



# Cambridge IGCSE™

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**MATHEMATICS**

**0580/12**

Paper 1 (Core)

**October/November 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  $\pi$ , 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.

- 1 (a) Write the number four hundred thousand and four hundred in figures.

..... [1]

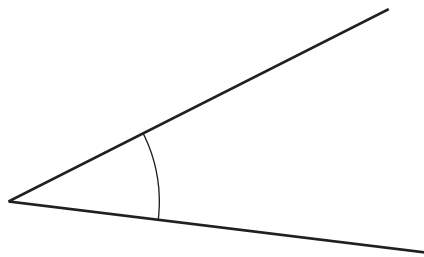
- (b) Write 60287 correct to the nearest ten.

..... [1]

- 2 Find the value of  $\sqrt{345.96}$ .

..... [1]

3



Write down the mathematical name for this type of angle.

..... [1]

- 4 (a) Write 9% as a decimal.

..... [1]

- (b) Write 0.6 as a fraction in its simplest form.

..... [1]

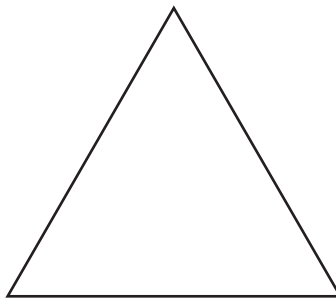
5 Write down the reciprocal of 20.

..... [1]

6 (a) Write down the order of rotational symmetry of a rectangle.

..... [1]

(b)



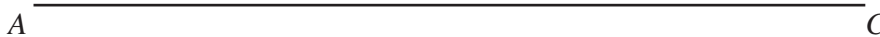
Draw all the lines of symmetry on this equilateral triangle. [2]

7 In triangle  $ABC$ ,  $AB = 7$  cm and  $BC = 5.6$  cm.

**Using a ruler and compasses only**, construct triangle  $ABC$ .

Leave in your construction arcs.

The line  $AC$  has been drawn for you.



[2]

4

- 8 The temperature at midnight is  $-8.5^{\circ}\text{C}$ .  
The temperature at 11 am is  $-1^{\circ}\text{C}$ .

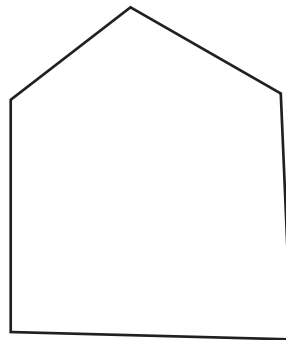
Work out the difference between the temperature at midnight and the temperature at 11 am.

..... $^{\circ}\text{C}$  [1]

- 9 Change 0.3 metres into centimetres.

..... cm [1]

10

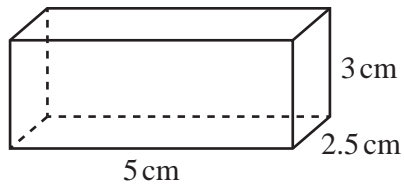


Write down the mathematical name of this polygon.

..... [1]

