

7

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

(a) Show that

$$\frac{dy}{dx} = 2y - 2e^{2x} \sin 2x \quad (4)$$

(b) Hence show that

$$\frac{d^2y}{dx^2} = 4 \frac{dy}{dx} - 8y \quad (5)$$

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**Question 7 continued**

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**Question 7 continued**

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**Question 7 continued**

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**(Total for Question 7 is 9 marks)**

