Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

8123913007

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

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

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.

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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.	$V = \frac{4}{3}\pi r^3$

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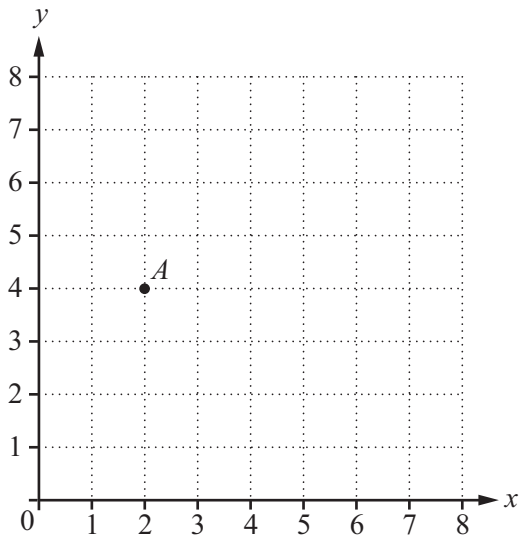
[Turn over

Answer **all** the questions.

1 Write 42 652 correct to the nearest hundred.

..... [1]

2



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

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

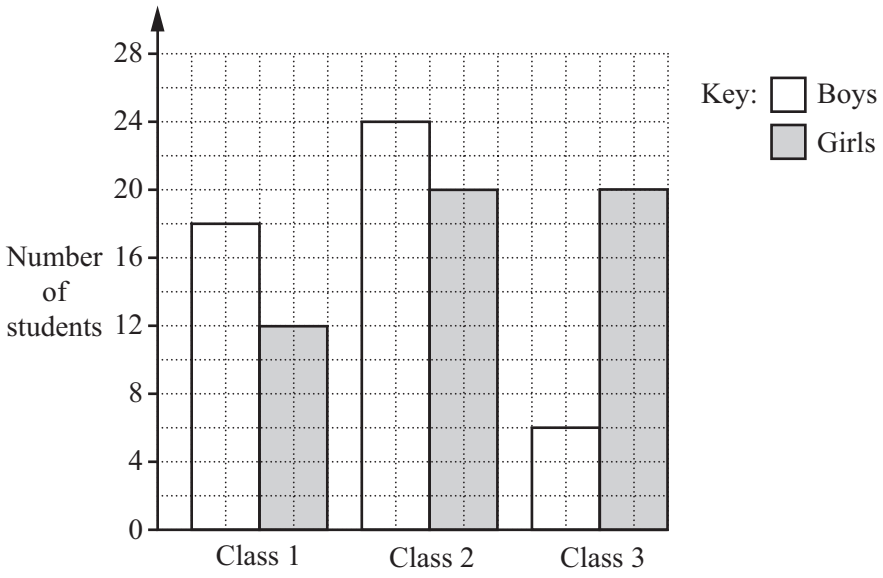
(b) On the grid, plot the point (7, 5). Label it *B*. [1]

3 Complete the second column in the table using the words discrete or continuous.

Data collected in a survey	Type of data
Number of students	
The mass of students	
Number of pets that students own	
The time it takes to get to school	

[2]

4



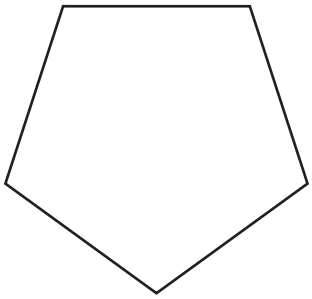
The bar chart shows the numbers of students in each of three classes.

Work out the difference in the **total** number of boys and the **total** number of girls.

.....

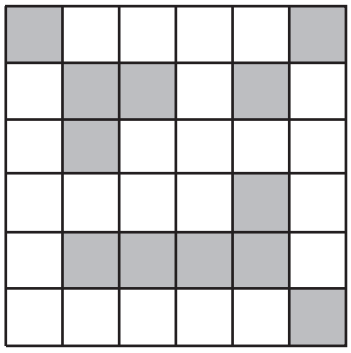
[2]

5 **(a)** Draw all the lines of symmetry on the regular pentagon.



