Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

MATHEMATICS **0580/12**

Paper 1 (Core) **October/November 2017**

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 2017

1 Write, in figures, fourteen thousand and twenty seven.

..... [1]

2 One day, at noon, in Maseru, the temperature was 17 °C.
At midnight the temperature was 20 °C lower.

Work out the temperature at midnight.

.....°C [1]

3 Write down the value of 12^0.

..... [1]

4 Write 5.17×10^{-3} as an ordinary number.

..... [1]

5 Write the following in order of size, starting with the smallest.

$\frac{31}{50}$ 64% $\frac{5}{8}$ 0.63

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

6 A taxi journey costs \$4.50, plus 80 cents for each kilometre travelled.
Julianna travels 7 km.

Work out the cost of her journey.

\$ ..... [2]

7 Work out.

$$\frac{6.32 + 2.06}{4.15 - 0.12}$$

Give your answer correct to 1 decimal place.

..... [2]

8 **(a)** 1 and 12 are factors of 12.

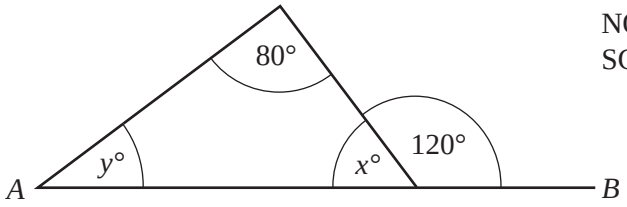
Write down all the other factors of 12.

..... [1]

(b) Write down the multiples of 9 between 20 and 40.

..... [1]

9



NOT TO SCALE

In the diagram, *AB* is a straight line.

Find the value of *x* and the value of *y*.

x = ...

y = ... [2]

10 Write 55 g as a percentage of 2.2 kg.

.....% [2]

11 The area of a triangle is $528\,cm^2$.
The length of its base is 33 cm.

Calculate the perpendicular height of the triangle.

..... cm [2]

12 **(a)** As the temperature increases, the number of ice creams sold increases.
What type of correlation is this?

..... [1]

(b) Write down the type of correlation there is between the height of an adult and the amount of money they earn.

..... [1]

13 Bastian has a bag containing four types of sweet.
He takes a sweet from the bag at random.

Sweet	Mint	Fruit	Toffee	Chocolate
Probability	0.15	0.3		0.2

Complete the table.

[2]

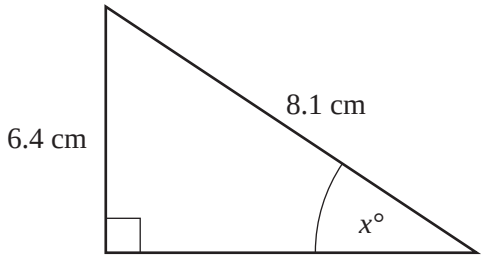
14 The length, l metres, of a ship is 362 m, correct to the nearest metre.

Complete the statement about the value of l.

