Question 5 **(5 marks)**

(a)   Given that $\dfrac{7x^2 - 12x + 2}{(x-2)(x^2+2)} = \dfrac{a}{x-2} + \dfrac{bx}{x^2+2}$ determine the values of a and b.

(2 marks)

(b)   Hence determine $\displaystyle\int \frac{7x^2 - 12x + 2}{(x-2)(x^2+2)}\,dx$.   (3 marks)