

# Rank-65743 over GF(32)

January 15, 2021

## The equation

The equation of the surface is :

$$X_2^3 + X_3^3 + X_0^2 X_3 + X_0 X_1^2 + X_0 X_1 X_2 = 0$$

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

The point rank of the equation over GF(32) is -2112813019

## General information

Number of lines	1
Number of points	1025
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	33
Number of points off lines	992
Number of Hesse planes	0
Number of axes	0
Type of points on lines	33
Type of lines on points	$1^{33}, 0^{992}$

## Singular Points

The surface has 1 singular points:

$$0 : P_{1059} = \mathbf{P}(1, 0, 0, 1) = \mathbf{P}(1, 0, 0, 1)$$

## The 1 Lines

The lines and their Pluecker coordinates are:

$$\ell_0 = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{1082369} = \begin{bmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 \end{bmatrix}_{1082369} = \mathbf{Pl}(0, 0, 0, 1, 0, 1)_{36865}$$

Rank of lines: ( 1082369 )  
Rank of points on Klein quadric: ( 36865 )

### 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 33 single points:  
The single points on the surface are:

- |                                                       |                                                       |
|-------------------------------------------------------|-------------------------------------------------------|
| 0 : $P_1 = (0, 1, 0, 0)$ lies on line $\ell_0$        | 17 : $P_{2593} = (0, 16, 1, 1)$ lies on line $\ell_0$ |
| 1 : $P_{2082} = (0, 0, 1, 1)$ lies on line $\ell_0$   | 18 : $P_{2625} = (0, 17, 1, 1)$ lies on line $\ell_0$ |
| 2 : $P_{2114} = (0, 1, 1, 1)$ lies on line $\ell_0$   | 19 : $P_{2657} = (0, 18, 1, 1)$ lies on line $\ell_0$ |
| 3 : $P_{2145} = (0, 2, 1, 1)$ lies on line $\ell_0$   | 20 : $P_{2689} = (0, 19, 1, 1)$ lies on line $\ell_0$ |
| 4 : $P_{2177} = (0, 3, 1, 1)$ lies on line $\ell_0$   | 21 : $P_{2721} = (0, 20, 1, 1)$ lies on line $\ell_0$ |
| 5 : $P_{2209} = (0, 4, 1, 1)$ lies on line $\ell_0$   | 22 : $P_{2753} = (0, 21, 1, 1)$ lies on line $\ell_0$ |
| 6 : $P_{2241} = (0, 5, 1, 1)$ lies on line $\ell_0$   | 23 : $P_{2785} = (0, 22, 1, 1)$ lies on line $\ell_0$ |
| 7 : $P_{2273} = (0, 6, 1, 1)$ lies on line $\ell_0$   | 24 : $P_{2817} = (0, 23, 1, 1)$ lies on line $\ell_0$ |
| 8 : $P_{2305} = (0, 7, 1, 1)$ lies on line $\ell_0$   | 25 : $P_{2849} = (0, 24, 1, 1)$ lies on line $\ell_0$ |
| 9 : $P_{2337} = (0, 8, 1, 1)$ lies on line $\ell_0$   | 26 : $P_{2881} = (0, 25, 1, 1)$ lies on line $\ell_0$ |
| 10 : $P_{2369} = (0, 9, 1, 1)$ lies on line $\ell_0$  | 27 : $P_{2913} = (0, 26, 1, 1)$ lies on line $\ell_0$ |
| 11 : $P_{2401} = (0, 10, 1, 1)$ lies on line $\ell_0$ | 28 : $P_{2945} = (0, 27, 1, 1)$ lies on line $\ell_0$ |
| 12 : $P_{2433} = (0, 11, 1, 1)$ lies on line $\ell_0$ | 29 : $P_{2977} = (0, 28, 1, 1)$ lies on line $\ell_0$ |
| 13 : $P_{2465} = (0, 12, 1, 1)$ lies on line $\ell_0$ | 30 : $P_{3009} = (0, 29, 1, 1)$ lies on line $\ell_0$ |
| 14 : $P_{2497} = (0, 13, 1, 1)$ lies on line $\ell_0$ | 31 : $P_{3041} = (0, 30, 1, 1)$ lies on line $\ell_0$ |
| 15 : $P_{2529} = (0, 14, 1, 1)$ lies on line $\ell_0$ | 32 : $P_{3073} = (0, 31, 1, 1)$ lies on line $\ell_0$ |
| 16 : $P_{2561} = (0, 15, 1, 1)$ lies on line $\ell_0$ |                                                       |

The single points on the surface are:

### Points on surface but on no line

The surface has 992 points not on any line:  
The points on the surface but not on lines are:

- |                               |                                |
|-------------------------------|--------------------------------|
| 0 : $P_0 = (1, 0, 0, 0)$      | 6 : $P_{261} = (2, 7, 1, 0)$   |
| 1 : $P_{113} = (14, 2, 1, 0)$ | 7 : $P_{309} = (18, 8, 1, 0)$  |
| 2 : $P_{145} = (14, 3, 1, 0)$ | 8 : $P_{341} = (18, 9, 1, 0)$  |
| 3 : $P_{193} = (30, 4, 1, 0)$ | 9 : $P_{364} = (9, 10, 1, 0)$  |
| 4 : $P_{225} = (30, 5, 1, 0)$ | 10 : $P_{396} = (9, 11, 1, 0)$ |
| 5 : $P_{229} = (2, 6, 1, 0)$  | 11 : $P_{427} = (8, 12, 1, 0)$ |

