Cambridge IGCSE

Cambridge International Examinations
International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/11**

Paper 1 (Core) **May/June 2014**

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 **11** printed pages and **1** blank page.

CAMBRIDGE International Examinations

[Turn over

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

1 Work out.

$2.5 \times 10 \div 5$

Answer ..... [1]

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2 Find 3% of \$8000 .

Answer \$ ..... [1]

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3 **(a)** Write 46.849 correct to 1 decimal place.

Answer (a) ..... [1]

(b) After conversion from euros to dollars, a flight from Paris to London costs \$59.90235 .

Write this value correct to 4 significant figures.

Answer (b) \$ ..... [1]

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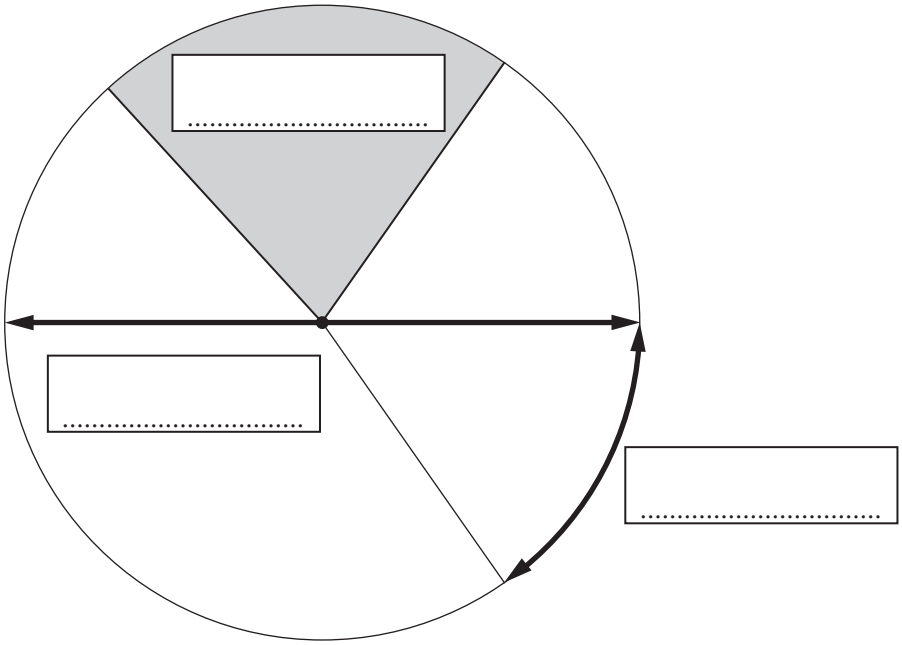
4 **(a)**

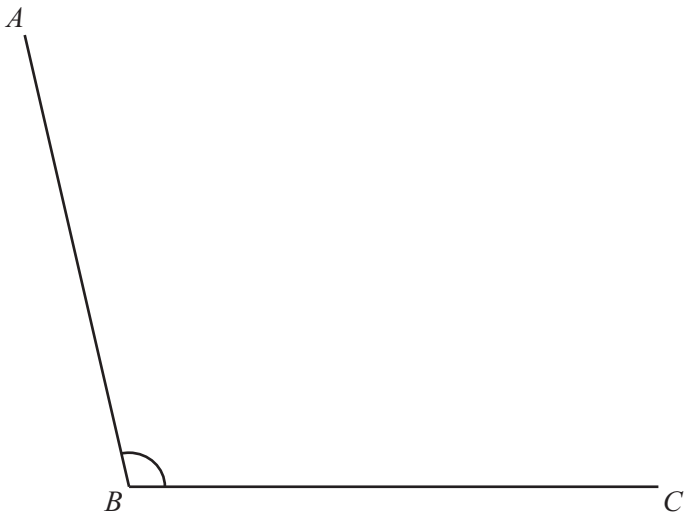
arc	**circumference**	**diameter**
radius	**sector**	**segment**

Label the diagram.
Use only words from the box above.



