Name: 

Show all work, clearly and legibly, to receive full credit. Correct spelling, organization of your solution, and proper use of mathematical notation all count. You may use a calculator, but no notes, books, or other resources. Good luck!

1.) (4 pts.) Let \( f(x) = |x| \).
   
   a.) Evaluate \( \lim_{x \to 0^+} f'(x) \).

   b.) Evaluate \( \lim_{x \to 0^-} f'(x) \).

2.) (4 pts.) Suppose that \( G(x) = x \sin(e^x) \) and \( G'(x) = g(x) \). Find two different antiderivatives of \( g(x) \).

3.) (2 pts.) Simplify \( \log_9 81 \).