

E7.2 Transformations (Reflection, Enlargement, Rotation, Translation)

Question Paper

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Level	Core
Topic	E7. Matrices & Transformations
Sub-Topic	E7.2 Transformations (Reflection, Enlargement, Rotation, Translation)
Booklet	Question Paper

Time Allowed: 59 minutes

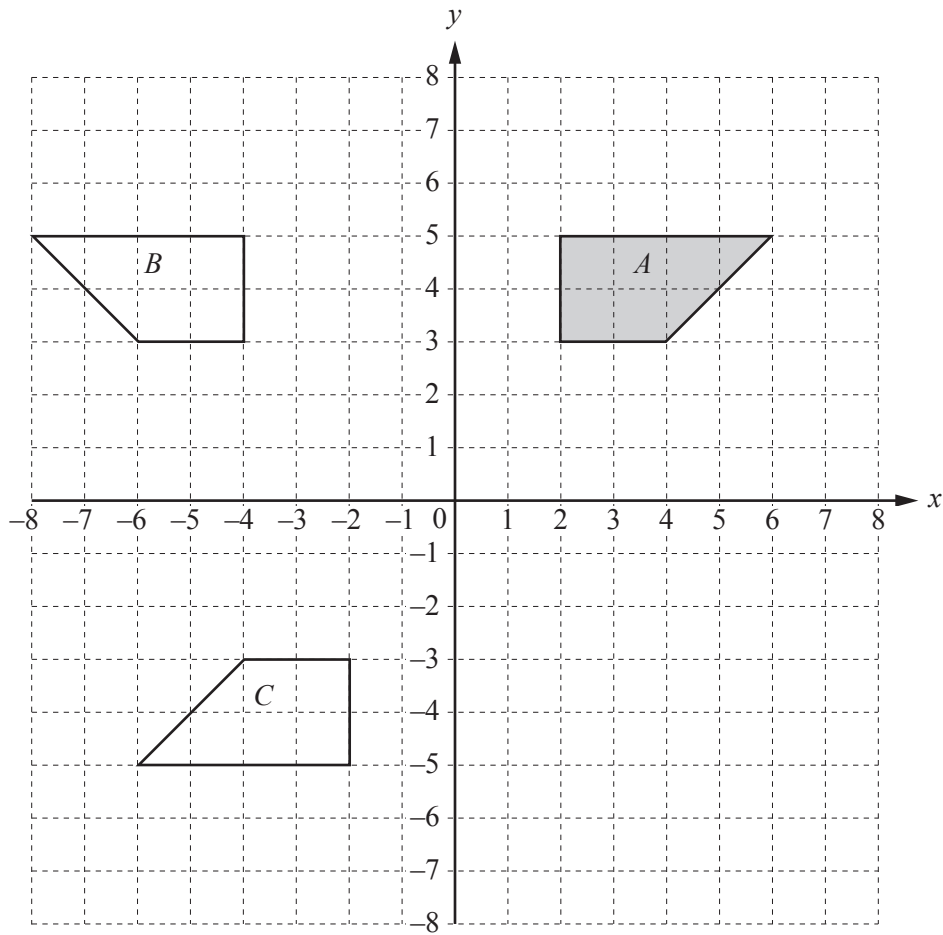
Score: /49

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1



(a) On the grid, draw the image of shape *A* after a translation by the vector $\begin{pmatrix} -2 \\ -6 \end{pmatrix}$. [2]

(b) (i) On the grid, draw the image of shape *A* after an enlargement, scale factor 2, centre (4, 4). [2]

(ii) Write down the scale factor of the enlargement that maps the image in **part (b)(i)** back onto shape *A*.
 [1]

