Rank-35 over GF(64)

January 15, 2021

The equation

The equation of the surface is :

$$X_2^3 + X_0^2 X_1 = 0$$

(0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)
The point rank of the equation over GF(64) is 270417

General information

Number of lines	65
Number of points	4161
Number of singular points	65
Number of Eckardt points	0
Number of double points	0
Number of single points	4160
Number of points off lines	0
Number of Hesse planes	0
Number of axes	0
Type of points on lines	65^{65}
Type of lines on points	65, 1^{4160}

Singular Points

The surface has 65 singular points:

0 : $P_{1} = \mathbf{P}(0,1,0,0) = \mathbf{P}(0,1,0,0)$
1 : $P_{3} = \mathbf{P}(0,0,0,1) = \mathbf{P}(0,0,0,1)$
2 : $P_{4226} = \mathbf{P}(0,1,0,1) = \mathbf{P}(0,1,0,1)$
3 : $P_{4290} = \mathbf{P}(0,\epsilon,0,1) = \mathbf{P}(0,2,0,1)$
4 : $P_{4354} = \mathbf{P}(0,\epsilon^{58},0,1) = \mathbf{P}(0,3,0,1)$
5 : $P_{4418} = \mathbf{P}(0,\epsilon^{2},0,1) = \mathbf{P}(0,4,0,1)$
6 : $P_{4482} = \mathbf{P}(0,\epsilon^{53},0,1) = \mathbf{P}(0,5,0,1)$
7 : $P_{4546} = \mathbf{P}(0,\epsilon^{59},0,1) = \mathbf{P}(0,6,0,1)$
8 : $P_{4610} = \mathbf{P}(0,\epsilon^{39},0,1) = \mathbf{P}(0,7,0,1)$
9 : $P_{4674} = \mathbf{P}(0,\epsilon^{3},0,1) = \mathbf{P}(0,8,0,1)$
10 : $P_{4738} = \mathbf{P}(0,\epsilon^{34},0,1) = \mathbf{P}(0,9,0,1)$
11 : $P_{4802} = \mathbf{P}(0,\epsilon^{54},0,1) = \mathbf{P}(0,10,0,1)$
12 : $P_{4866} = \mathbf{P}(0,\epsilon^{18},0,1) = \mathbf{P}(0,11,0,1)$
13 : $P_{4930} = \mathbf{P}(0,\epsilon^{60},0,1) = \mathbf{P}(0,12,0,1)$
14 : $P_{4994} = \mathbf{P}(0,\epsilon^{31},0,1) = \mathbf{P}(0,13,0,1)$
15 : $P_{5058} = \mathbf{P}(0,\epsilon^{40},0,1) = \mathbf{P}(0,14,0,1)$
16 : $P_{5122} = \mathbf{P}(0,\epsilon^{48},0,1) = \mathbf{P}(0,15,0,1)$
17 : $P_{5186} = \mathbf{P}(0,\epsilon^{4},0,1) = \mathbf{P}(0,16,0,1)$

