

1		No (supported)	M2 [M1 C1	for the correct position of C or E for a correct position of B or D] for No with correct supporting evidence, eg. showing C and E in the correct positions
			M2 C1	OR for C is a rotation of 90° anticlockwise about O or E is a rotation of 90° clockwise about O for No with supporting evidence, eg. C is a rotation of 90° anticlockwise about O and E is a rotation of 90° clockwise about O.

2		Correct enlargement	B2 (B1)	Correct enlargement (-1,-1.5), (-1,-3.5) (-2,-1.5) correct size, correct orientation in incorrect position or 2 out of 3 vertices correctly placed)
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3 (a)		(-2, 1) (-4, 1) (-2, 2) (-5, 2)	B1	Shape labelled A
(b)		(1, -4) (3, -4) (1, -5) (4, -5)	B1	Shape labelled B

4	rotation 180° about (-1, -2) or enlargement sf -1 centre (-1, -2)	B2 (B1)	rotation 180° about (-1, -2) or enlargement sf -1 centre (-1, -2) rotation 180° or rotation about (-1, -2) OR enlargement sf -1 or enlargement centre (-1, -2)) Award no marks for the description if more than one transformation is given SC B1 for fully correct diagram if B0 scored	Condone missing brackets but do not accept centre written as a vector Do not accept 'half turn' for 'rotation 180°' Ignore references to clockwise and anticlockwise Triangles at (-3, 1), (-5, 1), (-4, 3) and (-3, -5), (-5, -5), (-4, -7)
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5	Enlargement	B2 (B1)	for correct enlargement at (1,2) (2,3) (2,4) (1,4) for correct size and orientation in the wrong position OR 3 of 4 vertices correct and joined OR 4 correct vertices not joined)	
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6	enlargement scale factor $-\frac{1}{3}$ centre (2, 2)	C2 (C1)	for all of: enlargement, (scale factor =) $-\frac{1}{3}$ oe, (centre =) (2, 2) for two of: enlargement, (scale factor =) $-\frac{1}{3}$ oe, (centre =) (2, 2) Note: award no marks if more than one transformation is given	
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7	Description	C2 (C1)	for (rotation) 90° clockwise about (-1, 0) or (rotation) 90° anticlockwise about (-1, 6) or (rotation) 180° about (-1, 2) or (rotation) 180° about (-1, 4) for (-1, 0) or (-1, 6) or (-1, 2) or (-1, 4)	Award 0 marks if there is reference to other transformations eg coordinates given as vectors (which is a translation)
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8	Enlargement	B2 (B1)	vertices at (2.5, 1) (2.5, 6) (5, 6) for triangle of the correct size and orientation in the wrong position or a correct enlargement of a different scale factor centre (0, 1) or correct orientation with 2 of 3 vertices correct)	
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9	Enlargement sf -1.5 centre $(1, 1)$	B2	for enlargement scale factor -1.5 and centre $(1, 1)$	Award no marks if more than one transformation is given
		(B1)	for enlargement scale factor -1.5 or enlargement centre $(1, 1)$	

10	(a)	rotation of 180° about $(2.5, -1)$	M1	for method to find position of Q, eg shape drawn at $(-1, -2)$, $(-1, -5)$ and $(-2, -5)$ or for method to find position of R, eg shape drawn at $(4, -4)$, $(4, -7)$ and $(3, -7)$ or for method to translate their Q correctly	The method mark is awarded if no working is shown but at least 2 of the 3 aspects are correct in the description Cannot award A marks for a combination of transformations With no extra incorrect aspects
			A2	for rotation of 180° about $(2.5, -1)$ or enlargement by scale factor -1 , centre $(2.5, -1)$	
			(A1)	for any 2 of the 3 aspects)	
	(b)	$(2.5, -1)$	B1	for $(2.5, -1)$ ft from rotation or enlargement in (a)	No follow through from a combined transformation in part (a)