Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME	
CENTRE NUMBER	
CANDIDATE NUMBER	

4402966707

MATHEMATICS **0580/11**

Paper 1 (Core) **May/June 2018**

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.

This document consists of **10** printed pages and **2** blank pages.

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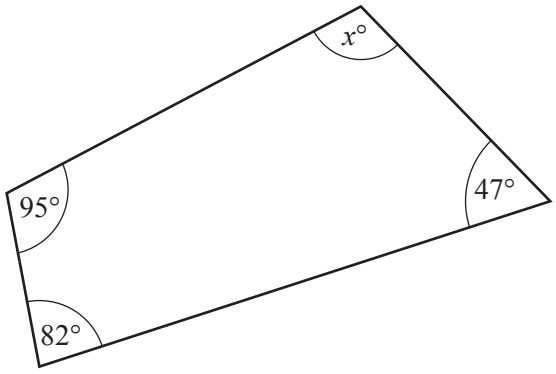
1 Write 4647 correct to the nearest 100.

..... [1]

2 Write 0.007 as a fraction.

..... [1]

3 The diagram shows a quadrilateral.



NOT TO SCALE

Find the value of x.

$x =$ ..... [1]

4 The nth term of a sequence is $5n - 3$.

Write down the first three terms of the sequence.

..... , ... , ... [1]

5 **(a)** Write 0.002 68 correct to 2 significant figures.

..... [1]

(b) Write 0.000 038 7 in standard form.

..... [1]

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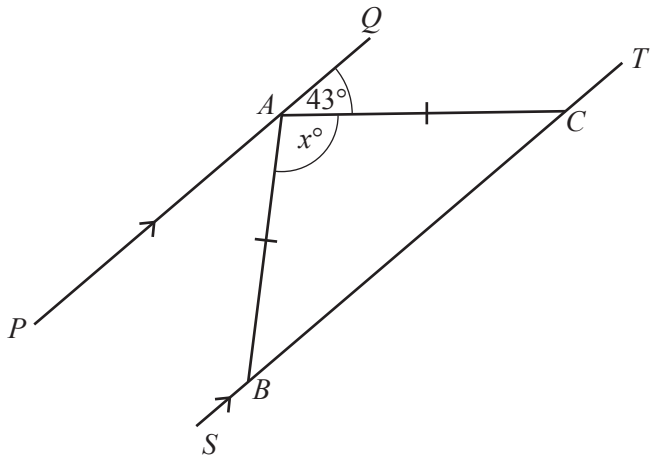
6 Find the value of $7x + 3y$ when $x = 12$ and $y = -6$.

..... [2]

7



NOT TO SCALE

The diagram shows two parallel lines PAQ and $SBCT$.
$AB = AC$ and angle $QAC = 43°$.

Find the value of x.

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

8 Solve the equation $8x - 5 = 7$.

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

9 **(a)** Change 6.54 kilometres into metres.

..... m [1]

(b) Change 7850 cm^3 into litres.

..... litres [1]

10 The height, h metres, of a boy is 1.72 m, correct to the nearest centimetre.

Complete this statement about the value of h.

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

11 Expand and simplify.

$$6(2y - 3) - 5(y + 1)$$

..... [2]

12 $\mathbf{g} = \begin{pmatrix} 2 \\ 5 \end{pmatrix}$ $\mathbf{h} = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$

Write as a single vector

(a) $\mathbf{g} + \mathbf{h}$,

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

(b) $-\mathbf{h}$.

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

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13 Work out the lowest common multiple (LCM) of 18 and 21.

..... [2]

14 Work out the size of one exterior angle of a regular octagon.

..... [2]

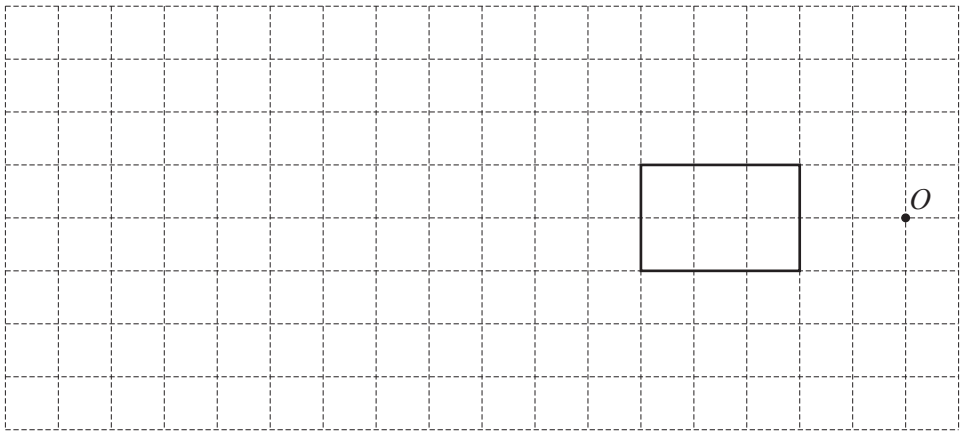
15 **(a)** Calculate $\sqrt{2.38 + 6.4^2}$, writing down your full calculator display.

