3 Given that $y = e^{2x} \sin 3x$

(a) find $\frac{dy}{dx}$

(3)

(b) show that $\frac{d^2y}{dx^2} = 2\frac{dy}{dx} - 9y + 6e^{2x} \cos 3x$

(4)

Question 3 continued

(Total for Question 3 is 7 marks)