

Question			Answer	Marks	AOs	Guidance	
8	(a)		$-0.03e^{-0.03t}$	B1 [1]	1.2		
8	(b)		Decreasing function because $e^{-0.03t}$ is positive [for all values of t] so the gradient is negative.	E1 [1]	2.2a	Explanation may include a sketch graph of the function $70e^{-0.03t}$ but it must be clear that the graph is of the function and the answer must clearly refer to the gradient of the function and not the trend in the data	
8	(c)	(i)	70	B1 [1]	1.1		
8	(c)	(ii)	38.[4168...]	B1 [1]	1.1		
8	(d)		Data values decreasing so decreasing function is suitable At $t = 0$, calculated $D = 70$ and this matches the data At $t = 20$, data value is 40 which is not exact but close	E1 B1 B1 [3]	3.5a 3.5a 3.5b		