



Cambridge IGCSE™

CANDIDATE
NAME

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

MATHEMATICS

0580/11

Paper 1 (Core)

May/June 2021

1 hour

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.
- You should use a 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 56.
- The number of marks for each question or part question is shown in brackets [].

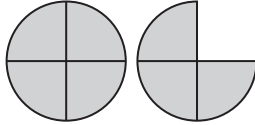
This document has **12** pages. Any blank pages are indicated.

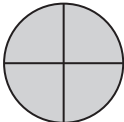


- 1 Zachary asks the 30 students in his class which is their favourite sport. The table shows the results.

Netball	Football	Hockey	Tennis
7	12	6	5

Complete the pictogram.

Netball	
Football	
Hockey	
Tennis	

Key:  represents 4 people

[2]

- 2 (a) Find the value of $\sqrt{225}$.

..... [1]

- (b) Write down the reciprocal of $\frac{2}{3}$.

..... [1]

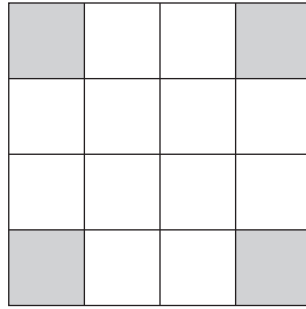
- (c) Work out three-quarters of one-third.

..... [1]

- (d) Work out $-7 - (6 - 8)$.

..... [1]

3



(a) Write down the order of rotational symmetry of this diagram.

..... [1]

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

[2]

4 The stem-and-leaf diagram shows the number of hours that each of 16 students studied last week.

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

Key: 1|2 represents 12 hours

Find

(a) the median,

..... h [1]

(b) the mode,

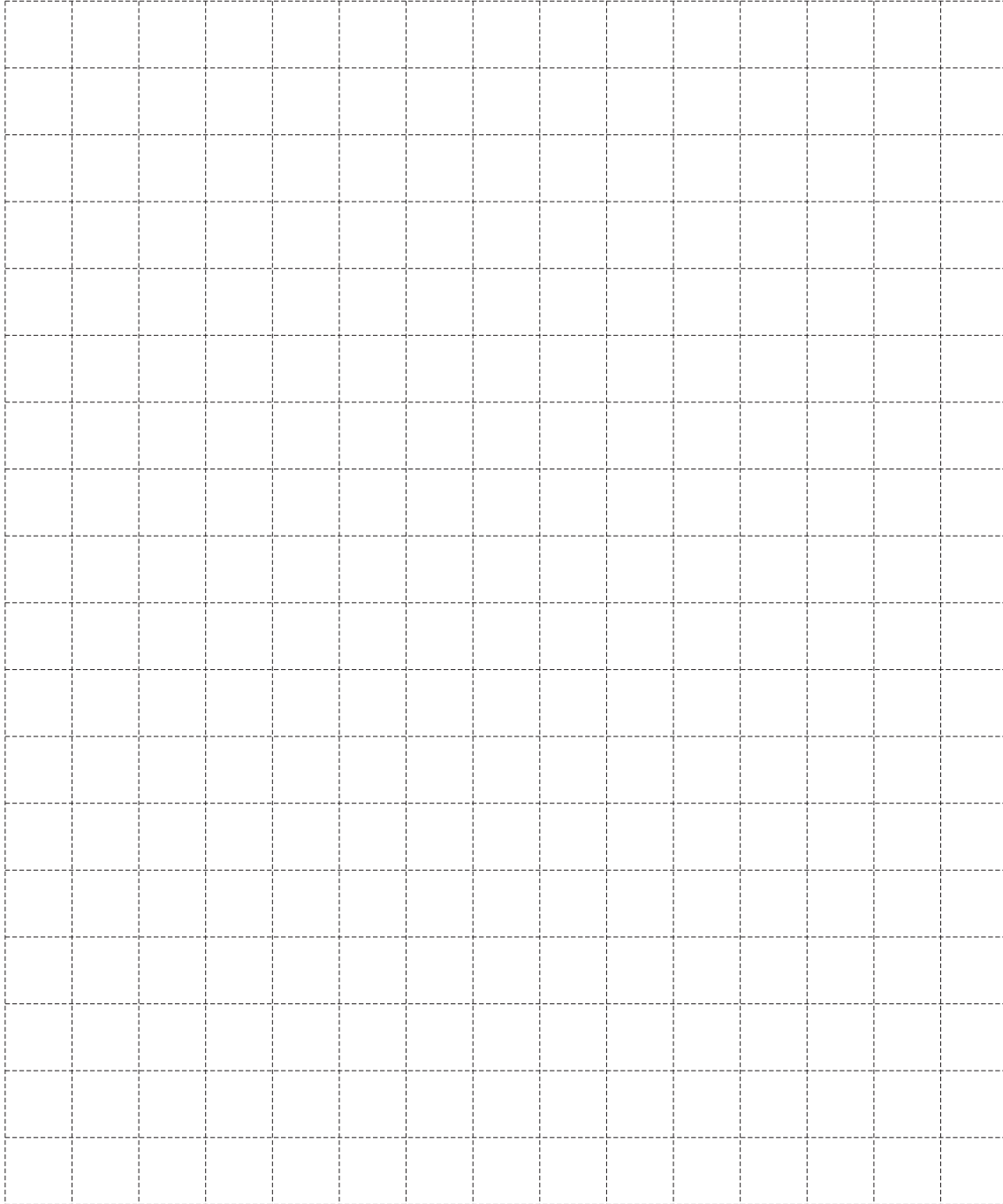
..... h [1]