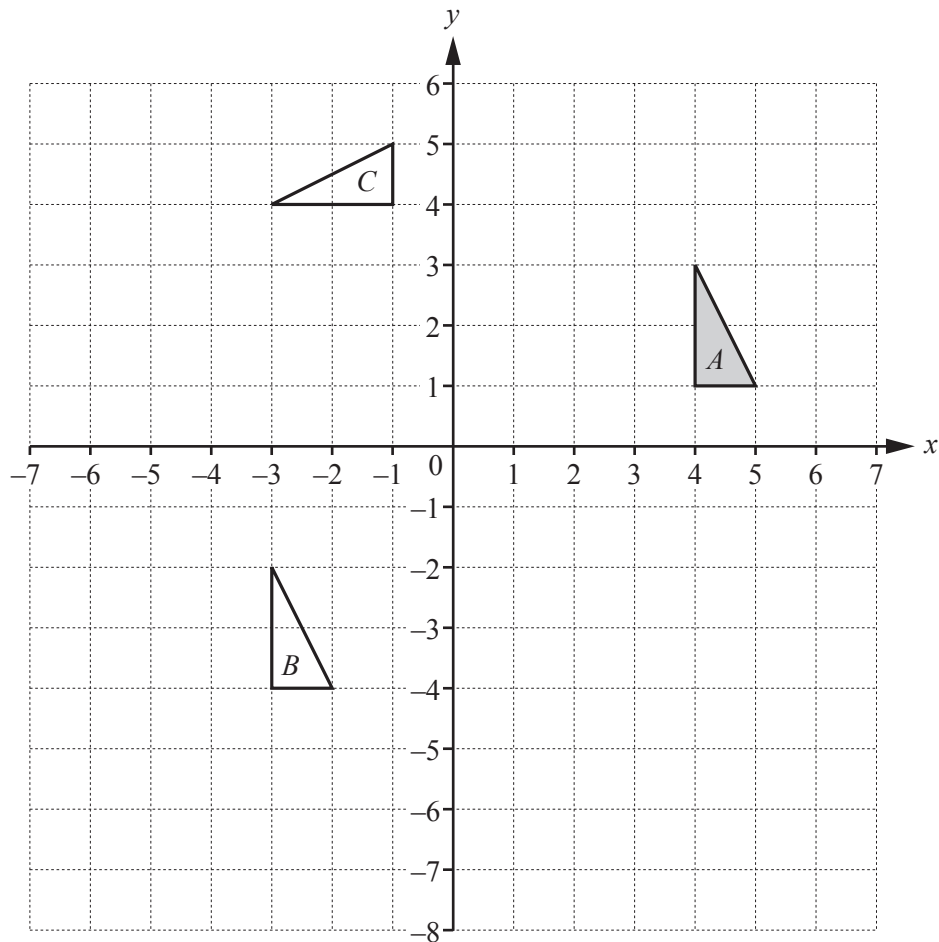
(c) Describe fully the **single** transformation that maps shape *A* onto shape *B*.

 [2]

(d) Describe fully the **single** transformation that maps shape *A* onto shape *C*.

.....
 [3]

2 (a)



(i) On the grid, draw the image of triangle *A* after a reflection in the line $y = -2$. [2]

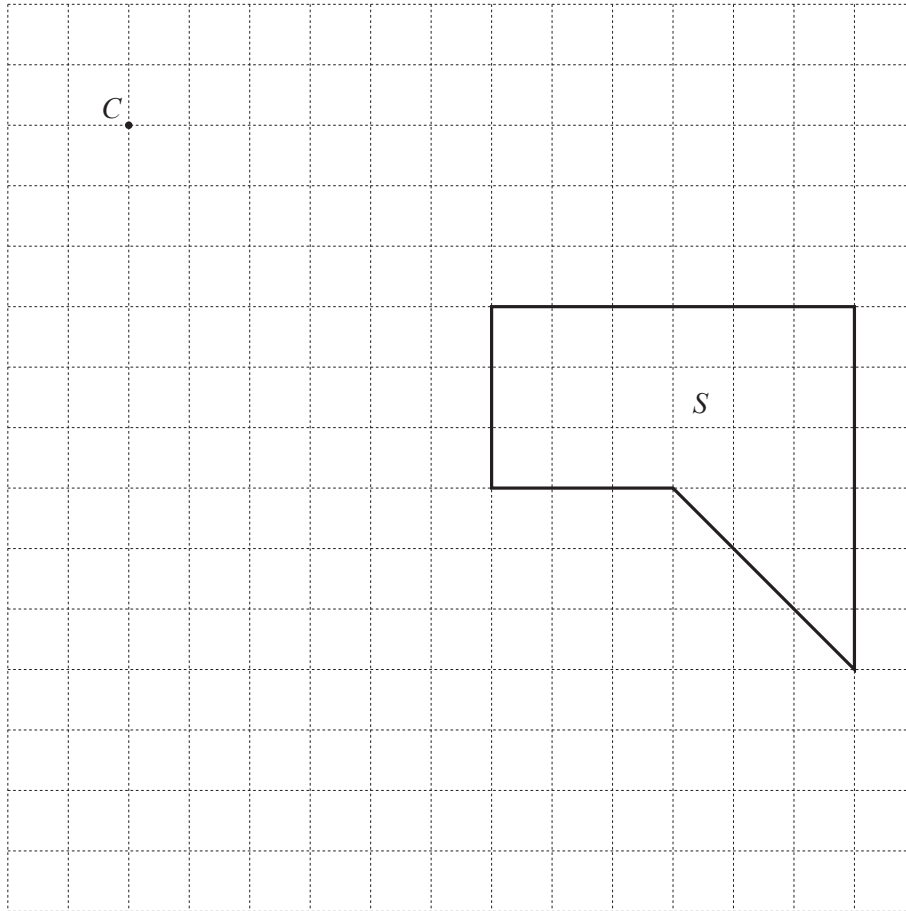
(ii) Describe fully the **single** transformation that maps triangle *A* onto triangle *B*.