[2]

(b)



Shade **four** squares on the grid to give the diagram 4 lines of symmetry. [1]

6 The mass, x grams, of each of 130 tomatoes is recorded.
This information is shown in the frequency table below.

Mass (x grams)	$0 < x \leqslant 35$	$35 < x \leqslant 50$	$50 < x \leqslant 65$	$65 < x \leqslant 80$	$80 < x \leqslant 100$
Frequency	25	27	30	28	20

Complete the cumulative frequency table.

Mass (x grams)	$0 < x \leqslant 35$	$0 < x \leqslant 50$	$0 < x \leqslant 65$	$0 < x \leqslant 80$	$0 < x \leqslant 100$
Cumulative frequency					130

[2]

7 This table shows the ages, in years, of 50 students in a school.

Age (years)	11	12	13	14	15	16
Number of boys	4	3	6	2	5	4
Number of girls	2	5	3	6	4	6

(a) How many girls are less than 14 years old?

..... [1]

(b) What percentage of the students are at least 15 years old?

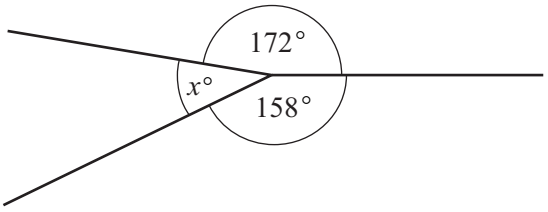
..... % [2]

(c) One of the 50 students is chosen at random.

What is the probability that this student is less than 13 years old?
Give your answer as a fraction in its simplest form.

..... [2]

8

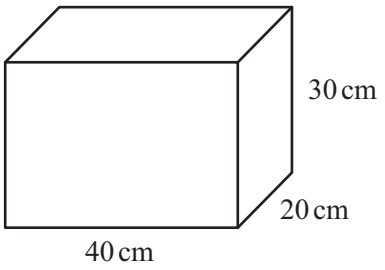


NOT TO SCALE

Find the value of x.

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

9

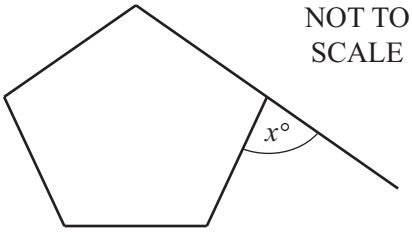


NOT TO SCALE

Find the volume of the cuboid.

..... cm^3 [2]

10



NOT TO SCALE

The diagram shows a regular pentagon.

Find the size of the exterior angle, x.

..... [2]

11 $A = \dfrac{b \times h}{2}$

Find the value of b when $A = 21$ and $h = 6$.

$b =$ ..... [2]

12 **(a)** Write down the value of 8^0.

..... [1]

(b) Simplify $6p^3 \times 3p^6$.

..... [2]

13 Write 88 as a product of prime factors.

..... [2]

14 A radio originally cost \$75.
It is sold for \$84.

Work out the percentage profit.

..... % [3]

Questions 15, 16 and 17 are printed on the next page.

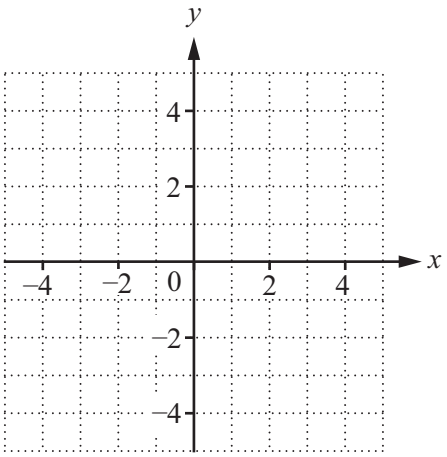
15 Work out $(8 \times 10^{-3}) \times (7 \times 10^{9})$.

Give your answer in standard form.

..... [2]

16 Find the image of the point (2, 3) after a reflection in the line $x = 1$.

You may use the grid to help you.



(..... , ...) [3]

17 P is the point (5, 7) and $\overrightarrow{PQ} = \begin{pmatrix} 3 \\ -2 \end{pmatrix}$.

(a) Find the co-ordinates of Q.

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

(b) Describe fully the **single** transformation that maps Q onto P.

.....

..... [2]

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