MATH 151
Mrs. Bonny Tighe

QUIZ 5A

25 points
4.1-4.3

NAME _____

SECTION_____ Fri 3/17/06

1. Find the absolute maximum and minimum values of f on the given intervals.

a) $f(x) = \dfrac{x}{x^2+1}$ on $[0,2]$

b) $f(x) = 3x^2 - 12x + 5$ on $[0,3]$

2. For what values of the constants a and b if the function f has critical points at $x = 2$ and $x = 1$. $f(x) = x^3 + ax^2 + bx + 1$.

3. Find all numbers c that satisfy the conclusion of The Mean Value Theorem if $f(x) = x^3 - 3x^2 + 4x - 1$ on the interval [1, 2].

4. Find the critical numbers, intervals of increasing and decreasing, inflection points, intervals of concave up and concave down and local maximums and minimums using the first and second derivative tests.

a) f(x)= $2-15x+9x^2-x^3$

b) $f(x)=x\sqrt{5-x}$