1 **(a)** Differentiate the following with respect to x.

(i) $(2x+3)^7$ [2]

(ii) $x^3 \ln x$ [3]

(b) Find $\int \cos 5x \, dx$. [2]

(c) Find the equation of the curve through $(1, 3)$ for which $\dfrac{dy}{dx} = 6x - 5$. [2]