$18: P_{5250} = \mathbf{P}(0, \epsilon^{43}, 0, 1) = \mathbf{P}(0, 17, 0, 1)$
$19: P_{5314} = \mathbf{P}(0, \epsilon^{35}, 0, 1) = \mathbf{P}(0, 18, 0, 1)$
$20: P_{5378} = \mathbf{P}(0, \epsilon^{22}, 0, 1) = \mathbf{P}(0, 19, 0, 1)$
$21: P_{5442} = \mathbf{P}(0, \epsilon^{55}, 0, 1) = \mathbf{P}(0, 20, 0, 1)$
$22: P_{5506} = \mathbf{P}(0, \epsilon^{15}, 0, 1) = \mathbf{P}(0, 21, 0, 1)$
$23: P_{5570} = \mathbf{P}(0, \epsilon^{19}, 0, 1) = \mathbf{P}(0, 22, 0, 1)$
$24: P_{5634} = \mathbf{P}(0, \epsilon^{26}, 0, 1) = \mathbf{P}(0, 23, 0, 1)$
$25: P_{5698} = \mathbf{P}(0, \epsilon^{61}, 0, 1) = \mathbf{P}(0, 24, 0, 1)$
$26: P_{5762} = \mathbf{P}(0, \epsilon^{51}, 0, 1) = \mathbf{P}(0, 25, 0, 1)$
$27: P_{5826} = \mathbf{P}(0, \epsilon^{32}, 0, 1) = \mathbf{P}(0, 26, 0, 1)$
$28: P_{5890} = \mathbf{P}(0, \epsilon^{29}, 0, 1) = \mathbf{P}(0, 27, 0, 1)$
$29: P_{5954} = \mathbf{P}(0, \epsilon^{41}, 0, 1) = \mathbf{P}(0, 28, 0, 1)$
$30: P_{6018} = \mathbf{P}(0, \epsilon^{13}, 0, 1) = \mathbf{P}(0, 29, 0, 1)$
$31: P_{6082} = \mathbf{P}(0, \epsilon^{49}, 0, 1) = \mathbf{P}(0, 30, 0, 1)$
$32: P_{6146} = \mathbf{P}(0, \epsilon^{11}, 0, 1) = \mathbf{P}(0, 31, 0, 1)$
$33: P_{6210} = \mathbf{P}(0, \epsilon^{5}, 0, 1) = \mathbf{P}(0, 32, 0, 1)$
$34: P_{6274} = \mathbf{P}(0, \epsilon^{6}, 0, 1) = \mathbf{P}(0, 33, 0, 1)$
$35: P_{6338} = \mathbf{P}(0, \epsilon^{44}, 0, 1) = \mathbf{P}(0, 34, 0, 1)$
$36: P_{6402} = \mathbf{P}(0, \epsilon^{7}, 0, 1) = \mathbf{P}(0, 35, 0, 1)$
$37: P_{6466} = \mathbf{P}(0, \epsilon^{36}, 0, 1) = \mathbf{P}(0, 36, 0, 1)$
$38: P_{6530} = \mathbf{P}(0, \epsilon^{45}, 0, 1) = \mathbf{P}(0, 37, 0, 1)$
$39: P_{6594} = \mathbf{P}(0, \epsilon^{23}, 0, 1) = \mathbf{P}(0, 38, 0, 1)$
$40: P_{6658} = \mathbf{P}(0, \epsilon^{8}, 0, 1) = \mathbf{P}(0, 39, 0, 1)$
$41: P_{6722} = \mathbf{P}(0, \epsilon^{56}, 0, 1) = \mathbf{P}(0, 40, 0, 1)$
$42: P_{6786} = \mathbf{P}(0, \epsilon^{37}, 0, 1) = \mathbf{P}(0, 41, 0, 1)$
$43: P_{6850} = \mathbf{P}(0, \epsilon^{16}, 0, 1) = \mathbf{P}(0, 42, 0, 1)$
$44: P_{6914} = \mathbf{P}(0, \epsilon^{46}, 0, 1) = \mathbf{P}(0, 43, 0, 1)$
$45: P_{6978} = \mathbf{P}(0, \epsilon^{20}, 0, 1) = \mathbf{P}(0, 44, 0, 1)$
$46: P_{7042} = \mathbf{P}(0, \epsilon^{24}, 0, 1) = \mathbf{P}(0, 45, 0, 1)$
$47: P_{7106} = \mathbf{P}(0, \epsilon^{27}, 0, 1) = \mathbf{P}(0, 46, 0, 1)$
$48: P_{7170} = \mathbf{P}(0, \epsilon^{9}, 0, 1) = \mathbf{P}(0, 47, 0, 1)$
$49: P_{7234} = \mathbf{P}(0, \epsilon^{62}, 0, 1) = \mathbf{P}(0, 48, 0, 1)$
$50: P_{7298} = \mathbf{P}(0, \epsilon^{57}, 0, 1) = \mathbf{P}(0, 49, 0, 1)$
$51: P_{7362} = \mathbf{P}(0, \epsilon^{52}, 0, 1) = \mathbf{P}(0, 50, 0, 1)$
$52: P_{7426} = \mathbf{P}(0, \epsilon^{38}, 0, 1) = \mathbf{P}(0, 51, 0, 1)$
$53: P_{7490} = \mathbf{P}(0, \epsilon^{33}, 0, 1) = \mathbf{P}(0, 52, 0, 1)$
$54: P_{7554} = \mathbf{P}(0, \epsilon^{17}, 0, 1) = \mathbf{P}(0, 53, 0, 1)$
$55: P_{7618} = \mathbf{P}(0, \epsilon^{30}, 0, 1) = \mathbf{P}(0, 54, 0, 1)$
$56: P_{7682} = \mathbf{P}(0, \epsilon^{47}, 0, 1) = \mathbf{P}(0, 55, 0, 1)$
$57: P_{7746} = \mathbf{P}(0, \epsilon^{42}, 0, 1) = \mathbf{P}(0, 56, 0, 1)$
$58: P_{7810} = \mathbf{P}(0, \epsilon^{21}, 0, 1) = \mathbf{P}(0, 57, 0, 1)$
$59: P_{7874} = \mathbf{P}(0, \epsilon^{14}, 0, 1) = \mathbf{P}(0, 58, 0, 1)$
$60: P_{7938} = \mathbf{P}(0, \epsilon^{25}, 0, 1) = \mathbf{P}(0, 59, 0, 1)$
$61: P_{8002} = \mathbf{P}(0, \epsilon^{50}, 0, 1) = \mathbf{P}(0, 60, 0, 1)$
$62: P_{8066} = \mathbf{P}(0, \epsilon^{28}, 0, 1) = \mathbf{P}(0, 61, 0, 1)$
$63: P_{8130} = \mathbf{P}(0, \epsilon^{12}, 0, 1) = \mathbf{P}(0, 62, 0, 1)$
$64: P_{8194} = \mathbf{P}(0, \epsilon^{10}, 0, 1) = \mathbf{P}(0, 63, 0, 1)$