12 : $P_{459} = (8, 13, 1, 0)$	66 : $P_{2291} = (18, 6, 1, 1)$
13 : $P_{494} = (11, 14, 1, 0)$	67 : $P_{2323} = (18, 7, 1, 1)$
14 : $P_{526} = (11, 15, 1, 0)$	68 : $P_{2339} = (2, 8, 1, 1)$
15 : $P_{566} = (19, 16, 1, 0)$	69 : $P_{2371} = (2, 9, 1, 1)$
16 : $P_{598} = (19, 17, 1, 0)$	70 : $P_{2405} = (4, 10, 1, 1)$
17 : $P_{642} = (31, 18, 1, 0)$	71 : $P_{2437} = (4, 11, 1, 1)$
18 : $P_{674} = (31, 19, 1, 0)$	72 : $P_{2487} = (22, 12, 1, 1)$
19 : $P_{679} = (4, 20, 1, 0)$	73 : $P_{2519} = (22, 13, 1, 1)$
20 : $P_{711} = (4, 21, 1, 0)$	74 : $P_{2545} = (16, 14, 1, 1)$
21 : $P_{752} = (13, 22, 1, 0)$	75 : $P_{2577} = (16, 15, 1, 1)$
22 : $P_{784} = (13, 23, 1, 0)$	76 : $P_{2622} = (29, 16, 1, 1)$
23 : $P_{830} = (27, 24, 1, 0)$	77 : $P_{2654} = (29, 17, 1, 1)$
24 : $P_{862} = (27, 25, 1, 0)$	78 : $P_{2684} = (27, 18, 1, 1)$
25 : $P_{877} = (10, 26, 1, 0)$	79 : $P_{2716} = (27, 19, 1, 1)$
26 : $P_{909} = (10, 27, 1, 0)$	80 : $P_{2730} = (9, 20, 1, 1)$
27 : $P_{947} = (16, 28, 1, 0)$	81 : $P_{2762} = (9, 21, 1, 1)$
28 : $P_{979} = (16, 29, 1, 0)$	82 : $P_{2800} = (15, 22, 1, 1)$
29 : $P_{1010} = (15, 30, 1, 0)$	83 : $P_{2832} = (15, 23, 1, 1)$
30 : $P_{1042} = (15, 31, 1, 0)$	84 : $P_{2880} = (31, 24, 1, 1)$
31 : $P_{1059} = (1, 0, 0, 1)$	85 : $P_{2912} = (31, 25, 1, 1)$
32 : $P_{1149} = (27, 2, 0, 1)$	86 : $P_{2938} = (25, 26, 1, 1)$
33 : $P_{1153} = (31, 2, 0, 1)$	87 : $P_{2970} = (25, 27, 1, 1)$
34 : $P_{1188} = (2, 4, 0, 1)$	88 : $P_{2988} = (11, 28, 1, 1)$
35 : $P_{1204} = (18, 4, 0, 1)$	89 : $P_{3020} = (11, 29, 1, 1)$
36 : $P_{1334} = (20, 8, 0, 1)$	90 : $P_{3054} = (13, 30, 1, 1)$
37 : $P_{1344} = (30, 8, 0, 1)$	91 : $P_{3086} = (13, 31, 1, 1)$
38 : $P_{1353} = (7, 9, 0, 1)$	92 : $P_{3123} = (18, 0, 2, 1)$
39 : $P_{1358} = (12, 9, 0, 1)$	93 : $P_{3187} = (18, 2, 2, 1)$
40 : $P_{1397} = (19, 10, 0, 1)$	94 : $P_{3270} = (5, 5, 2, 1)$
41 : $P_{1407} = (29, 10, 0, 1)$	95 : $P_{3295} = (30, 5, 2, 1)$
42 : $P_{1431} = (21, 11, 0, 1)$	96 : $P_{3334} = (5, 7, 2, 1)$
43 : $P_{1436} = (26, 11, 0, 1)$	97 : $P_{3359} = (30, 7, 2, 1)$
44 : $P_{1485} = (11, 13, 0, 1)$	98 : $P_{3518} = (29, 12, 2, 1)$
45 : $P_{1490} = (16, 13, 0, 1)$	99 : $P_{3520} = (31, 12, 2, 1)$
46 : $P_{1514} = (8, 14, 0, 1)$	100 : $P_{3541} = (20, 13, 2, 1)$
47 : $P_{1528} = (22, 14, 0, 1)$	101 : $P_{3542} = (21, 13, 2, 1)$
48 : $P_{1541} = (3, 15, 0, 1)$	102 : $P_{3582} = (29, 14, 2, 1)$
49 : $P_{1566} = (28, 15, 0, 1)$	103 : $P_{3584} = (31, 14, 2, 1)$
50 : $P_{1574} = (4, 16, 0, 1)$	104 : $P_{3605} = (20, 15, 2, 1)$
51 : $P_{1579} = (9, 16, 0, 1)$	105 : $P_{3606} = (21, 15, 2, 1)$
52 : $P_{1651} = (17, 18, 0, 1)$	106 : $P_{3618} = (1, 16, 2, 1)$
53 : $P_{1658} = (24, 18, 0, 1)$	107 : $P_{3626} = (9, 16, 2, 1)$
54 : $P_{1672} = (6, 19, 0, 1)$	108 : $P_{3682} = (1, 18, 2, 1)$
55 : $P_{1680} = (14, 19, 0, 1)$	109 : $P_{3690} = (9, 18, 2, 1)$
56 : $P_{1935} = (13, 27, 0, 1)$	110 : $P_{4049} = (16, 29, 2, 1)$
57 : $P_{1937} = (15, 27, 0, 1)$	111 : $P_{4058} = (25, 29, 2, 1)$
58 : $P_{2028} = (10, 30, 0, 1)$	112 : $P_{4113} = (16, 31, 2, 1)$
59 : $P_{2043} = (25, 30, 0, 1)$	113 : $P_{4122} = (25, 31, 2, 1)$
60 : $P_{2055} = (5, 31, 0, 1)$	114 : $P_{4139} = (10, 0, 3, 1)$
61 : $P_{2073} = (23, 31, 0, 1)$	115 : $P_{4235} = (10, 3, 3, 1)$
62 : $P_{2151} = (6, 2, 1, 1)$	116 : $P_{4393} = (8, 8, 3, 1)$
63 : $P_{2183} = (6, 3, 1, 1)$	117 : $P_{4411} = (26, 8, 3, 1)$
64 : $P_{2229} = (20, 4, 1, 1)$	118 : $P_{4428} = (11, 9, 3, 1)$
65 : $P_{2261} = (20, 5, 1, 1)$	119 : $P_{4444} = (27, 9, 3, 1)$

120 : $P_{4460} = (11, 10, 3, 1)$	174 : $P_{6531} = (2, 11, 5, 1)$
121 : $P_{4476} = (27, 10, 3, 1)$	175 : $P_{6544} = (15, 11, 5, 1)$
122 : $P_{4489} = (8, 11, 3, 1)$	176 : $P_{6566} = (5, 12, 5, 1)$
123 : $P_{4507} = (26, 11, 3, 1)$	177 : $P_{6567} = (6, 12, 5, 1)$
124 : $P_{4531} = (18, 12, 3, 1)$	178 : $P_{6612} = (19, 13, 5, 1)$
125 : $P_{4541} = (28, 12, 3, 1)$	179 : $P_{6613} = (20, 13, 5, 1)$
126 : $P_{4627} = (18, 15, 3, 1)$	180 : $P_{6627} = (2, 14, 5, 1)$
127 : $P_{4637} = (28, 15, 3, 1)$	181 : $P_{6640} = (15, 14, 5, 1)$
128 : $P_{4647} = (6, 16, 3, 1)$	182 : $P_{6660} = (3, 15, 5, 1)$
129 : $P_{4671} = (30, 16, 3, 1)$	183 : $P_{6667} = (10, 15, 5, 1)$
130 : $P_{4676} = (3, 17, 3, 1)$	184 : $P_{6796} = (11, 19, 5, 1)$
131 : $P_{4698} = (25, 17, 3, 1)$	185 : $P_{6807} = (22, 19, 5, 1)$
132 : $P_{4708} = (3, 18, 3, 1)$	186 : $P_{6892} = (11, 22, 5, 1)$
133 : $P_{4730} = (25, 18, 3, 1)$	187 : $P_{6903} = (22, 22, 5, 1)$
134 : $P_{4743} = (6, 19, 3, 1)$	188 : $P_{6953} = (8, 24, 5, 1)$
135 : $P_{4767} = (30, 19, 3, 1)$	189 : $P_{6969} = (24, 24, 5, 1)$
136 : $P_{4788} = (19, 20, 3, 1)$	190 : $P_{7018} = (9, 26, 5, 1)$
137 : $P_{4792} = (23, 20, 3, 1)$	191 : $P_{7032} = (23, 26, 5, 1)$
138 : $P_{4884} = (19, 23, 3, 1)$	192 : $P_{7113} = (8, 29, 5, 1)$
139 : $P_{4888} = (23, 23, 3, 1)$	193 : $P_{7129} = (24, 29, 5, 1)$
140 : $P_{5066} = (9, 29, 3, 1)$	194 : $P_{7178} = (9, 31, 5, 1)$
141 : $P_{5086} = (29, 29, 3, 1)$	195 : $P_{7192} = (23, 31, 5, 1)$
142 : $P_{5098} = (9, 30, 3, 1)$	196 : $P_{7230} = (29, 0, 6, 1)$
143 : $P_{5118} = (29, 30, 3, 1)$	197 : $P_{7422} = (29, 6, 6, 1)$
144 : $P_{5162} = (9, 0, 4, 1)$	198 : $P_{7467} = (10, 8, 6, 1)$
145 : $P_{5290} = (9, 4, 4, 1)$	199 : $P_{7478} = (21, 8, 6, 1)$
146 : $P_{5442} = (1, 9, 4, 1)$	200 : $P_{7522} = (1, 10, 6, 1)$
147 : $P_{5452} = (11, 9, 4, 1)$	201 : $P_{7543} = (22, 10, 6, 1)$
148 : $P_{5570} = (1, 13, 4, 1)$	202 : $P_{7586} = (1, 12, 6, 1)$
149 : $P_{5580} = (11, 13, 4, 1)$	203 : $P_{7607} = (22, 12, 6, 1)$
150 : $P_{5714} = (17, 17, 4, 1)$	204 : $P_{7659} = (10, 14, 6, 1)$
151 : $P_{5716} = (19, 17, 4, 1)$	205 : $P_{7670} = (21, 14, 6, 1)$
152 : $P_{5735} = (6, 18, 4, 1)$	206 : $P_{7782} = (5, 18, 6, 1)$
153 : $P_{5742} = (13, 18, 4, 1)$	207 : $P_{7792} = (15, 18, 6, 1)$
154 : $P_{5842} = (17, 21, 4, 1)$	208 : $P_{7846} = (5, 20, 6, 1)$
155 : $P_{5844} = (19, 21, 4, 1)$	209 : $P_{7856} = (15, 20, 6, 1)$
156 : $P_{5863} = (6, 22, 4, 1)$	210 : $P_{8047} = (14, 26, 6, 1)$
157 : $P_{5870} = (13, 22, 4, 1)$	211 : $P_{8060} = (27, 26, 6, 1)$
158 : $P_{6003} = (18, 26, 4, 1)$	212 : $P_{8068} = (3, 27, 6, 1)$
159 : $P_{6007} = (22, 26, 4, 1)$	213 : $P_{8082} = (17, 27, 6, 1)$
160 : $P_{6045} = (28, 27, 4, 1)$	214 : $P_{8111} = (14, 28, 6, 1)$
161 : $P_{6046} = (29, 27, 4, 1)$	215 : $P_{8124} = (27, 28, 6, 1)$
162 : $P_{6131} = (18, 30, 4, 1)$	216 : $P_{8132} = (3, 29, 6, 1)$
163 : $P_{6135} = (22, 30, 4, 1)$	217 : $P_{8146} = (17, 29, 6, 1)$
164 : $P_{6173} = (28, 31, 4, 1)$	218 : $P_{8228} = (3, 0, 7, 1)$
165 : $P_{6174} = (29, 31, 4, 1)$	219 : $P_{8274} = (17, 1, 7, 1)$
166 : $P_{6191} = (14, 0, 5, 1)$	220 : $P_{8280} = (23, 1, 7, 1)$
167 : $P_{6351} = (14, 5, 5, 1)$	221 : $P_{8325} = (4, 3, 7, 1)$
168 : $P_{6452} = (19, 8, 5, 1)$	222 : $P_{8329} = (8, 3, 7, 1)$
169 : $P_{6453} = (20, 8, 5, 1)$	223 : $P_{8357} = (4, 4, 7, 1)$
170 : $P_{6470} = (5, 9, 5, 1)$	224 : $P_{8361} = (8, 4, 7, 1)$
171 : $P_{6471} = (6, 9, 5, 1)$	225 : $P_{8434} = (17, 6, 7, 1)$
172 : $P_{6500} = (3, 10, 5, 1)$	226 : $P_{8440} = (23, 6, 7, 1)$
173 : $P_{6507} = (10, 10, 5, 1)$	227 : $P_{8452} = (3, 7, 7, 1)$

