Quiz 1

Name: _____   **Student ID:** _____

Q1: Classify the following PDEs:

$$x^2 u_{xx} + y^2 u_{yyy} - log(1 + x^2)u = 0.$$

$$f(x, y)u_y + g(x, y, u)u_x + h(x, y)u = h(x, y).$$

Q2: Construct the partial differential equation by elimination the arbitrary function from

$$ue^{-x^2} + \Psi(x^2 + y^2) = 0$$

Q3: Find the integral surface of $5u_x + 4yu_y = 1 + e^{2x}$