	Question		Answer	Marks	AO	Guidance	
2	**(a)**		Translation	**B1**	2.5	Do not accept shift, move, transformation, etc. for first **B1**	
			-8 units parallel to the *y*-axis or $\begin{pmatrix} 0 \\ -8 \end{pmatrix}$	**B1**	1.1	Correct description e.g. correct vector (not as a coordinate), '8 units down'. **Do not allow second B1 after incorrect type of transformation e.g. stretch/rotation etc. but allow after shift/move etc.**	For 'parallel to the *y* axis' allow 'vertically', 'in the *y* direction'. **Do not accept** across/up/along/to/in/ towards the *y* axis'
						Condone lack of 'units' but **do not accept** 'factor -8', '8 <u>places/spaces/steps</u> down' etc.	
				[2]		If more than a single transformation, then no marks (unless two translations equivalent to the correct answer)	**Mark vector before description/words**
2	**(b)**		$y = x^3 - 8 \Rightarrow y + 8 = x^3$ $x = ...$	**M1**	1.1	Attempt to make *x* the subject (allow sign errors only)	May use either f(*x*) or *y*
			$f^{-1}(x) = (x+8)^{\frac{1}{3}}$	**A1**	1.1	Must be in terms of *x*. Allow the expression only e.g. $(x+8)^{\frac{1}{3}}$, $\sqrt[3]{x+8}$, oe	Ignore what this expression is equated to
				[2]			
2	**(c)**		One graph is the reflection of the other graph in the line $y = x$	**B1**	1.2	Must include both 'reflection' or 'mirror image' or 'mirrored' **and** '*y = x*'	**B0** for 'symmetrical' unless clearly describing reflective symmetry
				[1]			