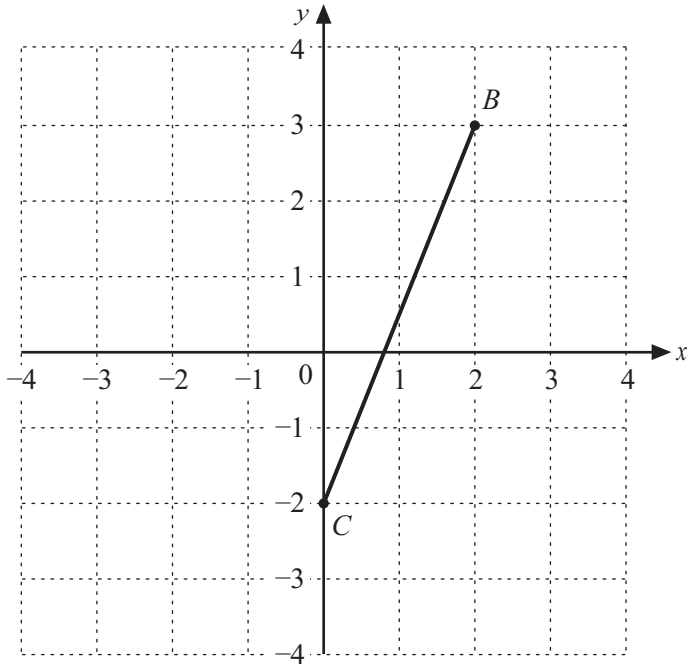
[3]

(b) Measure and write down the size of angle *ABC*.



Answer (b) ..... [1]

5



(a) On the grid, plot the point (–3, 2).
Label this point *A*. [1]

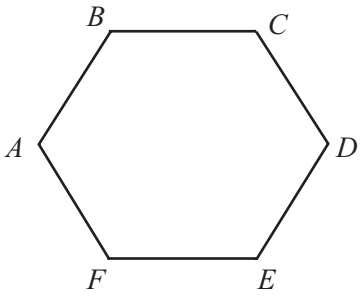
(b) Write down the co-ordinates of point *B*.

Answer (b) (..... , ...) [1]

(c) Find the midpoint of *BC*.

Answer (c) (..... , ...) [1]

6 (a)



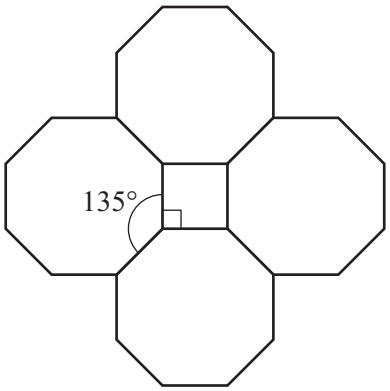
NOT TO SCALE

The diagram shows a regular hexagon.

Work out the size of angle *ABC*.
Show all your working.

Answer (a) ..... [3]

(b)



NOT TO SCALE

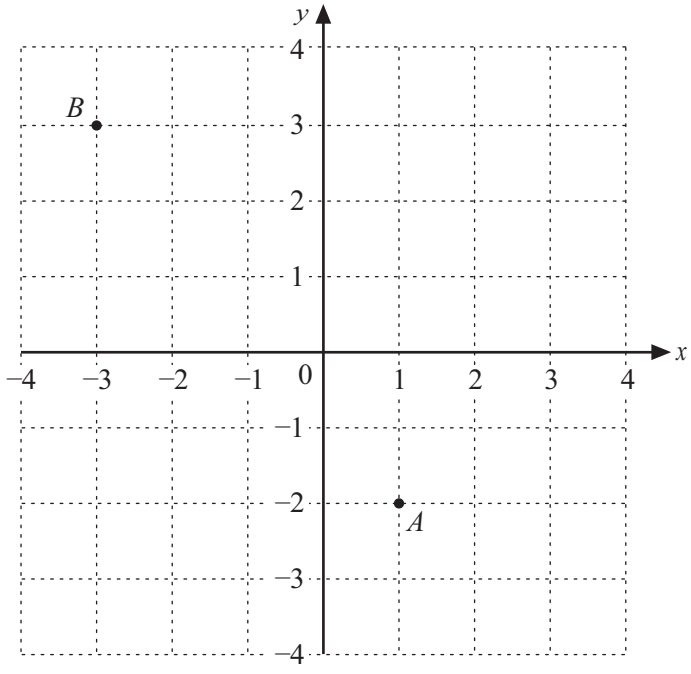
The diagram shows a square and four regular octagons.
The interior angle of a regular octagon is 135°.

