A curve is defined on a suitable domain by the equations $x = t^2$ and $y = \tan t$.

Find in terms of t:

(a) $\dfrac{dy}{dx}$ **2**

(b) $\dfrac{d^2y}{dx^2}$.   **3**

Answers:

(a) $\dfrac{\sec^2 t}{2t}$

(b) $\dfrac{2t \sec^2 t \tan t - \sec^2 t}{4t^3}$