The 65 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4160} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4160} = \mathbf{Pl}(0,0,0,0,1,0)_{4225}$$

$$\ell_1 = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17043520} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17043520} = \mathbf{Pl}(0,0,0,1,0,0)_{129}$$

$$\ell_2 = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{274625} = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{274625} = \mathbf{Pl}(0,1,0,1,1,0)_{12417}$$

$$\ell_3 = \begin{bmatrix} 1 & \epsilon^{33} & \epsilon^{32} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7144436} = \begin{bmatrix} 1 & 52 & 26 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7144436} = \mathbf{Pl}(0,26,0,52,1,0)_{18919}$$

$$\ell_4 = \begin{bmatrix} 1 & \epsilon^{24} & \epsilon^{29} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7381613} = \begin{bmatrix} 1 & 45 & 27 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7381613} = \mathbf{Pl}(0,27,0,45,1,0)_{18031}$$

$$\ell_5 = \begin{bmatrix} 1 & \epsilon^{3} & \epsilon & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{570056} = \begin{bmatrix} 1 & 8 & 2 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{570056} = \mathbf{Pl}(0,2,0,8,1,0)_{13307}$$

$$\ell_6 = \begin{bmatrix} 1 & \epsilon^{48} & \epsilon^{58} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{865487} = \begin{bmatrix} 1 & 15 & 3 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{865487} = \mathbf{Pl}(0,3,0,15,1,0)_{14197}$$

$$\ell_7 = \begin{bmatrix} 1 & \epsilon^{57} & \epsilon^{61} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6599345} = \begin{bmatrix} 1 & 49 & 24 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6599345} = \mathbf{Pl}(0,24,0,49,1,0)_{18536}$$

