12.2.6.

$$a^2 \frac{\partial^2 u}{\partial x^2} = \frac{\partial^2 u}{\partial t^2} \ , \ 0 < x < L \ , \ t > 0 \ .$$

Randvillkor :
$$\begin{cases} u(0,t) = 0 \\ u(L,t) = 0 \end{cases} \qquad t > 0 \ .$$

Begynnelsevillkor:
$$\begin{cases} u(x,0) = 0 \\ \left.\dfrac{\partial u}{\partial t}\right|_{t=0} = \sin\dfrac{\pi x}{L} \end{cases} \qquad 0 < x < L \ .$$