228 :  $P_{8493} = (12, 8, 7, 1)$   
 229 :  $P_{8508} = (27, 8, 7, 1)$   
 230 :  $P_{8524} = (11, 9, 7, 1)$   
 231 :  $P_{8539} = (26, 9, 7, 1)$   
 232 :  $P_{8554} = (9, 10, 7, 1)$   
 233 :  $P_{8565} = (20, 10, 7, 1)$   
 234 :  $P_{8590} = (13, 11, 7, 1)$   
 235 :  $P_{8599} = (22, 11, 7, 1)$   
 236 :  $P_{8622} = (13, 12, 7, 1)$   
 237 :  $P_{8631} = (22, 12, 7, 1)$   
 238 :  $P_{8650} = (9, 13, 7, 1)$   
 239 :  $P_{8661} = (20, 13, 7, 1)$   
 240 :  $P_{8684} = (11, 14, 7, 1)$   
 241 :  $P_{8699} = (26, 14, 7, 1)$   
 242 :  $P_{8717} = (12, 15, 7, 1)$   
 243 :  $P_{8732} = (27, 15, 7, 1)$   
 244 :  $P_{8739} = (2, 16, 7, 1)$   
 245 :  $P_{8753} = (16, 16, 7, 1)$   
 246 :  $P_{8811} = (10, 18, 7, 1)$   
 247 :  $P_{8819} = (18, 18, 7, 1)$   
 248 :  $P_{8840} = (7, 19, 7, 1)$   
 249 :  $P_{8858} = (25, 19, 7, 1)$   
 250 :  $P_{8872} = (7, 20, 7, 1)$   
 251 :  $P_{8890} = (25, 20, 7, 1)$   
 252 :  $P_{8907} = (10, 21, 7, 1)$   
 253 :  $P_{8915} = (18, 21, 7, 1)$   
 254 :  $P_{8963} = (2, 23, 7, 1)$   
 255 :  $P_{8977} = (16, 23, 7, 1)$   
 256 :  $P_{9262} = (13, 0, 8, 1)$   
 257 :  $P_{9321} = (8, 2, 8, 1)$   
 258 :  $P_{9341} = (28, 2, 8, 1)$   
 259 :  $P_{9347} = (2, 3, 8, 1)$   
 260 :  $P_{9376} = (31, 3, 8, 1)$   
 261 :  $P_{9459} = (18, 6, 8, 1)$   
 262 :  $P_{9460} = (19, 6, 8, 1)$   
 263 :  $P_{9518} = (13, 8, 8, 1)$   
 264 :  $P_{9577} = (8, 10, 8, 1)$   
 265 :  $P_{9597} = (28, 10, 8, 1)$   
 266 :  $P_{9603} = (2, 11, 8, 1)$   
 267 :  $P_{9632} = (31, 11, 8, 1)$   
 268 :  $P_{9715} = (18, 14, 8, 1)$   
 269 :  $P_{9716} = (19, 14, 8, 1)$   
 270 :  $P_{9765} = (4, 16, 8, 1)$   
 271 :  $P_{9790} = (29, 16, 8, 1)$   
 272 :  $P_{9799} = (6, 17, 8, 1)$   
 273 :  $P_{9815} = (22, 17, 8, 1)$   
 274 :  $P_{9910} = (21, 20, 8, 1)$   
 275 :  $P_{9914} = (25, 20, 8, 1)$   
 276 :  $P_{10000} = (15, 23, 8, 1)$   
 277 :  $P_{10015} = (30, 23, 8, 1)$   
 278 :  $P_{10021} = (4, 24, 8, 1)$   
 279 :  $P_{10046} = (29, 24, 8, 1)$   
 280 :  $P_{10055} = (6, 25, 8, 1)$   
 281 :  $P_{10071} = (22, 25, 8, 1)$

282 :  $P_{10166} = (21, 28, 8, 1)$   
 283 :  $P_{10170} = (25, 28, 8, 1)$   
 284 :  $P_{10256} = (15, 31, 8, 1)$   
 285 :  $P_{10271} = (30, 31, 8, 1)$   
 286 :  $P_{10296} = (23, 0, 9, 1)$   
 287 :  $P_{10327} = (22, 1, 9, 1)$   
 288 :  $P_{10335} = (30, 1, 9, 1)$   
 289 :  $P_{10344} = (7, 2, 9, 1)$   
 290 :  $P_{10354} = (17, 2, 9, 1)$   
 291 :  $P_{10374} = (5, 3, 9, 1)$   
 292 :  $P_{10396} = (27, 3, 9, 1)$   
 293 :  $P_{10414} = (13, 4, 9, 1)$   
 294 :  $P_{10429} = (28, 4, 9, 1)$   
 295 :  $P_{10434} = (1, 5, 9, 1)$   
 296 :  $P_{10457} = (24, 5, 9, 1)$   
 297 :  $P_{10483} = (18, 6, 9, 1)$   
 298 :  $P_{10486} = (21, 6, 9, 1)$   
 299 :  $P_{10551} = (22, 8, 9, 1)$   
 300 :  $P_{10559} = (30, 8, 9, 1)$   
 301 :  $P_{10584} = (23, 9, 9, 1)$   
 302 :  $P_{10598} = (5, 10, 9, 1)$   
 303 :  $P_{10620} = (27, 10, 9, 1)$   
 304 :  $P_{10632} = (7, 11, 9, 1)$   
 305 :  $P_{10642} = (17, 11, 9, 1)$   
 306 :  $P_{10658} = (1, 12, 9, 1)$   
 307 :  $P_{10681} = (24, 12, 9, 1)$   
 308 :  $P_{10702} = (13, 13, 9, 1)$   
 309 :  $P_{10717} = (28, 13, 9, 1)$   
 310 :  $P_{10771} = (18, 15, 9, 1)$   
 311 :  $P_{10774} = (21, 15, 9, 1)$   
 312 :  $P_{10805} = (20, 16, 9, 1)$   
 313 :  $P_{10814} = (29, 16, 9, 1)$   
 314 :  $P_{10979} = (2, 22, 9, 1)$   
 315 :  $P_{10989} = (12, 22, 9, 1)$   
 316 :  $P_{11018} = (9, 23, 9, 1)$   
 317 :  $P_{11024} = (15, 23, 9, 1)$   
 318 :  $P_{11093} = (20, 25, 9, 1)$   
 319 :  $P_{11102} = (29, 25, 9, 1)$   
 320 :  $P_{11242} = (9, 30, 9, 1)$   
 321 :  $P_{11248} = (15, 30, 9, 1)$   
 322 :  $P_{11267} = (2, 31, 9, 1)$   
 323 :  $P_{11277} = (12, 31, 9, 1)$   
 324 :  $P_{11324} = (27, 0, 10, 1)$   
 325 :  $P_{11435} = (10, 4, 10, 1)$   
 326 :  $P_{11448} = (23, 4, 10, 1)$   
 327 :  $P_{11461} = (4, 5, 10, 1)$   
 328 :  $P_{11475} = (18, 5, 10, 1)$   
 329 :  $P_{11509} = (20, 6, 10, 1)$   
 330 :  $P_{11514} = (25, 6, 10, 1)$   
 331 :  $P_{11537} = (16, 7, 10, 1)$   
 332 :  $P_{11543} = (22, 7, 10, 1)$   
 333 :  $P_{11644} = (27, 10, 10, 1)$   
 334 :  $P_{11701} = (20, 12, 10, 1)$   
 335 :  $P_{11706} = (25, 12, 10, 1)$

