

Chapter H10/EPH 16

10.2 Heat equation, ∞ Domain

$$u_t = k u_{xx}, t > 0, \underbrace{-\infty < x < \infty}_{\text{New}}$$

$$u(x, 0) = f(x) \quad -\infty < x < \infty \quad \text{initial Temp}$$

$$u(-\infty, t) = 0, u(\infty, t) = 0 \quad \text{replace } u(0, t) = 0, u(L, t) = 0?$$

No. But usually correct

$$u(x, t) \text{ bounded} \quad \leftarrow \text{New}$$