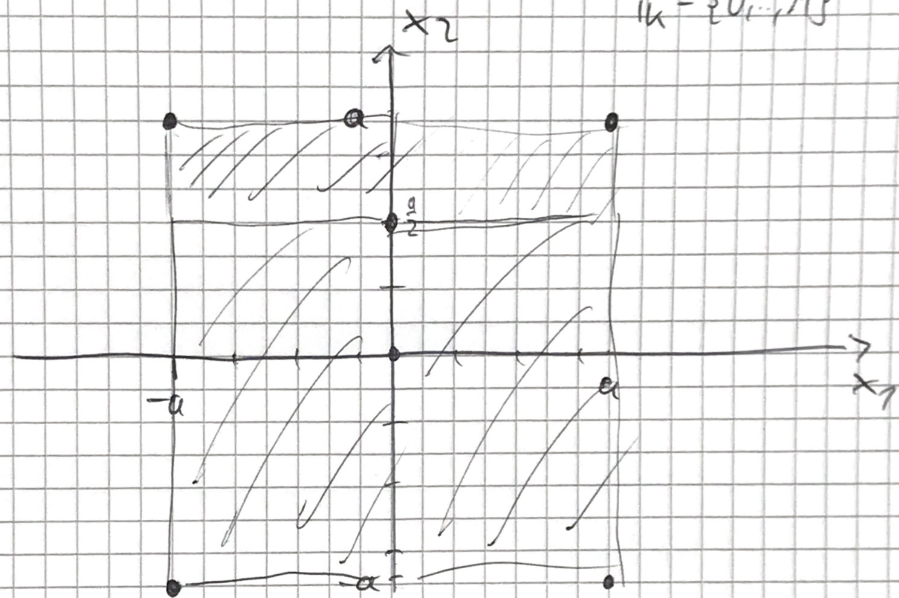
$$\sum_{k=1}^{(M+1)^d} \prod_{j=1}^{d} \left(1 - \frac{M}{2a} |x^{(j)} - x_{i_k}^{(j)}|\right)_+ \qquad x_{i_k} = \left(-a + i_k^{(1)} \cdot \frac{2a}{M}, \dots, -a + i_k^{(d)} \cdot \frac{2a}{M}\right)$$

$$i_k = \{0, \dots, M\}^d$$



Bsp. $d = 2$

$M = 1$ $\qquad i_k = \{0,1\}^d \quad \forall k = 1, \dots, 4$

$$x_{i_0} = \begin{pmatrix} -a \\ -a \end{pmatrix}$$

00
01
10
11

$$x_{i_1} = \begin{pmatrix} -a \\ a \end{pmatrix} \quad x_{i_2} = \begin{pmatrix} a \\ -a \end{pmatrix} \quad x_{i_3} = \begin{pmatrix} a \\ a \end{pmatrix}$$

$$\frac{1}{2} \cdot \frac{3}{4} = \frac{3}{8}$$

$$\frac{1}{2} \cdot \frac{1}{4} = \frac{1}{8}$$

$$\sum_{k=1}^{4} \prod_{j=1}^{2} \left(1 - \frac{1}{2a} |x^{(j)} - x_{i_k}^{(j)}|\right)_+$$

$$\cancel{4 \cdot \left(1 - \frac{1}{2a} a\right)\left(1 - \frac{1}{2a} a\right) + \left(1 - \frac{1}{2a} a\right)\left(1 - \frac{1}{2a} a\right)}$$

$$\cancel{4 \cdot \frac{1}{2} \cdot \frac{1}{2}}$$

$$\left(1 - \frac{1}{2a} |a\right)\left(1 - \frac{1}{2a} | \frac{a}{2}\right)$$

$$= \left(1 - \frac{1}{2}\right)\left(1 - \frac{1}{4}\right)$$

$$2 \cdot \left(\frac{1}{2} \cdot \frac{3}{4} \right)$$