$= \prod_{i=1}^{n} \sum_{a_i=0}^{n} \frac{1}{1+n} p(e_i \mid f_{a_i})$

 $\frac{1}{(1+n)^m} \prod_{i=1}^{n} \sum_{a_i=0}^{m} p(e_i \mid f_{a_i})$