

1 (a) Differentiate the following.

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

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

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

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