

$$\begin{aligned}
\sum_{i=1}^l \mu_x^1(B_{\mathcal{F}}[a_i, 1]) + \sum_{i=1}^l \mu_x^1(B_{\mathcal{F}}[b_i, 1]) &= \\
&= l \cdot \left( 2l \cdot \sum_{i=0}^{l+1} \mu_x^1(J_i) + 2l \cdot \sum_{i=0}^{l+1} \mu_x^1(\varphi_1(J_i)) \right) \\
&= 2l \cdot \mu_x^1(B_{\mathcal{F}}[x, 1]) = 2l.
\end{aligned}$$