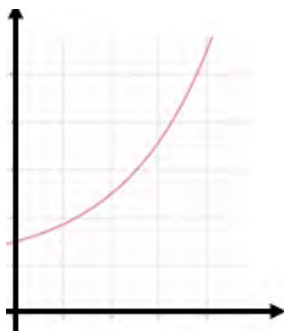



Question number	Scheme			Marks
7 (a)	2	3	4	B1 B1 (2)
	3.73	4.28	5	
(b)	Points plotted Joined up with a smooth curve			B1ft B1ft (2)
(c)	$\log_3(6-2x) = \frac{x}{4}$			M1
	$6-2x = 3^{\frac{x}{4}}$			M1
	$8-2x = 3^{\frac{x}{4}} + 2$			A1
	$y = 8-2x$ drawn			M1
	$x = 2.1$			A1 (5)
Total 9 marks				

Part	Mark	Guidance												
(a)	B1	For two points (rounded correctly) correct from; <table><tr><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>3</td><td>3.32</td><td>3.73</td><td>4.28</td><td>5</td><td>5.95</td></tr></table>	0	1	2	3	4	5	3	3.32	3.73	4.28	5	5.95
	0	1	2	3	4	5								
3	3.32	3.73	4.28	5	5.95									
	B1	All three points correct and correctly rounded. Penalise rounding only once here. Condone 5.00												
(b)	B1ft	All points plotted within half of one square. Ft <b>their</b> values of $y$ for $x = 2,3,4$ respectively												
	B1ft	All drawn points joined up in a smooth curve 												
(c)	M1	For use of power law to obtain $\log_3(6-2x) = \frac{\pm x}{4}$												
	M1	For removing the $\log_3$ to obtain: $6-2x = 3^{\frac{\pm x}{4}}$ Allow $(6-2x)^4 = 3^{\pm x}$ for this mark.												
	A1	For obtaining the equation $8-2x = 3^{\frac{x}{4}} + 2$ oe (eg., $-2x+8 = 2+3^{\frac{\pi}{4}}$ )												
	M1	For drawing their straight line, provided it is of the form $y = k - 2x$ where $k$ is a constant and $k \neq 6$  [Check coordinates (1, 6) (2, 4) (3, 2) (4, 0)]												
	A1	For the intersection point $(x =) 2.1$												