336 :  $P_{11729} = (16, 13, 10, 1)$   
 337 :  $P_{11735} = (22, 13, 10, 1)$   
 338 :  $P_{11755} = (10, 14, 10, 1)$   
 339 :  $P_{11768} = (23, 14, 10, 1)$   
 340 :  $P_{11781} = (4, 15, 10, 1)$   
 341 :  $P_{11795} = (18, 15, 10, 1)$   
 342 :  $P_{11892} = (19, 18, 10, 1)$   
 343 :  $P_{11904} = (31, 18, 10, 1)$   
 344 :  $P_{11945} = (8, 20, 10, 1)$   
 345 :  $P_{11946} = (9, 20, 10, 1)$   
 346 :  $P_{12039} = (6, 23, 10, 1)$   
 347 :  $P_{12061} = (28, 23, 10, 1)$   
 348 :  $P_{12084} = (19, 24, 10, 1)$   
 349 :  $P_{12096} = (31, 24, 10, 1)$   
 350 :  $P_{12231} = (6, 29, 10, 1)$   
 351 :  $P_{12253} = (28, 29, 10, 1)$   
 352 :  $P_{12265} = (8, 30, 10, 1)$   
 353 :  $P_{12266} = (9, 30, 10, 1)$   
 354 :  $P_{12345} = (24, 0, 11, 1)$   
 355 :  $P_{12372} = (19, 1, 11, 1)$   
 356 :  $P_{12378} = (25, 1, 11, 1)$   
 357 :  $P_{12461} = (12, 4, 11, 1)$   
 358 :  $P_{12470} = (21, 4, 11, 1)$   
 359 :  $P_{12483} = (2, 5, 11, 1)$   
 360 :  $P_{12498} = (17, 5, 11, 1)$   
 361 :  $P_{12535} = (22, 6, 11, 1)$   
 362 :  $P_{12542} = (29, 6, 11, 1)$   
 363 :  $P_{12660} = (19, 10, 11, 1)$   
 364 :  $P_{12666} = (25, 10, 11, 1)$   
 365 :  $P_{12697} = (24, 11, 11, 1)$   
 366 :  $P_{12759} = (22, 13, 11, 1)$   
 367 :  $P_{12766} = (29, 13, 11, 1)$   
 368 :  $P_{12771} = (2, 14, 11, 1)$   
 369 :  $P_{12786} = (17, 14, 11, 1)$   
 370 :  $P_{12813} = (12, 15, 11, 1)$   
 371 :  $P_{12822} = (21, 15, 11, 1)$   
 372 :  $P_{12856} = (23, 16, 11, 1)$   
 373 :  $P_{12860} = (27, 16, 11, 1)$   
 374 :  $P_{12866} = (1, 17, 11, 1)$   
 375 :  $P_{12872} = (7, 17, 11, 1)$   
 376 :  $P_{12901} = (4, 18, 11, 1)$   
 377 :  $P_{12923} = (26, 18, 11, 1)$   
 378 :  $P_{12940} = (11, 19, 11, 1)$   
 379 :  $P_{12960} = (31, 19, 11, 1)$   
 380 :  $P_{12970} = (9, 20, 11, 1)$   
 381 :  $P_{12989} = (28, 20, 11, 1)$   
 382 :  $P_{13100} = (11, 24, 11, 1)$   
 383 :  $P_{13120} = (31, 24, 11, 1)$   
 384 :  $P_{13125} = (4, 25, 11, 1)$   
 385 :  $P_{13147} = (26, 25, 11, 1)$   
 386 :  $P_{13154} = (1, 26, 11, 1)$   
 387 :  $P_{13160} = (7, 26, 11, 1)$   
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 389 :  $P_{13212} = (27, 27, 11, 1)$

390 :  $P_{13322} = (9, 31, 11, 1)$   
 391 :  $P_{13341} = (28, 31, 11, 1)$   
 392 :  $P_{13364} = (19, 0, 12, 1)$   
 393 :  $P_{13419} = (10, 2, 12, 1)$   
 394 :  $P_{13431} = (22, 2, 12, 1)$   
 395 :  $P_{13453} = (12, 3, 12, 1)$   
 396 :  $P_{13470} = (29, 3, 12, 1)$   
 397 :  $P_{13512} = (7, 5, 12, 1)$   
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 399 :  $P_{13543} = (6, 6, 12, 1)$   
 400 :  $P_{13568} = (31, 6, 12, 1)$   
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 402 :  $P_{13648} = (15, 9, 12, 1)$   
 403 :  $P_{13671} = (6, 10, 12, 1)$   
 404 :  $P_{13696} = (31, 10, 12, 1)$   
 405 :  $P_{13748} = (19, 12, 12, 1)$   
 406 :  $P_{13803} = (10, 14, 12, 1)$   
 407 :  $P_{13815} = (22, 14, 12, 1)$   
 408 :  $P_{13837} = (12, 15, 12, 1)$   
 409 :  $P_{13854} = (29, 15, 12, 1)$   
 410 :  $P_{13938} = (17, 18, 12, 1)$   
 411 :  $P_{13951} = (30, 18, 12, 1)$   
 412 :  $P_{13969} = (16, 19, 12, 1)$   
 413 :  $P_{13971} = (18, 19, 12, 1)$   
 414 :  $P_{14031} = (14, 21, 12, 1)$   
 415 :  $P_{14038} = (21, 21, 12, 1)$   
 416 :  $P_{14159} = (14, 25, 12, 1)$   
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 418 :  $P_{14322} = (17, 30, 12, 1)$   
 419 :  $P_{14335} = (30, 30, 12, 1)$   
 420 :  $P_{14353} = (16, 31, 12, 1)$   
 421 :  $P_{14355} = (18, 31, 12, 1)$   
 422 :  $P_{14384} = (15, 0, 13, 1)$   
 423 :  $P_{14434} = (1, 2, 13, 1)$   
 424 :  $P_{14464} = (31, 2, 13, 1)$   
 425 :  $P_{14521} = (24, 4, 13, 1)$   
 426 :  $P_{14522} = (25, 4, 13, 1)$   
 427 :  $P_{14535} = (6, 5, 13, 1)$   
 428 :  $P_{14540} = (11, 5, 13, 1)$   
 429 :  $P_{14563} = (2, 6, 13, 1)$   
 430 :  $P_{14590} = (29, 6, 13, 1)$   
 431 :  $P_{14631} = (6, 8, 13, 1)$   
 432 :  $P_{14636} = (11, 8, 13, 1)$   
 433 :  $P_{14681} = (24, 9, 13, 1)$   
 434 :  $P_{14682} = (25, 9, 13, 1)$   
 435 :  $P_{14723} = (2, 11, 13, 1)$   
 436 :  $P_{14750} = (29, 11, 13, 1)$   
 437 :  $P_{14800} = (15, 13, 13, 1)$   
 438 :  $P_{14850} = (1, 15, 13, 1)$   
 439 :  $P_{14880} = (31, 15, 13, 1)$   
 440 :  $P_{15115} = (10, 23, 13, 1)$   
 441 :  $P_{15131} = (26, 23, 13, 1)$   
 442 :  $P_{15211} = (10, 26, 13, 1)$   
 443 :  $P_{15227} = (26, 26, 13, 1)$

