Question			Answer	Marks	Part Marks and Guidance	
1	**(a)**		Correct reflection (-3, -1), (-1, -1), (-3, 2)	2	**B1** for reflection in *x* = -1	
	(b)		Correct rotation (1, 1), (3, 1), (3, 4)	2	**B1** for rotation 90° or wrong centre	
	(c)		Correct translation (4, -1), (2, -1), (2, -4)	3	**M1** for attempt to add the vectors **A1** for $\begin{pmatrix} 5 \\ 0 \end{pmatrix}$	eg 'along 5' Condone poor notation eg $\dfrac{5}{0}$

2	**(a)**		Translation $\begin{pmatrix} -2 \\ 4 \end{pmatrix}$	1 2	**B1** for one component correct or $\begin{pmatrix} 2 \\ -4 \end{pmatrix}$ or $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$ or $x-2,\ y+4$	Allow 2 left, 4 up for **B2** Condone other unconventional notations that imply the correct vector eg -2,4 for **B1**
	(b)		Correct reflection	2	**B1** for reflection in *y* = 1 or reflection in any vertical line	Overlays available Condone freehand
	(c)		Correct shape	3	**B2** if wrong centre used or correct intention for 2 points Or **B1** if wrong SF used	Overlay available Condone freehand

3	(a)		Correct rotation	3	**M1** for any rotation **A1** for correct centre **A1** for correct angle	
	(b)		Correct translation	2	**B1** for any translation	

4	(a)		Translation $\begin{pmatrix}-7\\2\end{pmatrix}$ or 7 left **and** 2 up	1 2	Ignore the word 'transformation' **B1** for 1 correct component If no marks for vector allow **SC1** for $\begin{pmatrix}7\\-2\end{pmatrix}$ or $\begin{pmatrix}2\\-7\end{pmatrix}$ or (–7, 2)	Condone line across vector (looks like fraction) Ignore vector if description worth credit
	(b)	(i)	180°	1		
		(ii)	Centre indicated	1	It should be nearer to the centre than grid lines	Overlay gives guide
	(c)		Enlargement $-1 < \text{SF} < 1$	1 1	Allow stretch Accept a number without sf	Double transformation scores 0