

Quiz #9, 10/29
Math 156 (Calculus I), Fall 2024

Problem 1 is worth 10 points, for a total of 10 points. Remember to *show your work* on all problems!

1. Consider the function $f: \mathbb{R} \rightarrow \mathbb{R}$ given by $f(x) = e^{(x^2)}$.
 - (a) Using the first derivative $f'(x)$, list the intervals where f is increasing and the intervals where f is decreasing.
 - (b) Does f have any local minima or local maxima? Explain.
 - (c) Using the second derivative $f''(x)$, list the intervals where f is concave up and the intervals where f is concave down.
 - (d) Does f have any inflection points? Explain.