

Rank-156 over GF(4)

January 15, 2021

The equation

The equation of the surface is :

$$X_0^2 X_1 + X_0 X_1^2 = 0$$

(0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)

The point rank of the equation over GF(4) is 5730

General information

Number of lines	61
Number of points	53
Number of singular points	5
Number of Eckardt points	0
Number of double points	0
Number of single points	0
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	5^{61}
Type of lines on points	$13^5, 5^{48}$

Singular Points

The surface has 5 singular points:

$$0 : P_2 = \mathbf{P}(0, 0, 1, 0) = \mathbf{P}(0, 0, 1, 0)$$

$$1 : P_3 = \mathbf{P}(0, 0, 0, 1) = \mathbf{P}(0, 0, 0, 1)$$

$$2 : P_{38} = \mathbf{P}(0, 0, 1, 1) = \mathbf{P}(0, 0, 1, 1)$$

$$3 : P_{53} = \mathbf{P}(0, 0, \omega, 1) = \mathbf{P}(0, 0, 2, 1)$$

$$4 : P_{69} = \mathbf{P}(0, 0, \omega^2, 1) = \mathbf{P}(0, 0, 3, 1)$$

The 61 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{16} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{16} = \mathbf{Pl}(0, 0, 1, 0, 0, 0)_2$$

$$\begin{aligned}
\ell_1 &= \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{37} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{37} = \mathbf{Pl}(0, 0, 1, 0, 0, 1)_{108} \\
\ell_2 &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{336} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{336} = \mathbf{Pl}(0, 0, 0, 0, 0, 1)_{101} \\
\ell_3 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{20} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{20} = \mathbf{Pl}(0, 0, 0, 0, 1, 0)_{25} \\
\ell_4 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{17} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{17} = \mathbf{Pl}(0, 0, 1, 0, 1, 0)_{32} \\
\ell_5 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{19} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{19} = \mathbf{Pl}(0, 0, 2, 0, 1, 0)_{39} \\
\ell_6 &= \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{18} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{18} = \mathbf{Pl}(0, 0, 3, 0, 1, 0)_{46} \\
\ell_7 &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{340} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{340} = \mathbf{Pl}(0, 0, 0, 1, 0, 0)_9 \\
\ell_8 &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{337} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{337} = \mathbf{Pl}(0, 0, 0, 1, 0, 1)_{129} \\
\ell_9 &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{339} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{339} = \mathbf{Pl}(0, 0, 0, 3, 0, 1)_{143} \\
\ell_{10} &= \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{338} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{338} = \mathbf{Pl}(0, 0, 0, 2, 0, 1)_{136} \\
\ell_{11} &= \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{356} = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{356} = \mathbf{Pl}(0, 1, 0, 0, 0, 0)_1 \\
\ell_{12} &= \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{121} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{121} = \mathbf{Pl}(0, 1, 1, 0, 0, 1)_{112} \\
\ell_{13} &= \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{100} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{100} = \mathbf{Pl}(0, 1, 1, 0, 0, 0)_6 \\
\ell_{14} &= \begin{bmatrix} 1 & 0 & 0 & \omega^2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{268} = \begin{bmatrix} 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{268} = \mathbf{Pl}(0, 3, 1, 0, 0, 0)_8 \\
\ell_{15} &= \begin{bmatrix} 1 & 0 & 0 & \omega \\ 0 & 0 & 1 & 0 \end{bmatrix}_{184} = \begin{bmatrix} 1 & 0 & 0 & 2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{184} = \mathbf{Pl}(0, 2, 1, 0, 0, 0)_7 \\
\ell_{16} &= \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{341} = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{341} = \mathbf{Pl}(0, 1, 0, 0, 0, 1)_{105} \\
\ell_{17} &= \begin{bmatrix} 0 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{351} = \begin{bmatrix} 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{351} = \mathbf{Pl}(0, 3, 0, 0, 0, 1)_{107} \\
\ell_{18} &= \begin{bmatrix} 1 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{289} = \begin{bmatrix} 1 & 1 & 0 & 3 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{289} = \mathbf{Pl}(0, 3, 1, 0, 0, 1)_{114} \\
\ell_{19} &= \begin{bmatrix} 0 & 1 & 0 & \omega \\ 0 & 0 & 1 & 0 \end{bmatrix}_{346} = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{346} = \mathbf{Pl}(0, 2, 0, 0, 0, 1)_{106} \\
\ell_{20} &= \begin{bmatrix} 1 & 1 & 0 & \omega \\ 0 & 0 & 1 & 0 \end{bmatrix}_{205} = \begin{bmatrix} 1 & 1 & 0 & 2 \\ 0 & 0 & 1 & 0 \end{bmatrix}_{205} = \mathbf{Pl}(0, 2, 1, 0, 0, 1)_{113} \\
\ell_{21} &= \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{41} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{41} = \mathbf{Pl}(0, 0, 0, 1, 1, 0)_{53}
\end{aligned}$$