Use angles to explain why the square and octagons fit together with no gaps, as shown in the diagram.

Answer (b) .....

..... [2]

7



Write $\overrightarrow{AB}$ as a column vector.

Answer $\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [2]

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8 A bag contains 3 red balls, 2 blue balls and 1 yellow ball.
A ball is chosen at random.

What is the probability that the ball is either red or blue?
Give your answer as a fraction.

Answer ..... [1]

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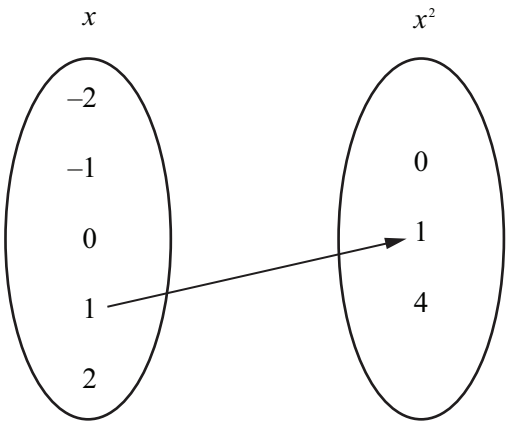
9 **(a)** Complete the mapping diagram for the function $f : x \mapsto x^2$.



[2]

(b) Write down the domain of the mapping in **part (a)**.

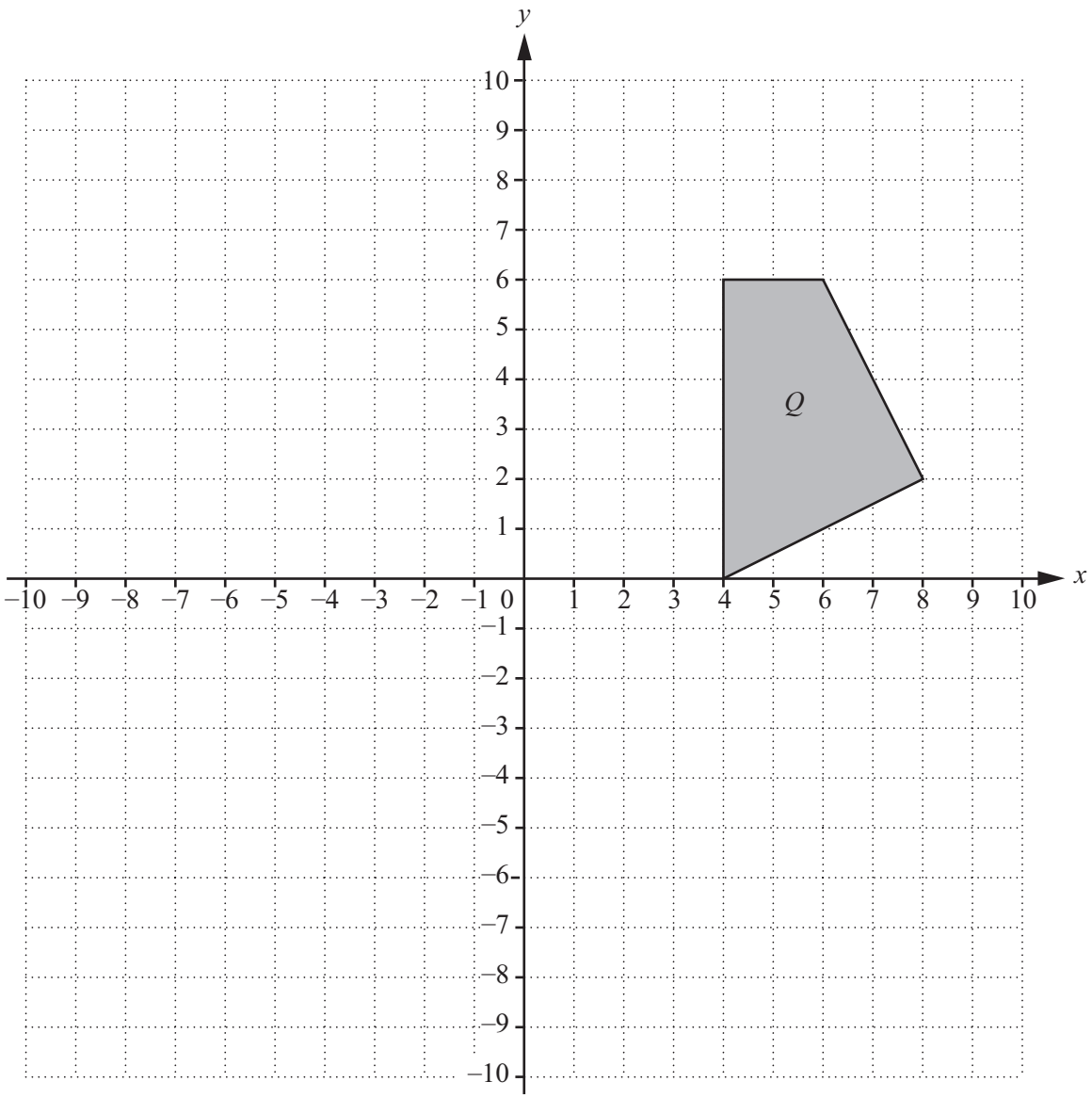
Answer (b) ..... [1]

