Name:_____

Math 105: Fall 2013
Quiz 5: October 25

Good Luck!

1. Determine whether $G(x)$ is an antiderivative of $g(x)$. (Justify your answer.)

$$G(x) = 2^x \cos(x), \qquad g(x) = 2^x \cos(x) - 2^x \sin(x)$$

2. Compute the derivative of $f(x) = \left(e^{2x^3} + \sqrt[5]{x}\right)^{2013}$.

3. Suppose $p(x)$ is a function such that $p(1) = 3$ and $p'(1) = 2$. Define $F(x) = \dfrac{\ln x}{p(x)} + p(x^5)$. Find $F'(1)$.