1. (2 points) Find $f^{(4)}(x)$ (i.e., the fourth derivative of $f$) if $f(x) = \sqrt{x + 2}$.

2. (3 points) Find an equation for the tangent line to the graph of $g(x) = e^{x^2} + x^2$ at the point $(0, 1)$. 
3. (5 points) Find $y'$.

(a) $y = e^{3x-1} \ln(5x^2)$

(b) $y = \frac{\ln(3x)}{e^x + x^2}$

4. (1 point bonus) Solve the equation $\ln(x) - \ln(x-1) = 2$. 