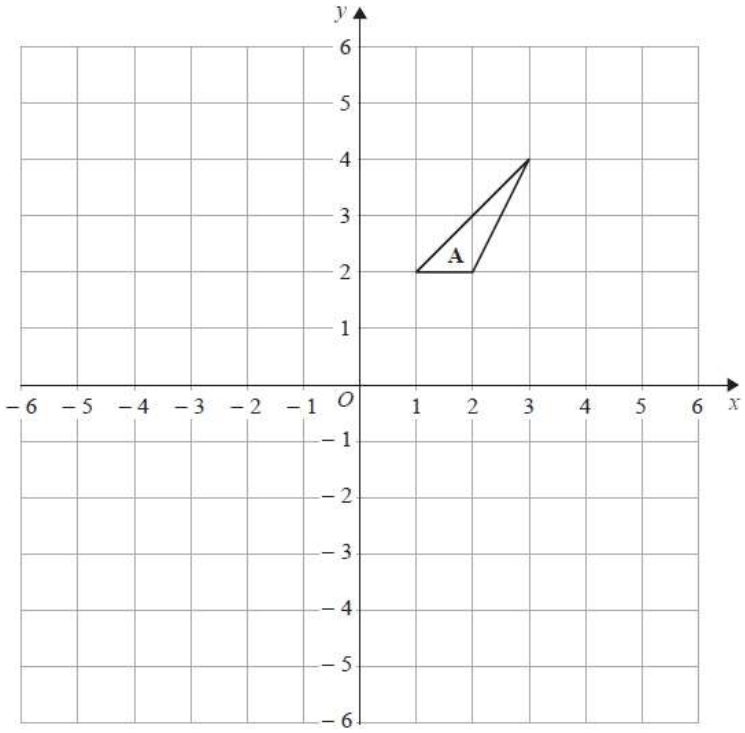
GCSE QUESTIONS

Q1. NON-CALCULATOR



Triangle **A** is rotated 90° clockwise about the point (0, 1) to give triangle **B**.

Triangle **B** is translated by the vector $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$ to give triangle **C**.

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

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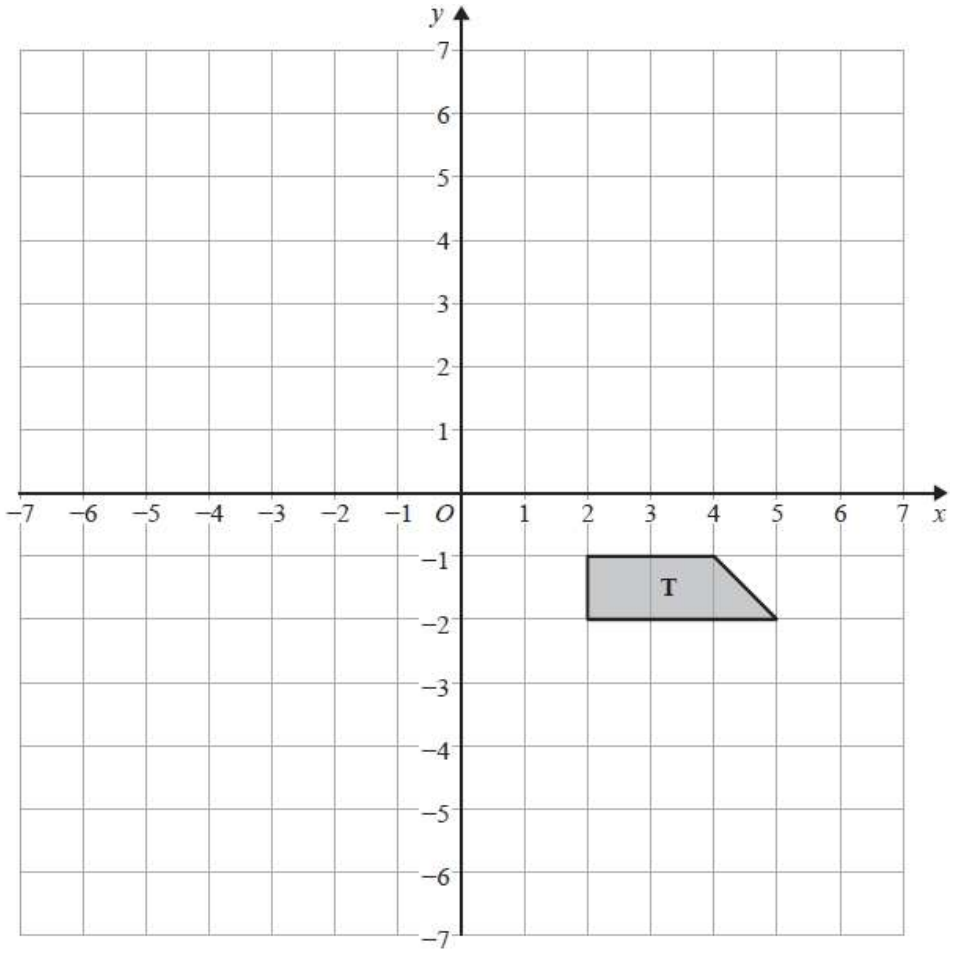
(3)

