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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.

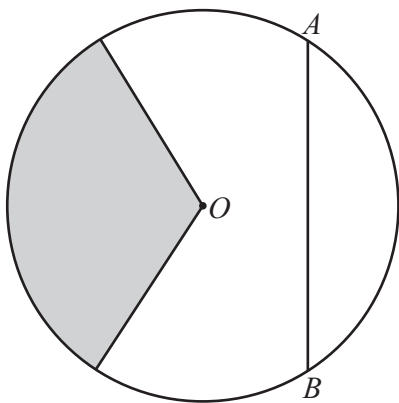
1 Write down the number that is 1 more than 4 999 499.

..... [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.

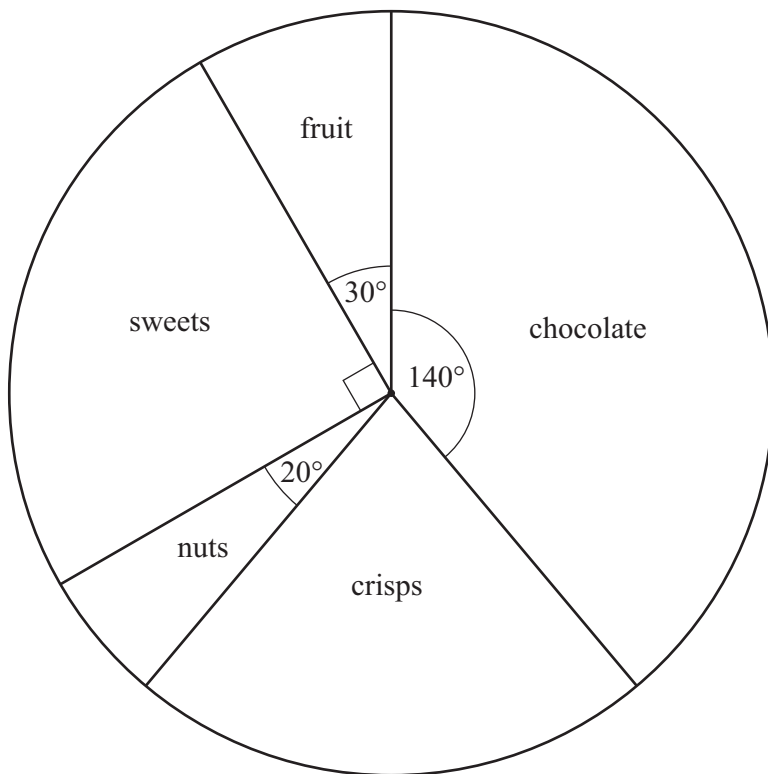
..... $^{\circ}\text{C}$ [2]

- (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]

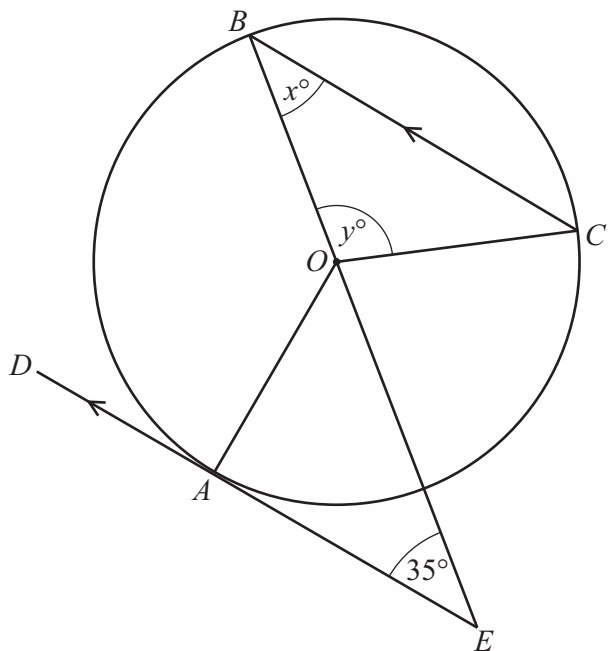
- (b) Find the fraction of the children who chose chocolate. Give your answer in its simplest form.

