Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 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.

© UCLES 2018

CAMBRIDGE International Examinations

1 Work out 8% of 140.

View solution

.....[1]

2 The exchange rate between dollars and euros (€) is $1 = €0.88$.

View solution

Change $350 into euros.

€ .....[1]

3 Simplify $\frac{a^5}{a^2}$.

View solution

.....[1]

4 Write these in order of size, starting with the smallest.

View solution

$0.38 \qquad \frac{3}{8} \qquad 30\% \qquad \frac{7}{20}$

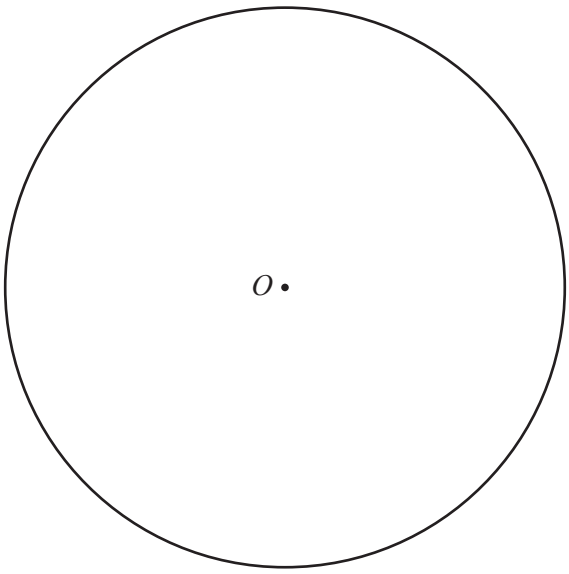
..... < ..... < ..... < .....[2]

smallest

© UCLES 2018

5 **(a)**

View solution

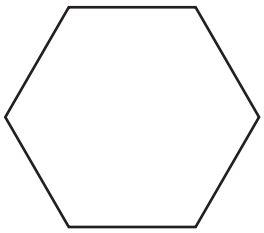


Measure the radius of the circle, centre O.
Give your answer in centimetres.

..... cm [1]

(b)

View solution



Write down the mathematical name of this polygon.

..... [1]

6 **(a)** Write 257 964 correct to the nearest thousand.

View solution

..... [1]

(b) Write 0.060 31 correct to 2 significant figures.

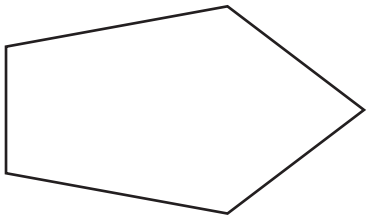
View solution

..... [1]

© UCLES 2018

7 **(a)** Draw the line of symmetry on the shape below.

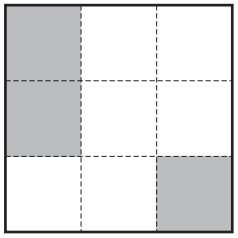
View solution



[1]

(b) Shade **one** more square so that this pattern has rotational symmetry of order 2.

View solution

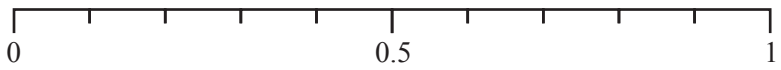


[1]

8 A bag contains 50 counters.
10 of the counters are red.
One of the counters is taken from the bag at random.

(a) Draw an arrow (↓) on the scale to show the probability that this counter is red.

View solution



[1]

(b) Find the probability that the counter is **not** red.

View solution

..... [1]

© UCLES 2018

9 **(a)** On Monday, the lowest temperature was –12 °C.
The highest temperature was 4 °C.

View solution

Work out the difference between these temperatures.

..... °C [1]

(b) On Tuesday, the highest temperature was –3 °C.
The lowest temperature was 8 °C lower than this.

