Homework 4 (MATH 2310-04) **Name (Print):**

Due date: Thursday, March 6, 2014

1. Find the solution of the given initial value problem. Describe the behavior of the solution as t increases.

$$y''+3y'=0, \qquad y(0)=-2, \quad y'(0)=3$$

2. Find the solution of the given initial value problem. Describe the behavior of the solution as t increases.

$$y''+y'-2y=0, \qquad y(0)=1, \quad y'(0)=1$$

3. Find the solution of the given initial value problem. Then find β so that the solution approaches zero as $t \to \infty$.

$$4y''-y=0, \qquad y(0)=2, \quad y'(0)=\beta$$