(Total for question = 3 marks)

Q2. NON-CALCULATOR



(a) Rotate trapezium **T** 180° about the origin.

Label the new trapezium **A**.

(1)

(b) Translate trapezium **T** by the vector $\begin{pmatrix} -1 \\ -3 \end{pmatrix}$

Label the new trapezium **B**.

(1)

(Total for question = 2 marks)

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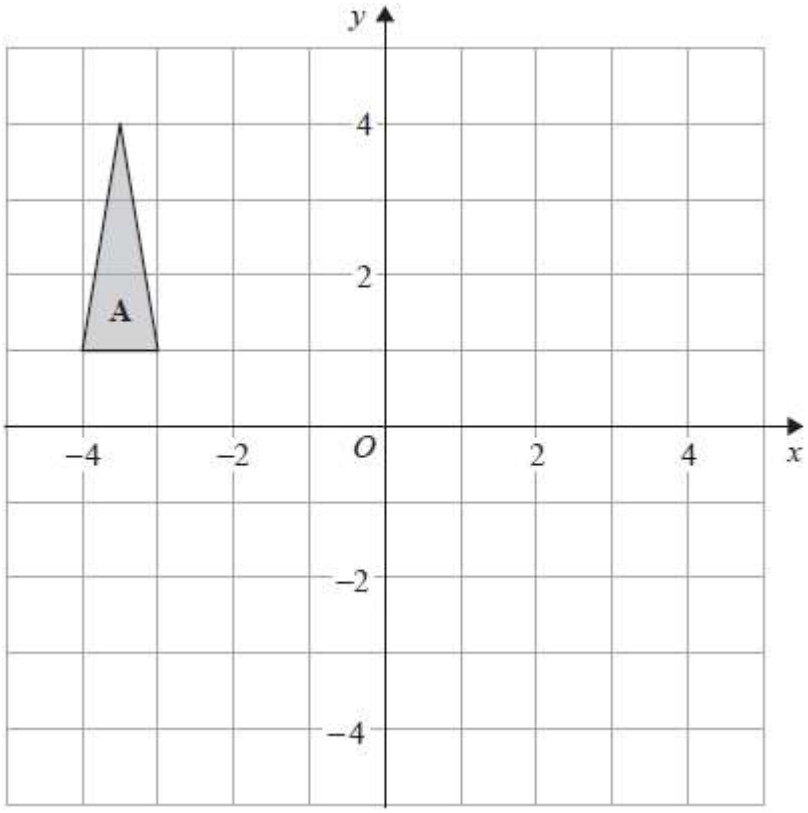
Q3. NON-CALCULATOR



Triangle A is transformed by the combined transformation of a rotation of 180° about the

point (−2, 0) followed by a translation with vector $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$

