Fourth Exam
Monday, November 10, 2008

This exam is closed book. The exam should be done on your own paper. Make sure your name is on all pages. Show all work, and show it in a logical and organized manner. The first problem is worth 75 points, and the second problem is worth 25 points. You may keep this sheet after turning in your exam.

1. Write down the first four terms of the series solution about $x_0 = 1$ for the initial value problem

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

2. Write down the solution to the initial value problem

$$y''' + 3y'' + 2y' = 0, \quad y(0) = 1, \quad y'(0) = 0, \quad y''(0) = 0.$$