444 :  $P_{15395} = (2, 0, 14, 1)$   
 445 :  $P_{15625} = (8, 7, 14, 1)$   
 446 :  $P_{15635} = (18, 7, 14, 1)$   
 447 :  $P_{15689} = (8, 9, 14, 1)$   
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 449 :  $P_{15843} = (2, 14, 14, 1)$   
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 451 :  $P_{15929} = (24, 16, 14, 1)$   
 452 :  $P_{15946} = (9, 17, 14, 1)$   
 453 :  $P_{15953} = (16, 17, 14, 1)$   
 454 :  $P_{16011} = (10, 19, 14, 1)$   
 455 :  $P_{16012} = (11, 19, 14, 1)$   
 456 :  $P_{16039} = (6, 20, 14, 1)$   
 457 :  $P_{16062} = (29, 20, 14, 1)$   
 458 :  $P_{16078} = (13, 21, 14, 1)$   
 459 :  $P_{16090} = (25, 21, 14, 1)$   
 460 :  $P_{16117} = (20, 22, 14, 1)$   
 461 :  $P_{16120} = (23, 22, 14, 1)$   
 462 :  $P_{16181} = (20, 24, 14, 1)$   
 463 :  $P_{16184} = (23, 24, 14, 1)$   
 464 :  $P_{16231} = (6, 26, 14, 1)$   
 465 :  $P_{16254} = (29, 26, 14, 1)$   
 466 :  $P_{16270} = (13, 27, 14, 1)$   
 467 :  $P_{16282} = (25, 27, 14, 1)$   
 468 :  $P_{16331} = (10, 29, 14, 1)$   
 469 :  $P_{16332} = (11, 29, 14, 1)$   
 470 :  $P_{16367} = (14, 30, 14, 1)$   
 471 :  $P_{16377} = (24, 30, 14, 1)$   
 472 :  $P_{16394} = (9, 31, 14, 1)$   
 473 :  $P_{16401} = (16, 31, 14, 1)$   
 474 :  $P_{16424} = (7, 0, 15, 1)$   
 475 :  $P_{16455} = (6, 1, 15, 1)$   
 476 :  $P_{16457} = (8, 1, 15, 1)$   
 477 :  $P_{16483} = (2, 2, 15, 1)$   
 478 :  $P_{16505} = (24, 2, 15, 1)$   
 479 :  $P_{16514} = (1, 3, 15, 1)$   
 480 :  $P_{16534} = (21, 3, 15, 1)$   
 481 :  $P_{16612} = (3, 6, 15, 1)$   
 482 :  $P_{16625} = (16, 6, 15, 1)$   
 483 :  $P_{16656} = (15, 7, 15, 1)$   
 484 :  $P_{16659} = (18, 7, 15, 1)$   
 485 :  $P_{16688} = (15, 8, 15, 1)$   
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 487 :  $P_{16708} = (3, 9, 15, 1)$   
 488 :  $P_{16721} = (16, 9, 15, 1)$   
 489 :  $P_{16802} = (1, 12, 15, 1)$   
 490 :  $P_{16822} = (21, 12, 15, 1)$   
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 495 :  $P_{16904} = (7, 15, 15, 1)$   
 496 :  $P_{16955} = (26, 16, 15, 1)$   
 497 :  $P_{16957} = (28, 16, 15, 1)$

498 :  $P_{16965} = (4, 17, 15, 1)$   
 499 :  $P_{16973} = (12, 17, 15, 1)$   
 500 :  $P_{17004} = (11, 18, 15, 1)$   
 501 :  $P_{17016} = (23, 18, 15, 1)$   
 502 :  $P_{17079} = (22, 20, 15, 1)$   
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 504 :  $P_{17303} = (22, 27, 15, 1)$   
 505 :  $P_{17306} = (25, 27, 15, 1)$   
 506 :  $P_{17356} = (11, 29, 15, 1)$   
 507 :  $P_{17368} = (23, 29, 15, 1)$   
 508 :  $P_{17381} = (4, 30, 15, 1)$   
 509 :  $P_{17389} = (12, 30, 15, 1)$   
 510 :  $P_{17435} = (26, 31, 15, 1)$   
 511 :  $P_{17437} = (28, 31, 15, 1)$   
 512 :  $P_{17452} = (11, 0, 16, 1)$   
 513 :  $P_{17527} = (22, 2, 16, 1)$   
 514 :  $P_{17528} = (23, 2, 16, 1)$   
 515 :  $P_{17546} = (9, 3, 16, 1)$   
 516 :  $P_{17562} = (25, 3, 16, 1)$   
 517 :  $P_{17749} = (20, 9, 16, 1)$   
 518 :  $P_{17756} = (27, 9, 16, 1)$   
 519 :  $P_{17794} = (1, 11, 16, 1)$   
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 522 :  $P_{17837} = (12, 12, 16, 1)$   
 523 :  $P_{17964} = (11, 16, 16, 1)$   
 524 :  $P_{18039} = (22, 18, 16, 1)$   
 525 :  $P_{18040} = (23, 18, 16, 1)$   
 526 :  $P_{18058} = (9, 19, 16, 1)$   
 527 :  $P_{18074} = (25, 19, 16, 1)$   
 528 :  $P_{18261} = (20, 25, 16, 1)$   
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 530 :  $P_{18306} = (1, 27, 16, 1)$   
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 532 :  $P_{18345} = (8, 28, 16, 1)$   
 533 :  $P_{18349} = (12, 28, 16, 1)$   
 534 :  $P_{18495} = (30, 0, 17, 1)$   
 535 :  $P_{18572} = (11, 3, 17, 1)$   
 536 :  $P_{18585} = (24, 3, 17, 1)$   
 537 :  $P_{18696} = (7, 7, 17, 1)$   
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 539 :  $P_{18736} = (15, 8, 17, 1)$   
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 541 :  $P_{18793} = (8, 10, 17, 1)$   
 542 :  $P_{18814} = (29, 10, 17, 1)$   
 543 :  $P_{18834} = (17, 11, 17, 1)$   
 544 :  $P_{18837} = (20, 11, 17, 1)$   
 545 :  $P_{18918} = (5, 14, 17, 1)$   
 546 :  $P_{18927} = (14, 14, 17, 1)$   
 547 :  $P_{18949} = (4, 15, 17, 1)$   
 548 :  $P_{18976} = (31, 15, 17, 1)$   
 549 :  $P_{19039} = (30, 17, 17, 1)$   
 550 :  $P_{19052} = (11, 18, 17, 1)$   
 551 :  $P_{19065} = (24, 18, 17, 1)$

