Q	Marking Instructions	AO	Marks	Typical Solution
3(a)	Uses a correct method for finding $\frac{dy}{dx}$ evidence for this includes sight of $\frac{dy}{dx}$ or $\frac{dx}{dt}$ and chain rule OR an attempt at implicit or explicit differentiation of a correct Cartesian equation or 'their' equation from part **(b)**	AO1.1a	M1	$\frac{dx}{dt} = 3t^2 \qquad \frac{dy}{dt} = 2t$ $\frac{dy}{dx} = \frac{2t}{3t^2}$ When $t = -2 \quad \frac{dy}{dx} = -\frac{1}{3}$ **ALT** $y = (x-2)^{\frac{2}{3}} - 1$ $\frac{dy}{dx} = \frac{2(x-2)^{-\frac{1}{3}}}{3}$ When $t = -2$, $x = -6$ $\frac{dy}{dx} = \frac{2(-6-2)^{-\frac{1}{3}}}{3} = -\frac{1}{3}$
	Obtains correct $\frac{dy}{dx}$	AO1.1b	A1	
	Substitutes $t = -2$ (or $x = -6$) into 'their' equation for $\frac{dy}{dx}$	AO1.1a	M1	
	Obtains correct simplified gradient of the curve FT 'their' equation for $\frac{dy}{dx}$	AO1.1b	A1F	
(b)	Eliminates t or makes t the subject in one expression (evidence for this includes one equation with t as the subject or two equations with equal powers of t.)	AO1.1a	M1	$t^3 = (x-2)$, $t^2 = (y+1)$ $t^6 = (x-2)^2$, $t^6 = (y+1)^3$ $(x-2)^2 = (y+1)^3$
	Finds a correct Cartesian equation in any form	AO1.1b	A1	**ALT** $t^3 = (x-2)$ $t = (x-2)^{\frac{1}{3}}$ $y = (x-2)^{\frac{2}{3}} - 1$
	Total		**6**	