

Math 301 Quiz #6 Summer 2014

Name:..... ID:.....

Exercise # 1: Use the Fourier Sine transform to solve

$$\begin{cases} \frac{\partial u}{\partial t} = 3\frac{\partial^2 u}{\partial x^2}, & x > 0, t > 0 \\ u(0, t) = 0, & t \geq 0 \\ u(x, 0) = xe^{-x}, & x \geq 0 \end{cases}$$