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

© UCLES 2017

15

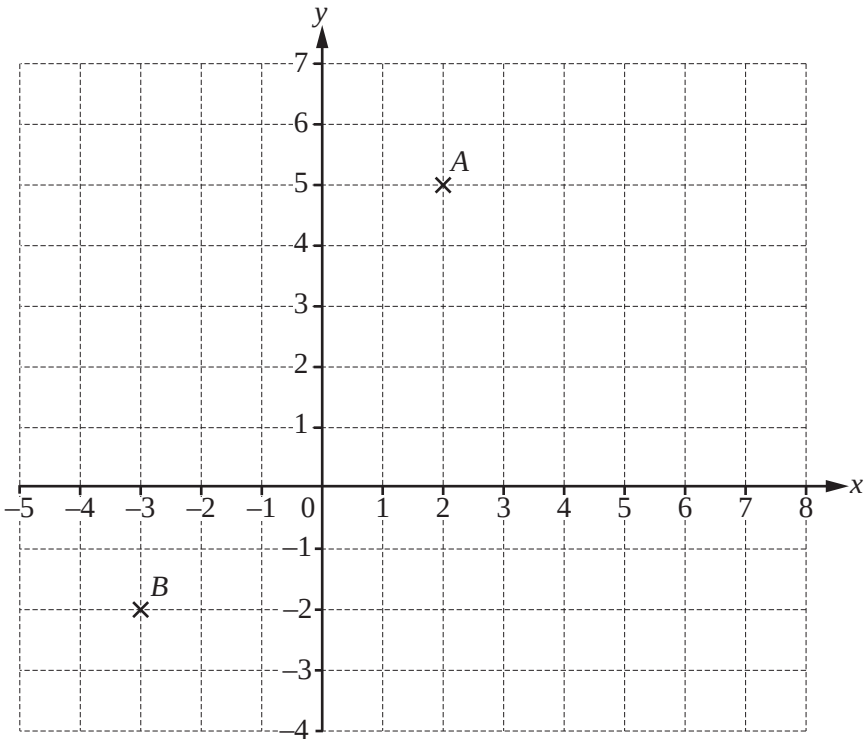


NOT TO SCALE

Calculate the value of x.

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

16



(a) Write down the co-ordinates of point A.

(..... , ...) [1]

(b) Plot point C at $(7, -2)$. [1]

(c) Write down the mathematical name of the triangle formed by joining the points A, B and C.

..... [1]

© UCLES 2017

[Turn over

17 *AB* is a straight line.



(a) Measure the length of *AB*.

..... cm [1]

(b) Mark the midpoint of *AB*. [1]

(c) Draw a line perpendicular to *AB*. [1]

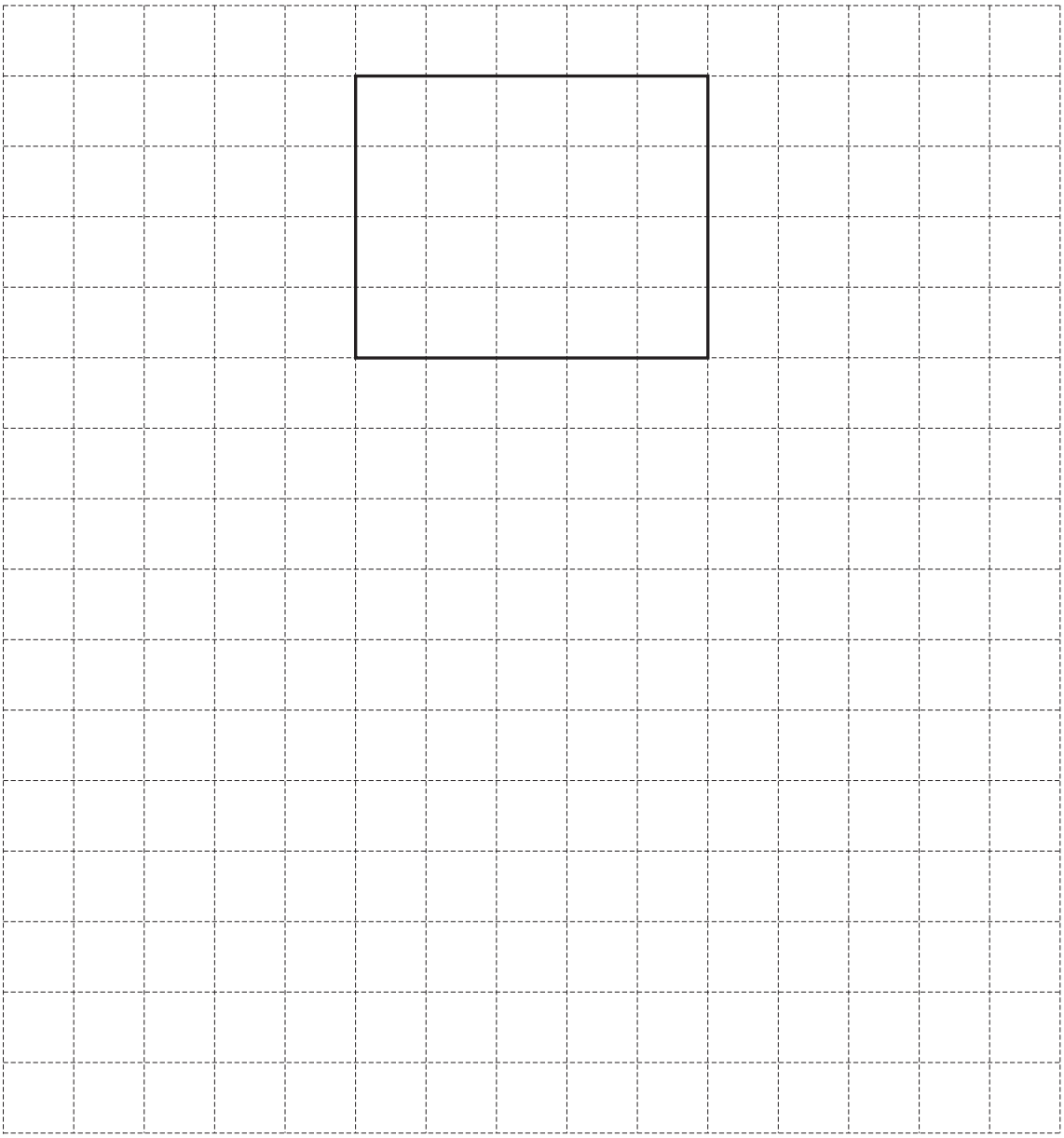
18 Find the size of the interior angle of a regular hexagon.

