Math 301-02 Quiz #6
Name:..... ID:.....

Exercise #1: Classify the PDE

$$\frac{\partial^2 u}{\partial x^2} + 2\frac{\partial^2 u}{\partial x \partial x} + \frac{\partial^2 u}{\partial y^2} = 0$$

Exercise #2: Solve the initial boundary value problem

$$\begin{cases} \frac{\partial^2 u}{\partial t^2} = 3\frac{\partial^2 u}{\partial x^2},\ 0 < x < 2,\ t > 0 \\ u(0,t) = 0,\ u(2,t) = 0,\ t \geq 0 \\ u(x,0) = \sin(\pi x),\ 0 < x < 2 \\ u_t(x,0) = \cos(\pi x),\ 0 < x < 2 \end{cases}$$