

Q	Marking Instructions	AO	Marks	Typical Solution
6(a)	Deduces the range of f Accept $f(x) \geq \frac{1}{2}$, $y \geq \frac{1}{2}$ or $[0.5, \infty)$ OE	AO2.2a	B1	$\{y : y \geq \frac{1}{2}\}$
6(b)(i)	Rearranges formula, isolating squared term with at least one correct step seen.	1.1a	M1	$y = \frac{1}{2}(x^2 + 1)$ $2y = x^2 + 1$
	Obtains inverse function in any correct form.	1.1b	A1	$2y - 1 = x^2$
	Obtains correct inverse function using $f^{-1}(x) = \dots$ and states correct domain	2.5	A1	$x = \sqrt{2y - 1}$ $f^{-1}(x) = \sqrt{2x - 1}$ $x \geq \frac{1}{2}$
6(b)(ii)	States correct range Accept $f^{-1}(x) \geq 0$ OE	1.1b	B1	$\{y : y \geq 0\}$
6(c)	Recalls correct transformation	1.2	B1	Reflection in $y = x$
6(d)	Forms equation using two of the three expressions $x = \frac{x^2 + 1}{2} = \sqrt{2x - 1}$ allow their $\sqrt{2x - 1}$ PI by correct answer	3.1a	M1	$x = \frac{x^2 + 1}{2}$ (1, 1)
	Obtains $x=1$ and $y=1$ CSO	1.1b	A1	
	Total		8	