Question number	Scheme	Marks
6 (a)	<table><tr><td>x</td><td>0.5</td><td>1</td><td>1.5</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>y</td><td>−11.5</td><td>**-2**</td><td>**0.2**</td><td>1.3</td><td>2.7</td><td>**3.8**</td><td>**4.9**</td><td>5.9</td></tr></table>	B2 [2]
(b)	Points plotted within half of a square Points joined together in a smooth curve	B1ft B1ft [2]
(c)	$\dfrac{x^3 - 3}{x^2} = ax + b \Rightarrow x^3 - 3 = ax^3 + bx^2 \Rightarrow 0 = x^3(a-1) + bx^2 + 3$ Comparing coefficients $x^3(a-1) - bx^2 + 3 = 2x^3 + 6x^2 + 3$ $\Rightarrow a = 3, b = -6$ so line required is $y = 3x - 6$ Draws the line $y = 3x - 6$ and identifies two intersections with the curve when $x = 0.8 / 0.9$ and $x = 2.8 / 2.9$	M1 M1A1 M1 A1 (both) [5]
	ALT	
	$2x^3 - 6x^2 + 3 = 0 \Rightarrow 2x - 6 = -\dfrac{3}{x^2}$	{M1}
	$3x - 6 = x - \dfrac{3}{x^2}$ so line required is $y = 3x - 6$	{M1}{A1}
	Draws the line $y = 3x - 6$ and identifies two intersections with the curve when $x = 0.8 / 0.9$ and $x = 2.8 / 2.9$	{M1} {A1} both [5]
		Total 9 marks

(a)	
B2	All 4 points correct (**B1** for 3 points correct)
(b)	
B1ft	Points plotted ft their table allow half a square tolerance
B1ft	Points joined together with a smooth curve ft their table
(c)	
M1	Setting $x - \dfrac{3}{x^2} = ax + b$ and simplifying to $x^3(a-1) + bx^2 + 3$
M1	Comparing coefficients
A1	Identifying that the line required is $y = 3x - 6$
M1	$y = 3x - 6$ drawn intersecting the curve in two places
A1	$x = 0.8 / 0.9$ and $x = 2.8 / 2.9$
ALT	
M1	Subtracting 3 from both sides and dividing by x^2
M1	Adding x to both sides
A1	Identifying that the line required is $y = 3x - 6$
M1	$y = 3x - 6$ drawn intersecting the curve in two places
A1	$x = 0.8 / 0.9$ and $x = 2.8 / 2.9$