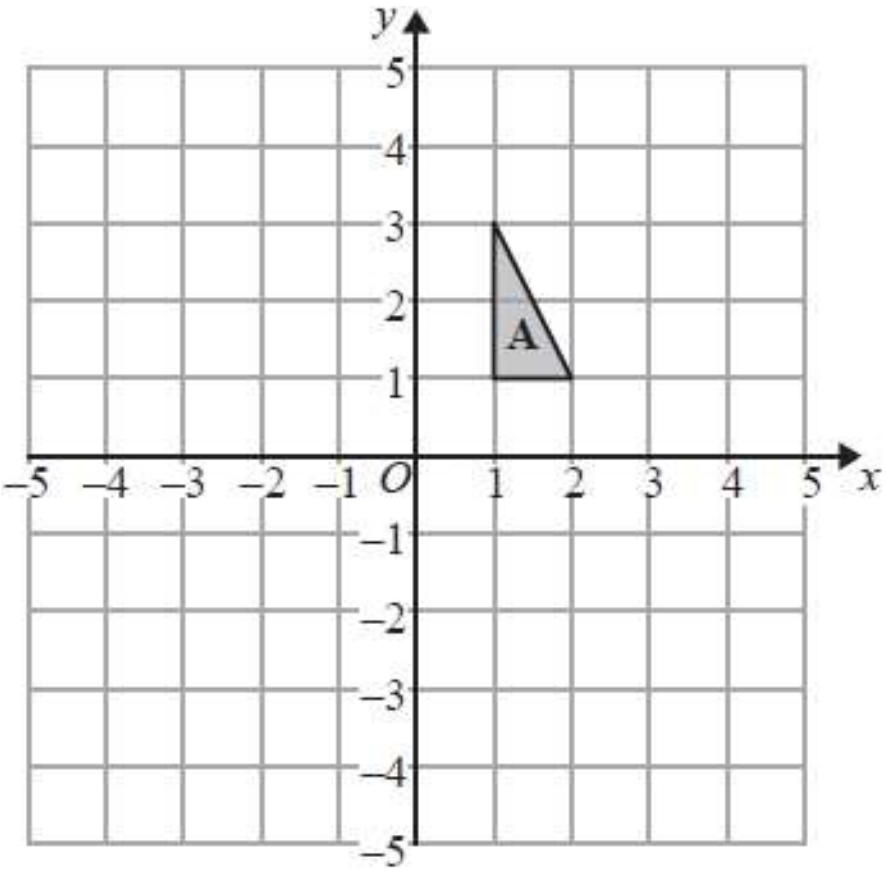
One point on triangle A is invariant under the combined transformation.

Find the coordinates of this point.

(..... , ...)

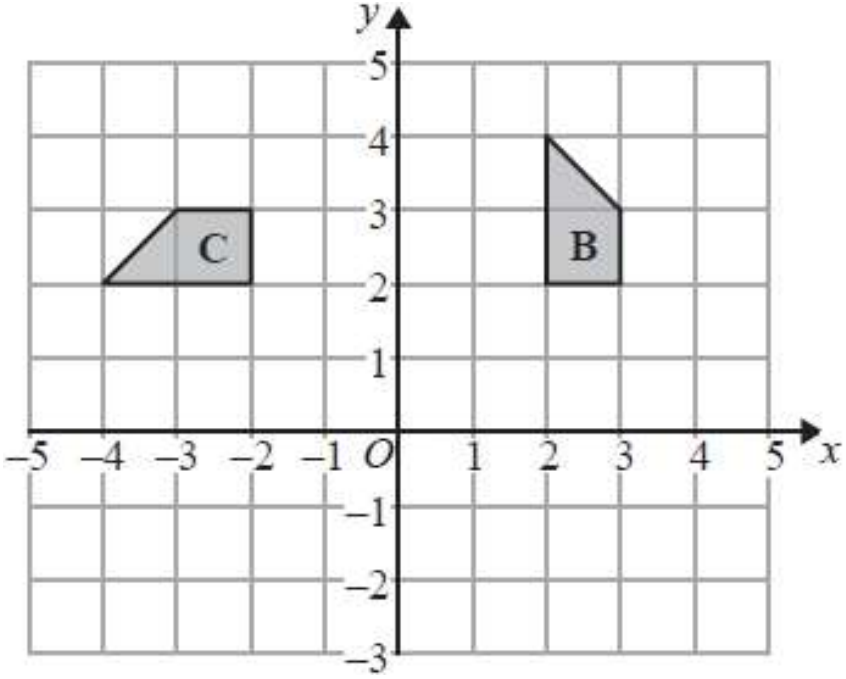
(Total for question = 2 marks)

Q4. NON-CALCULATOR



(a) On the grid above, translate shape **A** by the vector $\begin{pmatrix} -3 \\ -1 \end{pmatrix}$

(2)



(b) Describe fully the single transformation that maps shape **B** onto shape **C**.

