

Problem Set 5 P 556
Due Monday 2/21/05

① Problem 4.3 page 92

② Problem 4.5

③ Problem 4.9

④ Starting from $dS = \frac{C_V}{T} dT + \frac{PdV}{T}$

with $C_V = \frac{3}{2}Nk$ and $PV = NkT$ show
that the entropy of an ideal gas
can be written

$$S = \frac{3}{2}Nk \ln PV^{5/3} + \text{Const.}$$

