Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

8194447042

MATHEMATICS **0580/12**

Paper 1 (Core) **May/June 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 **12** printed pages.

© UCLES 2017

CAMBRIDGE International Examinations

1 Write 0.071 64 correct to 2 significant figures.

..... [1]

2 The probability that Stephanie wins her next tennis match is 0.85 .

Find the probability that Stephanie does not win her next tennis match.

..... [1]

3 Calculate $\sqrt{120} + 3.8^2 - 25$.

..... [1]

4 Work out 85 cents as a percentage of \$2.03 .

..... % [1]

5 Change $6200\,\text{cm}^2$ into m^2.

..... m^2 [1]

6 Factorise.

$14x - 21y$

..... [1]

© UCLES 2017

7 The daily temperature, in °C, at 3 pm in a town is shown below.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
3	−2	1	2	−4	3	5

(a) Which day had the coldest temperature?

..... [1]

(b) Work out the difference in the temperatures on Friday and Saturday.

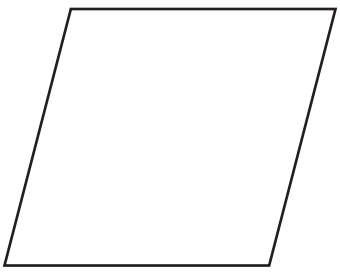
..... °C [1]

8 Write these numbers in order of size, smallest first.

$\frac{7}{22}$ 0.3 33% $\frac{1}{3}$

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

9



The shape above is a rhombus.

Draw all the lines of symmetry on the shape. [2]

10 **(a)** Write 0.03 as a percentage.

..... % [1]

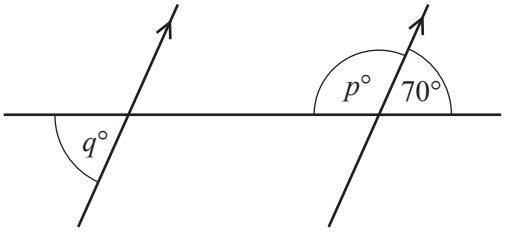
(b) Write 37% as a fraction.

..... [1]

11 Find the value of $5a - 3b$ when $a = 7$ and $b = -2$.

..... [2]

12



NOT TO SCALE

The diagram shows a straight line intersecting two parallel lines.

Find the value of p and the value of q.

$p =$ .....

$q =$ ..... [2]

13 Solve.

$$2 - x = 5x + 1$$

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

© UCLES 2017

14 **(a)** Write 0.0605 in standard form.

..... [1]

(b) Calculate $0.1 \times 5.1 \times 10^4$, giving your answer in standard form.

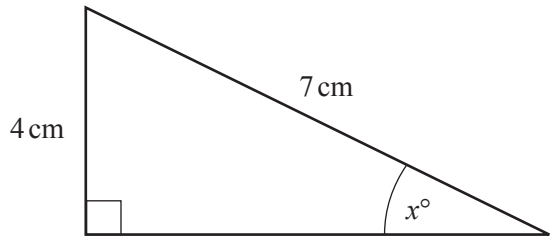
..... [1]

15 The mass, m kilograms, of a cat is 2.7 kg, correct to 1 decimal place.

Complete the statement about the value of m.

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

16

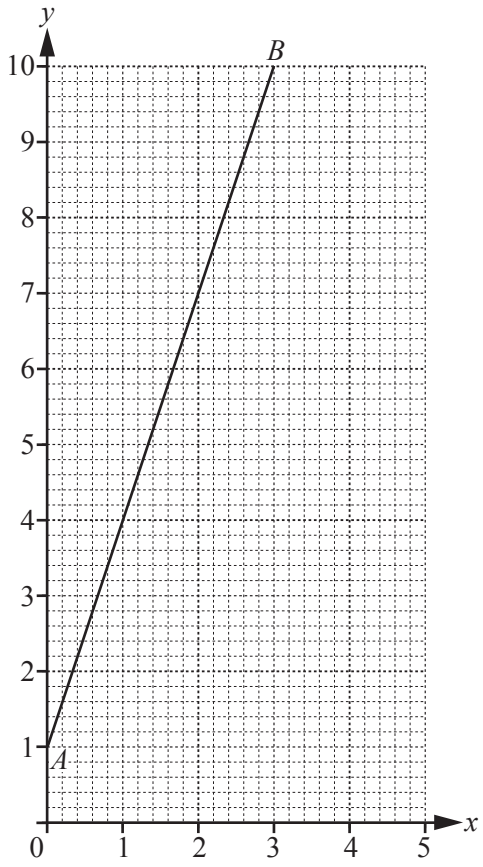


NOT TO SCALE

Calculate the value of x.