$$\ell_8 = \begin{bmatrix} 1 & \epsilon^{27} & \epsilon^{51} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6853166} = \begin{bmatrix} 1 & 46 & 25 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6853166} = \mathbf{Pl}(0,25,0,46,1,0)_{18156}$$

$$\ell_9 = \begin{bmatrix} 1 & \epsilon^{36} & \epsilon^{33} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14001764} = \begin{bmatrix} 1 & 36 & 52 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14001764} = \mathbf{Pl}(0,52,0,36,1,0)_{16913}$$

$$\ell_{10} = \begin{bmatrix} 1 & \epsilon^{51} & \epsilon^{17} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14222297} = \begin{bmatrix} 1 & 25 & 53 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14222297} = \mathbf{Pl}(0,53,0,25,1,0)_{15517}$$

$$\ell_{11} = \begin{bmatrix} 1 & \epsilon^{18} & \epsilon^{27} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12299915} = \begin{bmatrix} 1 & 11 & 46 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12299915} = \mathbf{Pl}(0,46,0,11,1,0)_{13732}$$

$$\ell_{12} = \begin{bmatrix} 1 & \epsilon^{27} & \epsilon^{9} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12711854} = \begin{bmatrix} 1 & 46 & 47 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12711854} = \mathbf{Pl}(0,47,0,46,1,0)_{18178}$$

$$\ell_{13} = \begin{bmatrix} 1 & \epsilon^{27} & \epsilon^{30} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14575982} = \begin{bmatrix} 1 & 46 & 54 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14575982} = \mathbf{Pl}(0,54,0,46,1,0)_{18185}$$

$$\ell_{14} = \begin{bmatrix} 1 & \epsilon^{15} & \epsilon^{47} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14738261} = \begin{bmatrix} 1 & 21 & 55 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14738261} = \mathbf{Pl}(0,55,0,21,1,0)_{15011}$$

$$\ell_{15} = \begin{bmatrix} 1 & \epsilon^{60} & \epsilon^{20} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11771468} = \begin{bmatrix} 1 & 12 & 44 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11771468} = \mathbf{Pl}(0,44,0,12,1,0)_{13857}$$

$$\ell_{16} = \begin{bmatrix} 1 & \epsilon^{9} & \epsilon^{24} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12183407} = \begin{bmatrix} 1 & 47 & 45 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12183407} = \mathbf{Pl}(0,45,0,47,1,0)_{18303}$$

$$\ell_{17} = \begin{bmatrix} 1 & \epsilon^{6} & \epsilon^{2} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1206689} = \begin{bmatrix} 1 & 33 & 4 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1206689} = \mathbf{Pl}(0,4,0,33,1,0)_{16484}$$

$$\ell_{18} = \begin{bmatrix} 1 & \epsilon^{33} & \epsilon^{53} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1552052} = \begin{bmatrix} 1 & 52 & 5 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1552052} = \mathbf{Pl}(0,5,0,52,1,0)_{18898}$$

$$\ell_{19} = \begin{bmatrix} 1 & \epsilon^{21} & \epsilon^{49} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8230457} = \begin{bmatrix} 1 & 57 & 30 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8230457} = \mathbf{Pl}(0,30,0,57,1,0)_{19558}$$

$$\ell_{20} = \begin{bmatrix} 1 & \epsilon^{33} & \epsilon^{11} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8475956} = \begin{bmatrix} 1 & 52 & 31 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8475956} = \mathbf{Pl}(0,31,0,52,1,0)_{18924}$$

$$\ell_{21} = \begin{bmatrix} 1 & \epsilon^{51} & \epsilon^{59} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1706009} = \begin{bmatrix} 1 & 25 & 6 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1706009} = \mathbf{Pl}(0,6,0,25,1,0)_{15470}$$

