1. Differentiate the function $y = \ln |1 + t - t^3|$

2. If $g(x) = (f(x^3))^2$ and $f(8) = \frac{1}{4}$, $f'(8) = 2$, then $g'(2) = \ldots$

3. Find an equation of the tangent line to $y = x^2 \ln x$ the curve at $(1, 0)$. 