

Question		Answer	Marks	Part Marks and Guidance	
1	(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
2		Correct shape	3	B2 if wrong centre used or correct intention for 4 or more points Or B1 if wrong SF used	Overlay available Condone freehand

3	(a)		-2	1		
	(b)		Correct enlargement	3	B2 for enlargement SF $\frac{1}{2}$ with wrong centre Or B1 for enlargement centre (4, 4) and wrong SF or for 2 vertices correct or correct enlargement of triangle L	Condone freehand Mark vertices Ignore any labels Overlay available

4						In both (a) and (b) Ignore label. Clear intention to plot these points, condone freehand. [Overlays available]
	(a)	Correct rotation		3	B2 for correct orientation, wrong position or for correct 90° acw rotation about O Or B1 for two correct vertices	
	(b)	Correct reflection		2	B1 for reflection in $x = -1$ or B1 for $y = -1$ drawn	
	(c)	(SF =) -2 Centre origin		1 1	Generally if >1 transformation, 0, 0 but SC1 for (enlargement) SF=2 and rotation 180° about O	Allow 'point', 'about', 'through' etc for 'centre'

5	(a)	Rotation 90° anticlockwise [Centre] (3, -3)	3	Allow 1 each line 0 if > one transformation given	Or rotate, rotates, rotated. Condone 'turn' Or 270° clockwise Allow 'about', 'point', origin etc
	(b)	Image at (5, -1), (6, -1), (5, -3)	2	Allow 1 if translated $\begin{pmatrix} 2 \\ p \end{pmatrix}$ or $\begin{pmatrix} q \\ -4 \end{pmatrix}$	Use overlay Condone freehand. Mark intention.
	(c)	[Lengths] $\times 4$ [Angles] unchanged oe	1 1	Do not accept "The shape" or 'measurements' for "lengths"	Condone "Lengths increase by 4" but not "Lengths increase by 4cm" Ignore comments about congruence or similarity etc See appendix for exemplar comments

6	(a)		Correct rotation	3	B2 for correct orientation, wrong position or for correct 90° anti-clockwise rotation about (2, 0) Or B1 for two correct vertices on correct rotation attempt or correct 180° rotation about (2, 0)	In both (a) and (b) Ignore label. Clear intention to plot these points, condone freehand. [Overlays available]
	(b)		Correct enlargement	2	B1 for SF -2 wrong centre, or SF = 2 centre (0, 0) or other negative SF centre (0, 0) or two correct vertices on correct enlargement attempt	Orientation must be different and all in third quadrant

7	(a)		Enlargement 3 (-5, -1)	B1 B1 B1	Enlargement as the only transformation.	eg 'enlargement and translation' does not score the 1 st B mark Condone missing brackets 'Centre of enlargement' implies the first mark if no other transformation given.
	(b)		Correct rotation	2	B1 if wrong centre but correct angle	Condone freehand. Mark vertices. Ignore any labels.