$$\begin{aligned}
\ell_{22} &= \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{38} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{38} = \mathbf{Pl}(0, 0, 1, 1, 1, 1)_{198} \\
\ell_{23} &= \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{40} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{40} = \mathbf{Pl}(0, 0, 2, 3, 3, 1)_{325} \\
\ell_{24} &= \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{39} = \begin{bmatrix} 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{39} = \mathbf{Pl}(0, 0, 3, 2, 2, 1)_{272} \\
\ell_{25} &= \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{104} = \begin{bmatrix} 1 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{104} = \mathbf{Pl}(0, 1, 0, 0, 1, 0)_{29} \\
\ell_{26} &= \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{101} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{101} = \mathbf{Pl}(0, 1, 1, 0, 1, 0)_{36} \\
\ell_{27} &= \begin{bmatrix} 1 & 0 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{271} = \begin{bmatrix} 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{271} = \mathbf{Pl}(0, 1, 2, 0, 1, 0)_{43} \\
\ell_{28} &= \begin{bmatrix} 1 & 0 & 0 & \omega \\ 0 & 0 & 1 & \omega \end{bmatrix}_{186} = \begin{bmatrix} 1 & 0 & 0 & 2 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{186} = \mathbf{Pl}(0, 1, 3, 0, 1, 0)_{50} \\
\ell_{29} &= \begin{bmatrix} 1 & 0 & \omega^2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{272} = \begin{bmatrix} 1 & 0 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{272} = \mathbf{Pl}(0, 3, 0, 0, 1, 0)_{31} \\
\ell_{30} &= \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{102} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{102} = \mathbf{Pl}(0, 3, 3, 0, 1, 0)_{52} \\
\ell_{31} &= \begin{bmatrix} 1 & 0 & 0 & \omega^2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{269} = \begin{bmatrix} 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{269} = \mathbf{Pl}(0, 3, 1, 0, 1, 0)_{38} \\
\ell_{32} &= \begin{bmatrix} 1 & 0 & 0 & \omega \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{187} = \begin{bmatrix} 1 & 0 & 0 & 2 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{187} = \mathbf{Pl}(0, 3, 2, 0, 1, 0)_{45} \\
\ell_{33} &= \begin{bmatrix} 1 & 0 & \omega & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{188} = \begin{bmatrix} 1 & 0 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{188} = \mathbf{Pl}(0, 2, 0, 0, 1, 0)_{30} \\
\ell_{34} &= \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{103} = \begin{bmatrix} 1 & 0 & 0 & 1 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{103} = \mathbf{Pl}(0, 2, 2, 0, 1, 0)_{44} \\
\ell_{35} &= \begin{bmatrix} 1 & 0 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{270} = \begin{bmatrix} 1 & 0 & 0 & 3 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{270} = \mathbf{Pl}(0, 2, 3, 0, 1, 0)_{51} \\
\ell_{36} &= \begin{bmatrix} 1 & 0 & 0 & \omega \\ 0 & 0 & 1 & 1 \end{bmatrix}_{185} = \begin{bmatrix} 1 & 0 & 0 & 2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{185} = \mathbf{Pl}(0, 2, 1, 0, 1, 0)_{37} \\
\ell_{37} &= \begin{bmatrix} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{345} = \begin{bmatrix} 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{345} = \mathbf{Pl}(0, 1, 0, 1, 0, 0)_{13} \\
\ell_{38} &= \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{342} = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{342} = \mathbf{Pl}(0, 1, 0, 1, 0, 1)_{133} \\
\ell_{39} &= \begin{bmatrix} 0 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{354} = \begin{bmatrix} 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{354} = \mathbf{Pl}(0, 3, 0, 3, 0, 1)_{149} \\
\ell_{40} &= \begin{bmatrix} 0 & 1 & 0 & \omega \\ 0 & 0 & 1 & \omega \end{bmatrix}_{348} = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{348} = \mathbf{Pl}(0, 2, 0, 2, 0, 1)_{141} \\
\ell_{41} &= \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{125} = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{125} = \mathbf{Pl}(0, 1, 0, 1, 1, 0)_{57} \\
\ell_{42} &= \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{122} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{122} = \mathbf{Pl}(0, 1, 1, 1, 1, 1)_{202}
\end{aligned}$$

