

Exercise 9

Use the method of subtraction to solve $u_{tt} = 9u_{xx}$ for $0 \leq x \leq 1 = l$, with $u(0, t) = h$, $u(1, t) = k$, where h and k are given constants, and $u(x, 0) = 0$, $u_t(x, 0) = 0$.