

NOME:

NÚMERO:

1. (1 valores)

Determine a solução formal do problema da onda:

$$\left\{ \begin{array}{l} \frac{\partial^2 u}{\partial t^2} = 4 \frac{\partial^2 u}{\partial x^2}, \quad 0 < x < \pi, \quad t \geq 0 \\ u(0, t) = u(\pi, t) = 0, \quad t \geq 0 \\ u(x, 0) = \sum_{m \geq 1} \frac{1}{m^4} \sin(mx), \quad 0 \leq x \leq \pi \\ \frac{\partial u}{\partial t}(x, 0) = \sum_{m \geq 1} \frac{1}{m!} \sin(mx) \quad 0 \leq x \leq \pi \end{array} \right.$$

2. (1 valores)

Pergunta surpresa