$$\begin{aligned}
\ell_{43} &= \begin{bmatrix} 1 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{292} = \begin{bmatrix} 1 & 1 & 0 & 3 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{292} = \mathbf{Pl}(0, 3, 2, 3, 3, 1)_{331} \\
\ell_{44} &= \begin{bmatrix} 1 & 1 & 0 & \omega \\ 0 & 0 & 1 & \omega \end{bmatrix}_{207} = \begin{bmatrix} 1 & 1 & 0 & 2 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{207} = \mathbf{Pl}(0, 2, 3, 2, 2, 1)_{277} \\
\ell_{45} &= \begin{bmatrix} 0 & 1 & \omega^2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{355} = \begin{bmatrix} 0 & 1 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{355} = \mathbf{Pl}(0, 3, 0, 1, 0, 0)_{15} \\
\ell_{46} &= \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{343} = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{343} = \mathbf{Pl}(0, 1, 0, 2, 0, 1)_{140} \\
\ell_{47} &= \begin{bmatrix} 0 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{352} = \begin{bmatrix} 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{352} = \mathbf{Pl}(0, 3, 0, 1, 0, 1)_{135} \\
\ell_{48} &= \begin{bmatrix} 0 & 1 & 0 & \omega \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{349} = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{349} = \mathbf{Pl}(0, 2, 0, 3, 0, 1)_{148} \\
\ell_{49} &= \begin{bmatrix} 1 & 1 & \omega^2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{293} = \begin{bmatrix} 1 & 1 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{293} = \mathbf{Pl}(0, 3, 0, 1, 1, 0)_{59} \\
\ell_{50} &= \begin{bmatrix} 1 & 1 & 0 & \omega \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{208} = \begin{bmatrix} 1 & 1 & 0 & 2 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{208} = \mathbf{Pl}(0, 2, 2, 3, 3, 1)_{330} \\
\ell_{51} &= \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{123} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{123} = \mathbf{Pl}(0, 1, 3, 2, 2, 1)_{276} \\
\ell_{52} &= \begin{bmatrix} 1 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{290} = \begin{bmatrix} 1 & 1 & 0 & 3 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{290} = \mathbf{Pl}(0, 3, 1, 1, 1, 1)_{204} \\
\ell_{53} &= \begin{bmatrix} 0 & 1 & \omega & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{350} = \begin{bmatrix} 0 & 1 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{350} = \mathbf{Pl}(0, 2, 0, 1, 0, 0)_{14} \\
\ell_{54} &= \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{344} = \begin{bmatrix} 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{344} = \mathbf{Pl}(0, 1, 0, 3, 0, 1)_{147} \\
\ell_{55} &= \begin{bmatrix} 0 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{353} = \begin{bmatrix} 0 & 1 & 0 & 3 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{353} = \mathbf{Pl}(0, 3, 0, 2, 0, 1)_{142} \\
\ell_{56} &= \begin{bmatrix} 0 & 1 & 0 & \omega \\ 0 & 0 & 1 & 1 \end{bmatrix}_{347} = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{347} = \mathbf{Pl}(0, 2, 0, 1, 0, 1)_{134} \\
\ell_{57} &= \begin{bmatrix} 1 & 1 & \omega & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{209} = \begin{bmatrix} 1 & 1 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{209} = \mathbf{Pl}(0, 2, 0, 1, 1, 0)_{58} \\
\ell_{58} &= \begin{bmatrix} 1 & 1 & 0 & \omega^2 \\ 0 & 0 & 1 & \omega \end{bmatrix}_{291} = \begin{bmatrix} 1 & 1 & 0 & 3 \\ 0 & 0 & 1 & 2 \end{bmatrix}_{291} = \mathbf{Pl}(0, 3, 3, 2, 2, 1)_{278} \\
\ell_{59} &= \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & \omega^2 \end{bmatrix}_{124} = \begin{bmatrix} 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 3 \end{bmatrix}_{124} = \mathbf{Pl}(0, 1, 2, 3, 3, 1)_{329} \\
\ell_{60} &= \begin{bmatrix} 1 & 1 & 0 & \omega \\ 0 & 0 & 1 & 1 \end{bmatrix}_{206} = \begin{bmatrix} 1 & 1 & 0 & 2 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{206} = \mathbf{Pl}(0, 2, 1, 1, 1, 1)_{203}
\end{aligned}$$

Rank of lines: (16, 37, 336, 20, 17, 19, 18, 340, 337, 339, 338, 356, 121, 100, 268, 184, 341, 351, 289, 346, 205, 41, 38, 40, 39, 104, 101, 271, 186, 272, 102, 269, 187, 188, 103, 270, 185, 345, 342, 354, 348, 125, 122, 292, 207, 355, 343, 352, 349, 293, ...291, 124, 206)

Rank of points on Klein quadric: (2, 108, 101, 25, 32, 39, 46, 9, 129, 143, 136, 1, 112, 6, 8, 7, 105, 107, 114, 106, 113, 53, 198, 325, 272, 29, 36, 43, 50, 31, 52, 38, 45, 30, 44, 51, 37, 13, 133, 149, 141, 57, 202, 331, 277, 15, 140, 135, 148, 59, ...278, 329, 203)

Eckardt Points

The surface has 0 Eckardt points:

Double Points

The surface has 0 Double points:

The double points on the surface are:

Single Points

The surface has 0 single points:

The single points on the surface are:

The single points on the surface are:

Points on surface but on no line

The surface has 0 points not on any line:

The points on the surface but not on lines are:

Line Intersection Graph

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47				
0	0	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0			
1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	
2	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1		
3	1	0	0	0	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0			
4	1	0	0	1	0	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	1			
5	1	0	0	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0			
6	1	0	0	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	1	0			
7	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	1	0	0	0	1	1	1		
8	0	0	1	0	1	0	0	1	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	1	1	1	0	1	0	0	1	1	1			
9	0	0	1	0	0	1	0	1	1	0	1	1	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	1	1	1	1	0	0	1	0	1	1	1			
10	0	0	1	0	0	0	1	1	1	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	1	1	1	1	1			
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
12	1	1	1	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0
13	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
14	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
15	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
16	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18	1	1	1	0	0	0	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
19	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
20	1	1	1	0	0	0	0	0	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
21	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	1	1	1	1	1	0	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	0	0
22	0	1	0	0	1	0	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	1	1	0	0	1
23	0	1	0	0	0	1	0	0	0	0	1	0	1	1	1	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	1	1	1	1	0	0	0	0		
24	0	1	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	1	0	
25	1	0	0	1	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0		
26	1	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	1		
27	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0		
28	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	1	0	0		
29	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0		
30	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	1	0	0	0		
31	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	0	1		
32	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0		
33	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0		
34	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0		
35	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	1	0	1	0	0		
36	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1		
37	0	0	1	1	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	
38	0	0	1	0	1	0	0	0	0	1	1	0	1	0	0	1	0	0	0	1</																																

