

Homework 01
(due Tuesday Feb. 6)

Problem 1.1. (To be graded of 10 points.) It is known that a gas has the following properties:

- its entropy $S = aT^b$, and
- the work necessary for its isothermal compression from volume V_2 to volume V_1 is $cT\ln(V_2/V_1)$,

where a , b , and c are constants. Find the equation of state, thermodynamic potentials E , W , F , G and Ω , and specific heats C_V and C_p of the gas.