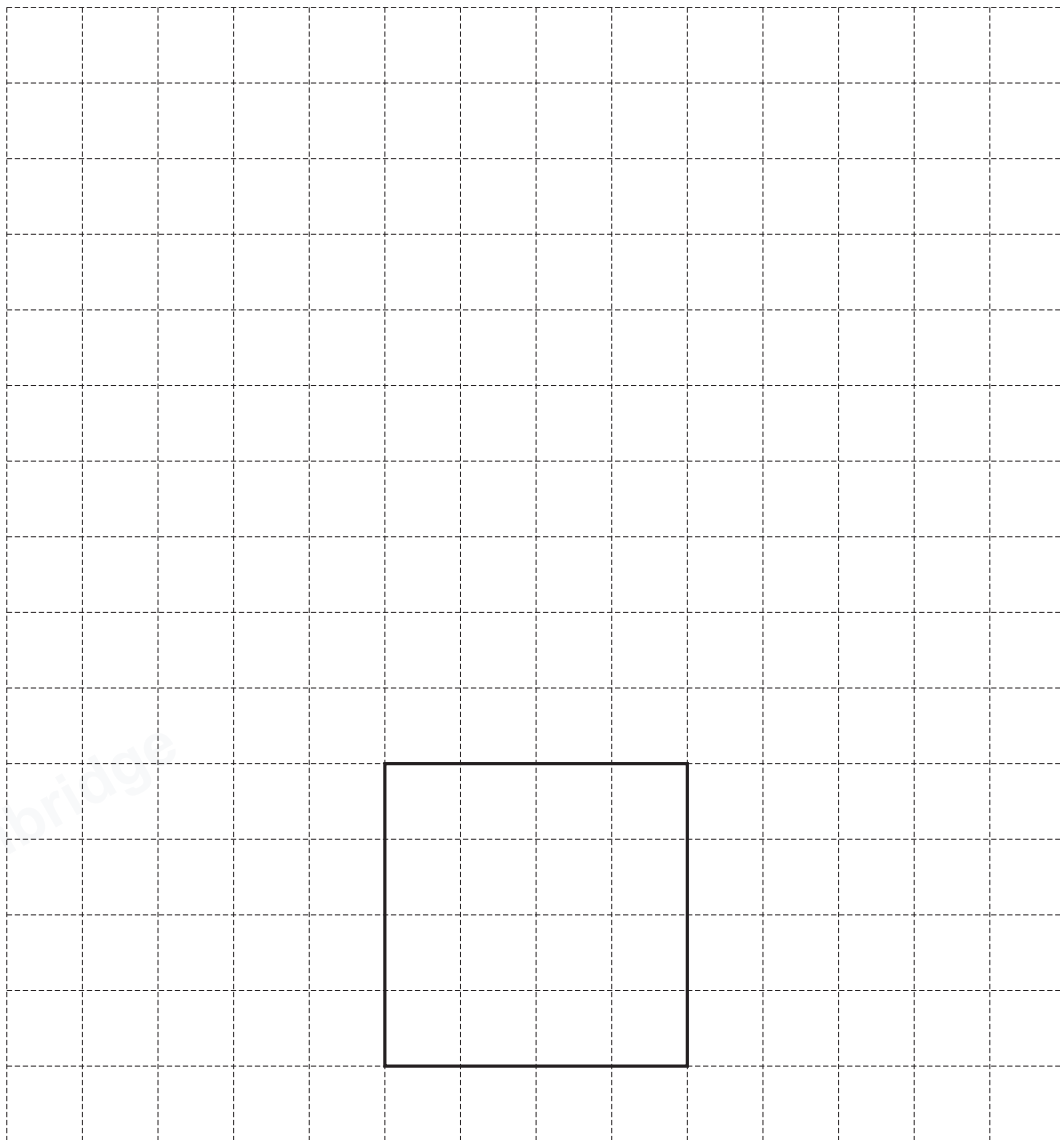
$x = \dots\dots\dots$  or  $x = \dots\dots\dots$  [2]

- 14 (a) The diagram shows a right-angled triangular prism.



NOT TO SCALE

On the  $1\text{ cm}^2$  grid, complete the net of this prism.  
One face has been drawn for you.



[3]





- (b) Find the volume of the triangular prism.

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

- 15 (a) In a restaurant the cost of a pizza is \$25.  
The restaurant reduces the cost of the pizza to \$19.

Work out the percentage decrease in the cost.

..... % [2]

- (b) In another restaurant, the cost of a pizza is \$15.  
This restaurant adds a service charge of 10% to each pizza.

Find the cost of a pizza, including the service charge.

\$..... [2]





- 16 The area of a circle is  $36\pi \text{ cm}^2$ .

Find the radius of the circle.

..... cm [2]

- 17 Convert  $850 \text{ cm}^3$  into litres.

..... litres [1]

- 18 (a) Write down the value of  $\sqrt[3]{27}$ .

..... [1]

- (b) Write  $5^{-1}$  as a decimal.

