

## Quiz 1

MAC 2302/3305

Fall 2008

Full Name: \_\_\_\_\_

Score: \_\_\_\_\_

**Show all of your work for full credit.**

1. Find an integrating factor and solve the differential equation:

$$y' = e^{2x} + y - 1$$

2. Verify that the general solution to the above equation is

$$y(x) = e^{2x} + 1 - ce^x$$

and determine the particular solution for which  $y(0) = 0$ .