

Problem 26

In each of Problems 25 through 28, verify that each given function is a solution of the given partial differential equation.

$$\alpha^2 u_{xx} = u_t; \quad u_1(x, t) = e^{-\alpha^2 t} \sin x, \quad u_2(x, t) = e^{-\alpha^2 \lambda^2 t} \sin \lambda x, \quad \lambda \text{ a real constant}$$