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

17

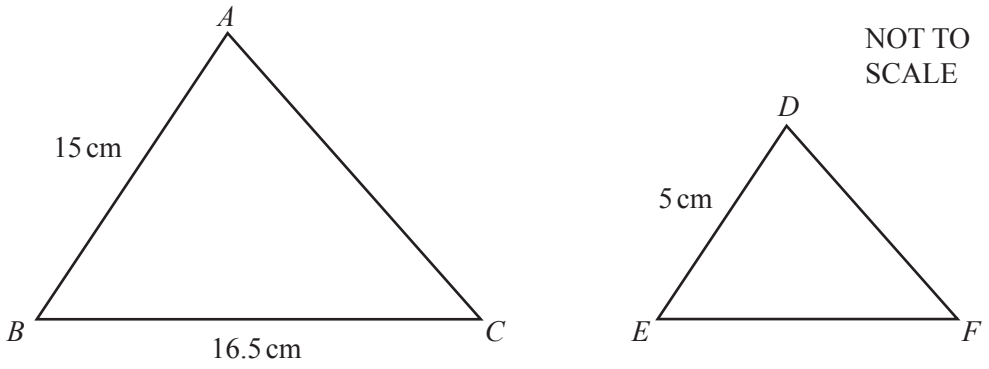


Find the gradient of the line AB.

..... [2]

© UCLES 2017

18



Triangles *ABC* and *DEF* are similar.

Find the length of *EF*.

EF = ... cm [2]

19 The exchange rate between dollars and euros(€) is €1 = $1.158 .

(a) Felicity changes €4900 into dollars.

Work out how many dollars she receives.

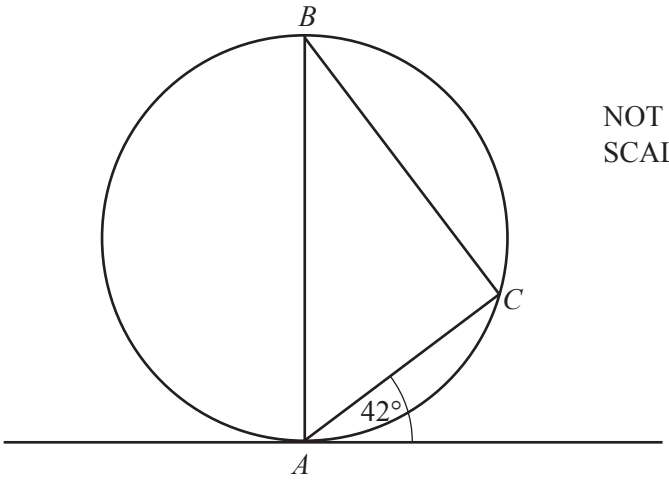
$ ..... [1]

(b) Ricky changes $2895 into euros.

Work out how many euros he receives.

€ ..... [2]

20



NOT TO SCALE

A, B and C are points on the circumference of a circle with diameter AB.
A tangent is drawn at A.

Find

(a) angle BAC,

Angle BAC = ... [1]

(b) angle ABC.

Angle ABC = ... [2]

© UCLES 2017

21 (a) **Without using a calculator**, work out $\frac{5}{6} - \frac{1}{2}$.

Show all the steps of your working and give your answer as a fraction in its simplest form.

..... [2]

(b) Show that $4\frac{1}{6} \times 1\frac{4}{5} = 7\frac{1}{2}$.

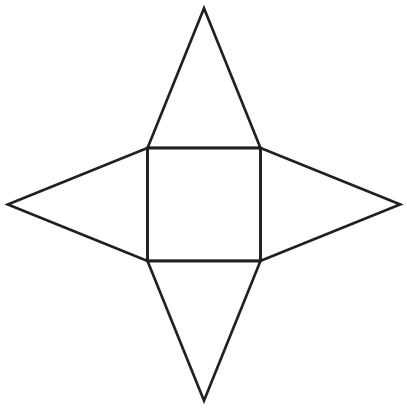
Do not use a calculator and show all the steps of your working.

[2]

22 **(a)** Each diagram shows the net of a solid.

Write down the mathematical name of each solid.

(i)



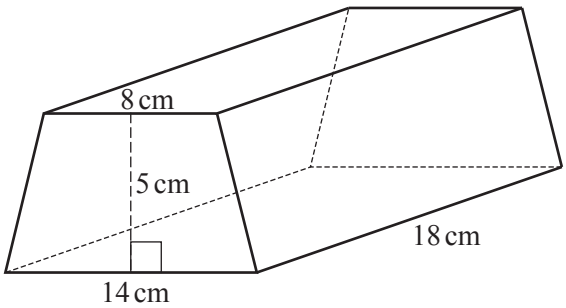
..... [1]

(ii)



..... [1]

(b) The cross section of this prism is a trapezium.



NOT TO SCALE

Calculate the volume of the prism.

..... cm^3 [3]

23 Pablo has $16 400 to invest in one of these savings plans.

Plan A pays compound interest at a rate of 4% per year.
Plan B pays simple interest at a rate of 4% per year.

Pablo invests the $16 400 for 3 years.

Calculate how much more he will receive from Plan A than from Plan B.
Give your answer correct to 2 decimal places.

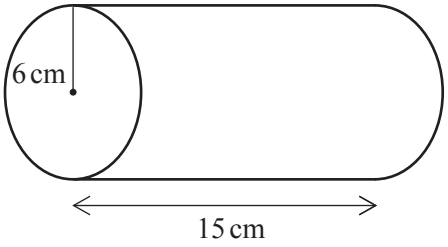
$ ..... [5]

Question 24 is printed on the next page.

24 **(a)** Work out the area of a circle with radius 6 cm.

..... cm^2 [2]

(b) A solid cylinder has length 15 cm and radius 6 cm.



NOT TO SCALE

Calculate the total surface area of the cylinder.

..... cm^2 [4]

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.