December 14,2017

QUIZ♯4 Math101-sec 19.

Net Time Allowed: 20 minutes

Name: **ID ♯ :** **Serial ♯:**

(**Justify clearly your answer !**)

Exercise1:(05 points)

Justify whether or not the function $f(x) = x^{1439} + x^{2019} + \frac{x}{\sqrt{2018}} + 26$ has local extrema.

Exercise2:(05 points)

Let f be a differentiable function on $\mathbb{R}$ such that $f(0) = 1$ and $f'(x) \leq 2017$, $\forall\, x$. Find the largest possible value of $f(1)$.

***Exercise3:**(05 points) Find $\lim_{x \longrightarrow 1} (2-x)^{\tan(\frac{\pi x}{2})}$