

1

We have the heat equation

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

with initial condition

$$u(x, 0) = 200 \sin(\pi x)$$

The ends of the rod is kept at 0°C which means

$$u(0, t) = 0 \quad \text{and} \quad u(L, t) = 0$$

2

a)

b)

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