

Fourth Exam

Wednesday, November 21, 2007

This exam is closed book. Make sure your name is on all pages. Show all work, and show it in a logical and organized manner. Each entire problem is worth 50 points.

1. Find the terms up to and including x^5 of the solution to the initial value problem:

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

2. Find the terms up to and including x^5 of the solution to the initial value problem:

$$y'' + xy' + y = \sin(x), \quad y(0) = 1, \quad y'(0) = 0.$$