

6 A curve has equation $y = 3x^4 - 4x^3 - 6x^2 + 12x$.

(a) (i) Find $\frac{dy}{dx}$. **[2]**

(ii) Use your answer to part **(a)(i)** to find the x -coordinates of the stationary points on the curve. **[2]**

(b) Show that there is exactly **one** point on the curve which is a point of inflection but not a stationary point. **[3]**