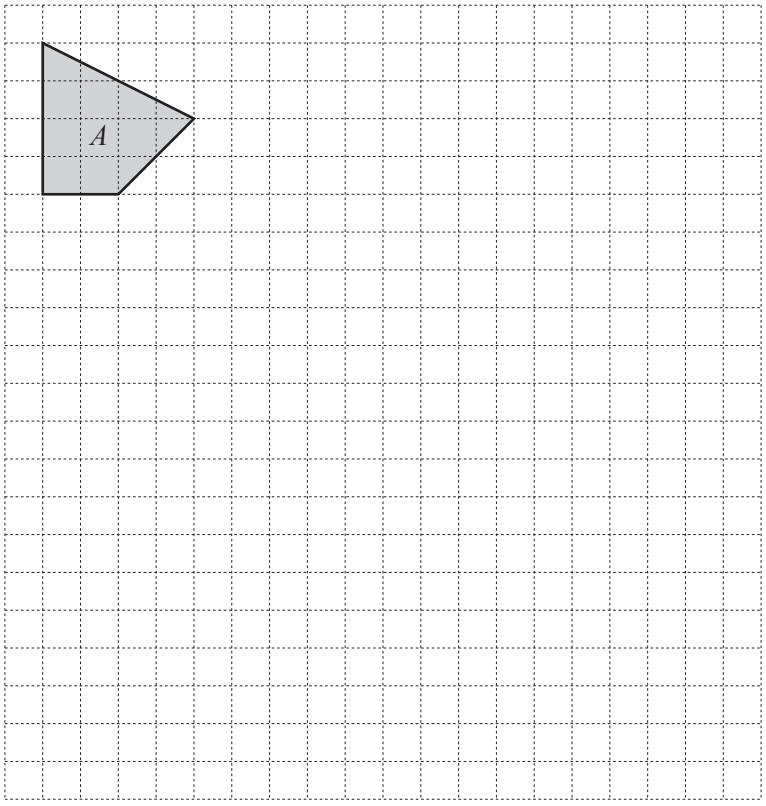
View solution

Work out the lowest temperature on Tuesday.

..... °C [1]

10 Shape *A* is shown on the grid.

View solution



On the grid, enlarge shape *A* by scale factor 3. [2]

11 Work out.

(a) $6\begin{pmatrix} 2 \\ -1 \end{pmatrix}$

View solution

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

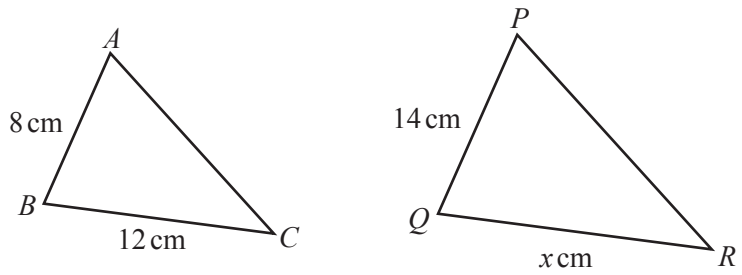
(b) $\begin{pmatrix} 5 \\ -3 \end{pmatrix} - \begin{pmatrix} 2 \\ 4 \end{pmatrix}$

View solution

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

12

View solution



NOT TO SCALE

Triangle ABC is similar to triangle PQR.

Find the value of x.