$$\ell_{22} = \begin{bmatrix} 1 & \epsilon^{54} & \epsilon^{39} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1909898} = \begin{bmatrix} 1 & 10 & 7 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{1909898} = \mathbf{Pl}(0,7,0,10,1,0)_{13566}$$

$$\ell_{23} = \begin{bmatrix} 1 & \epsilon^{60} & \epsilon^{41} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7510604} = \begin{bmatrix} 1 & 12 & 28 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7510604} = \mathbf{Pl}(0,28,0,12,1,0)_{13841}$$

$$\ell_{24} = \begin{bmatrix} 1 & \epsilon^{39} & \epsilon^{13} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7756103} = \begin{bmatrix} 1 & 7 & 29 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{7756103} = \mathbf{Pl}(0,29,0,7,1,0)_{13207}$$

$$\ell_{25} = \begin{bmatrix} 1 & \epsilon^{60} & \epsilon^{62} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12836684} = \begin{bmatrix} 1 & 12 & 48 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{12836684} = \mathbf{Pl}(0,48,0,12,1,0)_{13861}$$

$$\ell_{26} = \begin{bmatrix} 1 & \epsilon^{45} & \epsilon^{57} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13207013} = \begin{bmatrix} 1 & 37 & 49 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13207013} = \mathbf{Pl}(0,49,0,37,1,0)_{17037}$$

$$\ell_{27} = \begin{bmatrix} 1 & \epsilon^{48} & \epsilon^{16} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11251343} = \begin{bmatrix} 1 & 15 & 42 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11251343} = \mathbf{Pl}(0,42,0,15,1,0)_{14236}$$

$$\ell_{28} = \begin{bmatrix} 1 & \epsilon^{12} & \epsilon^{46} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11713214} = \begin{bmatrix} 1 & 62 & 43 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{11713214} = \mathbf{Pl}(0,43,0,62,1,0)_{20206}$$

$$\ell_{29} = \begin{bmatrix} 1 & \epsilon^{30} & \epsilon^{52} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13544054} = \begin{bmatrix} 1 & 54 & 50 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13544054} = \mathbf{Pl}(0,50,0,54,1,0)_{19197}$$

$$\ell_{30} = \begin{bmatrix} 1 & \epsilon^{51} & \epsilon^{38} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13689689} = \begin{bmatrix} 1 & 25 & 51 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{13689689} = \mathbf{Pl}(0,51,0,25,1,0)_{15515}$$

$$\ell_{31} = \begin{bmatrix} 1 & \epsilon^{42} & \epsilon^{56} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10889336} = \begin{bmatrix} 1 & 56 & 40 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10889336} = \mathbf{Pl}(0,40,0,56,1,0)_{19441}$$

$$\ell_{32} = \begin{bmatrix} 1 & \epsilon^{48} & \epsilon^{37} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10985039} = \begin{bmatrix} 1 & 15 & 41 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10985039} = \mathbf{Pl}(0,41,0,15,1,0)_{14235}$$

$$\ell_{33} = \begin{bmatrix} 1 & \epsilon^{39} & \epsilon^{34} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2430023} = \begin{bmatrix} 1 & 7 & 9 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2430023} = \mathbf{Pl}(0,9,0,7,1,0)_{13187}$$

$$\ell_{34} = \begin{bmatrix} 1 & \epsilon^{9} & \epsilon^{3} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2330159} = \begin{bmatrix} 1 & 47 & 8 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2330159} = \mathbf{Pl}(0,8,0,47,1,0)_{18266}$$

$$\ell_{35} = \begin{bmatrix} 1 & \epsilon^{3} & \epsilon^{22} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5097224} = \begin{bmatrix} 1 & 8 & 19 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5097224} = \mathbf{Pl}(0,19,0,8,1,0)_{13324}$$

$$\ell_{36} = \begin{bmatrix} 1 & \epsilon^{42} & \epsilon^{35} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5030648} = \begin{bmatrix} 1 & 56 & 18 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5030648} = \mathbf{Pl}(0,18,0,56,1,0)_{19419}$$

