Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

8152070327

MATHEMATICS **0580/12**

Paper 1 (Core) **February/March 2019**

1 hour

Candidates answer on the Question Paper.

Additional Materials: Electronic calculator
Tracing paper (optional)
Geometrical instruments

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
If working is needed for any question it must be shown below that question.
Electronic calculators should be used.
If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.
For π, use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total of the marks for this paper is 56.

1 A mathematics lesson starts at 11 05.
The lesson lasts for 75 minutes.

Work out the time that the lesson ends.

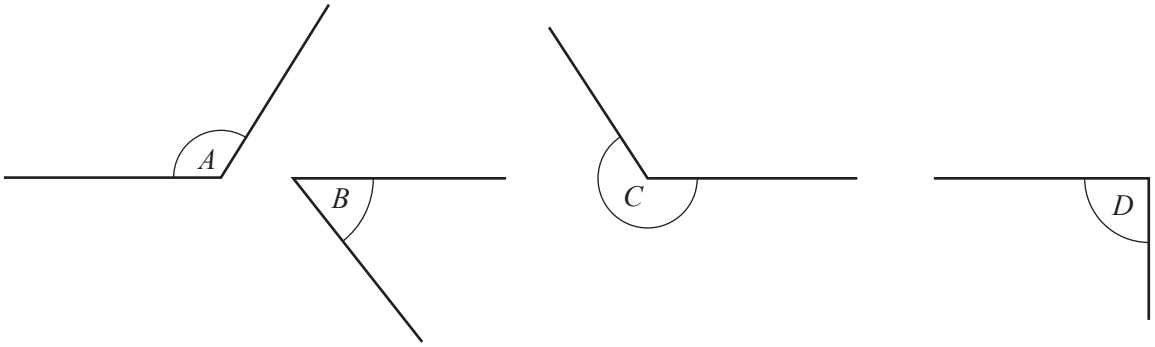
..... [1]

2 The probability that it will be sunny tomorrow is 0.97 .

Work out the probability that it will not be sunny tomorrow.

..... [1]

3



Complete the statement.

Angle ..... is a reflex angle.

[1]

4 The temperature at 07 00 is −3 °C.
This temperature is 11 °C higher than the temperature at 01 00.

Find the temperature at 01 00.

.....°C [1]

5 Jodi swims 22 lengths of a swimming pool to raise money for charity.
She receives $15 for each length she swims.

Calculate how much money Jodi raises for charity.

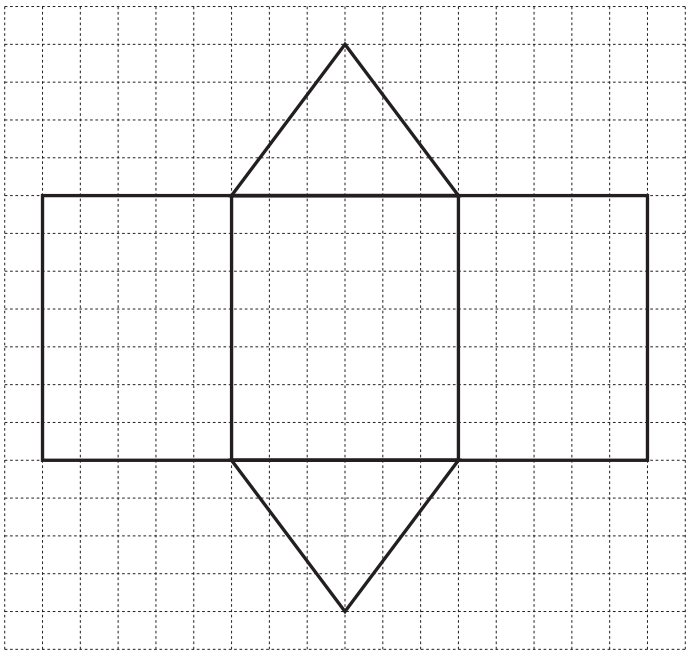
$ ..... [1]

6 A student measures the angles in a triangle as 55°, 85° and 50°.

Explain why the student is incorrect.