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

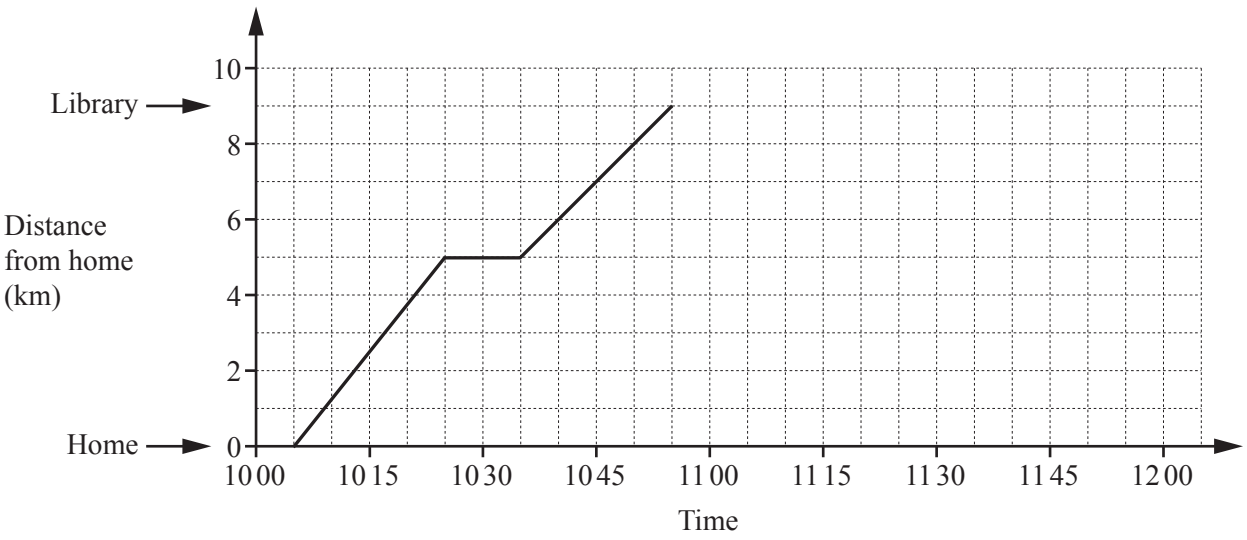
© UCLES 2018

13 Calculate the size of one exterior angle of a regular 15-sided polygon.

View solution

..... [2]

14 Shohan cycles from home to the library.
He stops at the post office on the way.
The travel graph shows his journey.



(a) Write down the time Shohan arrives at the post office.

View solution

..... [1]

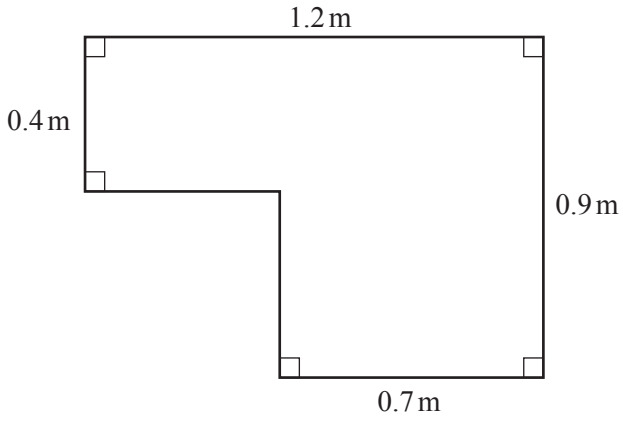
(b) Shohan stays at the library for 25 minutes.
He then cycles home at a constant speed of 18 km/h.

Complete the travel graph.

View solution

[2]

15 The diagram shows the top of a table.



NOT TO SCALE

(a) Calculate the perimeter.

View solution

..... m [1]

(b) Calculate the area.

View solution

..... m^2 [2]

16 **Without using your calculator**, work out $\frac{3}{8} \div 2\frac{1}{4}$.

