

PROBLEM:

For the following wave equation,

$$\frac{\partial^2 y(x, t)}{\partial t^2} = c^2 \frac{\partial^2 y(x, t)}{\partial x^2}$$

one of the solutions has the form:

$$y(x, t) = e^{j(7t-5x)}$$

From this solution, determine the numerical value of c in the wave equation.