Instructions. Put your first and last name at the top of your paper. Everyone is to do their own worksheet but only one from each group is graded with the score shared. Be sure to show all the steps in your differentiation. All worksheets from each group will be collected. This worksheet is two-sided.

1. Differentiate the function $F(x) = 2^{x^2}$.

2. Differentiate the function $F(x) = \sin(e^{2x}) + e^{\sin x}$.

3. Differentiate the function $F(x) = \sin(\cot(x))$. 
4. Find $dy/dx$ by implicit differentiation.

$$x^4 + y^4 = e$$

5. Find $dy/dx$ by implicit differentiation.

$$2x^2 + x + xy = 1$$