$$\ell_{37} = \begin{bmatrix} 1 & \epsilon^{54} & \epsilon^{18} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2975114} = \begin{bmatrix} 1 & 10 & 11 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2975114} = \mathbf{Pl}(0,11,0,10,1,0)_{13570}$$

$$\ell_{38} = \begin{bmatrix} 1 & \epsilon^{36} & \epsilon^{54} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2816996} = \begin{bmatrix} 1 & 36 & 10 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{2816996} = \mathbf{Pl}(0,10,0,36,1,0)_{16871}$$

$$\ell_{39} = \begin{bmatrix} 1 & \epsilon^{3} & \epsilon^{43} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4564616} = \begin{bmatrix} 1 & 8 & 17 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4564616} = \mathbf{Pl}(0,17,0,8,1,0)_{13322}$$

$$\ell_{40} = \begin{bmatrix} 1 & \epsilon^{12} & \epsilon^{4} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4523006} = \begin{bmatrix} 1 & 62 & 16 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4523006} = \mathbf{Pl}(0,16,0,62,1,0)_{20179}$$

$$\ell_{41} = \begin{bmatrix} 1 & \epsilon^{21} & \epsilon^{28} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16485881} = \begin{bmatrix} 1 & 57 & 61 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16485881} = \mathbf{Pl}(0,61,0,57,1,0)_{19589}$$

$$\ell_{42} = \begin{bmatrix} 1 & \epsilon^{24} & \epsilon^{50} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16169645} = \begin{bmatrix} 1 & 45 & 60 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16169645} = \mathbf{Pl}(0,60,0,45,1,0)_{18064}$$

$$\ell_{43} = \begin{bmatrix} 1 & \epsilon^{24} & \epsilon^{8} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10577261} = \begin{bmatrix} 1 & 45 & 39 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10577261} = \mathbf{Pl}(0,39,0,45,1,0)_{18043}$$

$$\ell_{44} = \begin{bmatrix} 1 & \epsilon^{6} & \epsilon^{23} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10261025} = \begin{bmatrix} 1 & 33 & 38 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10261025} = \mathbf{Pl}(0,38,0,33,1,0)_{16518}$$

$$\ell_{45} = \begin{bmatrix} 1 & \epsilon^{30} & \epsilon^{10} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17006006} = \begin{bmatrix} 1 & 54 & 63 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{17006006} = \mathbf{Pl}(0,63,0,54,1,0)_{19210}$$

$$\ell_{46} = \begin{bmatrix} 1 & \epsilon^{36} & \epsilon^{12} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16664804} = \begin{bmatrix} 1 & 36 & 62 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{16664804} = \mathbf{Pl}(0,62,0,36,1,0)_{16923}$$

$$\ell_{47} = \begin{bmatrix} 1 & \epsilon^{9} & \epsilon^{45} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10052975} = \begin{bmatrix} 1 & 47 & 37 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{10052975} = \mathbf{Pl}(0,37,0,47,1,0)_{18295}$$

$$\ell_{48} = \begin{bmatrix} 1 & \epsilon^{45} & \epsilon^{36} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9745061} = \begin{bmatrix} 1 & 37 & 36 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9745061} = \mathbf{Pl}(0,36,0,37,1,0)_{17024}$$

$$\ell_{49} = \begin{bmatrix} 1 & \epsilon^{30} & \epsilon^{31} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3690806} = \begin{bmatrix} 1 & 54 & 13 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3690806} = \mathbf{Pl}(0,13,0,54,1,0)_{19160}$$

$$\ell_{50} = \begin{bmatrix} 1 & \epsilon^{54} & \epsilon^{60} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3241418} = \begin{bmatrix} 1 & 10 & 12 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3241418} = \mathbf{Pl}(0,12,0,10,1,0)_{13571}$$

