PURE MATHS HOMEWORK

1. Find the equation of the tangent to the curve $y = x^3$ at the point (2,8).

   Make y the subject of your equation.

2. (a) Use calculus to locate the two stationary points on the curve $y = 4x^3 - 3x^4 + 1$

   (b) Use the second derivative to test each stationary point; are they maximum or minimum points?

   (c) One of the stationary points has a second derivative of zero. Check the gradient on either side of this point to confirm that it is a point of inflection.