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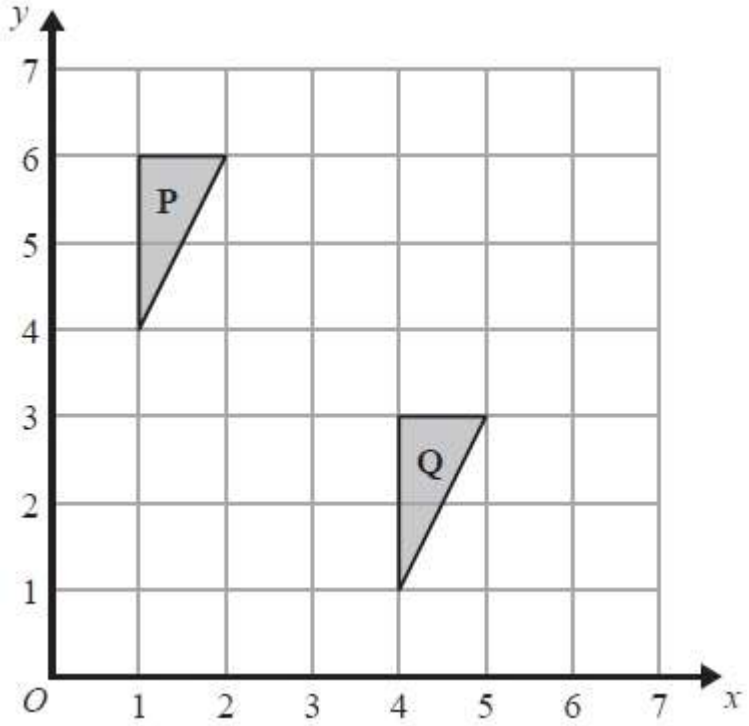
(3)

(Total for question = 5 marks)

Q5. NON-CALCULATOR



(a) Describe fully the single transformation that maps shape **P** to shape **Q**.

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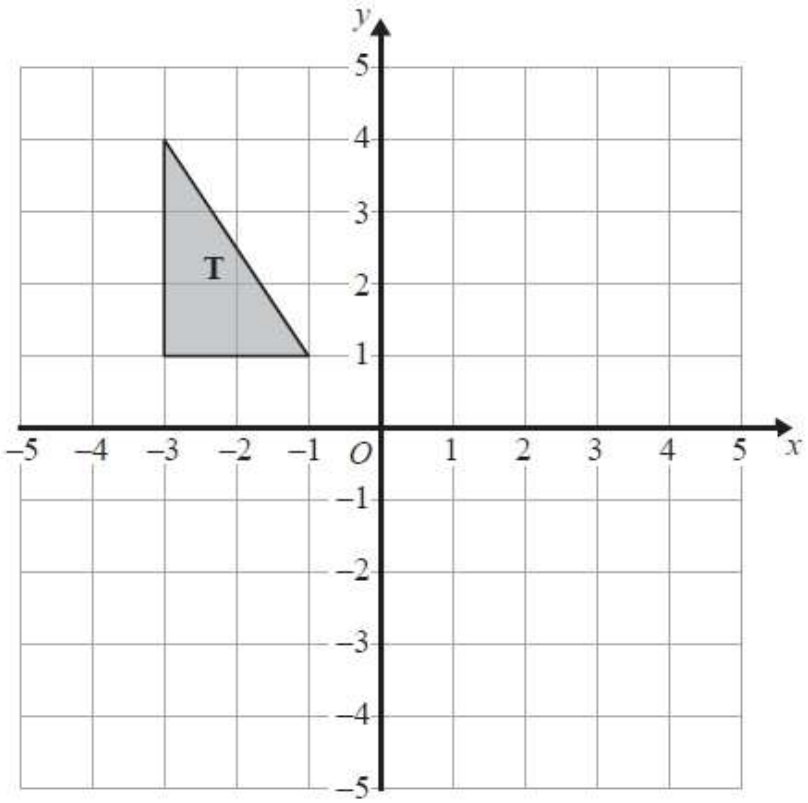
(2)