(c) Which of these phrases describes the mapping in **part (a)**.

one-to-one one-to-many many-to-one many-to-many

Answer (c) ..... [1]

10



The diagram shows a quadrilateral Q.

(a) Draw the reflection of Q in the y-axis. [2]

(b) Draw the enlargement of Q with centre (0, 0) and scale factor $\frac{1}{2}$. [3]

11 **(a)** $3p - 5t = 8$

Work out the value of $12p - 20t$.

Answer (a) ..... [2]

(b) Solve the following equations.

(i) $5x - 7 = 9 + 3x$

Answer (b)(i) $x =$ ..... [2]

(ii) $4\,(4x - 5) = 28$

Answer (b)(ii) $x =$ ..... [3]

12

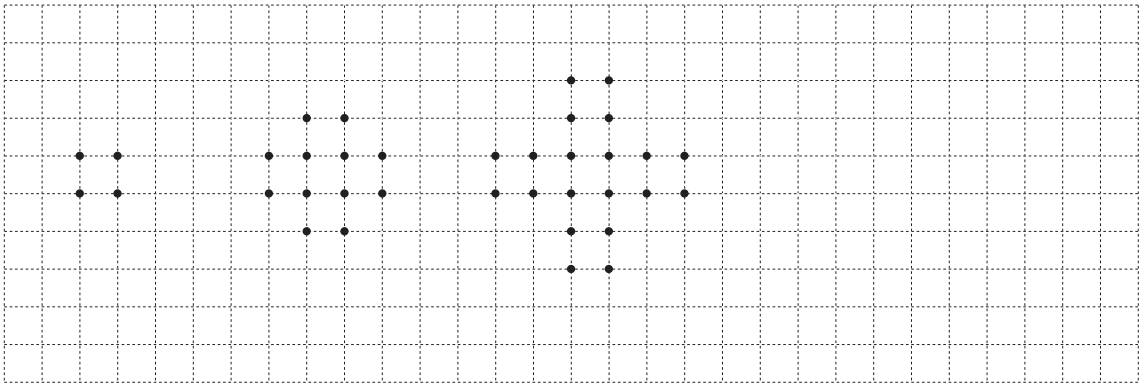


Diagram 1 Diagram 2 Diagram 3 Diagram 4

(a) Draw Diagram 4, the next pattern of dots in this sequence. [1]

(b) Complete this table.

Diagram Number	1	2	3	4
Total number of dots	4			

[2]

(c) Find an expression, in terms of n, for the nth term of the sequence.

Answer (c) ..... [2]

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