Question Number	Scheme	Notes	Marks
1. Way 1	$x^2-6=x\Rightarrow x=...$ **or** $-x^2+6=x\Rightarrow x=...$	Attempts to solve $x^2 – 6 = x$ **or** $6 – x^2 = x$ or equivalent equations/inequalities e.g. $x^2 – x – 6 > 0$ so $x = …$	M1
	$x^2-6=x\Rightarrow x=...$ **and** $-x^2+6=x\Rightarrow x=...$	Attempts to solve $x^2 – 6 = x$ **and** $6 – x^2 = x$ or equivalent equations/inequalities e.g. $x^2 + x – 6 > 0$ so $x = …$	M1
	$(x-3)(x+2)=0\Rightarrow(x=-2),x=3$ $(x+3)(x-2)=0\Rightarrow(x=-3),x=2$	$x = 2$ and $x = 3$ seen as two roots (the other roots do not need to be seen and can be ignored if present)	A1
	$x=2,x=3\Rightarrow...$ One of $x = 2$ **or** $x = 3$, or $x = 2$ **and** $x = 3$ **only** used to form at least one inequality for their final answer **but if any other values of x are used score M0**. **Dependent on both previous method marks.**		**d**M1
	$x<2$ or $x>3$	One correct region. Allow equivalent notation e.g. $(-\infty, 2)$, $(3, \infty)$.	A1
	$x<2$ and $x>3$	Both correct regions. Allow equivalent notation e.g. $(-\infty, 2)$, $(3, \infty)$. Ignore what they have between their inequalities e.g. allow "or", "and", "," etc. but **not** $\cap$	A1
			(6)
Way 2	$\left(x^2-6\right)^2=x^2\Rightarrow x^4-12x^2+36=x^2$	Square both sides and attempts to expand to obtain a quartic equation	M1
	$x^4-13x^2+36=0\Rightarrow x^2=...$ $\Rightarrow x=...$	Correct attempt to solve quadratic in x^2 to obtain values for x – the usual rules can be applied if necessary	M1
	$x=2,(-2),\ 3,(-3)$	$x = 2$ and $x = 3$ seen as two roots (the other roots do not need to be seen and can be ignored if present)	A1
	$x=2,x=3\Rightarrow...$ One of $x = 2$ **or** $x = 3$, or $x = 2$ **and** $x = 3$ **only** used to form at least one inequality for their final answer **but if any other values of x are used score M0**. **Dependent on both previous method marks.**		**d**M1
	$x<2$ or $x>3$	One correct region. Allow equivalent notation e.g. $(-\infty, 2)$, $(3, \infty)$.	A1
	$x<2$ and $x>3$	Both correct regions. Allow equivalent notation e.g. $(-\infty, 2)$, $(3, \infty)$. Ignore what they have between their inequalities e.g. allow "or", "and", "," etc. but **not** $\cap$	A1
			(6)
			Total 6