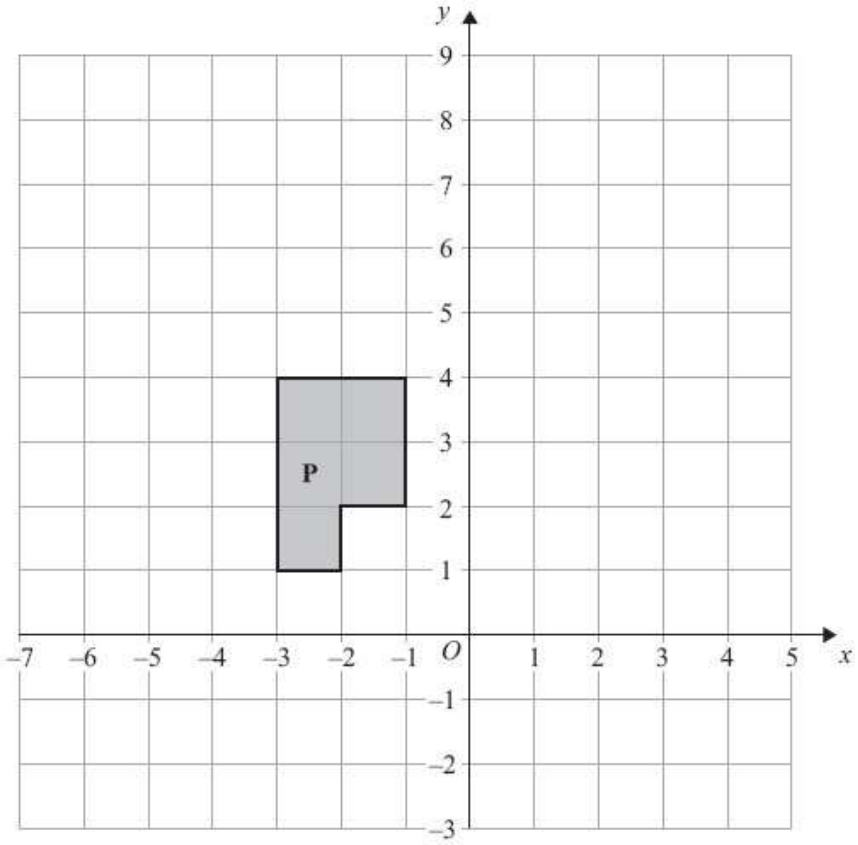


(b) Rotate triangle **T** 180° about the point (0, 1).

(2)

