MAC 2311 Hybrid Calculus I (B)

Name Quiz #5 (3.5-3.6, Exp**)** Take-Home. Show all work.

1. Find the derivative of$ g(x)=\sqrt{x^{2}+e^{x^{2}}} $.

2. Use logarithmic differentiation to find the derivative of$ f(x)=x^{x}$.

3. Find the derivative of$ g(x)=2^{x}ln⁡(2x)$.

4. Find the derivative of$ f(x)=(sec^{2}\left(x\right)+tan^{2}\left(x\right))^{2}$.

5. Use Implicit differentiation to find the slope of the tangent line to the graph of

$ysin \left(2x\right)=xcos\left(2y\right)$ at the point (π/2,π/4).