

MATH 111-007 QUIZ 9

Problem 1. Sketch the function $f(x) = \frac{x}{1+x^2}$.

Problem. (Bonus) Suppose f is a continuous on $[a, b]$ and twice differentiable on (a, b) . Further suppose that it has exactly two critical points $\alpha, \beta \in (a, b)$ such that $\alpha < \beta$. Prove that there is some point $c \in (a, b)$ such that $f'''(c) = 0$.