Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

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.

© UCLES 2018

CAMBRIDGE International Examinations

1 Write 4647 correct to the nearest 100.

View solution

..... [1]

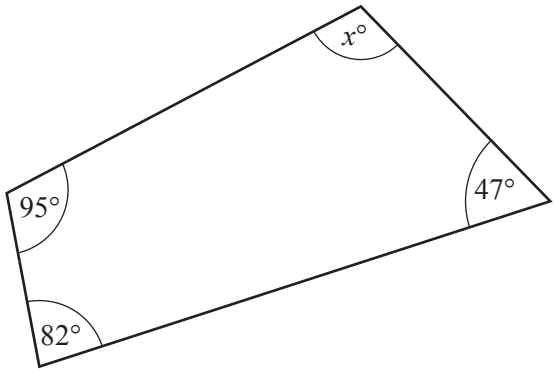
2 Write 0.007 as a fraction.

View solution

..... [1]

3 The diagram shows a quadrilateral.

View solution



NOT TO SCALE

Find the value of x.

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

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

View solution

Write down the first three terms of the sequence.

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

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

View solution

..... [1]

(b) Write 0.000 038 7 in standard form.

..... [1]

View solution

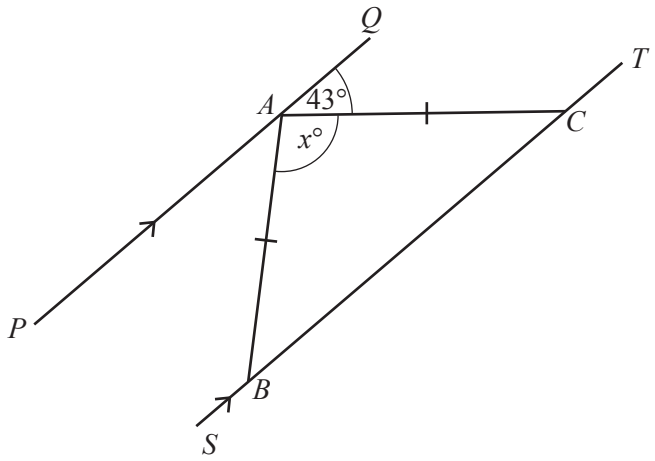
6 Find the value of $7x + 3y$ when $x = 12$ and $y = -6$.

View solution

..... [2]

7

View solution



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 $8x - 5 = 7$.

View solution

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

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

View solution

..... m [1]

(b) Change 7850 cm^3 into litres.

View solution

..... litres [1]

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

View solution

Complete this statement about the value of h.

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

11 Expand and simplify.

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

View solution

..... [2]

12

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

Write as a single vector

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

View solution

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

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

View solution

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

© UCLES 2018

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

View solution

..... [2]

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

View solution

..... [2]

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

View solution

..... [1]

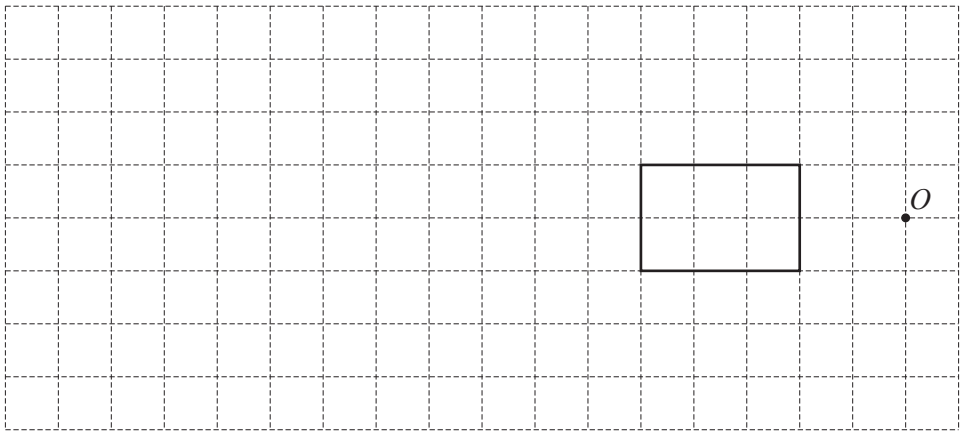
(b) Write your answer to **part (a)** correct to 4 decimal places.

View solution

..... [1]

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

View solution



[2]

© UCLES 2018

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.

View solution

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.

View solution

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

..... [1]

18 **(a)** Simplify.

$$(x^3)^4$$

View solution

..... [1]

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

View solution

Find the value of w.

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

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

View solution

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

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

© UCLES 2018

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

View solution

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]

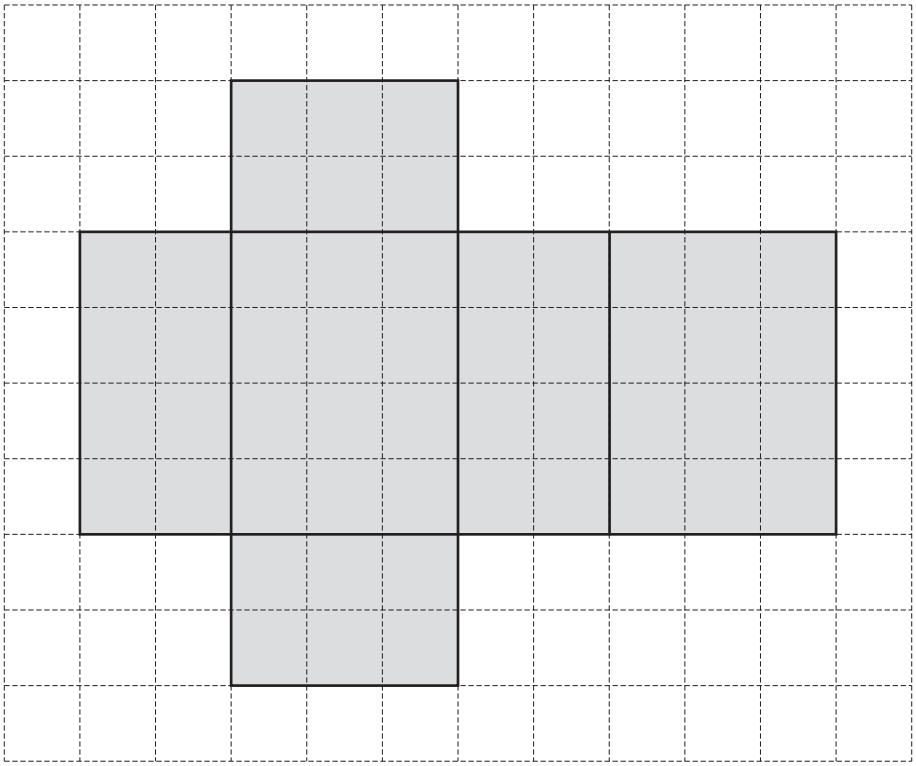
(b) Write down two geometrical properties of a parallelogram.

View solution

1. .....

2. ..... [2]

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



View solution

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

..... [1]

(b) Work out the volume of this solid.

View solution

.....cm^3 [2]

© UCLES 2018

22 Factorise completely.

(a) $10 + 16w$

View solution

..... [1]

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

View solution

..... [2]

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

View solution

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

..... [3]

© UCLES 2018

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

View solution

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

$x =$ .....

$y =$ ..... [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.

View solution

..... [1]

(ii) Calculate the mean.

View solution

..... [3]

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

View solution

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

..... [2]

© UCLES 2018

BLANK PAGE

© UCLES 2018

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 International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

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