Neighbor sets in the line intersection graph:

Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}
in point	P_2	P_2	P_0	P_0	P_0	P_0	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_8	P_8	P_8	P_8	P_9	P_9

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{49}	
in point	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_5	P_5	P_5	P_5	P_{12}	P_{12}	P_{12}	P_{12}	P_{17}	

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{45}	ℓ_{46}
in point	P_2	P_2	P_1	P_1	P_1	P_1	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{11}	P_{11}	P_{11}	P_{11}	P_{15}	P_{16}

Line 3 intersects

Line	ℓ_0	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{21}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_0	P_0	P_0	P_0	P_3	P_3	P_{23}	P_{24}	P_{25}	P_3	P_3	P_{23}	P_{24}	P_{25}	P_3	P_{23}	P_{24}	P_{25}	P_3	P_{23}	P_{24}

Line 4 intersects

Line	ℓ_0	ℓ_3	ℓ_5	ℓ_6	ℓ_8	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{22}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_0	P_0	P_0	P_0	P_{38}	P_{38}	P_{39}	P_{40}	P_{41}	P_{38}	P_{39}	P_{38}	P_{41}	P_{40}	P_{40}	P_{41}	P_{38}	P_{39}	P_{41}	P_{40}	P_{41}

Line 5 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_6	ℓ_9	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{23}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_0	P_0	P_0	P_0	P_{53}	P_{53}	P_{54}	P_{55}	P_{56}	P_{53}	P_{55}	P_{56}	P_{53}	P_{54}	P_{56}	P_{55}	P_{54}	P_{53}	P_{54}	P_{53}	P_{54}

Line 6 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{24}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_0	P_0	P_0	P_0	P_{69}	P_{69}	P_{70}	P_{71}	P_{72}	P_{69}	P_{72}	P_{71}	P_{70}	P_{69}	P_{70}	P_{69}	P_{72}	P_{71}	P_{71}	P_{72}	P_{71}

Line 7 intersects

Line	ℓ_2	ℓ_3	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{21}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{41}	ℓ_{45}	ℓ_{46}	ℓ_{47}
in point	P_1	P_3	P_1	P_1	P_1	P_3	P_{26}	P_{30}	P_{34}	P_3	P_3	P_3	P_3	P_3	P_{26}	P_{30}	P_{34}	P_3	P_3	P_{26}	P_{30}

Line 8 intersects

Line	ℓ_2	ℓ_4	ℓ_7	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{22}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{42}	ℓ_{45}	ℓ_{46}	ℓ_{47}
in point	P_1	P_{38}	P_1	P_1	P_1	P_{38}	P_{42}	P_{45}	P_{49}	P_{38}	P_{38}	P_{38}	P_{38}	P_{42}	P_{38}	P_{49}	P_{45}	P_{38}	P_{45}	P_{49}	P_{49}

Line 9 intersects

Line	ℓ_2	ℓ_5	ℓ_7	ℓ_8	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{23}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{43}	ℓ_{45}	ℓ_{46}	ℓ_{47}
in point	P_1	P_{53}	P_1	P_1	P_1	P_{53}	P_{57}	P_{61}	P_{65}	P_{53}	P_{53}	P_{53}	P_{53}	P_{61}	P_{65}	P_{53}	P_{57}	P_{53}	P_{65}	P_{61}	P_{61}

Line 10 intersects

Line	ℓ_2	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{44}	ℓ_{45}	ℓ_{46}	ℓ_{47}
in point	P_1	P_{69}	P_1	P_1	P_1	P_{69}	P_{73}	P_{77}	P_{81}	P_{69}	P_{69}	P_{69}	P_{69}	P_{81}	P_{77}	P_{73}	P_{69}	P_{69}	P_{73}	P_{69}	P_{69}

Line 11 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_2	P_2	P_2	P_3	P_{38}	P_{53}	P_{69}	P_3	P_{38}	P_{53}	P_{69}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_3

Line 12 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{49}
in point	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{27}	P_4	P_{58}	P_{74}	P_4	P_{27}	P_{74}	P_{58}	P_{74}

Line 13 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{11}	ℓ_{12}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}
in point	P_2	P_2	P_2	P_{23}	P_{39}	P_{54}	P_{70}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{39}	P_{23}	P_{70}	P_{54}	P_{70}

Line 14 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}
in point	P_2	P_2	P_2	P_{24}	P_{40}	P_{55}	P_{71}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{55}	P_{71}	P_{24}	P_{40}	P_{40}

Line 15 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}
in point	P_2	P_2	P_2	P_{25}	P_{41}	P_{56}	P_{72}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{72}	P_{56}	P_{41}	P_{25}	P_{56}

Line 16 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{45}
in point	P_2	P_2	P_2	P_{26}	P_{42}	P_{57}	P_{73}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{42}	P_{26}	P_{73}	P_{57}	P_{73}

