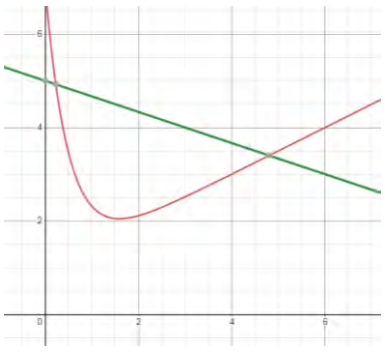
Question	Scheme	Marks
4(a)		B2 [2]

x	0	1	1.5	2	3	4	5	6
y	7	**2.3**	2.0	**2.1**	**2.5**	3	**3.5**	4

(b)		B2ft [2]

(c)	$2x+\ln(24-5x)-\ln 36=0 \Rightarrow \ln\left(\frac{24-5x}{36}\right)=-2x$ $\Rightarrow \frac{24-5x}{36}=e^{-2x} \Rightarrow \frac{2}{3}-\frac{5x}{36}=e^{-2x}$ $\Rightarrow 4-\frac{5x}{6}=6e^{-2x}$ $\Rightarrow 5-\frac{x}{3}=\frac{x}{2}+6e^{-2x}+1 \Rightarrow y=5-\frac{x}{3}$ $\Rightarrow x=0.2,\quad 4.8$ 	M1 M1A1 M1A1FT [5]
		Total 9 marks

Part	Mark	Notes
(a)	B1	At least two correct values rounded correctly.
	B1	All values correct, rounded correctly.
(b)	B1ft	Their points plotted within half of one square.
	B1ft	Their points joined up in a smooth curve. Note: do not allow ruled sections.
(c)	M1	Combines the logs correctly and raises both sides to the power of base e
	M1	Rearranges the equation to obtain the equation of the curve on one side and the equation of the straight line on the other.
	A1	Achieves a correct equation of the straight line. Note: equivalent forms are acceptable.
	M1	Draws their line provided it is of the form $y = k \pm \frac{x}{3}$ when simplified.
	A1FT	Provided M1M1A1M1 awarded. For both correct values of x to 1 decimal place, their values **must** follow through from their graph. 0.2, 0.3, 0.4 and 4.8 Condone coordinates. Note: correct values seen with no working scores M0M0A0M0A0