.....
 [2]

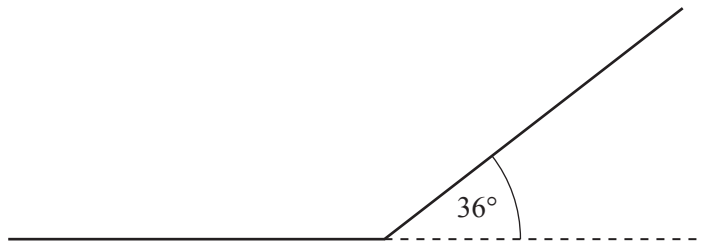
(iii) Describe fully the **single** transformation that maps triangle *A* onto triangle *C*.

.....
 [3]

- (b) On the grid, draw the image of shape S after an enlargement with scale factor $\frac{1}{3}$, centre C .



3 (a)



NOT TO
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The diagram shows 2 sides of a regular polygon with exterior angle 36° .

For this regular polygon, work out

(i) the number of sides,

..... [2]

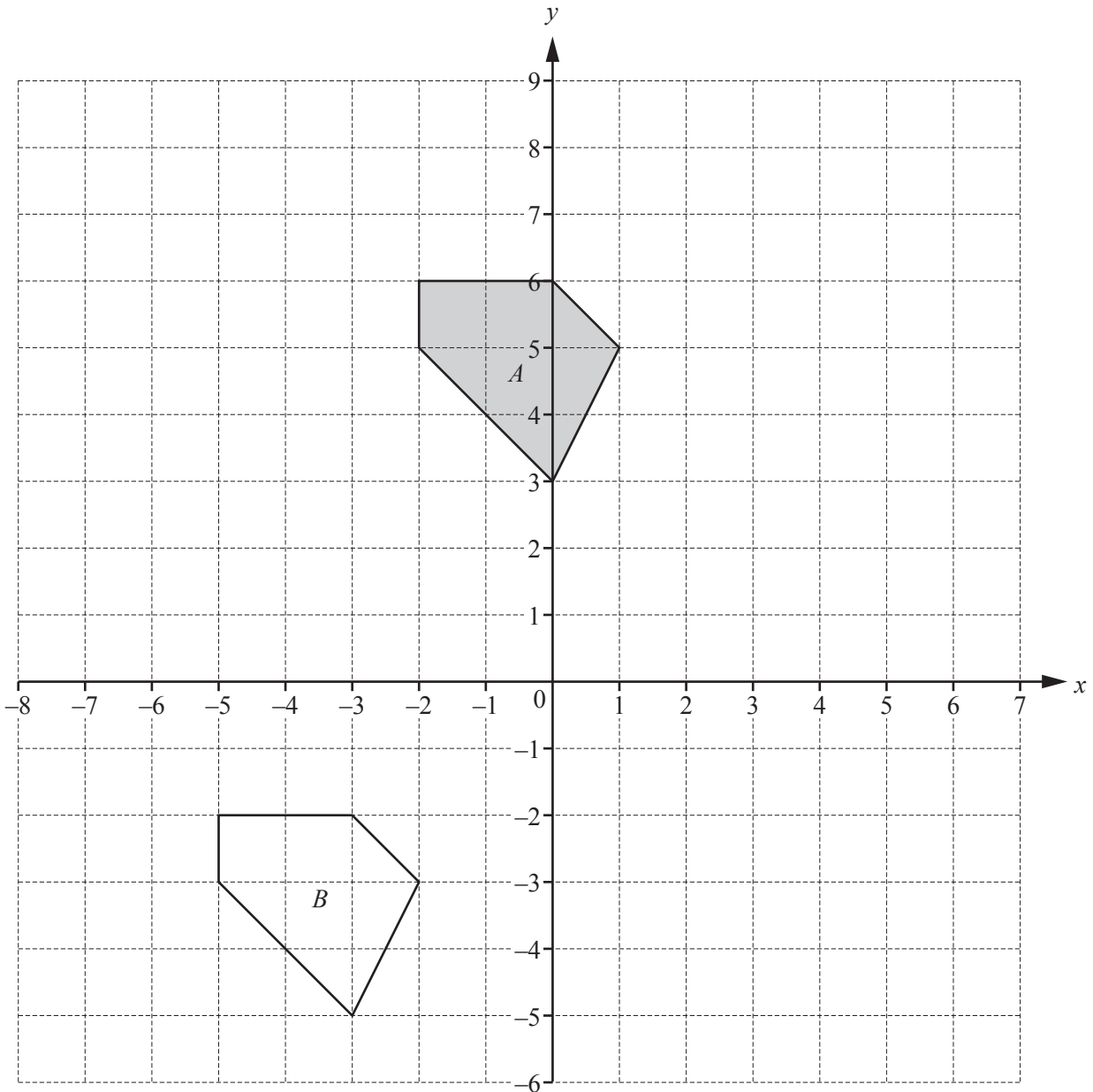
(ii) the interior angle,

..... [1]

(iii) the sum of the interior angles.

..... [1]

(b) The diagram shows two shapes, *A* and *B*, on a 1 cm^2 grid.



(i) Find the area of shape *A*.

..... cm^2 [1]

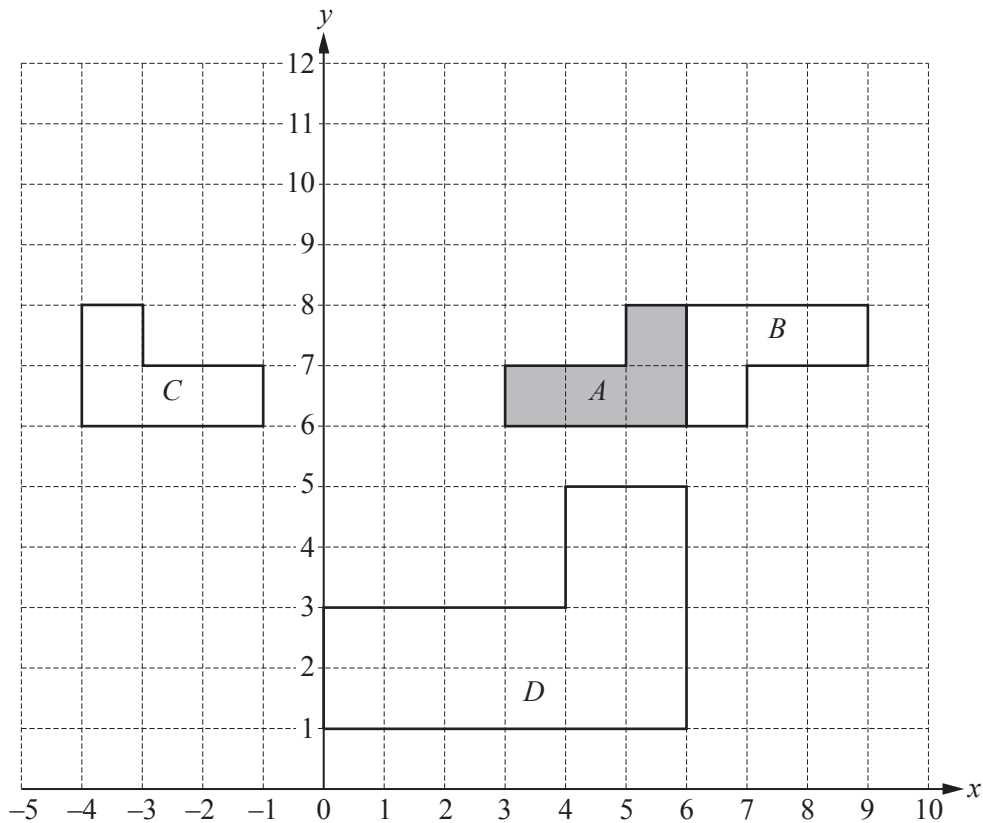
- (ii) Describe fully the **single** transformation that maps shape *A* onto shape *B*.

