Quiz   **Name**

1. Find the critical points, the intervals of increase and decrease, and the local maxima and local minima of the function $f(x) = x^3 - 6x - 5$.

2. Is there a function of the form $y = e^{x-c} - c$ for some constant c such that the function defined by $f(x) = \ln x$ for $x \geq 1$ and $f(x) = e^{x-c} - c$ for $x \leq 1$ is differentiable for all x? If so, find all the constants c that work.