Line 17 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{45}
in point	P_2	P_2	P_2	P_{30}	P_{45}	P_{61}	P_{77}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{61}	P_{77}	P_{30}	P_{45}	P_{45}

Line 18 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{49}
in point	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{32}	P_{47}	P_{63}	P_{79}	P_{63}	P_{79}	P_{32}	P_{47}	P_{47}

Line 19 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{20}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{45}
in point	P_2	P_2	P_2	P_{34}	P_{49}	P_{65}	P_{81}	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{81}	P_{65}	P_{49}	P_{34}	P_{65}

Line 20 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{49}
in point	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_2	P_{37}	P_{52}	P_{68}	P_{84}	P_{84}	P_{68}	P_{52}	P_{37}	P_{68}

Line 21 intersects

Line	ℓ_1	ℓ_3	ℓ_7	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{45}	ℓ_{49}	ℓ_{50}
in point	P_5	P_3	P_3	P_3	P_{27}	P_{32}	P_{37}	P_5	P_5	P_5	P_3	P_3	P_3	P_3	P_3	P_{27}	P_{32}	P_{37}	P_3	P_3	P_{37}

Line 22 intersects

Line	ℓ_1	ℓ_4	ℓ_8	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{23}	ℓ_{24}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{38}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{47}	ℓ_{49}	ℓ_{50}
in point	P_5	P_{38}	P_{38}	P_{38}	P_4	P_{47}	P_{52}	P_5	P_5	P_5	P_{38}	P_{38}	P_{38}	P_{38}	P_4	P_{38}	P_{52}	P_{47}	P_{38}	P_{47}	P_{47}

Line 23 intersects

Line	ℓ_1	ℓ_5	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{24}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{39}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{48}	ℓ_{49}	ℓ_{50}
in point	P_5	P_{53}	P_{53}	P_{53}	P_{58}	P_{63}	P_{68}	P_5	P_5	P_5	P_{53}	P_{53}	P_{53}	P_{53}	P_{63}	P_{68}	P_{53}	P_{58}	P_{53}	P_{68}	P_{68}

Line 24 intersects

Line	ℓ_1	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{40}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{46}	ℓ_{49}	ℓ_{50}
in point	P_5	P_{69}	P_{69}	P_{69}	P_{74}	P_{79}	P_{84}	P_5	P_5	P_5	P_{69}	P_{69}	P_{69}	P_{69}	P_{84}	P_{79}	P_{74}	P_{69}	P_{69}	P_{74}	P_{74}

Line 25 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{21}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_8	P_3	P_{39}	P_{55}	P_{72}	P_3	P_3	P_{39}	P_{55}	P_{72}	P_3	P_8	P_8	P_8	P_3	P_{55}	P_{72}	P_{39}	P_3	P_{72}	P_{39}

Line 26 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{22}	ℓ_{25}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}
in point	P_8	P_{23}	P_{38}	P_{56}	P_{71}	P_{38}	P_{38}	P_{23}	P_{71}	P_{56}	P_{38}	P_8	P_8	P_8	P_{56}	P_{23}	P_{38}	P_{71}	P_{71}	P_{23}

Line 27 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_9	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{23}	ℓ_{25}	ℓ_{26}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}
in point	P_8	P_{24}	P_{41}	P_{53}	P_{70}	P_{53}	P_{53}	P_{70}	P_{24}	P_{41}	P_{53}	P_8	P_8	P_8	P_{70}	P_{41}	P_{24}	P_{53}	P_{41}	P_{53}

Line 28 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{24}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}
in point	P_8	P_{25}	P_{40}	P_{54}	P_{69}	P_{69}	P_{69}	P_{54}	P_{40}	P_{25}	P_{69}	P_8	P_8	P_8	P_{40}	P_{69}	P_{54}	P_{25}	P_{54}	P_{40}

Line 29 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{21}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_9	P_3	P_{40}	P_{56}	P_{70}	P_3	P_3	P_{70}	P_{40}	P_{56}	P_3	P_3	P_{56}	P_{70}	P_{40}	P_9	P_9	P_9	P_3	P_{40}	P_{56}

Line 30 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{24}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}
in point	P_9	P_{23}	P_{41}	P_{55}	P_{69}	P_{69}	P_{69}	P_{23}	P_{55}	P_{41}	P_{69}	P_{55}	P_{23}	P_{41}	P_{69}	P_9	P_9	P_9	P_{41}	P_{23}

Line 31 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{22}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{32}	ℓ_{33}	ℓ_{34}
in point	P_9	P_{24}	P_{38}	P_{54}	P_{72}	P_{38}	P_{38}	P_{54}	P_{24}	P_{72}	P_{38}	P_{72}	P_{38}	P_{24}	P_{54}	P_9	P_9	P_9	P_{54}	P_{72}

Line 32 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_9	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{23}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{33}	ℓ_{34}
in point	P_9	P_{25}	P_{39}	P_{53}	P_{71}	P_{53}	P_{53}	P_{39}	P_{71}	P_{25}	P_{53}	P_{39}	P_{71}	P_{53}	P_{25}	P_9	P_9	P_9	P_{71}	P_{53}