$$\ell_{51} = \begin{bmatrix} 1 & \epsilon^{15} & \epsilon^{26} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6216533} = \begin{bmatrix} 1 & 21 & 23 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6216533} = \mathbf{Pl}(0,23,0,21,1,0)_{14979}$$

$$\ell_{52} = \begin{bmatrix} 1 & \epsilon^{57} & \epsilon^{19} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6066737} = \begin{bmatrix} 1 & 49 & 22 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{6066737} = \mathbf{Pl}(0,22,0,49,1,0)_{18534}$$

$$\ell_{53} = \begin{bmatrix} 1 & \epsilon^{18} & \epsilon^{48} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4044491} = \begin{bmatrix} 1 & 11 & 15 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{4044491} = \mathbf{Pl}(0,15,0,11,1,0)_{13701}$$

$$\ell_{54} = \begin{bmatrix} 1 & \epsilon^{57} & \epsilon^{40} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3936305} = \begin{bmatrix} 1 & 49 & 14 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{3936305} = \mathbf{Pl}(0,14,0,49,1,0)_{18526}$$

$$\ell_{55} = \begin{bmatrix} 1 & \epsilon^{45} & \epsilon^{15} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5750501} = \begin{bmatrix} 1 & 37 & 21 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5750501} = \mathbf{Pl}(0,21,0,37,1,0)_{17009}$$

$$\ell_{56} = \begin{bmatrix} 1 & \epsilon^{39} & \epsilon^{55} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5359367} = \begin{bmatrix} 1 & 7 & 20 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{5359367} = \mathbf{Pl}(0,20,0,7,1,0)_{13198}$$

$$\ell_{57} = \begin{bmatrix} 1 & 1 & \epsilon^{21} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15187649} = \begin{bmatrix} 1 & 1 & 57 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15187649} = \mathbf{Pl}(0,57,0,1,1,0)_{12473}$$

$$\ell_{58} = \begin{bmatrix} 1 & 1 & \epsilon^{42} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14921345} = \begin{bmatrix} 1 & 1 & 56 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{14921345} = \mathbf{Pl}(0,56,0,1,1,0)_{12472}$$

$$\ell_{59} = \begin{bmatrix} 1 & \epsilon^{21} & \epsilon^{7} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9561977} = \begin{bmatrix} 1 & 57 & 35 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9561977} = \mathbf{Pl}(0,35,0,57,1,0)_{19563}$$

$$\ell_{60} = \begin{bmatrix} 1 & \epsilon^{6} & \epsilon^{44} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9195809} = \begin{bmatrix} 1 & 33 & 34 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{9195809} = \mathbf{Pl}(0,34,0,33,1,0)_{16514}$$

$$\ell_{61} = \begin{bmatrix} 1 & \epsilon^{12} & \epsilon^{25} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15974078} = \begin{bmatrix} 1 & 62 & 59 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15974078} = \mathbf{Pl}(0,59,0,62,1,0)_{20222}$$

$$\ell_{62} = \begin{bmatrix} 1 & \epsilon^{42} & \epsilon^{14} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15682808} = \begin{bmatrix} 1 & 56 & 58 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{15682808} = \mathbf{Pl}(0,58,0,56,1,0)_{19459}$$

$$\ell_{63} = \begin{bmatrix} 1 & \epsilon^{18} & \epsilon^{6} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8837963} = \begin{bmatrix} 1 & 11 & 33 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8837963} = \mathbf{Pl}(0,33,0,11,1,0)_{13719}$$

$$\ell_{64} = \begin{bmatrix} 1 & \epsilon^{15} & \epsilon^{5} & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8613269} = \begin{bmatrix} 1 & 21 & 32 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}_{8613269} = \mathbf{Pl}(0,32,0,21,1,0)_{14988}$$

