

Math 285

Name _____

Quiz #1 [1/30/07]

Q1.(5) State the order of the following ordinary differential equation. Determine whether the equation is linear or nonlinear.

$$\frac{d^2y}{dx^2} = \sqrt{1 + \left(\frac{dy}{dx}\right)^2}$$

Q2.(5) $y = 1/(1 + c_1e^{-x})$ is a one-parameter family of solutions of the first-order DE $y' = y - y^2$. Find a solution of the first-order IVP consisting of this differential equation and the initial condition $y(-1) = 2$. Give the largest interval I over which the solution is defined.