



Cambridge IGCSE™

CANDIDATE
NAMECENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

MATHEMATICS

0580/31

Paper 3 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.
- You should use a scientific calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π , use either your calculator value or 3.142.

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 .

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



- 1 The table shows a shopping bill for three items.

item	cost per kg	number of kg	total
potatoes	\$2.18	3.5	\$7.63
oranges	\$1.48	6	\$
onions	\$	5.2	\$
total cost			\$29.25

Complete the table.

[3]

- 2 (a) Write $7 \times 7 \times 7 \times 7 \times 7$ as a power of 7.

..... [1]

- (b) Calculate 17.4^2 .

..... [1]

- 3 Arya changes 250 pounds into dollars.
The exchange rate is 1 pound = \$1.26 .

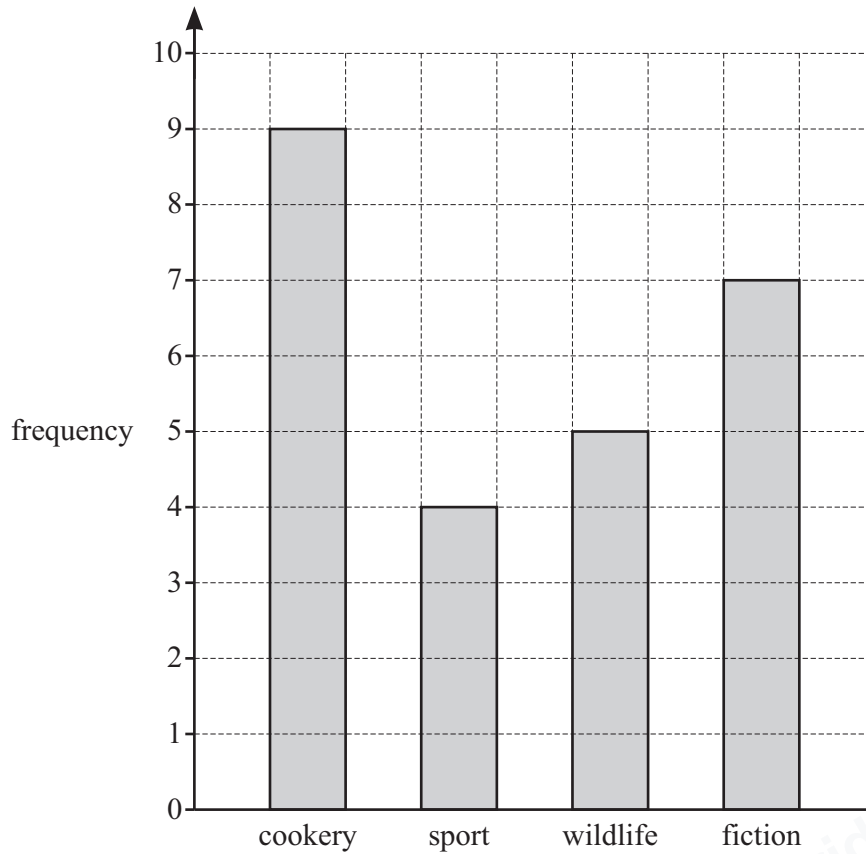
Calculate the amount that Arya receives.

\$ [1]

- 4 Find 18% of \$65.

\$ [1]

- 5 The bar chart shows the number of each type of book sold in a shop on one day.



Work out the percentage of books sold that are cookery.

..... % [3]

- 6 Write these numbers in order, starting with the smallest.