..... [1]

(b) Write your answer to **part (a)** correct to 4 decimal places.

..... [1]

16 Enlarge the rectangle using a scale factor of 3 and centre of enlargement O.



[2]

17 **(a)** A box contains 3 blue pens, 4 red pens and 8 green pens only.
A pen is chosen at random from the box.

Find the probability that this pen is green.

..... [1]

(b) A cube has only one of its six faces painted yellow.
This cube is rolled 240 times.

Work out the expected number of times that it lands on the yellow face.

..... [1]

18 **(a)** Simplify.

$(x^3)^4$

..... [1]

(b) $4^w = \frac{1}{16}$

Find the value of w.

$w =$ ..... [1]

19 π 3^{-2} $3\frac{4}{7}$ 33.3% $\sqrt{3}$ 0.3 3^{999}

From this list, write down the two numbers that are irrational.

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

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20 **(a)** Here is a description of a quadrilateral.

It has 4 right angles.
It has 2 lines of symmetry.
It has rotational symmetry of order 2.

Write down the mathematical name of this quadrilateral.

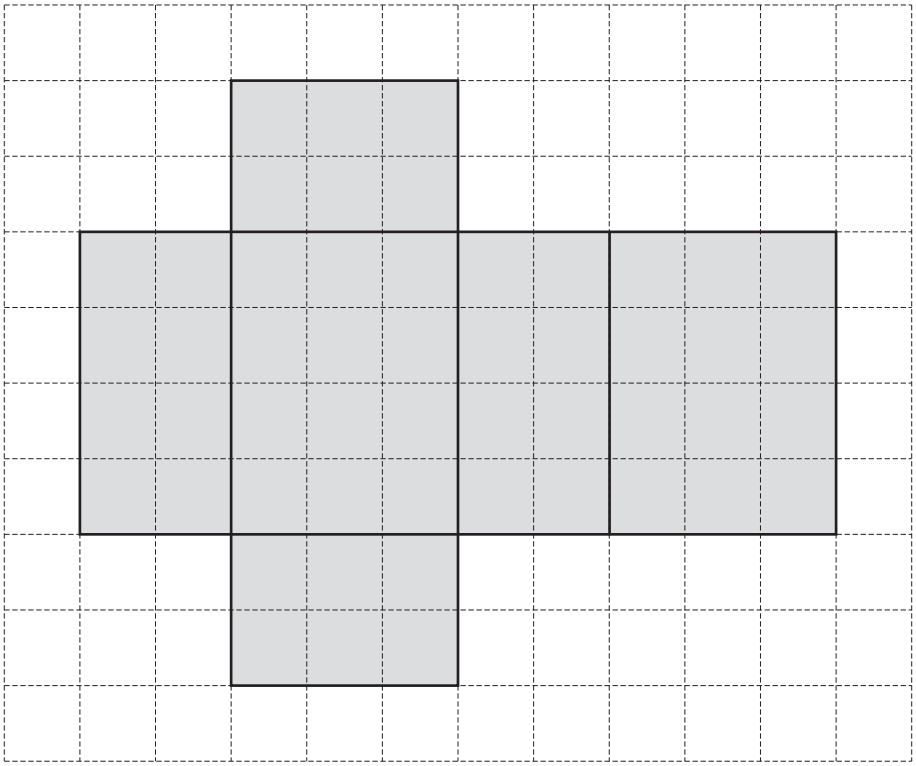
..... [1]

(b) Write down two geometrical properties of a parallelogram.

1. .....

2. ..... [2]

21 The net of a solid is drawn on a 1 cm^2 grid.



(a) Write down the name of the solid made from this net.

..... [1]

(b) Work out the volume of this solid.

.....cm^3 [2]

22 Factorise completely.

(a) $10 + 16w$

..... [1]

(b) $12tx - 8t^2$

..... [2]

23 **Without using your calculator**, work out $1\frac{3}{4} \times \frac{6}{35}$.

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

..... [3]

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

$$3x + 10y = 106$$
$$5x - 4y = 1$$

$x =$ .....

$y =$ ..... [4]

25 40 people were asked how many times they visited the cinema in one month.
The table shows the results.

Number of cinema visits	0	1	2	3	4	5	6	7
Frequency	5	5	6	6	7	3	6	2

(a) (i) Find the mode.

..... [1]

(ii) Calculate the mean.

..... [3]

(b) Omar wants to show the information from the table in a pie chart.

Calculate the sector angle for the people who visited the cinema 5 times.

..... [2]

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