Question 6 **(5 marks)**

(a)   Given that $\dfrac{2}{(x+1)(x-1)} = \dfrac{a}{x-1} + \dfrac{b}{x+1}$ determine the values for a and b.   (2 marks)

(b)   Hence determine $\displaystyle\int \dfrac{1}{x^2-1}\,dx$.   (3 marks)