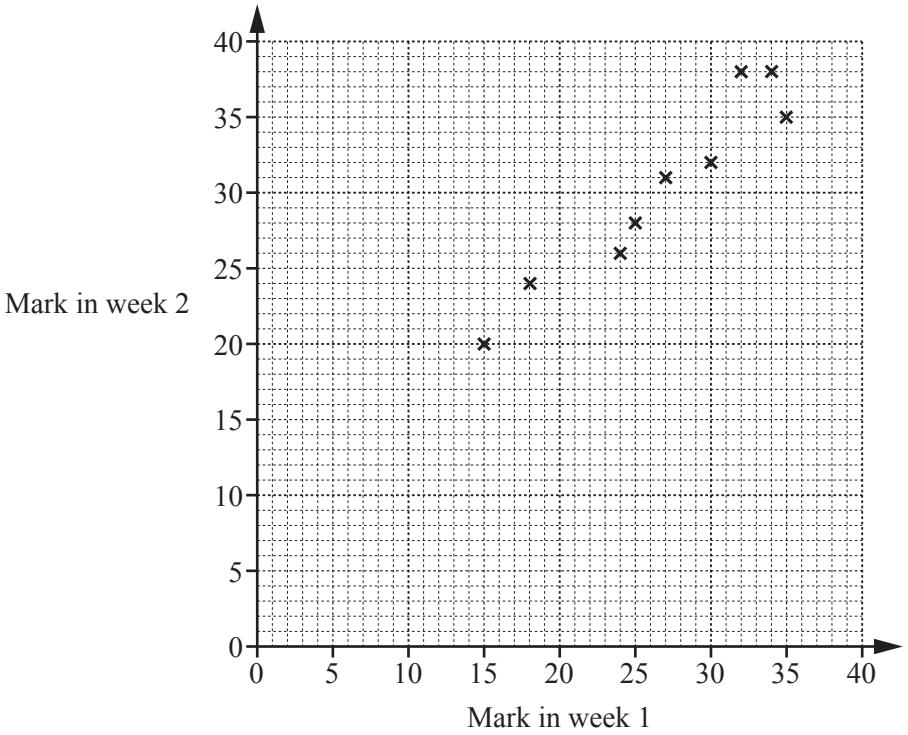
View solution

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

..... [3]

© UCLES 2018

17 A teacher gives her Spanish students a test each week.
Some of the students' marks for two weeks are shown in the scatter diagram.



(a) Leo scored 28 marks in week 1 and 30 marks in week 2.

On the scatter diagram, plot a point to show Leo's marks. [1]

(b) On the scatter diagram, draw a line of best fit. [1]

(c) Sonia scored 20 marks in week 1 but was absent in week 2.

Use your line of best fit to estimate a mark for Sonia in week 2.

..... [1]

18 Jan invests $800 at a rate of 3% per year simple interest.

Calculate the value of her investment at the end of 4 years.

$ ..... [3]

19 These are the first five terms in a sequence.

8 11 14 17 20

(a) Find the next term.

View solution

..... [1]

(b) Find an expression for the nth term.

View solution

..... [2]

20 A water tank in the shape of a cuboid has length 1.5 metres and width 1 metre.
The water in the tank is 60 centimetres deep.

View solution

Calculate the number of litres of water in the tank.

..... litres [3]

© UCLES 2018

21 **(a)** In 2016, the population of Nigeria was 187 000 000.

View solution

Write 187 000 000 in standard form.

..... [1]

(b) In 2016, the population of South Africa was 5.50×10^7.
In 2016, the population of Kenya was 4.72×10^7.

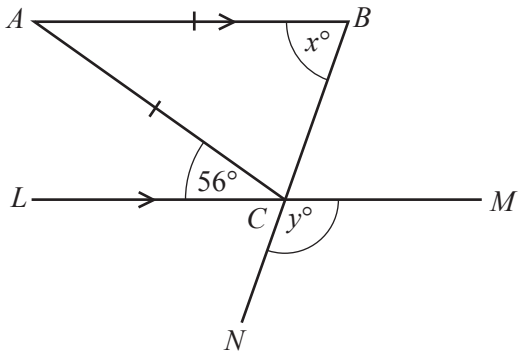
View solution

Calculate the difference between the population of South Africa and the population of Kenya.
Give your answer in standard form.

..... [2]

22

View solution



NOT TO SCALE

The diagram shows an isosceles triangle ABC with $AB = AC$.
LCM and BCN are straight lines and LCM is parallel to AB.
Angle $ACL = 56°$.

Find the value of x and the value of y.

$x =$ .....

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

Question 23 is printed on the next page.

23 **(a)** Expand the brackets and simplify fully.

View solution

$$5(x-3)+2(3x+1)$$

..... [2]

(b) Solve the simultaneous equations.
You must show all your working.

View solution

$$4x-y=14$$
$$3x+2y=5$$

$x =$ .....

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

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.