

**Question 4****(6 marks)**

(a) Given that  $\frac{a}{x+1} + \frac{b}{(x+1)^2} = \frac{5x+3}{(x+1)^2}$ , determine the values for  $a$  and  $b$ . (2 marks)

(b) Hence determine  $\int \frac{5x+3}{(x+1)^2} dx$ . (4 marks)