

AME 538

Homework 26

Due: Friday, 10 November 2000, in class

1. Air, considered to be calorically perfect and ideal, is at rest in a tube. For $0 \text{ m} \leq x \leq 1 \text{ m}$, we have $T(x, 0) = 300 \text{ K}$. For $0 \text{ m} \leq x \leq 0.5 \text{ m}$ we have $P(x, 0) = 200 \text{ kPa}$. For $0.5 \text{ m} < x \leq 1 \text{ m}$, we have $P(x, 0) = 100 \text{ kPa}$. Plot $P(x, t = 0.0001 \text{ s})$, $T(x, t = 0.0001 \text{ s})$.