Math 491 Rahman Quiz 1 - Week 2 Tuesday, February 3, 2015

- (1) [5 pts.] Please sketch the direction field for  $\dot{x} = x(1-x)$ .
- (2) Consider the equation  $\ddot{x} 3\dot{x} + 2x = 0$ .
  - (a) [4 pts.] Convert this equation into a system of two first order equations.

Name:

- (b) [3 pts.] Compute the eigenvalues.
- (c) **[8 pts.]** Compute the eigenvectors.