552 :  $P_{19176} = (7, 22, 17, 1)$   
 553 :  $P_{19179} = (10, 22, 17, 1)$   
 554 :  $P_{19280} = (15, 25, 17, 1)$   
 555 :  $P_{19290} = (25, 25, 17, 1)$   
 556 :  $P_{19314} = (17, 26, 17, 1)$   
 557 :  $P_{19317} = (20, 26, 17, 1)$   
 558 :  $P_{19337} = (8, 27, 17, 1)$   
 559 :  $P_{19358} = (29, 27, 17, 1)$   
 560 :  $P_{19429} = (4, 30, 17, 1)$   
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 562 :  $P_{19462} = (5, 31, 17, 1)$   
 563 :  $P_{19471} = (14, 31, 17, 1)$   
 564 :  $P_{19517} = (28, 0, 18, 1)$   
 565 :  $P_{19535} = (14, 1, 18, 1)$   
 566 :  $P_{19550} = (29, 1, 18, 1)$   
 567 :  $P_{19569} = (16, 2, 18, 1)$   
 568 :  $P_{19574} = (21, 2, 18, 1)$   
 569 :  $P_{19586} = (1, 3, 18, 1)$   
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 571 :  $P_{19623} = (6, 4, 18, 1)$   
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 573 :  $P_{19748} = (3, 8, 18, 1)$   
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 575 :  $P_{19782} = (5, 9, 18, 1)$   
 576 :  $P_{19801} = (24, 9, 18, 1)$   
 577 :  $P_{19848} = (7, 11, 18, 1)$   
 578 :  $P_{19872} = (31, 11, 18, 1)$   
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 580 :  $P_{19955} = (18, 14, 18, 1)$   
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 584 :  $P_{20022} = (21, 16, 18, 1)$   
 585 :  $P_{20034} = (1, 17, 18, 1)$   
 586 :  $P_{20056} = (23, 17, 18, 1)$   
 587 :  $P_{20093} = (28, 18, 18, 1)$   
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 590 :  $P_{20199} = (6, 22, 18, 1)$   
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 594 :  $P_{20324} = (3, 26, 18, 1)$   
 595 :  $P_{20334} = (13, 26, 18, 1)$   
 596 :  $P_{20358} = (5, 27, 18, 1)$   
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 598 :  $P_{20396} = (11, 28, 18, 1)$   
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 601 :  $P_{20444} = (27, 29, 18, 1)$   
 602 :  $P_{20529} = (16, 0, 19, 1)$   
 603 :  $P_{20643} = (2, 4, 19, 1)$   
 604 :  $P_{20661} = (20, 4, 19, 1)$   
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606 :  $P_{20702} = (29, 5, 19, 1)$   
 607 :  $P_{20712} = (7, 6, 19, 1)$   
 608 :  $P_{20727} = (22, 6, 19, 1)$   
 609 :  $P_{20788} = (19, 8, 19, 1)$   
 610 :  $P_{20790} = (21, 8, 19, 1)$   
 611 :  $P_{20816} = (15, 9, 19, 1)$   
 612 :  $P_{20828} = (27, 9, 19, 1)$   
 613 :  $P_{20863} = (30, 10, 19, 1)$   
 614 :  $P_{20864} = (31, 10, 19, 1)$   
 615 :  $P_{21004} = (11, 15, 19, 1)$   
 616 :  $P_{21007} = (14, 15, 19, 1)$   
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 620 :  $P_{21242} = (25, 22, 19, 1)$   
 621 :  $P_{21246} = (29, 22, 19, 1)$   
 622 :  $P_{21251} = (2, 23, 19, 1)$   
 623 :  $P_{21269} = (20, 23, 19, 1)$   
 624 :  $P_{21343} = (30, 25, 19, 1)$   
 625 :  $P_{21344} = (31, 25, 19, 1)$   
 626 :  $P_{21360} = (15, 26, 19, 1)$   
 627 :  $P_{21372} = (27, 26, 19, 1)$   
 628 :  $P_{21396} = (19, 27, 19, 1)$   
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 630 :  $P_{21420} = (11, 28, 19, 1)$   
 631 :  $P_{21423} = (14, 28, 19, 1)$   
 632 :  $P_{21559} = (22, 0, 20, 1)$   
 633 :  $P_{21606} = (5, 2, 20, 1)$   
 634 :  $P_{21613} = (12, 2, 20, 1)$   
 635 :  $P_{21635} = (2, 3, 20, 1)$   
 636 :  $P_{21663} = (30, 3, 20, 1)$   
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 647 :  $P_{22303} = (30, 23, 20, 1)$   
 648 :  $P_{22370} = (1, 26, 20, 1)$   
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 651 :  $P_{22496} = (31, 29, 20, 1)$   
 652 :  $P_{22511} = (14, 30, 20, 1)$   
 653 :  $P_{22525} = (28, 30, 20, 1)$   
 654 :  $P_{22566} = (5, 0, 21, 1)$   
 655 :  $P_{22605} = (12, 1, 21, 1)$   
 656 :  $P_{22617} = (24, 1, 21, 1)$   
 657 :  $P_{22731} = (10, 5, 21, 1)$   
 658 :  $P_{22737} = (16, 5, 21, 1)$   
 659 :  $P_{22823} = (6, 8, 21, 1)$



660 :  $P_{22838} = (21, 8, 21, 1)$   
 661 :  $P_{22858} = (9, 9, 21, 1)$   
 662 :  $P_{22863} = (14, 9, 21, 1)$   
 663 :  $P_{22883} = (2, 10, 21, 1)$   
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 666 :  $P_{22928} = (15, 11, 21, 1)$   
 667 :  $P_{22981} = (4, 13, 21, 1)$   
 668 :  $P_{22990} = (13, 13, 21, 1)$   
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 670 :  $P_{23038} = (29, 14, 21, 1)$   
 671 :  $P_{23066} = (25, 15, 21, 1)$   
 672 :  $P_{23068} = (27, 15, 21, 1)$   
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 674 :  $P_{23089} = (16, 16, 21, 1)$   
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 676 :  $P_{23225} = (24, 20, 21, 1)$   
 677 :  $P_{23238} = (5, 21, 21, 1)$   
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 679 :  $P_{23342} = (13, 24, 21, 1)$   
 680 :  $P_{23418} = (25, 26, 21, 1)$   
 681 :  $P_{23420} = (27, 26, 21, 1)$   
 682 :  $P_{23436} = (11, 27, 21, 1)$   
 683 :  $P_{23454} = (29, 27, 21, 1)$   
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 685 :  $P_{23471} = (14, 28, 21, 1)$   
 686 :  $P_{23495} = (6, 29, 21, 1)$   
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 689 :  $P_{23536} = (15, 30, 21, 1)$   
 690 :  $P_{23555} = (2, 31, 21, 1)$   
 691 :  $P_{23579} = (26, 31, 21, 1)$   
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 693 :  $P_{23746} = (1, 5, 22, 1)$   
 694 :  $P_{23765} = (20, 5, 22, 1)$   
 695 :  $P_{23780} = (3, 6, 22, 1)$   
 696 :  $P_{23789} = (12, 6, 22, 1)$   
 697 :  $P_{23817} = (8, 7, 22, 1)$   
 698 :  $P_{23825} = (16, 7, 22, 1)$   
 699 :  $P_{23860} = (19, 8, 22, 1)$   
 700 :  $P_{23865} = (24, 8, 22, 1)$   
 701 :  $P_{24074} = (9, 15, 22, 1)$   
 702 :  $P_{24091} = (26, 15, 22, 1)$   
 703 :  $P_{24100} = (3, 16, 22, 1)$   
 704 :  $P_{24109} = (12, 16, 22, 1)$   
 705 :  $P_{24137} = (8, 17, 22, 1)$   
 706 :  $P_{24145} = (16, 17, 22, 1)$   
 707 :  $P_{24194} = (1, 19, 22, 1)$   
 708 :  $P_{24213} = (20, 19, 22, 1)$   
 709 :  $P_{24295} = (6, 22, 22, 1)$   
 710 :  $P_{24394} = (9, 25, 22, 1)$   
 711 :  $P_{24411} = (26, 25, 22, 1)$   
 712 :  $P_{24564} = (19, 30, 22, 1)$   
 713 :  $P_{24569} = (24, 30, 22, 1)$

714 :  $P_{24621} = (12, 0, 23, 1)$   
 715 :  $P_{24644} = (3, 1, 23, 1)$   
 716 :  $P_{24662} = (21, 1, 23, 1)$   
 717 :  $P_{24675} = (2, 2, 23, 1)$   
 718 :  $P_{24686} = (13, 2, 23, 1)$   
 719 :  $P_{24762} = (25, 4, 23, 1)$   
 720 :  $P_{24768} = (31, 4, 23, 1)$   
 721 :  $P_{24773} = (4, 5, 23, 1)$   
 722 :  $P_{24789} = (20, 5, 23, 1)$   
 723 :  $P_{24882} = (17, 8, 23, 1)$   
 724 :  $P_{24883} = (18, 8, 23, 1)$   
 725 :  $P_{24902} = (5, 9, 23, 1)$   
 726 :  $P_{24913} = (16, 9, 23, 1)$   
 727 :  $P_{25020} = (27, 12, 23, 1)$   
 728 :  $P_{25023} = (30, 12, 23, 1)$   
 729 :  $P_{25080} = (23, 14, 23, 1)$   
 730 :  $P_{25086} = (29, 14, 23, 1)$   
 731 :  $P_{25104} = (15, 15, 23, 1)$   
 732 :  $P_{25108} = (19, 15, 23, 1)$   
 733 :  $P_{25189} = (4, 18, 23, 1)$   
 734 :  $P_{25205} = (20, 18, 23, 1)$   
 735 :  $P_{25242} = (25, 19, 23, 1)$   
 736 :  $P_{25248} = (31, 19, 23, 1)$   
 737 :  $P_{25283} = (2, 21, 23, 1)$   
 738 :  $P_{25294} = (13, 21, 23, 1)$   
 739 :  $P_{25316} = (3, 22, 23, 1)$   
 740 :  $P_{25334} = (21, 22, 23, 1)$   
 741 :  $P_{25357} = (12, 23, 23, 1)$   
 742 :  $P_{25392} = (15, 24, 23, 1)$   
 743 :  $P_{25396} = (19, 24, 23, 1)$   
 744 :  $P_{25432} = (23, 25, 23, 1)$   
 745 :  $P_{25438} = (29, 25, 23, 1)$   
 746 :  $P_{25500} = (27, 27, 23, 1)$   
 747 :  $P_{25503} = (30, 27, 23, 1)$   
 748 :  $P_{25574} = (5, 30, 23, 1)$   
 749 :  $P_{25585} = (16, 30, 23, 1)$   
 750 :  $P_{25618} = (17, 31, 23, 1)$   
 751 :  $P_{25619} = (18, 31, 23, 1)$   
 752 :  $P_{25659} = (26, 0, 24, 1)$   
 753 :  $P_{25670} = (5, 1, 24, 1)$   
 754 :  $P_{25693} = (28, 1, 24, 1)$   
 755 :  $P_{25699} = (2, 2, 24, 1)$   
 756 :  $P_{25716} = (19, 2, 24, 1)$   
 757 :  $P_{25765} = (4, 4, 24, 1)$   
 758 :  $P_{25788} = (27, 4, 24, 1)$   
 759 :  $P_{25847} = (22, 6, 24, 1)$   
 760 :  $P_{25849} = (24, 6, 24, 1)$   
 761 :  $P_{25865} = (8, 7, 24, 1)$   
 762 :  $P_{25888} = (31, 7, 24, 1)$   
 763 :  $P_{25895} = (6, 8, 24, 1)$   
 764 :  $P_{25907} = (18, 8, 24, 1)$   
 765 :  $P_{25937} = (16, 9, 24, 1)$   
 766 :  $P_{25950} = (29, 9, 24, 1)$   
 767 :  $P_{25962} = (9, 10, 24, 1)$

