

QUIZ #29, 12/6/07

MATH 54, FALL 2007

Show your work and justify your answers! Feel free to use both sides.

Name:

1. Find the Fourier sine series for $f(x) = 1$ on the interval $[0, \pi]$.
2. Solve the heat equation $\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}$ with the boundary conditions $u(0, t) = 0, u(\pi, t) = 0$ and $u(x, 0) = 1$. (Your answer will involve an infinite sum.)