

Exercise 4

Solve $u_{tt} = c^2 u_{xx} + k$ for $0 < x < l$, with the boundary conditions $u(0, t) = 0$, $u_x(l, t) = 0$ and the initial conditions $u(x, 0) = 0$, $u_t(x, 0) = V$. Here k and V are constants.