Original Problem	Steady-state Problem
$\dfrac{\partial^2 u}{\partial x^2} = \dfrac{1}{k}\dfrac{\partial u}{\partial t}, \quad 0 < x < a, 0 < t$ $u(0,t) = T_0,\, u(a,t) = 0, \quad 0 < t$ $u(x,0) = T_0 x / a, \quad 0 < x < a$	
$\dfrac{\partial^2 u}{\partial x^2} + H = \dfrac{1}{k}\dfrac{\partial u}{\partial t}, 0 < x < a, 0 < t$ $u(0,t) = 0, u(a,t) = U_0, \quad 0 < t$ $u(x,0) = U_0, 0 < x < a$	
$\dfrac{\partial^2 u}{\partial x^2} - \gamma^2 u = \dfrac{1}{k}\dfrac{\partial u}{\partial t}, 0 < x < a, 0 < t$ $u(0,t) = U_0, u(a,t) = U_1, \quad 0 < t$ $u(x,0) = U_0 \sin(\pi x / 2a), 0 < x < a$	
$\dfrac{\partial^2 u}{\partial x^2} = \dfrac{1}{k}\dfrac{\partial u}{\partial t}, \quad 0 < x < a, 0 < t$ $\dfrac{\partial u}{\partial x}(0,t) = 0, \dfrac{\partial u}{\partial x}(a,t) = 0, \quad 0 < t$ $u(x,0) = Tx / a, \quad 0 < x < a$	
$\dfrac{\partial^2 u}{\partial x^2} = \dfrac{1}{k}\dfrac{\partial u}{\partial t}, \quad 0 < x < L, 0 < t$ $u(0,t) = T_0, \dfrac{\partial u}{\partial x}(L,t) = 0, \quad 0 < t$ $u(x,0) = T_0 \quad 0 < x < L$	
$\dfrac{\partial^2 u}{\partial x^2} = -\gamma^2 (T - u) + \dfrac{1}{k}\dfrac{\partial u}{\partial t}, 0 < x < a, 0 < t$ $\dfrac{\partial u}{\partial x}(0,t) = 0, u(a,t) = U_0, \quad 0 < t$ $u(x,0) = -U_0 \cos(\pi x / a), 0 < x < a$	