$$\sqrt[3]{0.1}$$

$$\frac{4}{9}$$

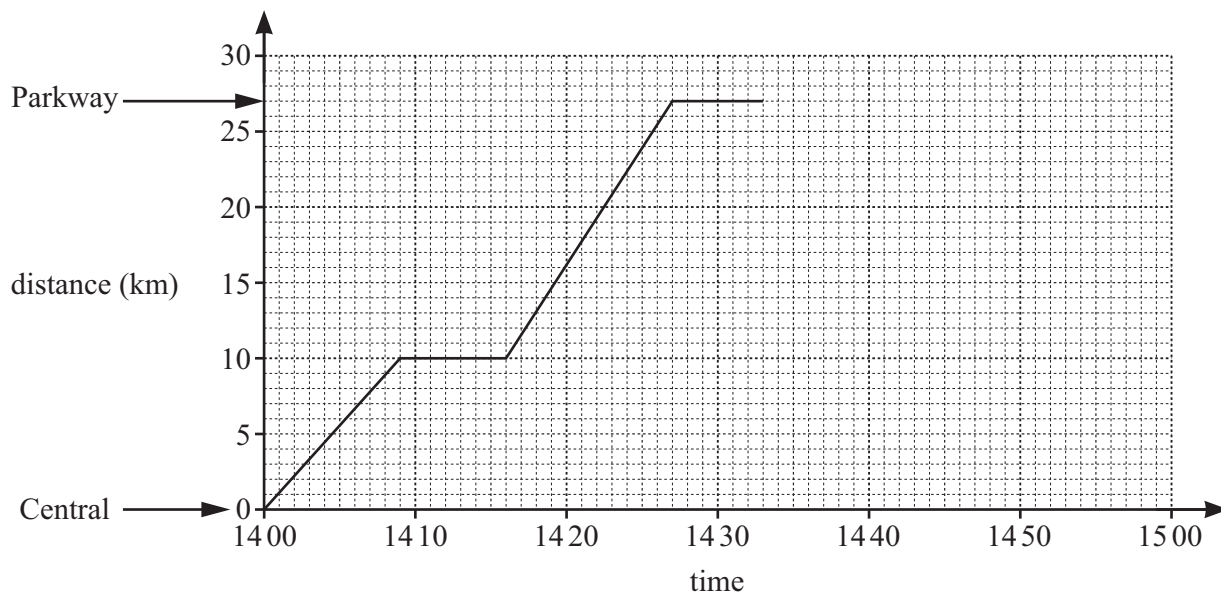
45%

0.443

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



- 7 The travel graph shows the journey of a train from Central station to Parkway station.



- (a) For how many minutes does the train stop between Central and Parkway?

..... min [1]

- (b) Write down the time the train arrives at Parkway.

..... [1]

- (c) The train leaves Parkway at 14:33 and returns to Central at a constant speed. The return journey takes 21 minutes.

Complete the graph to show this return journey.

[1]

- 8 Solve.

(a) $6 + x = 2$

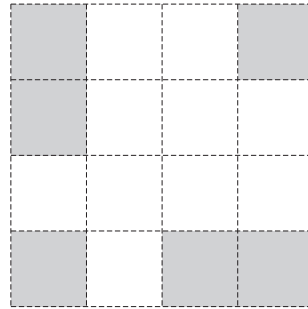
$x =$ [1]

(b) $5x + 2 = 18$

$x =$ [2]



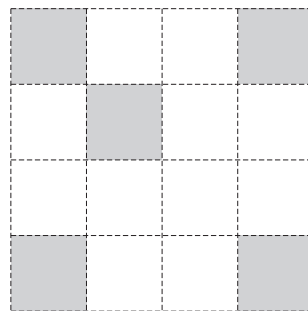
9 (a) (i)



On the diagram, draw the line of symmetry.

[1]

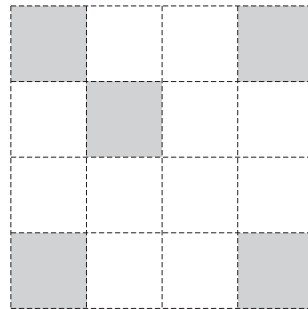
(ii)



On the diagram, shade **one** more square so that it has **one** line of symmetry.

[1]

(b)



On the diagram, shade **one** more square so that it has rotational symmetry of order 2.