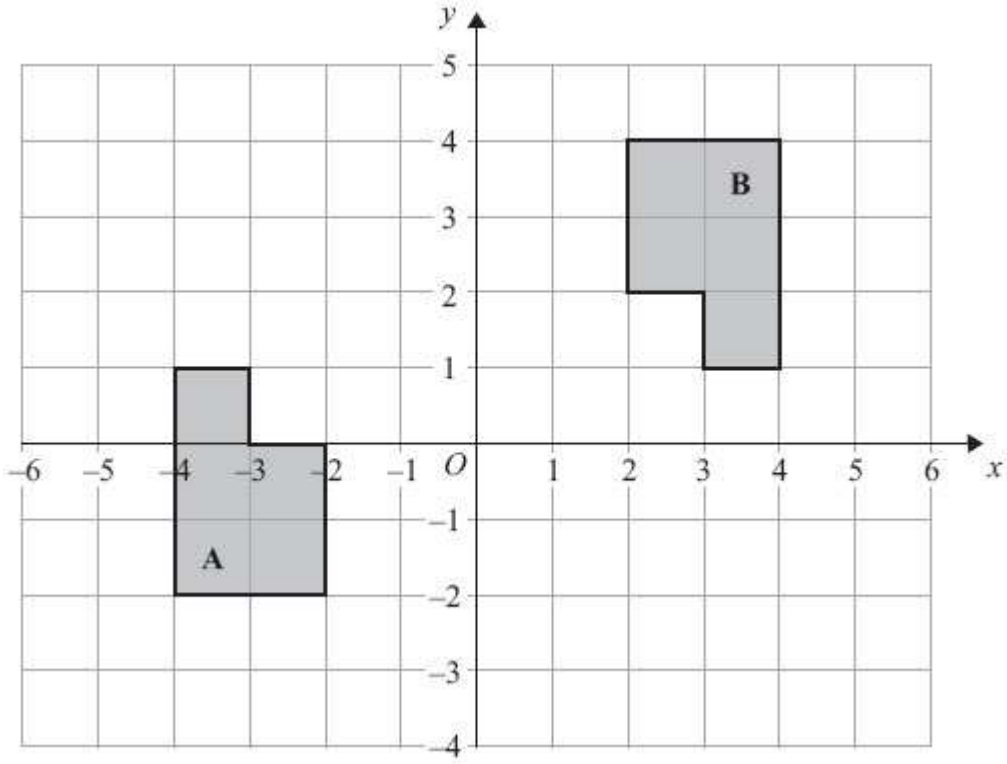
(Total for question = 4 marks)

Q6. NON-CALCULATOR



(a) Translate shape **P** by the vector $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$

(2)



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

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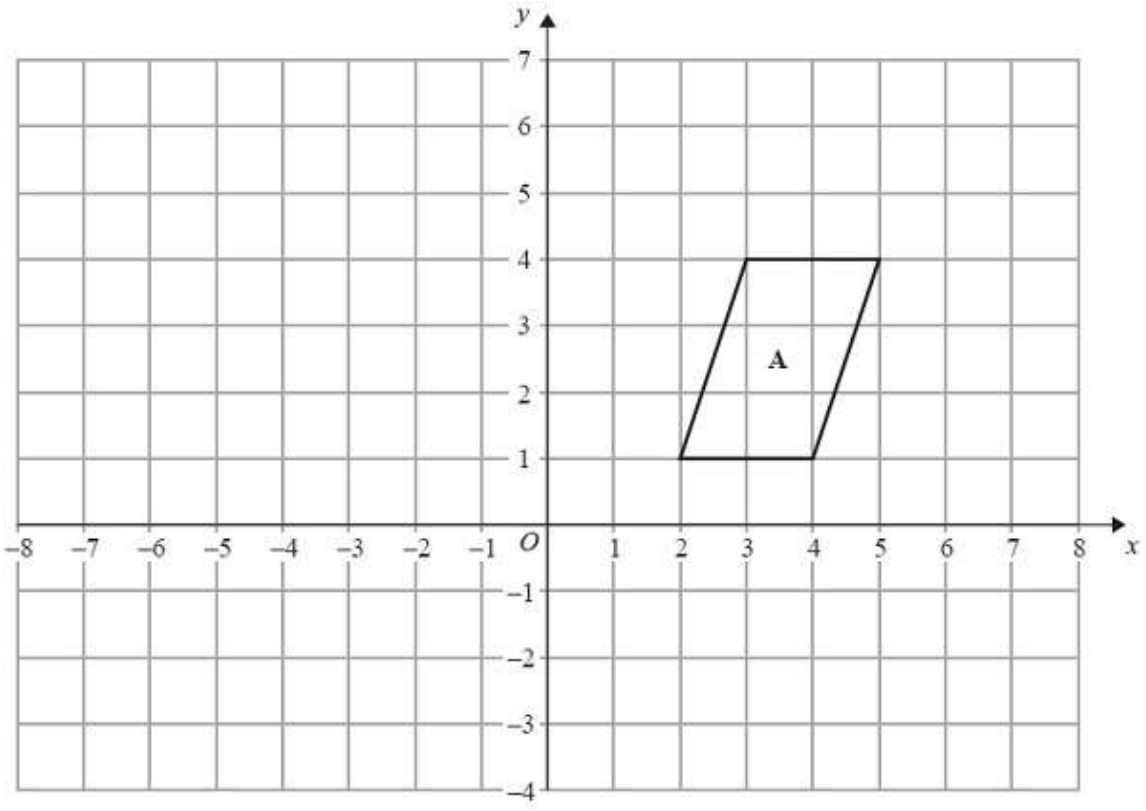
(3)