..... [1]

7 The diagram shows a net of a solid.



Write down the mathematical name of the solid.

..... [1]

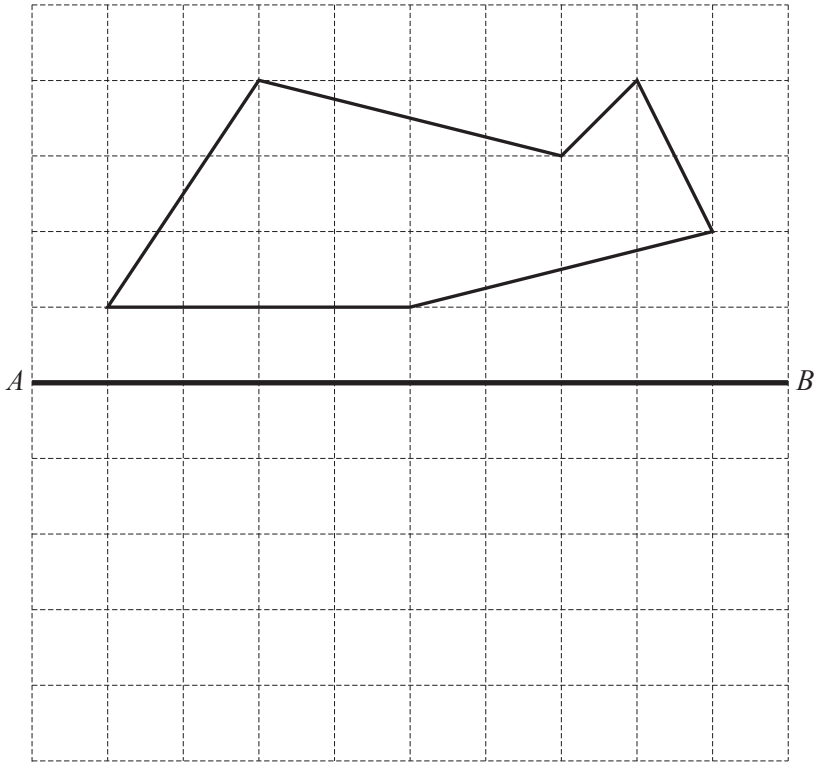
8 **(a)** Write 0.046 875 correct to 2 significant figures.

..... [1]

(b) Write 2 760 000 in standard form.

..... [1]

9 Reflect this shape in the line AB.



[2]

10 Write down the six factors of 12.

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

11 $\mathbf{e} = \begin{pmatrix} -5 \\ 4 \end{pmatrix}$ $\mathbf{f} = \begin{pmatrix} 0 \\ 6 \end{pmatrix}$

Write as a single vector

(a) $3\mathbf{e}$,

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

(b) $\mathbf{f} - \mathbf{e}$.

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

12 Simplify.

(a) $(y^5)^3$

..... [1]

(b) $w^7 \div w^{-2}$

..... [1]

13 **Without using a calculator**, estimate, by rounding each number correct to 1 significant figure,

$$\frac{\sqrt{104.3}}{8.72 - 7.389}.$$

You must show all your working.

..... [2]

14 A tourist changes \$500 to euros (€) when the exchange rate is €1 = \$1.0697 .

Calculate how many euros he receives.

€..... [2]

15 **(a)** Change 645 mm into cm.

..... cm [1]

(b) Change 4.1 m^3 into cm^3.

