

Math 124B
Quiz # 6
March 1, 2001

Name: _____

Student Number: _____

Section BA BB BC BD

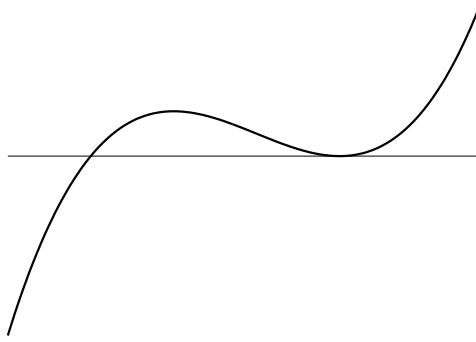
Box your answers so it's clear where they are! Show your work!

1. (10 points)

(a) Find a linearization $L(x)$ of the function $f(x) = \sqrt[3]{x} = x^{1/3}$ at the point $a = 8$.

(b) Use this linearization to estimate $\sqrt[3]{8.24}$.

2. (15 points) Let $f(x) = x(x - 3)^2$, which has the shape sketched below.



(a) Determine any *local* maxima or minima of the function $f(x)$ on the interval $0.5 \leq x \leq 5$.
Note: the graph shown above is not necessarily over this interval!!

(b) Determine the *global* maximum and minimum of the function $f(x)$ on this same closed interval $0.5 \leq x \leq 5$.