Rank of lines: (4160, 17043520, 274625, 7144436, 7381613, 570056, 865487, 6599345, 6853166, 14001764, 14222297, 12299915, 12711854, 14575982, 14738261, 11771468, 12183407, 1206689, 1552052, 8230457, 8475956, 1706009, 1909898, 7510604, 7756103, 12836684, 13207013, 11251343, 11713214, 13544054, 13689689, 10889336, 10985039, 2430023, 2330159, 5097224, 5030648, 2975114, 2816996, 4564616, 4523006, 16485881, 16169645, 10577261, 10261025, 17006006, 16664804, 10052975, 9745061, 3690806, ...15682808, 8837963, 8613269)
Rank of points on Klein quadric: (4225, 129, 12417, 18919, 18031, 13307, 14197, 18536, 18156, 16913, 15517, 13732, 18178, 18185, 15011, 13857, 18303, 16484, 18898, 19558, 18924, 15470, 13566, 13841, 13207, 13861, 17037, 14236, 20206, 19197, 15515, 19441, 14235, 13187, 18266, 13324, 19419, 13570, 16871, 13322, 20179, 19589, 18064, 18043, 16518, 19210, 16923, 18295, 17024, 19160, ...19459, 13719, 14988)

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 4160 single points:
Too many to print.

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	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	0	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
2	1	1	0	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
3	1	1	1	0	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
4	1	1	1	1	0	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
5	1	1	1	1	1	0	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
6	1	1	1	1	1	1	0	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
7	1	1	1	1	1	1	1	0	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
8	1	1	1	1	1	1	1	1	0	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
9	1	1	1	1	1	1	1	1	1	0	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
10	1	1	1	1	1	1	1	1	1	1	0	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
11	1	1	1	1	1	1	1	1	1	1	1	0	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	1	1	1	1	1	1	1	1	1	0	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
13	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	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
23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	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	0	1	1	1	1	1	1	1	1	1	1	1	1	1
35	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	0	1	1	1	1	1	1	1	1	1	1	1	1
36	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	0	1	1	1	1	1	1	1	1	1	1	1
37	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	0	1	1	1	1	1	1	1	1	1	1
38	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	0	1	1	1	1	1	1	1	1	1
39	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	0	1	1	1	1	1	1	1	1
40	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	0	1	1	1	1	1	1	1
41	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	0	1	1	1	1	1	1
42	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	0	1	1	1	1	1
43	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	0	1	1	1	1
44	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	0	1	1	1
45	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	0	1	1
46	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	0	1
47	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	0
48	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
49	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
50	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
51	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
52	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
53	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
54	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
55	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
56	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
57	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

Neighbor sets in the line intersection graph:
Line 0 intersects

Line	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 1 intersects

Line	ℓ_0	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 2 intersects

Line	ℓ_0	ℓ_1	ℓ_3	ℓ_4	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 3 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_4	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 4 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 5 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 6 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 7 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 8 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	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_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 9 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_{10}	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 10 intersects

Line	ℓ_0	ℓ_1	ℓ_2	ℓ_3	ℓ_4	ℓ_5	ℓ_6	ℓ_7	ℓ_8	ℓ_9	ℓ_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

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}	ℓ_{22}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 12 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_{11}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 13 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_{11}	ℓ_{12}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 14 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 15 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 16 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 17 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 18 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 19 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{20}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 20 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{21}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 21 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{22}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 22 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 23 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 24 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}	ℓ
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	

Line 25 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 26 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 27 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 28 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 29 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 30 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 31 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 32 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 33 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 34 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 35 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 36 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 37 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 38 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 39 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 40 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 41 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 42 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 43 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 44 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 45 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 46 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 47 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 48 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 49 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 50 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 51 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 52 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 53 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 54 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 55 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 56 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 57 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 58 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 59 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 60 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 61 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 62 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 63 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

Line 64 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_{11}	ℓ_{12}	ℓ_{13}	ℓ_{14}	ℓ_{15}	ℓ_{16}	ℓ_{17}	ℓ_{18}	ℓ_{19}	ℓ_{20}	ℓ_{21}
in point	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3	P_3

The surface has 4161 points:
Too many to print.