

Question	Answer	Marks	Guidance
(a)	State or imply $6xy + 3x^2 \frac{dy}{dx}$ as derivative of $3x^2y$	B1	
	State or imply $3y^2 \frac{dy}{dx}$ as derivative of y^3	B1	Allow B1 B1 for $(3x^2 dx +) 6xy dx + 3x^2 dy - 3y^2 dy [= 0]$
	Equate attempted derivative of left-hand side to zero and solve to obtain an equation with $\frac{dy}{dx}$ as subject	M1	Allow if zero implied by subsequent working. Allow if recover from an extra $\frac{dy}{dx} = \dots$ at the beginning of the left-hand side.
	Obtain $\frac{dy}{dx} = \frac{x^2 + 2xy}{y^2 - x^2}$ correctly	A1	AG Accept y' for $\frac{dy}{dx}$.
		4	
(b)	Equate numerator to zero	*M1	Must be using the given derivative.
	Obtain $x = -2y$, or equivalent	A1	An equation with x or y as the subject SOI.
	Use $x^3 + 3x^2y - y^3 = 3$ to obtain an equation in x or y	DM1	$-8y^3 + 12y^3 - y^3 = 3$ or $x^3 - \frac{3}{2}x^3 + \frac{1}{8}x^3 = 3$ or any equivalent form (do not need to evaluate powers).
	Obtain the point $(-2, 1)$ and no others from solving their cubic equation	A1	Allow if each component stated separately. ISW.
	State the point $(0, -\sqrt[3]{3})$, or equivalent from correct work	B1	Accept $(0, \sqrt[3]{-3})$, or $(0, -1.44)$ (-1.44225) . Allow if each component stated separately. ISW.
		5	