

A function, $f(x,t)$, satisfies this PDE:

$$\frac{\partial^2 f}{\partial x^2} = \frac{1}{c^2} \frac{\partial^2 f}{\partial t^2}$$

Invent two different functions $f(x,t)$ that solve this equation. Try to make one of them “boring” and the other “interesting” in some way.