[1]



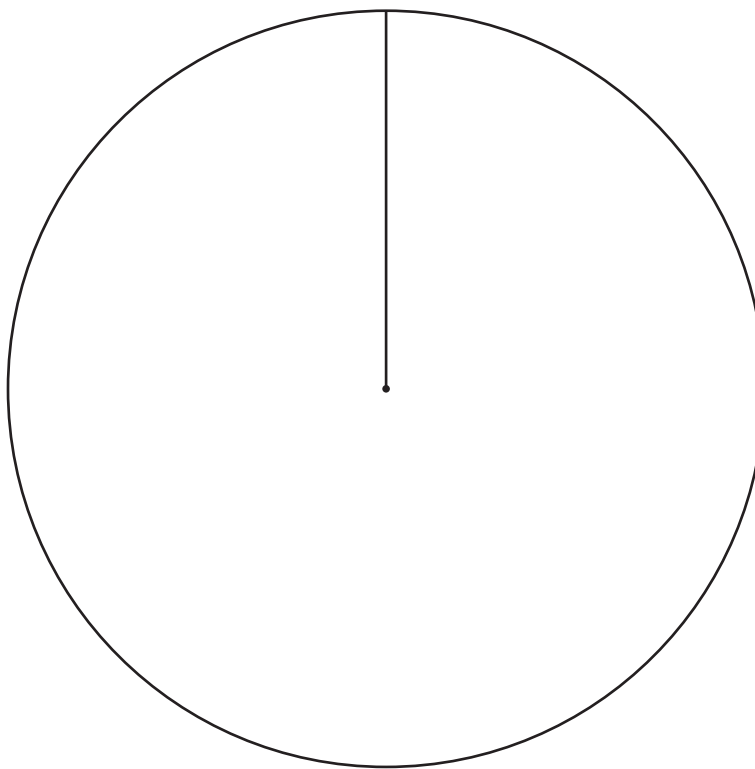
- 10 The table shows how 40 students travel to school.

type of transport	frequency	pie chart sector angle
bus	8	
car	15	
walk	17	

- (a) Complete the table.

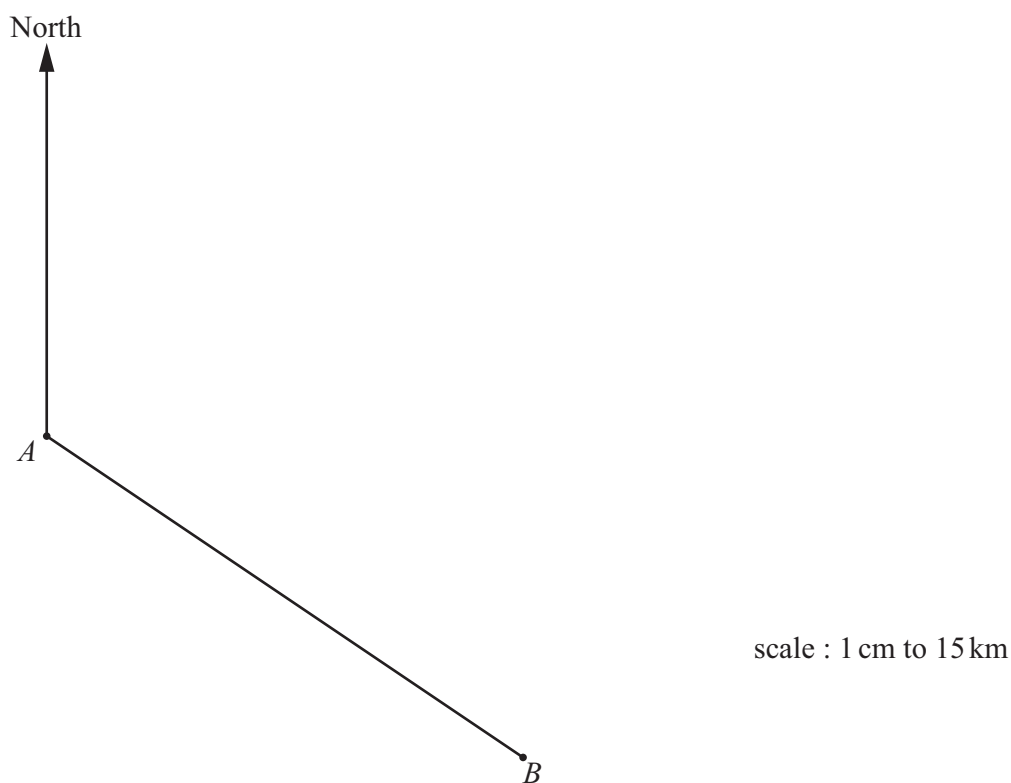
[2]

- (b) Complete the pie chart.



