

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 $\frac{dy}{dx} = 6x - 5$. **[2]**