3

(a) (i) Find $\int \left(1 + 3x - \dfrac{2}{x^2}\right) dx$

(ii) Hence show that $\int_1^2 \left(1 + 3x - \dfrac{2}{x^2}\right) dx = 4\dfrac{1}{2}$

(4)

(b) (i) Find $\int 3\sin 2x \, dx$

(ii) Hence show that $\int_0^{\frac{\pi}{6}} 3\sin 2x \, dx = \dfrac{3}{4}$

(4)

Question 3 continued

(Total for Question 3 is 8 marks)