768 :  $P_{25965} = (12, 10, 24, 1)$   
 769 :  $P_{25998} = (13, 11, 24, 1)$   
 770 :  $P_{26002} = (17, 11, 24, 1)$   
 771 :  $P_{26151} = (6, 16, 24, 1)$   
 772 :  $P_{26163} = (18, 16, 24, 1)$   
 773 :  $P_{26193} = (16, 17, 24, 1)$   
 774 :  $P_{26206} = (29, 17, 24, 1)$   
 775 :  $P_{26218} = (9, 18, 24, 1)$   
 776 :  $P_{26221} = (12, 18, 24, 1)$   
 777 :  $P_{26254} = (13, 19, 24, 1)$   
 778 :  $P_{26258} = (17, 19, 24, 1)$   
 779 :  $P_{26427} = (26, 24, 24, 1)$   
 780 :  $P_{26438} = (5, 25, 24, 1)$   
 781 :  $P_{26461} = (28, 25, 24, 1)$   
 782 :  $P_{26467} = (2, 26, 24, 1)$   
 783 :  $P_{26484} = (19, 26, 24, 1)$   
 784 :  $P_{26533} = (4, 28, 24, 1)$   
 785 :  $P_{26556} = (27, 28, 24, 1)$   
 786 :  $P_{26615} = (22, 30, 24, 1)$   
 787 :  $P_{26617} = (24, 30, 24, 1)$   
 788 :  $P_{26633} = (8, 31, 24, 1)$   
 789 :  $P_{26656} = (31, 31, 24, 1)$   
 790 :  $P_{26677} = (20, 0, 25, 1)$   
 791 :  $P_{26852} = (3, 6, 25, 1)$   
 792 :  $P_{26860} = (11, 6, 25, 1)$   
 793 :  $P_{26914} = (1, 8, 25, 1)$   
 794 :  $P_{26942} = (29, 8, 25, 1)$   
 795 :  $P_{26984} = (7, 10, 25, 1)$   
 796 :  $P_{26985} = (8, 10, 25, 1)$   
 797 :  $P_{27051} = (10, 12, 25, 1)$   
 798 :  $P_{27054} = (13, 12, 25, 1)$   
 799 :  $P_{27078} = (5, 13, 25, 1)$   
 800 :  $P_{27099} = (26, 13, 25, 1)$   
 801 :  $P_{27202} = (1, 17, 25, 1)$   
 802 :  $P_{27230} = (29, 17, 25, 1)$   
 803 :  $P_{27272} = (7, 19, 25, 1)$   
 804 :  $P_{27273} = (8, 19, 25, 1)$   
 805 :  $P_{27302} = (5, 20, 25, 1)$   
 806 :  $P_{27323} = (26, 20, 25, 1)$   
 807 :  $P_{27339} = (10, 21, 25, 1)$   
 808 :  $P_{27342} = (13, 21, 25, 1)$   
 809 :  $P_{27477} = (20, 25, 25, 1)$   
 810 :  $P_{27652} = (3, 31, 25, 1)$   
 811 :  $P_{27660} = (11, 31, 25, 1)$   
 812 :  $P_{27689} = (8, 0, 26, 1)$   
 813 :  $P_{27823} = (14, 4, 26, 1)$   
 814 :  $P_{27834} = (25, 4, 26, 1)$   
 815 :  $P_{27863} = (22, 5, 26, 1)$   
 816 :  $P_{27867} = (26, 5, 26, 1)$   
 817 :  $P_{27901} = (28, 6, 26, 1)$   
 818 :  $P_{27903} = (30, 6, 26, 1)$   
 819 :  $P_{27946} = (9, 8, 26, 1)$   
 820 :  $P_{27950} = (13, 8, 26, 1)$   
 821 :  $P_{27981} = (12, 9, 26, 1)$

822 :  $P_{27988} = (19, 9, 26, 1)$   
 823 :  $P_{28054} = (21, 11, 26, 1)$   
 824 :  $P_{28064} = (31, 11, 26, 1)$   
 825 :  $P_{28147} = (18, 14, 26, 1)$   
 826 :  $P_{28149} = (20, 14, 26, 1)$   
 827 :  $P_{28246} = (21, 17, 26, 1)$   
 828 :  $P_{28256} = (31, 17, 26, 1)$   
 829 :  $P_{28266} = (9, 18, 26, 1)$   
 830 :  $P_{28270} = (13, 18, 26, 1)$   
 831 :  $P_{28301} = (12, 19, 26, 1)$   
 832 :  $P_{28308} = (19, 19, 26, 1)$   
 833 :  $P_{28339} = (18, 20, 26, 1)$   
 834 :  $P_{28341} = (20, 20, 26, 1)$   
 835 :  $P_{28521} = (8, 26, 26, 1)$   
 836 :  $P_{28605} = (28, 28, 26, 1)$   
 837 :  $P_{28607} = (30, 28, 26, 1)$   
 838 :  $P_{28655} = (14, 30, 26, 1)$   
 839 :  $P_{28666} = (25, 30, 26, 1)$   
 840 :  $P_{28695} = (22, 31, 26, 1)$   
 841 :  $P_{28699} = (26, 31, 26, 1)$   
 842 :  $P_{28736} = (31, 0, 27, 1)$   
 843 :  $P_{28804} = (3, 3, 27, 1)$   
 844 :  $P_{28815} = (14, 3, 27, 1)$   
 845 :  $P_{28834} = (1, 4, 27, 1)$   
 846 :  $P_{28851} = (18, 4, 27, 1)$   
 847 :  $P_{29040} = (15, 10, 27, 1)$   
 848 :  $P_{29045} = (20, 10, 27, 1)$   
 849 :  $P_{29063} = (6, 11, 27, 1)$   
 850 :  $P_{29064} = (7, 11, 27, 1)$   
 851 :  $P_{29189} = (4, 15, 27, 1)$   
 852 :  $P_{29207} = (22, 15, 27, 1)$   
 853 :  $P_{29223} = (6, 16, 27, 1)$   
 854 :  $P_{29224} = (7, 16, 27, 1)$   
 855 :  $P_{29264} = (15, 17, 27, 1)$   
 856 :  $P_{29269} = (20, 17, 27, 1)$   
 857 :  $P_{29349} = (4, 20, 27, 1)$   
 858 :  $P_{29367} = (22, 20, 27, 1)$   
 859 :  $P_{29476} = (3, 24, 27, 1)$   
 860 :  $P_{29487} = (14, 24, 27, 1)$   
 861 :  $P_{29600} = (31, 27, 27, 1)$   
 862 :  $P_{29698} = (1, 31, 27, 1)$   
 863 :  $P_{29715} = (18, 31, 27, 1)$   
 864 :  $P_{29746} = (17, 0, 28, 1)$   
 865 :  $P_{29768} = (7, 1, 28, 1)$   
 866 :  $P_{29787} = (26, 1, 28, 1)$   
 867 :  $P_{29808} = (15, 2, 28, 1)$   
 868 :  $P_{29815} = (22, 2, 28, 1)$   
 869 :  $P_{29827} = (2, 3, 28, 1)$   
 870 :  $P_{29831} = (6, 3, 28, 1)$   
 871 :  $P_{29969} = (16, 7, 28, 1)$   
 872 :  $P_{29980} = (27, 7, 28, 1)$   
 873 :  $P_{30069} = (20, 10, 28, 1)$   
 874 :  $P_{30077} = (28, 10, 28, 1)$   
 875 :  $P_{30092} = (11, 11, 28, 1)$