Line 33 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{21}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{34}	ℓ_{35}
in point	P_{10}	P_3	P_{41}	P_{54}	P_{71}	P_3	P_3	P_{54}	P_{71}	P_{41}	P_3	P_3	P_{71}	P_{41}	P_{54}	P_3	P_{41}	P_{54}	P_{71}	P_{10}	P_{54}

Line 34 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_9	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{23}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_{10}	P_{23}	P_{40}	P_{53}	P_{72}	P_{53}	P_{53}	P_{23}	P_{40}	P_{72}	P_{53}	P_{72}	P_{23}	P_{53}	P_{40}	P_{40}	P_{23}	P_{72}	P_{53}	P_{10}	P_{53}	P_{72}

Line 35 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{24}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_{10}	P_{24}	P_{39}	P_{56}	P_{69}	P_{69}	P_{69}	P_{39}	P_{24}	P_{56}	P_{69}	P_{39}	P_{56}	P_{24}	P_{69}	P_{56}	P_{69}	P_{24}	P_{39}	P_{10}	P_{56}	P_{69}

Line 36 intersects

Line	ℓ_0	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_8	ℓ_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{22}	ℓ_{25}	ℓ_{26}	ℓ_{27}	ℓ_{28}	ℓ_{29}	ℓ_{30}	ℓ_{31}	ℓ_{32}	ℓ_{33}	ℓ_{34}	ℓ_{35}
in point	P_{10}	P_{25}	P_{38}	P_{55}	P_{70}	P_{38}	P_{38}	P_{70}	P_{55}	P_{25}	P_{38}	P_{55}	P_{38}	P_{70}	P_{25}	P_{70}	P_{55}	P_{38}	P_{25}	P_{10}	P_{55}	P_{70}

Line 37 intersects

Line	ℓ_2	ℓ_3	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{21}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{41}	ℓ_{45}	ℓ_{46}	ℓ_{47}	ℓ_{48}
in point	P_{11}	P_3	P_3	P_{42}	P_{61}	P_{81}	P_3	P_{42}	P_{61}	P_{81}	P_3	P_3	P_3	P_3	P_{11}	P_{11}	P_{11}	P_3	P_3	P_{61}	P_3	P_{81}

Line 38 intersects

Line	ℓ_2	ℓ_4	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{22}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{37}	ℓ_{39}	ℓ_{40}	ℓ_{42}	ℓ_{45}	ℓ_{46}
in point	P_{11}	P_{38}	P_{26}	P_{38}	P_{65}	P_{77}	P_{38}	P_{26}	P_{77}	P_{65}	P_{38}	P_{38}	P_{38}	P_{38}	P_{11}	P_{11}	P_{11}	P_{38}	P_{65}	P_{26}

Line 39 intersects

Line	ℓ_2	ℓ_5	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{23}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{37}	ℓ_{38}	ℓ_{40}	ℓ_{43}	ℓ_{45}	ℓ_{46}
in point	P_{11}	P_{53}	P_{30}	P_{49}	P_{53}	P_{73}	P_{53}	P_{73}	P_{30}	P_{49}	P_{53}	P_{53}	P_{53}	P_{53}	P_{11}	P_{11}	P_{11}	P_{53}	P_{73}	P_{49}

Line 40 intersects

Line	ℓ_2	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{44}	ℓ_{45}	ℓ_{46}
in point	P_{11}	P_{69}	P_{34}	P_{45}	P_{57}	P_{69}	P_{69}	P_{57}	P_{45}	P_{34}	P_{69}	P_{69}	P_{69}	P_{69}	P_{11}	P_{11}	P_{11}	P_{69}	P_{45}	P_{69}

Line 41 intersects

Line	ℓ_1	ℓ_3	ℓ_7	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{45}	ℓ_{49}	ℓ_{50}
in point	P_{12}	P_3	P_3	P_3	P_4	P_{63}	P_{84}	P_3	P_4	P_{63}	P_{84}	P_3	P_3	P_3	P_3	P_{12}	P_{12}	P_{12}	P_3	P_3	P_4

Line 42 intersects

Line	ℓ_1	ℓ_4	ℓ_8	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{38}	ℓ_{41}	ℓ_{43}	ℓ_{44}	ℓ_{47}	ℓ_{49}
in point	P_{12}	P_{38}	P_{38}	P_{38}	P_{27}	P_{79}	P_{68}	P_{27}	P_{38}	P_{68}	P_{79}	P_{38}	P_{38}	P_{38}	P_{38}	P_{12}	P_{12}	P_{12}	P_{38}	P_{68}

Line 43 intersects

Line	ℓ_1	ℓ_5	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{39}	ℓ_{41}	ℓ_{42}	ℓ_{44}	ℓ_{48}	ℓ_{49}
in point	P_{12}	P_{53}	P_{53}	P_{53}	P_{74}	P_{32}	P_{52}	P_{32}	P_{52}	P_{53}	P_{74}	P_{53}	P_{53}	P_{53}	P_{53}	P_{12}	P_{12}	P_{12}	P_{53}	P_{74}

Line 44 intersects

Line	ℓ_1	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{40}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{46}	ℓ_{49}
in point	P_{12}	P_{69}	P_{69}	P_{69}	P_{58}	P_{47}	P_{37}	P_{37}	P_{47}	P_{58}	P_{69}	P_{69}	P_{69}	P_{69}	P_{69}	P_{12}	P_{12}	P_{12}	P_{69}	P_{47}