..... [2]



19 (a) Write 84 as a product of its prime factors.

..... [2]

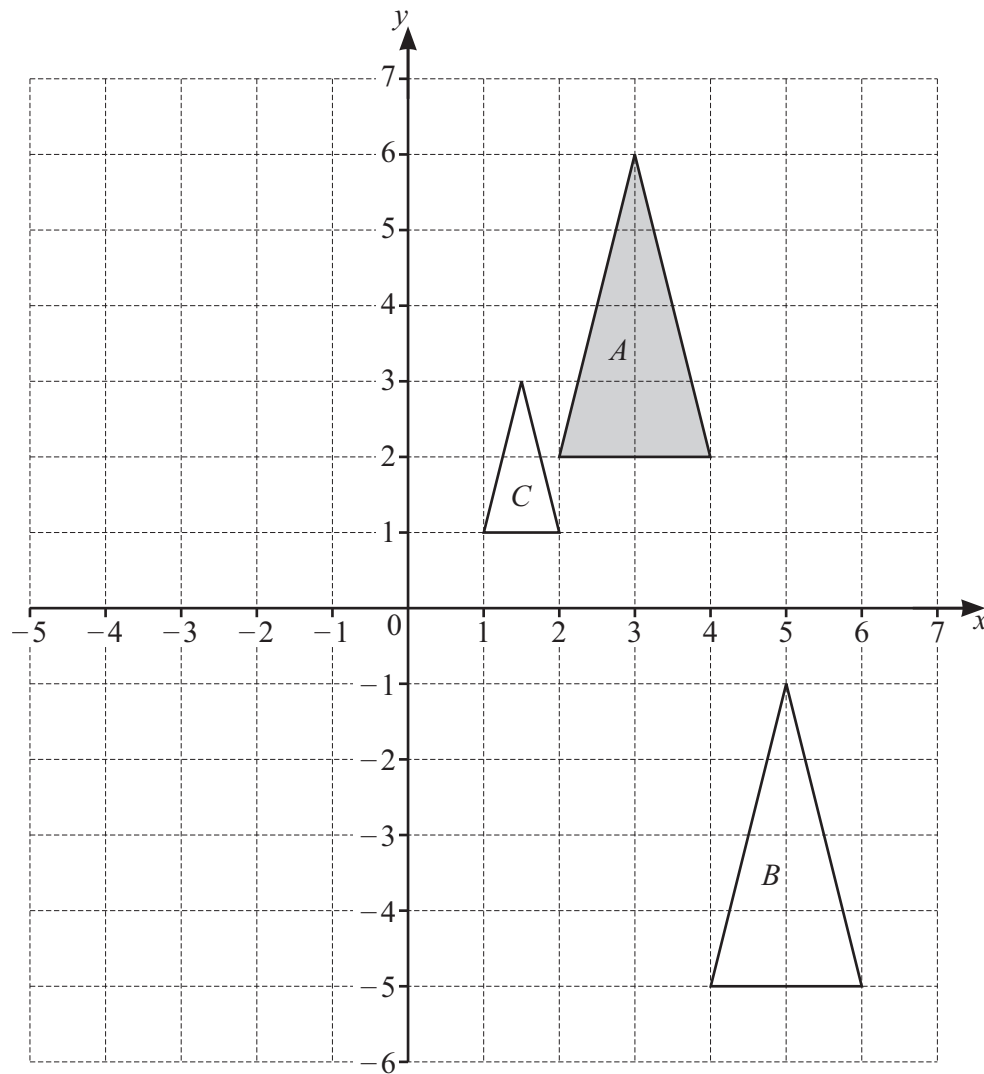
(b) 96 can be written as  $2^P \times 3$ .

Find the value of  $P$ .

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

(c) Use your answers to 19(a) and 19(b) to find the lowest common multiple (LCM) of 84 and 96.  
Leave your answer as a product of prime numbers.

..... [1]



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

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

- (b) Describe fully the **single** transformation that maps triangle *A* onto triangle *C*.

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

- (c) On the grid, draw the image of shape *A* after a rotation  $180^\circ$ , centre  $(0, 0)$ .

[2]

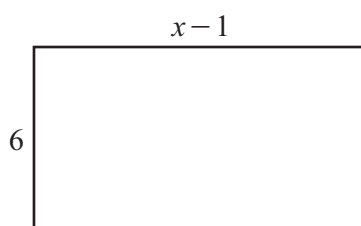


- 21 By writing each number in the calculation correct to 1 significant figure, find an estimate for the value of

$$\frac{341 \times 0.47}{9.8}.$$

..... [2]

- 22 In this question, all lengths are in centimetres.



NOT TO SCALE

The area, in  $\text{cm}^2$ , of the rectangle is  $5x + 8$ .

Write an equation to show this information and solve it to find the value of  $x$ .

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

**Question 23 is on the back page.**

23 Solve the simultaneous equations.

$$x + 5y = 9$$

$$4x + 6y = 1$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

[3]

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