Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

0253265360

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

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

45 minutes

Candidates answer on the Question Paper.

Additional Materials: 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.
Do not use staples, paper clips, glue or correction fluid.
You may use an HB pencil for any diagrams or graphs.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** the questions.
CALCULATORS MUST NOT BE USED IN THIS PAPER.
All answers should be given in their simplest form.
You must show all the relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 40.

This document consists of **8** printed pages.

CAMBRIDGE International Examinations

Formula List

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle, radius r.	$A = \pi r^2$
Circumference, C, of circle, radius r.	$C = 2\pi r$
Curved surface area, A, of cylinder of radius r, height h.	$A = 2\pi rh$
Curved surface area, A, of cone of radius r, sloping edge l.	$A = \pi rl$
Curved surface area, A, of sphere of radius r.	$A = 4\pi r^2$
Volume, V, of prism, cross-sectional area A, length l.	$V = Al$
Volume, V, of pyramid, base area A, height h.	$V = \frac{1}{3}Ah$
Volume, V, of cylinder of radius r, height h.	$V = \pi r^2 h$
Volume, V, of cone of radius r, height h.	$V = \frac{1}{3}\pi r^2 h$
Volume, V, of sphere of radius r.	$V = \frac{4}{3}\pi r^3$

Answer **all** the questions.

1 Write 0.37 as a percentage.

..... % [1]

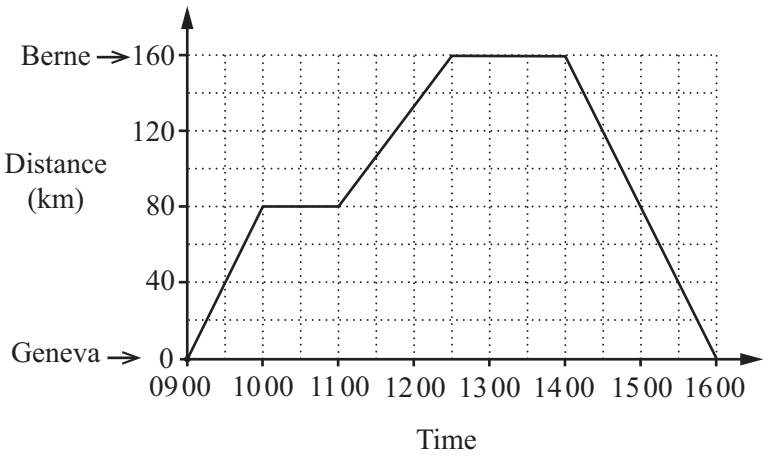
2 Write down the next square number after 36. ..... [1]

3 Change 5 years into months. ..... months [1]

4 Change 260 centimetres into metres.

..... metres [1]

5



The distance-time graph shows Sammy's journey from Geneva to Berne and back to Geneva.

(a) How far from Geneva was Sammy at 1100?

..... km [1]

(b) Sammy stays for $1\frac{1}{2}$ hours in Berne.

He then returns to Geneva.

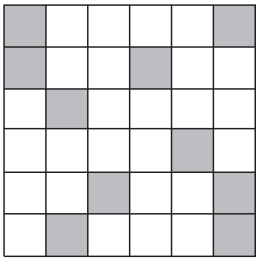
(i) How long did the journey from Berne to Geneva take?

..... hours [1]

(ii) Find the average speed of this journey.

..... km/h [1]

6



On the grid, shade **two** squares to give the diagram rotational symmetry of order 4. [1]

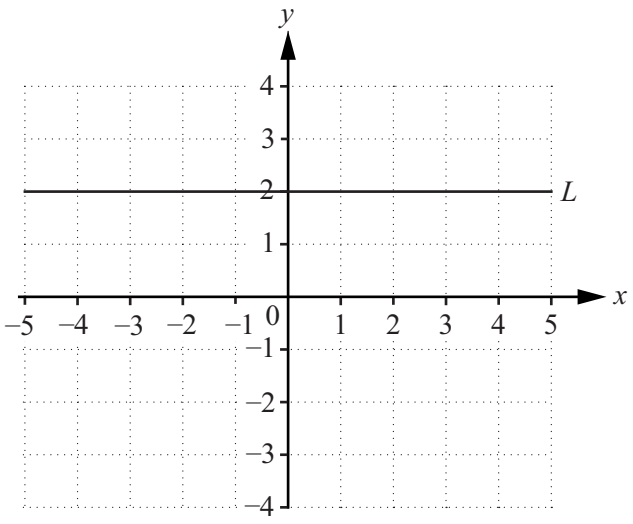
7 A polygon has 8 sides.
Write down the mathematical name for this shape.

..... [1]

8 Complete the statement.

An angle that is more than 90° but is less than 180° is called ..... [1]

9



The diagram shows a line L drawn on a grid.

