Name of the Student:_____ ID_____Section_____

Quiz No:1 **Math 260** Semester 131

Q1. Verify that $y = e^{-x^2}\int_0^x e^{t^2}\,dt + \alpha\, e^{-x^2}$ is a family of solutions of $y'(x) + 2xy = 1$.

Q2. $y = 1/(x^2 - 1)$ is a unique solution of the initial value problem $y' + 2xy^2 = 0,\ \ y(0) = -1$ in some interval I.

What is that interval?

Q3. Give justification if the initial value problem $y' = x\sqrt{y}, \quad y(2) = 1$ has a unique solution?

Q4. Solve the initial value problem $dy/dx = 10/(x^2 + 1), \quad y(0) = 0.$