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Due Monday 2/21/05

1. Problem 4.3 page 92
2. Problem 4.5
3. Problem 4.9
4. Starting from \( ds = \frac{C_v}{T} dT + \rho dV \)

with \( C_v = \frac{3}{2} Nk \) and \( PV = N k T \) show that the entropy of an ideal gas can be written

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