(c) the range.

..... h [1]

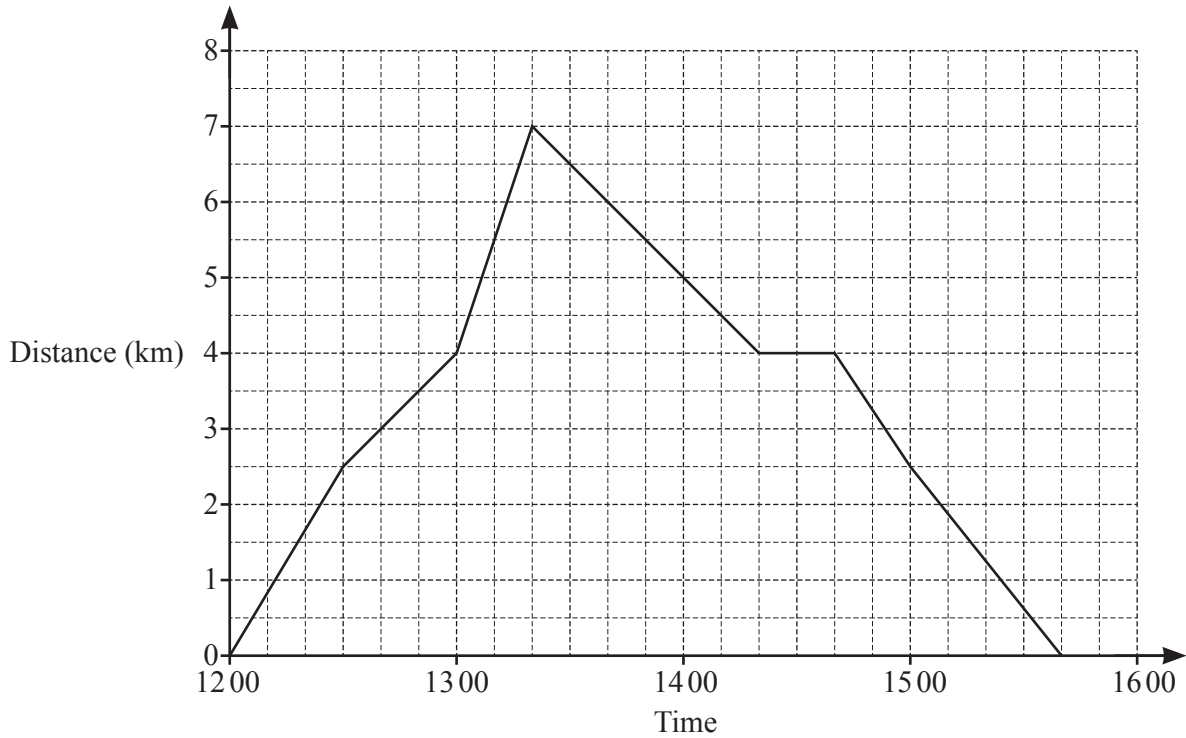
- 5 The volume of a cuboid is 24 cm^3 .
The base of the cuboid is 3 cm by 2 cm.

Draw a net of the cuboid on the 1 cm^2 grid.



[4]

6



The travel graph shows a student's journey.

(a) Explain what is happening between 14:20 and 14:40.

..... [1]

(b) Complete the statement.

The student is travelling fastest between the times and

because [2]

7 The probability that a train is late is 0.15 .

Write down the probability that the train is not late.