(a) On the grid, draw the line $x = 3$. [1]

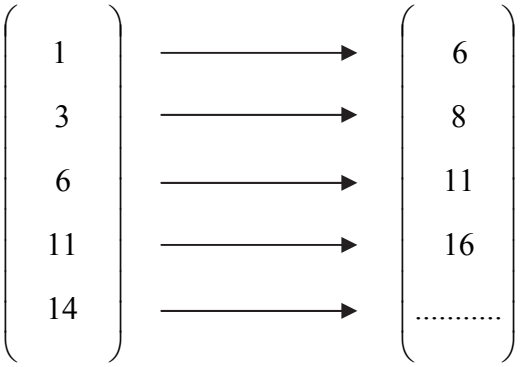
(b) Write down the co-ordinates where the line L and the line $x = 3$ intersect.

(.....) [1]

10 Find the distance between the points (–3, 4) and (5 , 4).

..... [1]

11 Complete the mapping diagram.



[1]

12 Write down the next term of this sequence.

5, 9, 13, 17, …

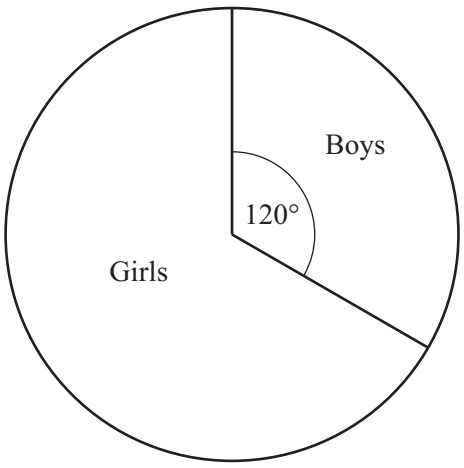
..... [1]

13 Find an expression for the nth term of this sequence.

4, 7, 10, 13, 16, …

..... [2]

14

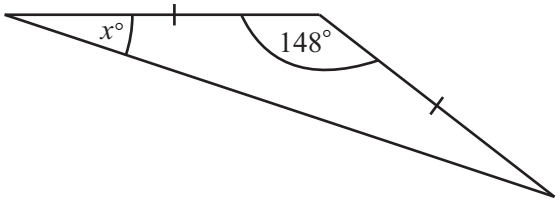


The pie chart represents 60 students.

Work out how many of the students are boys.

..... [2]

15



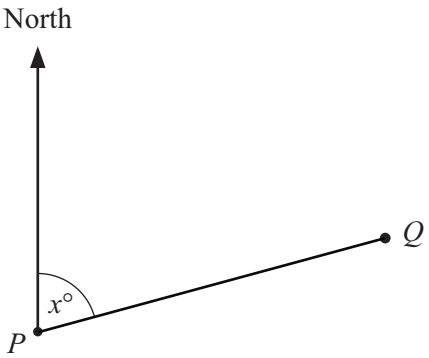
NOT TO SCALE

The diagram shows an isosceles triangle.

Find the value of x.

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

16



NOT TO SCALE

(a) Measure the angle marked x.

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

(b) Write down the bearing of Q from P.

..... [1]

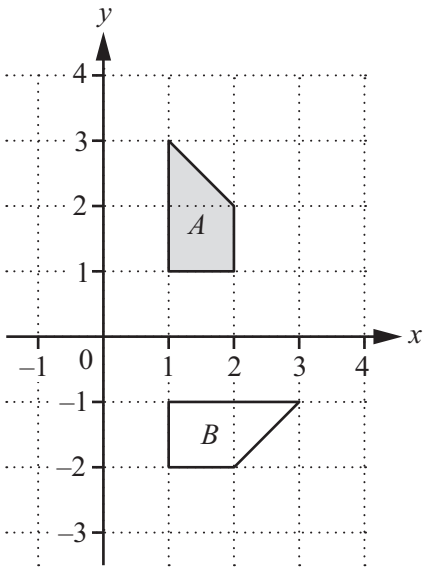
17 Find the highest common factor (HCF) of 54 and 72.

..... [1]

18 Work out $(3 \times 10^6) \times (4 \times 10^4)$.
Write your answer in standard form.

..... [2]

19



Describe fully the **single** transformation that maps shape A onto shape B.

.....

..... [3]

20 A is the point (4, 9) and B is the point (1, 3).

Find $\overrightarrow{AB}$.

$\overrightarrow{AB} = \begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [2]

21 A bag contains red, blue and green beads only.
There are 40 beads in the bag.
One bead is chosen at random.

The probability that the bead is red is $\frac{1}{8}$.

The probability that the bead is blue is $\frac{5}{8}$.

(a) Find the probability that the bead is green.

..... [2]

(b) Work out the number of blue beads in the bag.

..... [1]

Questions 22 and 23 are printed on the next page.

22 Write down an expression, in terms of x and y, for the total cost of x pens at 25 cents each and y pens at 45 cents each.

..... cents [2]

23 Solve the simultaneous equations.

$$3x + 2y = 21$$
$$4x - 5y = 5$$

$x =$ .....

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