[2]

- 11 The scale diagram shows the positions of town A and town B .
The scale is 1 cm represents 15 km.



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

..... [1]

- (b) Find the actual distance AB .

..... km [2]

- 12 Write one of the symbols $<$, $>$ or $=$ in each statement to make it correct.

$$\frac{5}{8} \text{ } 62.5\%$$

$$0.2^2 \text{ } 0.4$$

$$\frac{2}{3} \text{ } 0.67$$

[2]



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

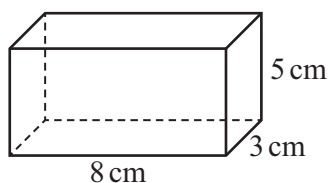
(a) $10 + 12 - 8 \times 5 = 30$ [1]

(b) $10 + 20 \times 7 \div 5 = 30$ [1]

14 Write down the reciprocal of $\frac{5}{7}$.

..... [1]

15 (a) The diagram shows a cuboid.



NOT TO SCALE

Calculate the surface area of the cuboid.

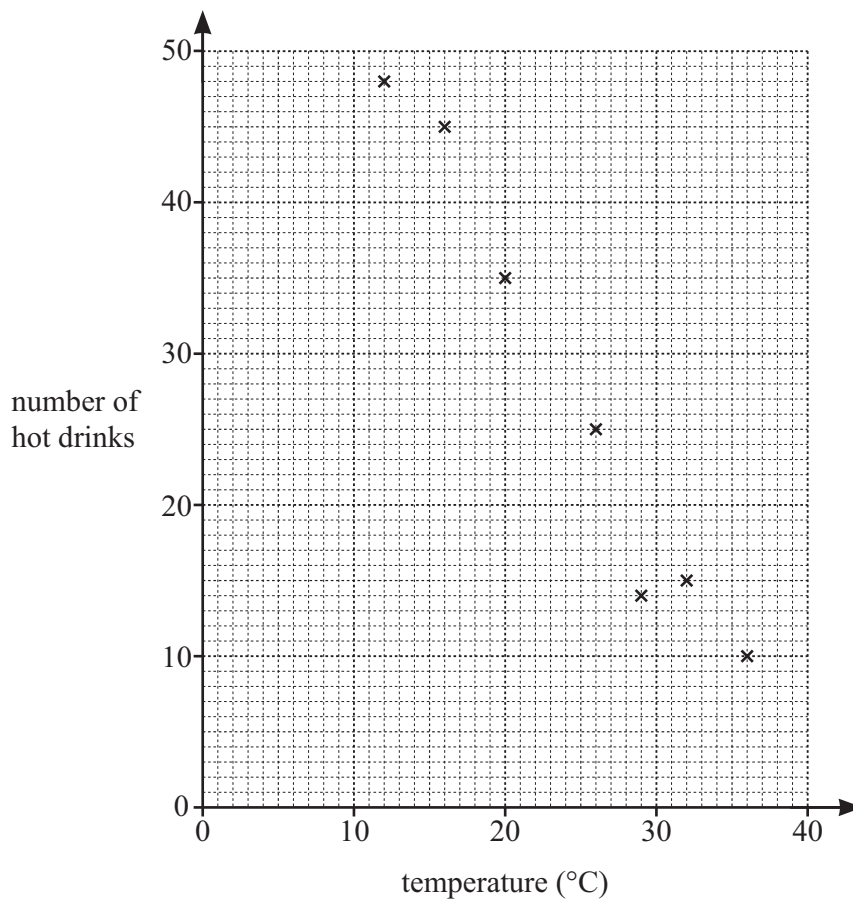
..... cm^2 [3]

(b) A sphere has a radius of 6.4 cm.

Calculate the volume of the sphere.

..... cm^3 [2]

- 16 The scatter diagram shows the number of hot drinks sold by a café each day and the average temperature for that day.



