

1. The curve  $C$  has equation

$$y = 3x^4 - 8x^3 - 3$$

(a) Find (i)  $\frac{dy}{dx}$

(ii)  $\frac{d^2y}{dx^2}$

(3)

(b) Verify that  $C$  has a stationary point when  $x = 2$

(2)

(c) Determine the nature of this stationary point, giving a reason for your answer.

(2)