

## PROBLEM:

For the following wave equation, give the general solution

$$\frac{\partial^2 y(x, t)}{\partial t^2} = 100 \frac{\partial^2 y(x, t)}{\partial x^2}$$

Assume that this equation represents the motion of a vibrating string that is tied down at both ends. The length of the string is 24 centimeters. Determine the numerical values of all the frequencies that can be generated by the string.