.....
..... [2]

- (iii) On the grid,

- (a) draw the reflection of shape *A* in the line $x = 2$, [2]
(b) draw the enlargement of shape *A* with scale factor 2 and centre (1, 5). [2]

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The diagram shows four shapes *A*, *B*, *C* and *D*.

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(a) Describe fully the **single** transformation that maps shape A onto

(i) shape B ,

.....
..... [3]

(ii) shape C ,

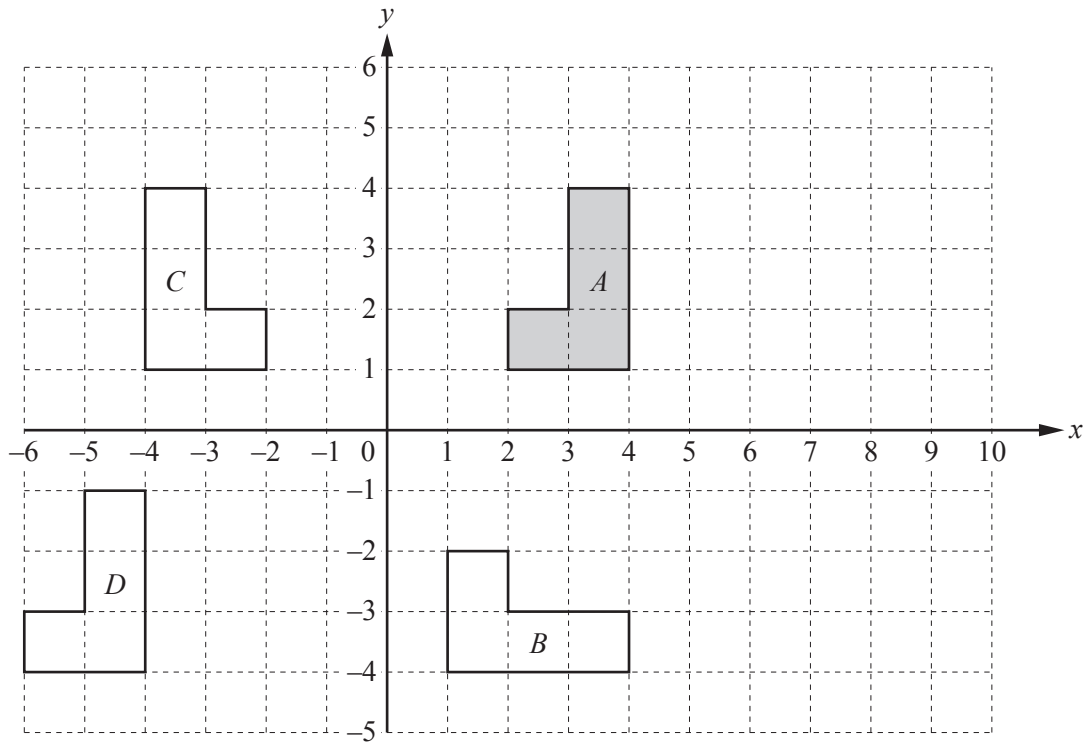
.....
..... [2]

(iii) shape D .

.....
..... [3]

(b) On the grid, draw the image of shape A after a translation by the vector $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$. [2]

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The diagram shows four shapes *A*, *B*, *C* and *D*.

(a) Describe fully the **single** transformation that maps **shape A** onto

(i) shape *B*,

Answer(a)(i)

..... [3]

(ii) shape *C*,

Answer(a)(ii)

..... [2]

(iii) shape *D*.

Answer(a)(iii)

..... [2]

(b) On the grid, draw the enlargement of **shape A** by scale factor 2 and centre $(-1, 2)$. [2]