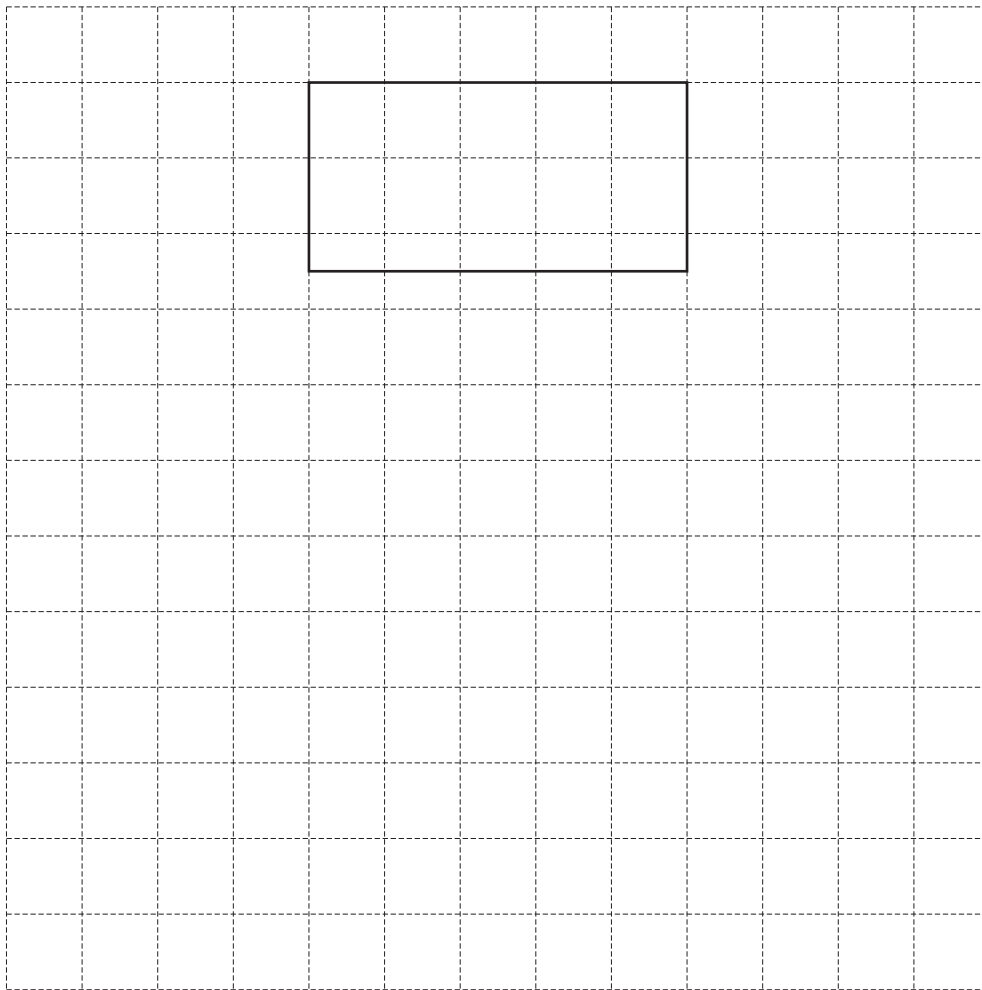
5

11

NOT TO  
SCALE

The diagram shows a cuboid.

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



[3]

- 12 The stem-and-leaf diagram shows the age, in years, of each of 15 women.

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

Key: 3 | 1 represents 31 years

Complete these statements.

The modal age is .....

The median age is .....

The percentage of women that are older than 51 years is ..... %. [3]

- 13 The price of a coat is 84.60 euros.

Find the price of the coat in dollars when the exchange rate is 1 euro = \$1.15 .

\$ ..... [1]

- 14 Work out.

(a)  $\begin{pmatrix} 3 \\ -2 \end{pmatrix} + \begin{pmatrix} -5 \\ 7 \end{pmatrix}$

$\begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$  [1]

(b)  $5 \begin{pmatrix} 3 \\ -1 \end{pmatrix}$

$\begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$  [1]

15 Change 2.15 hours into minutes.

..... min [1]

16 (a) Solve.

$$7x + 18 = 4$$

$x =$  ..... [2]

(b)  $7^y \times 7^6 = 7^{18}$

Find the value of  $y$ .

$y =$  ..... [1]

17 These are the first four terms of a sequence.

3      10      17      24

(a) Write down the next term.

..... [1]

(b) Write down the term to term rule.

..... [1]

(c) Find the  $n$ th term.