Line 45 intersects

Line	ℓ_2	ℓ_3	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{21}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{41}	ℓ_{46}	ℓ_{49}
in point	P_{15}	P_3	P_3	P_{45}	P_{65}	P_{73}	P_3	P_{73}	P_{45}	P_{65}	P_3	P_3	P_3	P_3	P_3	P_{65}	P_{73}	P_{45}	P_3	P_{15}	P_{45}

Line 46 intersects

Line	ℓ_2	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{44}	ℓ_{45}
in point	P_{15}	P_{69}	P_{26}	P_{49}	P_{61}	P_{69}	P_{69}	P_{26}	P_{61}	P_{49}	P_{69}	P_{69}	P_{69}	P_{69}	P_{61}	P_{26}	P_{49}	P_{69}	P_{69}	P_{15}

Line 47 intersects

Line	ℓ_2	ℓ_4	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{22}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{42}	ℓ_{45}
in point	P_{15}	P_{38}	P_{30}	P_{38}	P_{57}	P_{81}	P_{38}	P_{57}	P_{30}	P_{81}	P_{38}	P_{38}	P_{38}	P_{38}	P_{81}	P_{38}	P_{30}	P_{57}	P_{38}	P_{15}

Line 48 intersects

Line	ℓ_2	ℓ_5	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{23}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{43}	ℓ_{45}
in point	P_{15}	P_{53}	P_{34}	P_{42}	P_{53}	P_{77}	P_{53}	P_{42}	P_{77}	P_{34}	P_{53}	P_{53}	P_{53}	P_{53}	P_{42}	P_{77}	P_{53}	P_{34}	P_{53}	P_{15}

Line 49 intersects

Line	ℓ_1	ℓ_3	ℓ_7	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{45}	ℓ_{50}
in point	P_{17}	P_3	P_3	P_3	P_{74}	P_{47}	P_{68}	P_3	P_{47}	P_{68}	P_{74}	P_3	P_3	P_3	P_3	P_3	P_{68}	P_{74}	P_{47}	P_3	P_{17}

Line 50 intersects

Line	ℓ_1	ℓ_5	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{39}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{48}
in point	P_{17}	P_{53}	P_{53}	P_{53}	P_4	P_{79}	P_{37}	P_{37}	P_4	P_{53}	P_{79}	P_{53}	P_{53}	P_{53}	P_{53}	P_4	P_{79}	P_{53}	P_{37}	P_{53}

Line 51 intersects

Line	ℓ_1	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{40}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{46}
in point	P_{17}	P_{69}	P_{69}	P_{69}	P_{27}	P_{63}	P_{52}	P_{27}	P_{52}	P_{63}	P_{69}	P_{69}	P_{69}	P_{69}	P_{69}	P_{63}	P_{27}	P_{52}	P_{69}	P_{69}

Line 52 intersects

Line	ℓ_1	ℓ_4	ℓ_8	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{38}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{47}
in point	P_{17}	P_{38}	P_{38}	P_{38}	P_{58}	P_{32}	P_{84}	P_{32}	P_{38}	P_{58}	P_{84}	P_{38}	P_{38}	P_{38}	P_{38}	P_{84}	P_{38}	P_{32}	P_{58}	P_{38}

Line 53 intersects

Line	ℓ_2	ℓ_3	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{21}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{41}	ℓ_{45}	ℓ_{46}
in point	P_{19}	P_3	P_3	P_{49}	P_{57}	P_{77}	P_3	P_{57}	P_{77}	P_{49}	P_3	P_3	P_3	P_3	P_3	P_{77}	P_{49}	P_{57}	P_3	P_3	P_{49}

Line 54 intersects

Line	ℓ_2	ℓ_5	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{23}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{43}	ℓ_{45}
in point	P_{19}	P_{53}	P_{26}	P_{45}	P_{53}	P_{81}	P_{53}	P_{26}	P_{45}	P_{81}	P_{53}	P_{53}	P_{53}	P_{53}	P_{81}	P_{26}	P_{53}	P_{45}	P_{53}	P_{45}

Line 55 intersects

Line	ℓ_2	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{44}	ℓ_{45}
in point	P_{19}	P_{69}	P_{30}	P_{42}	P_{65}	P_{69}	P_{69}	P_{42}	P_{30}	P_{65}	P_{69}	P_{69}	P_{69}	P_{69}	P_{42}	P_{65}	P_{30}	P_{69}	P_{69}	P_{69}

Line 56 intersects

Line	ℓ_2	ℓ_4	ℓ_7	ℓ_8	ℓ_9	ℓ_{10}	ℓ_{11}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{22}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{37}	ℓ_{38}	ℓ_{39}	ℓ_{40}	ℓ_{42}	ℓ_{45}
in point	P_{19}	P_{38}	P_{34}	P_{38}	P_{61}	P_{73}	P_{38}	P_{73}	P_{61}	P_{34}	P_{38}	P_{38}	P_{38}	P_{38}	P_{61}	P_{38}	P_{73}	P_{34}	P_{38}	P_{73}

