## Math 251: Pledged Set 5

Due: Feb 24, 2010

This is a pledged set. Therefore, no outside help from book, calculator, or other people.

1. Calculate the derivative of

 $\sin(e^x).$ 

2. Find the equation of the tangent line of

$$\sin(x) + \sin^2(x)$$

when x = 0.

3. Find the equations of the normal line and tangent line of

$$x^2 e^{-x}$$

when x = 1.

4. Differentiate

 $\ln(\sinh^2 x).$ 

5. Find the equation of the tangent line of

 $\log_2(x^3 + 7)$ 

at the point (1,3).