876 :  $P_{30111} = (30, 11, 28, 1)$   
 877 :  $P_{30158} = (13, 13, 28, 1)$   
 878 :  $P_{30159} = (14, 13, 28, 1)$   
 879 :  $P_{30180} = (3, 14, 28, 1)$   
 880 :  $P_{30181} = (4, 14, 28, 1)$   
 881 :  $P_{30214} = (5, 15, 28, 1)$   
 882 :  $P_{30240} = (31, 15, 28, 1)$   
 883 :  $P_{30286} = (13, 17, 28, 1)$   
 884 :  $P_{30287} = (14, 17, 28, 1)$   
 885 :  $P_{30308} = (3, 18, 28, 1)$   
 886 :  $P_{30309} = (4, 18, 28, 1)$   
 887 :  $P_{30342} = (5, 19, 28, 1)$   
 888 :  $P_{30368} = (31, 19, 28, 1)$   
 889 :  $P_{30453} = (20, 22, 28, 1)$   
 890 :  $P_{30461} = (28, 22, 28, 1)$   
 891 :  $P_{30476} = (11, 23, 28, 1)$   
 892 :  $P_{30495} = (30, 23, 28, 1)$   
 893 :  $P_{30609} = (16, 27, 28, 1)$   
 894 :  $P_{30620} = (27, 27, 28, 1)$   
 895 :  $P_{30642} = (17, 28, 28, 1)$   
 896 :  $P_{30664} = (7, 29, 28, 1)$   
 897 :  $P_{30683} = (26, 29, 28, 1)$   
 898 :  $P_{30704} = (15, 30, 28, 1)$   
 899 :  $P_{30711} = (22, 30, 28, 1)$   
 900 :  $P_{30723} = (2, 31, 28, 1)$   
 901 :  $P_{30727} = (6, 31, 28, 1)$   
 902 :  $P_{30778} = (25, 0, 29, 1)$   
 903 :  $P_{30850} = (1, 3, 29, 1)$   
 904 :  $P_{30855} = (6, 3, 29, 1)$   
 905 :  $P_{30898} = (17, 4, 29, 1)$   
 906 :  $P_{30907} = (26, 4, 29, 1)$   
 907 :  $P_{30917} = (4, 5, 29, 1)$   
 908 :  $P_{30932} = (19, 5, 29, 1)$   
 909 :  $P_{31117} = (12, 11, 29, 1)$   
 910 :  $P_{31123} = (18, 11, 29, 1)$   
 911 :  $P_{31224} = (23, 14, 29, 1)$   
 912 :  $P_{31231} = (30, 14, 29, 1)$   
 913 :  $P_{31384} = (23, 19, 29, 1)$   
 914 :  $P_{31391} = (30, 19, 29, 1)$   
 915 :  $P_{31469} = (12, 22, 29, 1)$   
 916 :  $P_{31475} = (18, 22, 29, 1)$   
 917 :  $P_{31525} = (4, 24, 29, 1)$   
 918 :  $P_{31540} = (19, 24, 29, 1)$   
 919 :  $P_{31570} = (17, 25, 29, 1)$   
 920 :  $P_{31579} = (26, 25, 29, 1)$   
 921 :  $P_{31706} = (25, 29, 29, 1)$   
 922 :  $P_{31714} = (1, 30, 29, 1)$   
 923 :  $P_{31719} = (6, 30, 29, 1)$   
 924 :  $P_{31781} = (4, 0, 30, 1)$   
 925 :  $P_{31847} = (6, 2, 30, 1)$   
 926 :  $P_{31868} = (27, 2, 30, 1)$   
 927 :  $P_{31893} = (20, 3, 30, 1)$   
 928 :  $P_{31895} = (22, 3, 30, 1)$   
 929 :  $P_{32025} = (24, 7, 30, 1)$

930 :  $P_{32030} = (29, 7, 30, 1)$   
 931 :  $P_{32047} = (14, 8, 30, 1)$   
 932 :  $P_{32048} = (15, 8, 30, 1)$   
 933 :  $P_{32138} = (9, 11, 30, 1)$   
 934 :  $P_{32139} = (10, 11, 30, 1)$   
 935 :  $P_{32172} = (11, 12, 30, 1)$   
 936 :  $P_{32174} = (13, 12, 30, 1)$   
 937 :  $P_{32200} = (7, 13, 30, 1)$   
 938 :  $P_{32223} = (30, 13, 30, 1)$   
 939 :  $P_{32364} = (11, 18, 30, 1)$   
 940 :  $P_{32366} = (13, 18, 30, 1)$   
 941 :  $P_{32392} = (7, 19, 30, 1)$   
 942 :  $P_{32415} = (30, 19, 30, 1)$   
 943 :  $P_{32458} = (9, 21, 30, 1)$   
 944 :  $P_{32459} = (10, 21, 30, 1)$   
 945 :  $P_{32495} = (14, 22, 30, 1)$   
 946 :  $P_{32496} = (15, 22, 30, 1)$   
 947 :  $P_{32601} = (24, 25, 30, 1)$   
 948 :  $P_{32606} = (29, 25, 30, 1)$   
 949 :  $P_{32679} = (6, 28, 30, 1)$   
 950 :  $P_{32700} = (27, 28, 30, 1)$   
 951 :  $P_{32725} = (20, 29, 30, 1)$   
 952 :  $P_{32727} = (22, 29, 30, 1)$   
 953 :  $P_{32741} = (4, 30, 30, 1)$   
 954 :  $P_{32822} = (21, 0, 31, 1)$   
 955 :  $P_{32843} = (10, 1, 31, 1)$   
 956 :  $P_{32853} = (20, 1, 31, 1)$   
 957 :  $P_{32871} = (6, 2, 31, 1)$   
 958 :  $P_{32890} = (25, 2, 31, 1)$   
 959 :  $P_{32933} = (4, 4, 31, 1)$   
 960 :  $P_{32936} = (7, 4, 31, 1)$   
 961 :  $P_{32962} = (1, 5, 31, 1)$   
 962 :  $P_{32989} = (28, 5, 31, 1)$   
 963 :  $P_{33104} = (15, 9, 31, 1)$   
 964 :  $P_{33113} = (24, 9, 31, 1)$   
 965 :  $P_{33130} = (9, 10, 31, 1)$   
 966 :  $P_{33152} = (31, 10, 31, 1)$   
 967 :  $P_{33158} = (5, 11, 31, 1)$   
 968 :  $P_{33166} = (13, 11, 31, 1)$   
 969 :  $P_{33201} = (16, 12, 31, 1)$   
 970 :  $P_{33211} = (26, 12, 31, 1)$   
 971 :  $P_{33220} = (3, 13, 31, 1)$   
 972 :  $P_{33240} = (23, 13, 31, 1)$   
 973 :  $P_{33380} = (3, 18, 31, 1)$   
 974 :  $P_{33400} = (23, 18, 31, 1)$   
 975 :  $P_{33425} = (16, 19, 31, 1)$   
 976 :  $P_{33435} = (26, 19, 31, 1)$   
 977 :  $P_{33446} = (5, 20, 31, 1)$   
 978 :  $P_{33454} = (13, 20, 31, 1)$   
 979 :  $P_{33482} = (9, 21, 31, 1)$   
 980 :  $P_{33504} = (31, 21, 31, 1)$   
 981 :  $P_{33520} = (15, 22, 31, 1)$   
 982 :  $P_{33529} = (24, 22, 31, 1)$   
 983 :  $P_{33634} = (1, 26, 31, 1)$

984 :  $P_{33661} = (28, 26, 31, 1)$   
985 :  $P_{33669} = (4, 27, 31, 1)$   
986 :  $P_{33672} = (7, 27, 31, 1)$   
987 :  $P_{33735} = (6, 29, 31, 1)$   
988 :  $P_{33754} = (25, 29, 31, 1)$

989 :  $P_{33771} = (10, 30, 31, 1)$   
990 :  $P_{33781} = (20, 30, 31, 1)$   
991 :  $P_{33814} = (21, 31, 31, 1)$

Line Intersection Graph

$$\begin{array}{c|c} & 0 \\ \hline 0 & 0 \end{array}$$

Neighbor sets in the line intersection graph:  
Line 0 intersects

Line
in point

The surface has 1025 points:  
Too many to print.