Math 425: Written Homework 7

1. Find an equation for the tangent line for $g(x) = \log_3(x)$ at $x = 27$
2. Find an equation for the tangent line for $f(x) = 7^{x^2+1}$ at $x = 1$
3. Compute $f'(x)$ using rules from our class.
   a) $f(x) = (2x)^{4x}$ given $x > 0$
   b) $f(x) = 3^{2x+5} + \log_4(x^4 + 7)$
4. Use logarithmic differentiation to compute y'. Your answer can involve both x and y for

$$y = \frac{x^4 + x^2 + 3}{5x^6 + e}$$