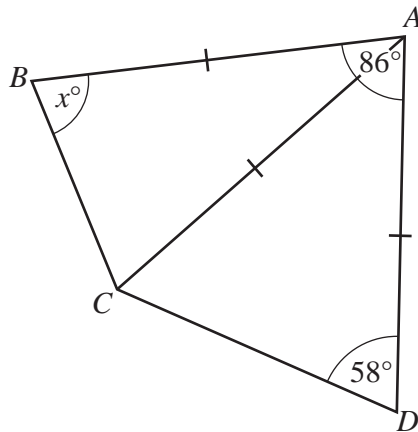
..... [2]

(d) Find the 40th term.

..... [2]



18



NOT TO SCALE

Triangle  $ABC$  and triangle  $ACD$  are isosceles.  
 Angle  $DAB = 86^\circ$  and angle  $ADC = 58^\circ$ .

Find the value of  $x$ .

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

19 Angelique rents a room for a party.  
 The cost of renting the room is \$15.50 for the first hour and then \$7.25 for each additional hour.  
 She pays \$95.25 in total.

Work out the total number of hours she rents the room for.

$\dots\dots\dots$  hours [3]

10

20 Without using a calculator, work out  $\frac{1}{3} \div \frac{7}{6} + \frac{1}{5}$ .

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

..... [4]

21 Work out the size of one interior angle of a regular 10-sided polygon.

..... [2]

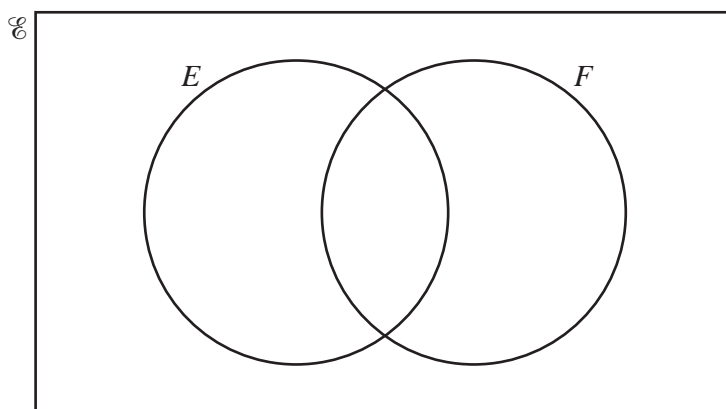
22 In a group of 650 people, 117 are left-handed.

Find the expected number of left-handed people in a group of 5000 people.

..... [2]

23 (a) At an airport, 216 people are asked whether they speak English ( $E$ ) or French ( $F$ ).

- 125 speak English.
- 43 speak both English and French.
- 61 do not speak English or French.

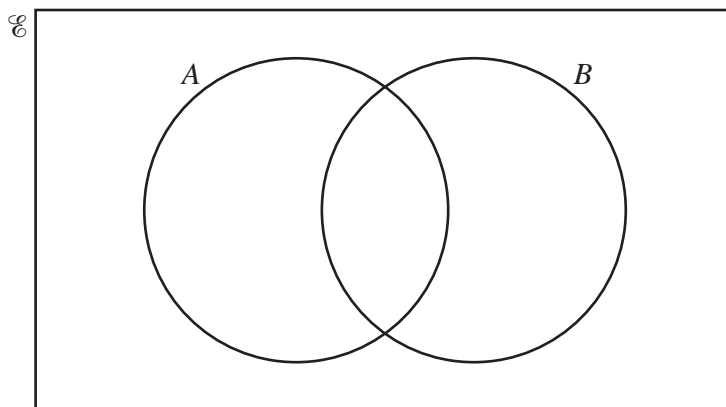


(i) Complete the Venn diagram. [2]

(ii) Find  $n(F)$ .

..... [1]

(b)



On this Venn diagram, shade the region  $A \cap B$ . [1]

**Question 24 is printed on the next page.**

- 24 Yasmin has 4 white flowers, 3 red flowers and  $x$  yellow flowers.  
She picks a flower at random.

The probability that it is white is  $\frac{1}{5}$ .

Find the probability that it is yellow.

..... [4]

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