

$$\Delta(3,3,4) = \langle a, b \mid a^3 = b^3 = (a.b)^4 = 1 \rangle$$

given by

$$a \mapsto \begin{pmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{pmatrix}$$

$$b \mapsto \begin{pmatrix} 1 & 2-t+t^2 & 3+t^2 \\ 0 & -2+2t-t^2 & -1+t-t^2 \\ 0 & 3-3t+t^2 & (-1+t)^2 \end{pmatrix}$$

are discrete and faithful for every  $t \in \mathbf{R}$ .