

Show all work. 5 points each.

1) Find the critical points of $f(x) = 2 + 2x^2 - x^4$ and use the second derivative test to determine if they are local max, local min or saddle points.

2) Apply L'Hospital's rule twice to find $\lim_{x \rightarrow 0} \frac{e^x - 1 - x}{x^2}$.