Name:

Math 216 Quiz 2

October 29, 2015

Directions: WRITE YOUR NAME ON THIS QUIZ! Except where indicated, merely finding the answer to a problem is not enough to receive full credit; you must show how you arrived at that answer. If you convert irrational numbers to decimal approximations, round to at least four decimal points.

1) Consider the second order differential equation

$$t^2 y'' + 6ty + 6y = \ln(t). \tag{1}$$

Solve this equation by

    a) (7 points) solving the homogenenous boundary value problem,

    b) (5 points) describing how you would solve for a particular solution y_p of equation (1) using variation of parameters,

    c) (11 points) using variation of parameters to find a particular solution to equation (1),

    d) (2 points) finally, solving the system by combining a) and c).