Math 251: Pledged Set 5

Due: October 8, 2009

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 $(1, 3)$.