1 **(a)** Differentiate the following.

    (i) $\dfrac{x^2}{2x+1}$ **[3]**

    (ii) $\tan(x^2 - 3x)$ **[2]**

(b) Use the substitution $u = \sqrt{x} - 1$ to integrate $\dfrac{1}{\sqrt{x} - 1}$.   **[4]**

(c) Integrate $\dfrac{x-2}{2x^2 - 8x - 1}$.   **[2]**