Pathria 137. oldal

$$(x_1 + x_2 + \cdots x_m)^n = \sum_{k_1+\cdots+k_m=n} \binom{n}{k_1\, k_2\, \cdots\, k_m} \prod_{1\le t\le m} x_t^{k_t}$$

$$Q_N(V,T) = \sum_{\{n_\epsilon\}}{}' \left[\left(\prod_\epsilon \frac{1}{n_\epsilon!} \cdot \right) \prod_\epsilon \left(e^{-\beta\epsilon} \right)^{n_\epsilon} \right]$$

$\sum_\epsilon n_\epsilon = N$ részecskék száma

$$= \frac{1}{N!} \sum_{\{n_\epsilon\}}{}' \left[\left(\prod_\epsilon \frac{1}{n_\epsilon!} \right) N! \right] \cdot \prod_\epsilon \left(e^{-\beta\epsilon} \right)^{n_\epsilon}$$

$$\left[\frac{N!}{\prod_\epsilon n_\epsilon!} \right] \prod_\epsilon \left(e^{-\beta\epsilon} \right)^{n_\epsilon}$$

$$\frac{1}{N!} \left[\sum_\epsilon e^{-\beta\epsilon} \right]^N$$

$$\| \quad Q_1(V,T)$$

$$Q_N(V,T) = \frac{1}{N!} \left[Q_1(V,T) \right]^N$$

$$\| \quad \left[\frac{V}{\lambda_T^3} \right]$$

$+ (MK)$