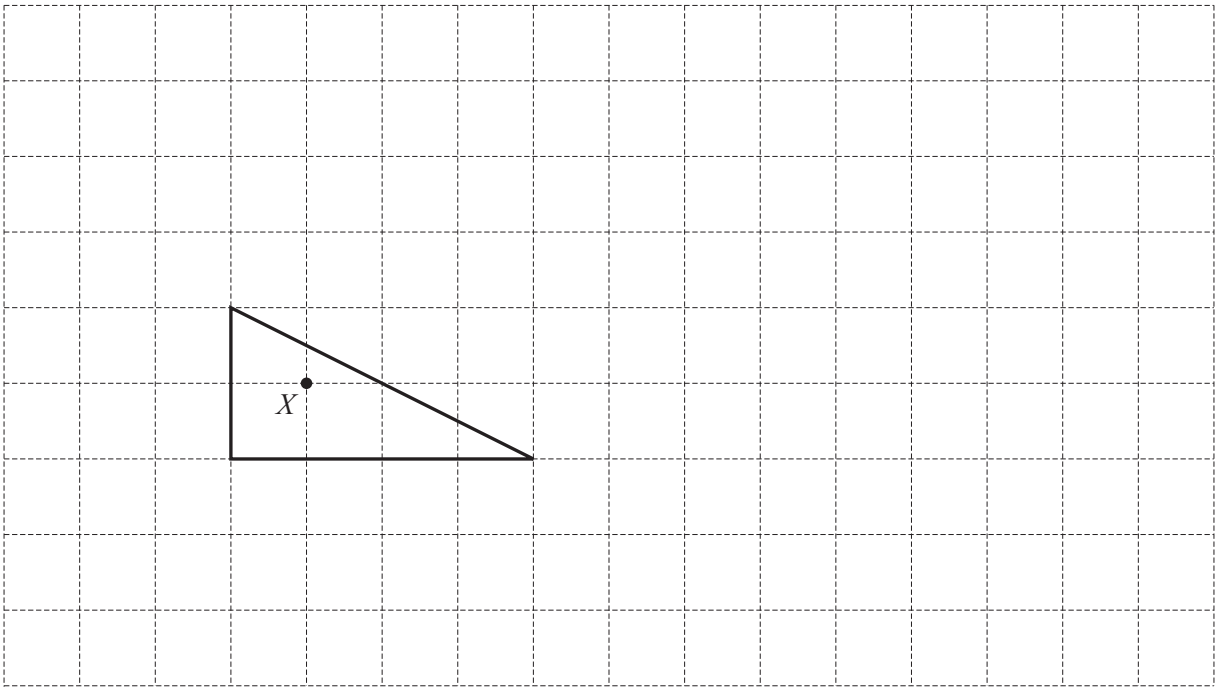
.....cm^3 [1]

16 The width, w metres, of a room is 4.2 metres, correct to the nearest 10 centimetres.

Complete this statement about the value of w.

..... $\leqslant w <$ ..... [2]

17



Draw the enlargement of the triangle by scale factor 3, centre X.

[2]

18 The probability that a sweet made in a factory is the wrong shape is 0.0028 .
One day, the factory makes 25 000 sweets.

Calculate the number of sweets that are expected to be the wrong shape.

..... [2]

19 Factorise completely.

$$8g^2 - 4g$$

..... [2]

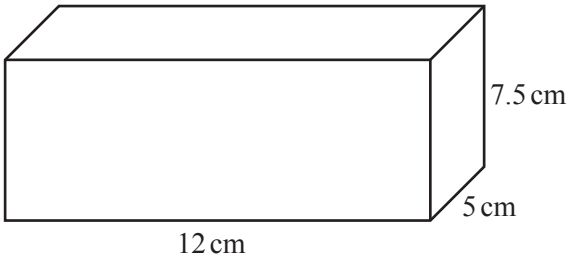
20 Solve the simultaneous equations.
You must show all your working.

$$6x - 3y = 12$$
$$2x + 3y = 16$$

$x =$ .....

$y =$ ..... [2]

21



NOT TO SCALE

Calculate the total surface area of the cuboid.