..... [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 cm^2 of the shape is green.

Find the total area of the shape.

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

12 Factorise.

$5c - 15c^2d$

$\dots\dots\dots [2]$



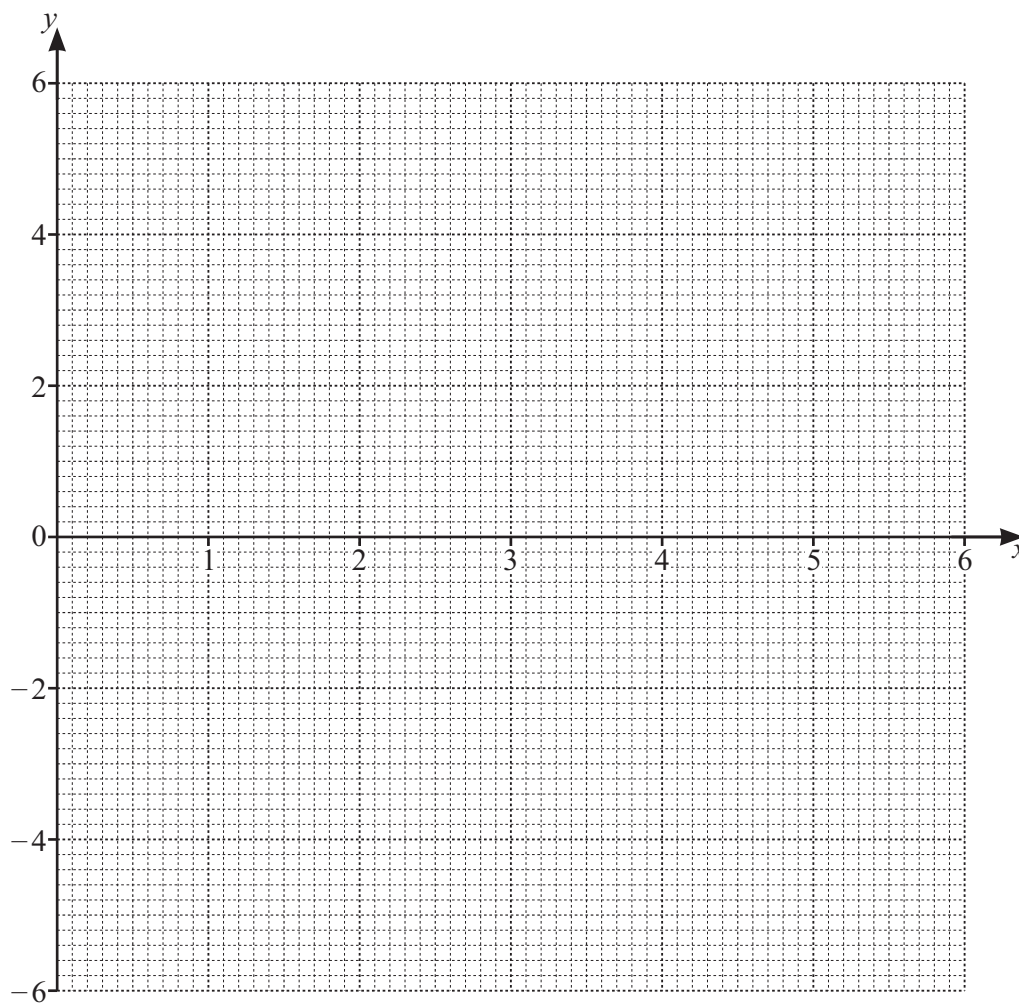
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- 13 (a) Complete the table of values for $y = 6x - x^2 - 4$.

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]

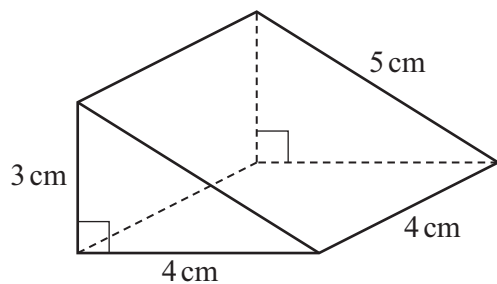
- (c) On the grid, draw the line $y = 3$.

