

MATH 234 AL1 QUIZ #6

TUESDAY, OCTOBER 9TH, 2007, 9AM

Name: _____

Show all work for full credit.

Problem 1 (4 pts). Find the absolute extrema of

$$f(x) = x + \frac{1}{x}$$

on the interval $[1/2, 3]$, if any.

Problem 2 (2 pts each). Consider the function

$$f(x) = -x^{5/3}$$

- (1) Show that the function has only one critical point.
- (2) Why does the second derivative test not work to classify the critical point?
- (3) Use the first derivative test to classify the critical point.