Due Date: April 01, 2016   Name: _____

Instructions: The following exercises are similar to those found in the course text book [related text book question are in brackets]. Show ALL your work and write neatly. This assignment is due at the beginning of the class period on the date above. Group work is allowed and encouraged, but each member must write up his/her own solutions. Submissions without staples, without a name, or without work shown *will not receive credit.*

Find the critical number(s) of the functions below.

1. [§4.1, # 28] $g(t) = |3 - 4t|$
2. [§4.1, # 32] $h(x) = x^{-1/3} - x^{2/3}$
3. [§4.1, # 36] $f(x) = x^{-5} \ln x$

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

4. [§4.1, # 46] $f(t) = t + \cot\left(\frac{1}{2}t\right),\quad \left[\frac{\pi}{4}, \frac{7\pi}{4}\right]$
5. [§4.1, # 48] $f(x) = \ln x - x,\quad \left[\frac{1}{2}, 2\right]$
6. [§4.1, # 50] $f(s) = s + 2\arctan s,\quad [0, 4]$