Quiz 2

1. Starting with the multiplicity of a high-temperature Einstein solid ($\Omega = \left(\frac{eq}{N}\right)^N$), find an expression for energy as a function of temperature $U(T)$ (for example, for an ideal gas we have $U = \frac{3}{2}NkT$). Also find an expression for the constant volume heat capacity C_V. Recall that the total energy of an Einstein solid with q energy units is just $q\hbar\omega$.