Higher – Differentiation 2 (Non – Calculator)

1. Find the equation of the tangent to the curve with equation $y = 5x^3 - 6x^2$
    at the point where $x = 1$ (4)

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

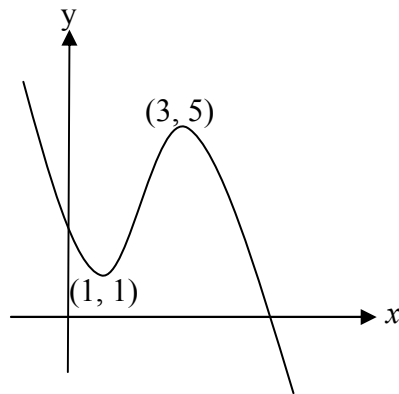   (a) Find algebraically the coordinates of the stationary points.   (6)

    (b) Determine the nature of the stationary points   (2)

3. Find $f'(4)$ where $f(x) = \dfrac{x-1}{\sqrt{x}}$.   (5)

4. The graph of the cubic function $y = f(x)$ is shown below in the diagram.
    There are turning points at $(1, 1)$ and $(3, 5)$.

    Sketch the graph of $y = f'(x)$.

                                                                                        (3)

                                                                               Total (20)