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

temperature ($^{\circ}\text{C}$)	18	28
number of hot drinks sold	40	21

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]

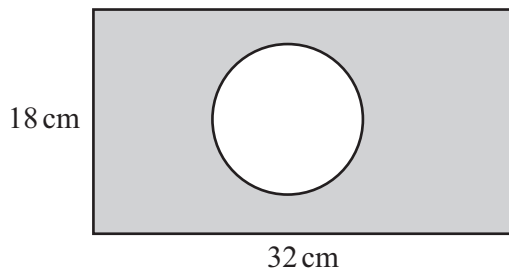
- (ii) One day the average temperature was 24°C .

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

..... [1]



17 The diagram shows a circle inside a rectangle.



NOT TO SCALE

The shaded area is 450 cm^2 .

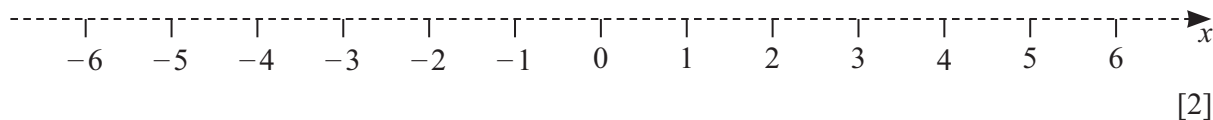
Find the radius of the circle.

..... cm [4]

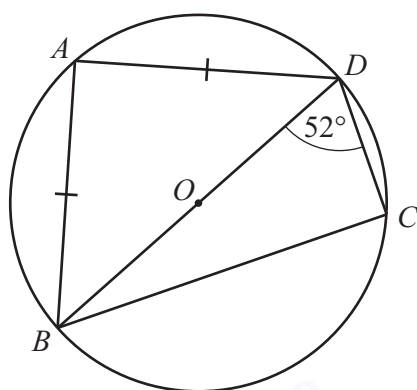
- 18 (a) Write down the smallest integer that satisfies $x > -8$.

..... [1]

- (b) Represent the inequality $-4 \leq x < 3$ on the number line.



19



NOT TO SCALE

A, B, C and D are points on the circumference of a circle with centre O .
 $AB = AD$ and angle $BDC = 52^\circ$.
 BD is a diameter of the circle.

Calculate angle ABC .

angle $ABC =$ [3]



20 (a) $P = 5x + 4y$

Find the value of x when $P = 18$ and $y = -3$.

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

(b) Factorise.

$6x^2 + 12x$

$\dots\dots\dots$ [2]

21 Calculate $(8.7 \times 10^8) + (2.4 \times 10^7)$.

Write your answer in standard form.

$\dots\dots\dots$ [2]

- 22 Joseph invests \$36 000 at a rate of 6.2% per year compound interest.

Calculate the total interest earned at the end of 4 years.

\$ [3]

- 23 Calculate the interior angle of a regular pentagon.

..... [2]

- 24 Ali drives 56 km at an average speed of 48 km/h.
He then drives for 30 minutes at 54 km/h.

Calculate the average speed for his whole journey.

..... km/h [4]





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

3 7 11 15

(i) Find the n th term.

..... [2]

(ii) Show that 603 is a term in the sequence.

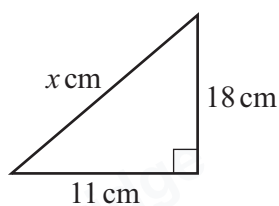
[2]

(b) The n th term of a different sequence is $n^2 - 6$.

Find the first three terms of this sequence.

.....,, [2]

26 The diagram shows a right-angled triangle.



NOT TO SCALE

Calculate the value of x .

$x =$ [2]

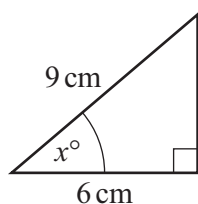
Question 27 and Question 28 are on the back page.



- 27 Find the equation of the line parallel to $y = 4x + 3$ that passes through $(2, 9)$.

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

- 28 The diagram shows a right-angled triangle.



NOT TO SCALE

Calculate the value of x .

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

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 (Cambridge University Press & Assessment) 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 our 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 International Education is the name of our awarding body and a part of Cambridge University Press & Assessment, which is a department of the University of Cambridge.

