

$\text{norm}_s tr :$

$$line : Z_{k\ell}[a] := \begin{pmatrix} a_1 & a_2 & \dots & a_{\ell-1} \\ -a_1 - a_2 - \dots - a_{\ell-1} \dots & \dots & \dots & \dots \\ 1 & a_2 & \dots & a_{\ell-1} \\ -a_1 - a_2 - a_2 - \dots - a_{\ell-1} \end{pmatrix}, \quad \text{if } \ell \geq$$