..... [1]

- 8 Nazaneen changes \$6500 into 5798 euros at a bank.

Work out the exchange rate the bank uses.

$$\text{\$1} = \dots\dots\dots \text{euros [1]}$$

- 9 Work out.

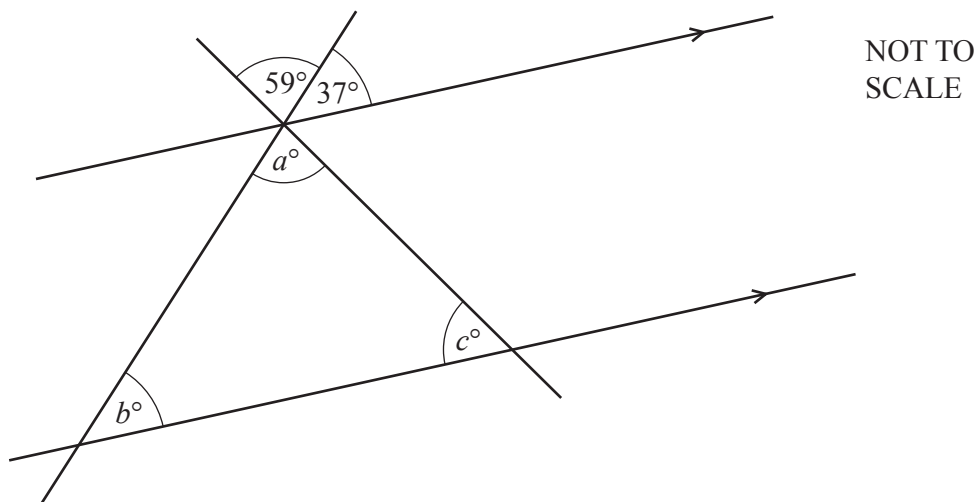
(a) $\begin{pmatrix} 6 \\ -5 \end{pmatrix} + \begin{pmatrix} 8 \\ -1 \end{pmatrix}$

$$\begin{pmatrix} \\ \end{pmatrix} \text{ [1]}$$

(b) $3 \begin{pmatrix} -4 \\ 7 \end{pmatrix}$

$$\begin{pmatrix} \\ \end{pmatrix} \text{ [1]}$$

10



The diagram shows two parallel lines intersected by two straight lines.

Find the values of a , b and c .

$$a = \dots\dots\dots$$

$$b = \dots\dots\dots$$

$$c = \dots\dots\dots \text{ [3]}$$

11 (a) Write down the mathematical name for a polygon with 5 sides.

..... [1]

(b) Work out the interior angle of a regular 18-sided polygon.

..... [2]

12 The n th term of a sequence is $6n - 4$.

(a) Write down the first 3 terms in this sequence.

.....,, [1]

(b) The k th term of this sequence is 422.

Work out the value of k .

$k =$ [2]

13 The radius of a circle is 42 cm.

Work out the circumference of the circle.
Give your answer in terms of π .

..... cm [2]

14 Change $680\,000\text{ cm}^3$ into m^3 .

..... m^3 [1]

15 The length, l metres, of a piece of rope is 5.67 m , correct to the nearest centimetre.

Complete this statement about the value of l .

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

16 **Without using a calculator**, work out $1\frac{3}{8} - \frac{5}{6}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [3]

17 (a) Write $\frac{1}{2 \times 2 \times 2 \times 2 \times 2}$ as a power of 2.

..... [1]

(b) (i) $3^{18} \div 3^t = 3^6$

Find the value of t .

$t =$ [1]

(ii) Simplify.
 $8w^{10} \times 6w^5$

..... [2]

18 Annie invests \$8300 at a rate of 5.6% per year compound interest.

Calculate the value of her investment at the end of 6 years.

\$ [2]

19 Write down an irrational number, n , where $31 < n < 32$.

$n =$ [1]

- 20 By rounding each number in the calculation correct to 1 significant figure, estimate the value of

$$\frac{38.7 \times 3.115}{20.3 - 4.1^2}$$

You must show all your working.

..... [2]

- 21 Solve the simultaneous equations.
You must show all your working.

$$2x + y = 3$$

$$x - 5y = 40$$

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

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

22 There is a straight road between town A and town B of length 130 km.

Maxi travels from town A to town B .

Pippa travels from town B to town A .

Both travel at a constant speed of 40 km/h.

Maxi leaves 30 minutes before Pippa.

Work out how far from town A they will be when they pass each other.

..... km [4]

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 the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.