[1]

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

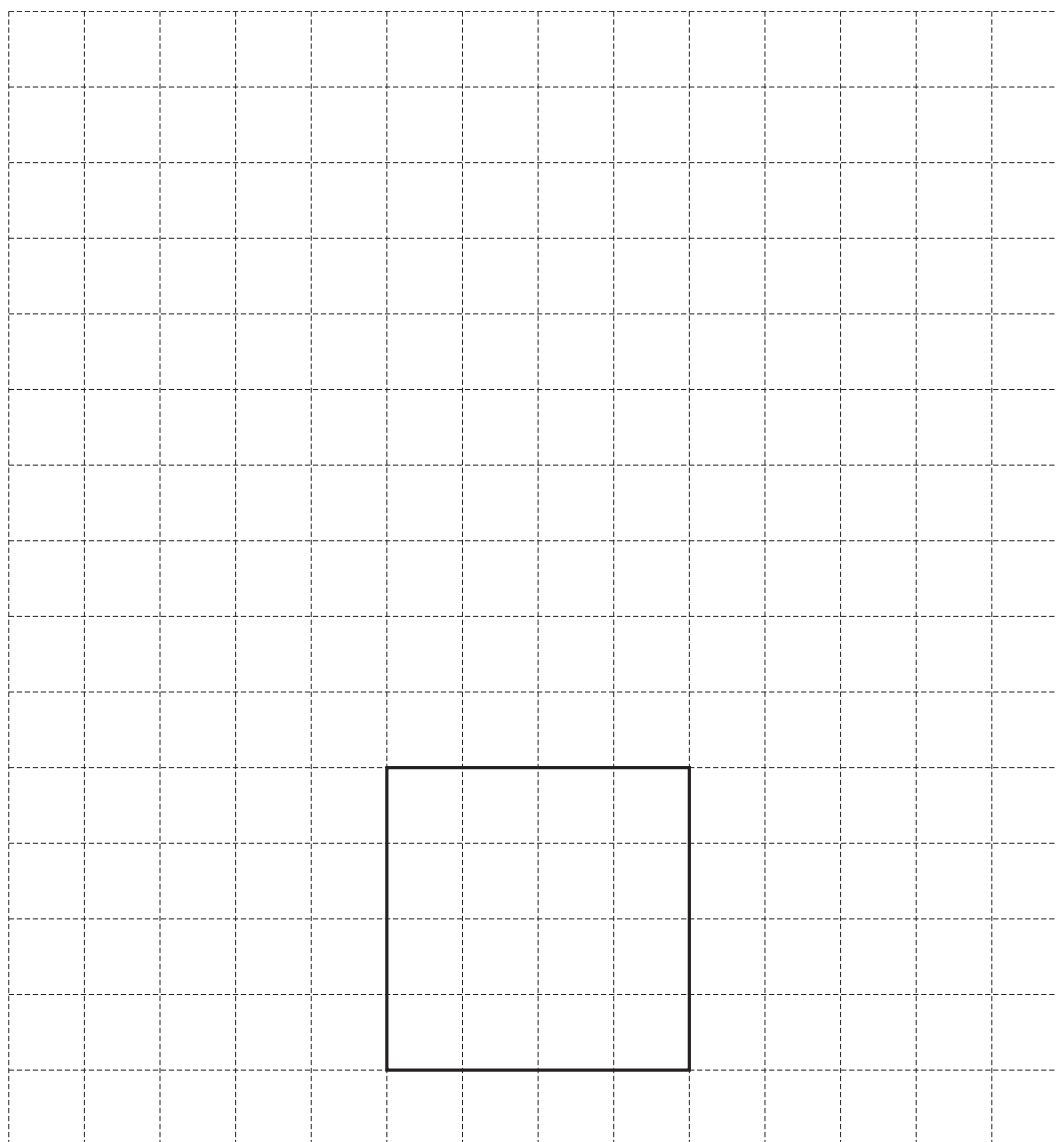
$x = \dots\dots\dots$ or $x = \dots\dots\dots$ [2]

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



NOT TO SCALE

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



[3]



DO NOT WRITE IN THIS MARGIN

(b) Find the volume of the triangular prism.