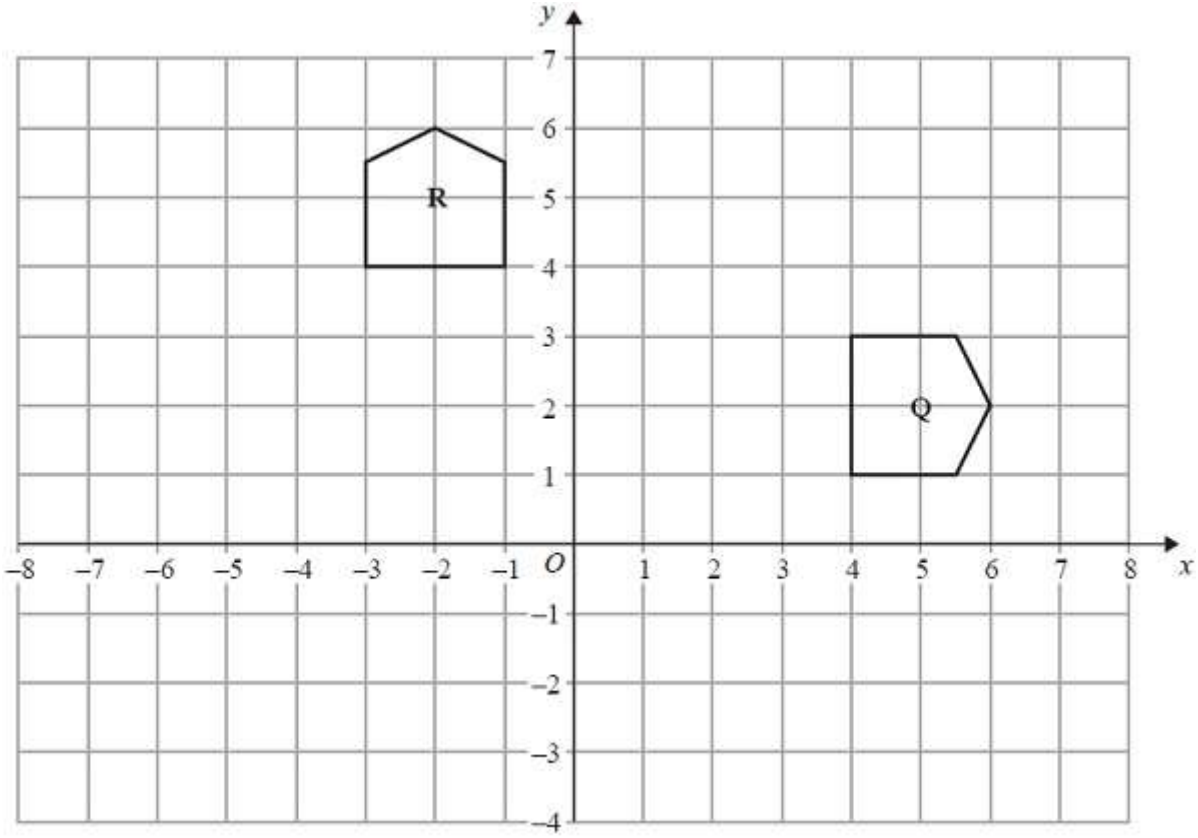
(Total for Question is 5 marks)

Q7. NON-CALCULATOR



(a) Translate shape **A** by the vector $\begin{pmatrix} -3 \\ 2 \end{pmatrix}$.

(1)



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

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(3)

(Total for Question is 4 marks)

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