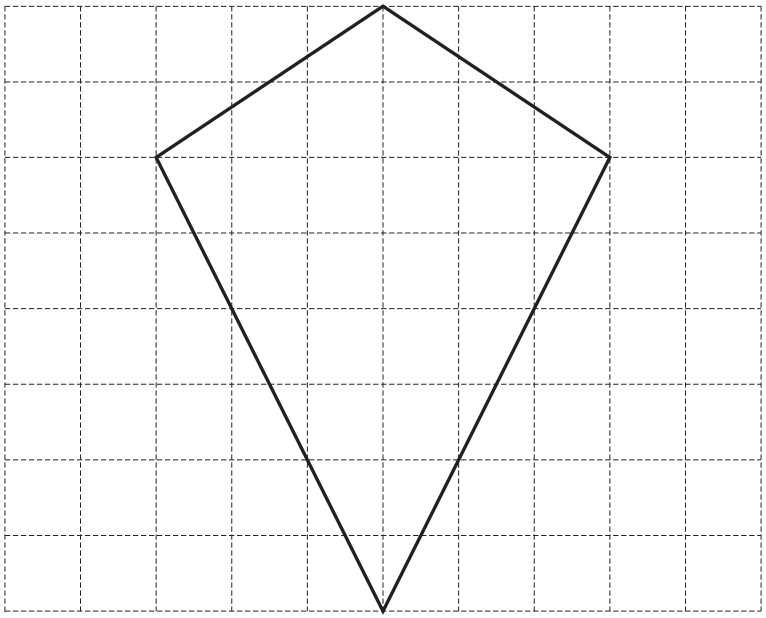
.....cm^2 [3]

22 The number of passengers on a train increases from 63 to 77.

Calculate the percentage increase.

.....% [3]

23



The diagram shows a quadrilateral on a 1 cm^2 grid.

(a) Write down the mathematical name of this quadrilateral.

..... [1]

(b) Work out the area of this quadrilateral.
Give the units of your answer.

.... [3]

24 Five numbers have a mean of 9.4 .
Four of the numbers are 3, 5, 10 and 12.

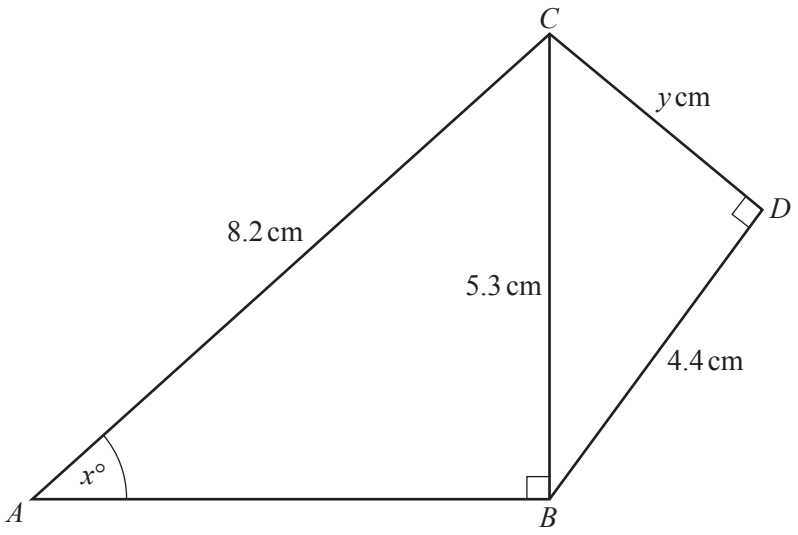
Work out the range of the five numbers.

..... [4]

25 **Without using a calculator**, work out $3\frac{1}{8} \div \frac{5}{12}$.
You must show all your working and give your answer as a mixed number in its simplest form.

..... [4]

26



NOT TO SCALE

Triangles *ABC* and *BCD* are both right-angled triangles.

(a) Calculate the value of y.

$y =$ ..... [3]

(b) Calculate the value of x.

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

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