..... cm³ [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 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]

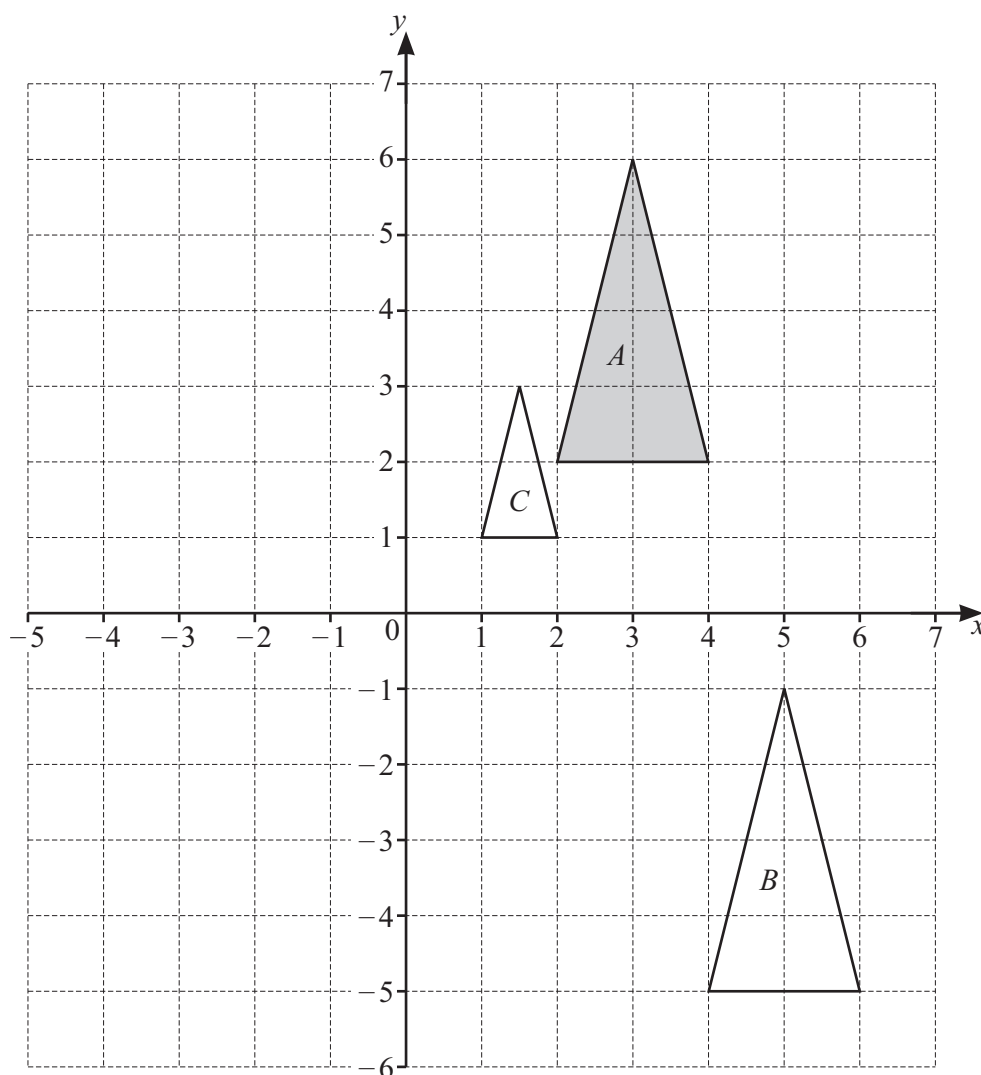
(b) 96 can be written as $2^P \times 3$.

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° , centre $(0, 0)$.

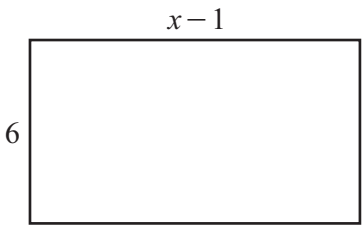
[2]

- 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 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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