Question number	Scheme	Marks
3(a)	$\frac{dy}{dx} = 2e^{2x}\left(x^2+1\right) + e^{2x}\left(2x\right)$	M1A1A1 [3]
(b)	When $x = 0$ $\frac{dy}{dx} = 2\times1\times1+1\times0 = 2$ $\quad y = e^{2\times0}\left(0+1\right) = 1$ $y-1 = 2\left(x-0\right) \Rightarrow y = 2x+1$	B1B1 B1 [3]
		Total 6 marks

(a)	
M1	Attempted use of the product rule. Sum of two terms (either way round) with $x^n \to x^{n-1}$ (Condone e^{2x} instead of $2e^{2x}$) Once the correct answer is seen ISW. This mark may be implied by the sum of two terms with one of the two terms correct.
A1	Either term correct
A1	Both terms correct
(b)	
B1	When $x = 0$ $\frac{dy}{dx} = 2$
B1	When $x = 0$ $y = 1$
B1	$y = 2x+1$