..... [3]

© UCLES 2017

19 A cuboid measures 5 cm by 4 cm by 3 cm.

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



[3]

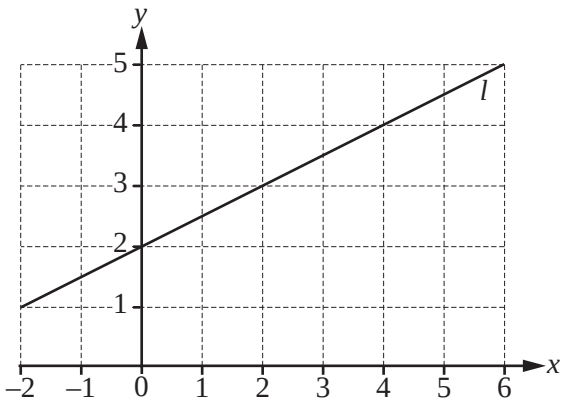
20 **(a)** Write $\frac{11}{3}$ as a mixed number.

..... [1]

(b) **Without using a calculator**, work out $\frac{1}{4} + \frac{5}{12}$.
Show all the steps of your working and give your answer as a fraction in its lowest terms.

..... [2]

21



Find the equation of the line l in the form $y = mx + c$.

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

© UCLES 2017

22 **(a)** These are the first four terms of a sequence.

8 15 22 29

(i) Write down the next term.

..... [1]

(ii) Write down the rule for continuing the sequence.

..... [1]

(b) These are the first four terms of a different sequence.

2 6 10 14

Find an expression for the nth term of this sequence.

..... [2]

23 Solve the equations.

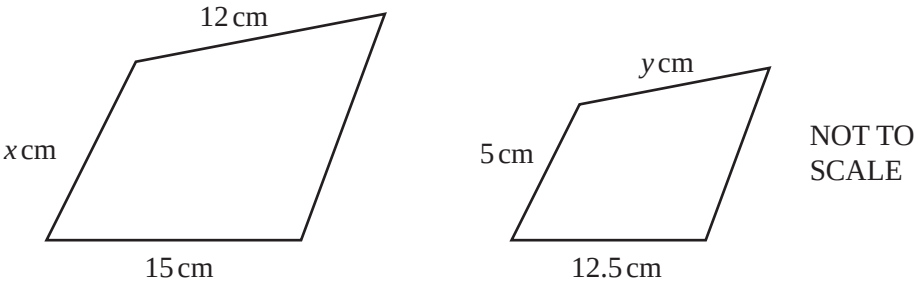
(a) $7-3n=11n+2$

$n=$ ..... [2]

(b) $\frac{p-3}{5}=3$

$p=$ ..... [2]

24



The two shapes are mathematically similar.

Find the value of

(a) x,

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

(b) y.

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

© UCLES 2017

BLANK PAGE

© UCLES 2017

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.