

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 301 – Term 172 – Quiz 5

Name:

Student ID #:

Section #:

Question 1. Solve the problem using separation of variables

$$\begin{aligned}\frac{\partial^2 u}{\partial x^2} &= \frac{\partial u}{\partial t}, & 0 < x < 1, & \quad t > 0 \\ u(0, t) &= 0, \quad u(1, t) = 0, & t &\geq 0 \\ u(x, 0) &= 2 \sin 3\pi x, & 0 < x < 1\end{aligned}$$