Line 57 intersects

Line	ℓ_1	ℓ_3	ℓ_7	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{25}	ℓ_{29}	ℓ_{33}	ℓ_{37}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{45}	ℓ_{49}
in point	P_{22}	P_3	P_3	P_3	P_{58}	P_{79}	P_{52}	P_3	P_{52}	P_{58}	P_{79}	P_3	P_3	P_3	P_3	P_3	P_{79}	P_{52}	P_{58}	P_3	P_3

Line 58 intersects

Line	ℓ_1	ℓ_6	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{28}	ℓ_{30}	ℓ_{35}	ℓ_{40}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{46}
in point	P_{22}	P_{69}	P_{69}	P_{69}	P_4	P_{32}	P_{68}	P_{32}	P_4	P_{68}	P_{69}	P_{69}	P_{69}	P_{69}	P_{69}	P_4	P_{68}	P_{32}	P_{69}	P_{69}

Line 59 intersects

Line	ℓ_1	ℓ_5	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{27}	ℓ_{32}	ℓ_{34}	ℓ_{39}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{48}
in point	P_{22}	P_{53}	P_{53}	P_{53}	P_{27}	P_{47}	P_{84}	P_{27}	P_{47}	P_{53}	P_{84}	P_{53}	P_{53}	P_{53}	P_{53}	P_{84}	P_{27}	P_{53}	P_{47}	P_{53}

Line 60 intersects

Line	ℓ_1	ℓ_4	ℓ_8	ℓ_{11}	ℓ_{12}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ_{23}	ℓ_{24}	ℓ_{26}	ℓ_{31}	ℓ_{36}	ℓ_{38}	ℓ_{41}	ℓ_{42}	ℓ_{43}	ℓ_{44}	ℓ_{47}
in point	P_{22}	P_{38}	P_{38}	P_{38}	P_{74}	P_{63}	P_{37}	P_{37}	P_{38}	P_{63}	P_{74}	P_{38}	P_{38}	P_{38}	P_{38}	P_{63}	P_{38}	P_{74}	P_{37}	P_{38}

The surface has 53 points:

The points on the surface are:

0 : $P_0 = (1, 0, 0, 0)$
 1 : $P_1 = (0, 1, 0, 0)$
 2 : $P_2 = (0, 0, 1, 0)$
 3 : $P_3 = (0, 0, 0, 1)$
 4 : $P_4 = (1, 1, 1, 1)$

5 : $P_5 = (1, 1, 0, 0)$
 6 : $P_8 = (1, 0, 1, 0)$
 7 : $P_9 = (2, 0, 1, 0)$
 8 : $P_{10} = (3, 0, 1, 0)$
 9 : $P_{11} = (0, 1, 1, 0)$

10 : $P_{12} = (1, 1, 1, 0)$
 11 : $P_{15} = (0, 2, 1, 0)$
 12 : $P_{17} = (2, 2, 1, 0)$
 13 : $P_{19} = (0, 3, 1, 0)$
 14 : $P_{22} = (3, 3, 1, 0)$

15 : $P_{23} = (1, 0, 0, 1)$
 16 : $P_{24} = (2, 0, 0, 1)$
 17 : $P_{25} = (3, 0, 0, 1)$
 18 : $P_{26} = (0, 1, 0, 1)$
 19 : $P_{27} = (1, 1, 0, 1)$
 20 : $P_{30} = (0, 2, 0, 1)$
 21 : $P_{32} = (2, 2, 0, 1)$
 22 : $P_{34} = (0, 3, 0, 1)$
 23 : $P_{37} = (3, 3, 0, 1)$
 24 : $P_{38} = (0, 0, 1, 1)$
 25 : $P_{39} = (1, 0, 1, 1)$
 26 : $P_{40} = (2, 0, 1, 1)$
 27 : $P_{41} = (3, 0, 1, 1)$

28 : $P_{42} = (0, 1, 1, 1)$
 29 : $P_{45} = (0, 2, 1, 1)$
 30 : $P_{47} = (2, 2, 1, 1)$
 31 : $P_{49} = (0, 3, 1, 1)$
 32 : $P_{52} = (3, 3, 1, 1)$
 33 : $P_{53} = (0, 0, 2, 1)$
 34 : $P_{54} = (1, 0, 2, 1)$
 35 : $P_{55} = (2, 0, 2, 1)$
 36 : $P_{56} = (3, 0, 2, 1)$
 37 : $P_{57} = (0, 1, 2, 1)$
 38 : $P_{58} = (1, 1, 2, 1)$
 39 : $P_{61} = (0, 2, 2, 1)$
 40 : $P_{63} = (2, 2, 2, 1)$

41 : $P_{65} = (0, 3, 2, 1)$
 42 : $P_{68} = (3, 3, 2, 1)$
 43 : $P_{69} = (0, 0, 3, 1)$
 44 : $P_{70} = (1, 0, 3, 1)$
 45 : $P_{71} = (2, 0, 3, 1)$
 46 : $P_{72} = (3, 0, 3, 1)$
 47 : $P_{73} = (0, 1, 3, 1)$
 48 : $P_{74} = (1, 1, 3, 1)$
 49 : $P_{77} = (0, 2, 3, 1)$
 50 : $P_{79} = (2, 2, 3, 1)$
 51 : $P_{81} = (0, 3, 3, 1)$
 52 : $P_{84} = (3, 3, 3, 1)$