7 $y = e^{2x} \cos 2x$

(a) Show that

$$\frac{dy}{dx} = 2y - 2e^{2x} \sin 2x$$

(4)

(b) Hence show that

$$\frac{d^2y}{dx^2} = 4\frac{dy}{dx} - 8y$$

(5)

Question 7 continued

Question 7 continued

Question 7 continued

(Total for Question 7 is 9 marks)