# Rank-73993 over GF(16)

January 15, 2021

# The equation

The equation of the surface is:

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

( 0, 1, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0 ) The point rank of the equation over GF(16) is 286331429

# General information

Number of lines	0
Number of points	257
Number of singular points	1
Number of Eckardt points	0
Number of double points	0
Number of single points	0
Number of points off lines	257
Number of Hesse planes	0
Number of axes	0
Type of points on lines	
Type of lines on points	$0^{257}$

# Singular Points

The surface has 1 singular points:

$$0: P_0 = \mathbf{P}(1,0,0,0) = \mathbf{P}(1,0,0,0)$$

# The 0 Lines

The lines and their Pluecker coordinates are:

Rank of lines: ()

Rank of points on Klein quadric: ()

#### **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 257 points not on any line: The points on the surface but not on lines are:

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0: P_0 = (1, 0, 0, 0)
                                                                  27: P_{451} = (1, 11, 0, 1)
1: P_3 = (0,0,0,1)
                                                                  28: P_{469} = (3, 12, 0, 1)
2: P_{36} = (1, 1, 1, 0)
                                                                  29: P_{490} = (8, 13, 0, 1)
3: P_{61} = (10, 2, 1, 0)
                                                                  30: P_{503} = (5, 14, 0, 1)
4: P_{81} = (14, 3, 1, 0)
                                                                  31: P_{522} = (8, 15, 0, 1)
                                                                  32: P_{531} = (1,0,1,1)
5: P_{94} = (11, 4, 1, 0)
6: P_{101} = (2, 5, 1, 0)
                                                                  33: P_{573} = (12, 2, 1, 1)
7: P_{130} = (15, 6, 1, 0)
                                                                  34: P_{586} = (9, 3, 1, 1)
8: P_{136} = (5,7,1,0)
                                                                  35: P_{599} = (6, 4, 1, 1)
9: P_{151} = (4, 8, 1, 0)
                                                                  36: P_{623} = (14, 5, 1, 1)
10: P_{173} = (10, 9, 1, 0)
                                                                  37: P_{628} = (3, 6, 1, 1)
11: P_{189} = (10, 10, 1, 0)
                                                                  38: P_{649} = (8,7,1,1)
12: P_{206} = (11, 11, 1, 0)
                                                                  39: P_{659} = (2, 8, 1, 1)
13: P_{219} = (8, 12, 1, 0)
                                                                  40: P_{686} = (13, 9, 1, 1)
14: P_{230} = (3, 13, 1, 0)
                                                                  41: P_{690} = (1, 10, 1, 1)
15: P_{254} = (11, 14, 1, 0)
                                                                  42: P_{706} = (1, 11, 1, 1)
16: P_{268} = (9, 15, 1, 0)
                                                                  43: P_{736} = (15, 12, 1, 1)
17: P_{291} = (1, 1, 0, 1)
                                                                  44: P_{742} = (5, 13, 1, 1)
18: P_{314} = (8, 2, 0, 1)
                                                                  45: P_{760} = (7, 14, 1, 1)
19: P_{337} = (15, 3, 0, 1)
                                                                  46: P_{773} = (4, 15, 1, 1)
20: P_{353} = (15, 4, 0, 1)
                                                                  47: P_{793} = (8,0,2,1)
21: P_{357} = (3, 5, 0, 1)
                                                                  48: P_{815} = (14, 1, 2, 1)
22: P_{375} = (5, 6, 0, 1)
                                                                  49: P_{822} = (5, 2, 2, 1)
23 : P_{401} = (15, 7, 0, 1)
                                                                  50: P_{842} = (9, 3, 2, 1)
24: P_{407} = (5, 8, 0, 1)
                                                                  51: P_{859} = (10, 4, 2, 1)
25: P_{421} = (3, 9, 0, 1)
                                                                  52: P_{878} = (13, 5, 2, 1)
26: P_{435} = (1, 10, 0, 1)
                                                                  53: P_{884} = (3, 6, 2, 1)
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54: P_{904} = (7,7,2,1)
                                                                 108: P_{1830} = (5, 1, 6, 1)
55: P_{920} = (7, 8, 2, 1)
                                                                 109: P_{1849} = (8, 2, 6, 1)
56: P_{935} = (6, 9, 2, 1)
                                                                 110: P_{1872} = (15, 3, 6, 1)
57: P_{957} = (12, 10, 2, 1)
                                                                 111: P_{1898} = (9, 5, 6, 1)
58: P_{966} = (5, 11, 2, 1)
                                                                 112: P_{1915} = (10, 6, 6, 1)
59: P_{1000} = (7, 13, 2, 1)
                                                                 113: P_{1926} = (5, 7, 6, 1)
60: P_{1013} = (4, 14, 2, 1)
                                                                 114: P_{1944} = (7, 8, 6, 1)
61: P_{1026} = (1, 15, 2, 1)
                                                                 115: P_{1963} = (10, 9, 6, 1)
62: P_{1056} = (15, 0, 3, 1)
                                                                 116: P_{1983} = (14, 10, 6, 1)
63: P_{1067} = (10, 1, 3, 1)
                                                                 117: P_{2000} = (15, 11, 6, 1)
64: P_{1079} = (6, 2, 3, 1)
                                                                 118: P_{2010} = (9, 12, 6, 1)
65: P_{1098} = (9, 3, 3, 1)
                                                                 119: P_{2030} = (13, 13, 6, 1)
66: P_{1116} = (11, 4, 3, 1)
                                                                 120: P_{2048} = (15, 14, 6, 1)
67: P_{1129} = (8, 5, 3, 1)
                                                                 121: P_{2058} = (9, 15, 6, 1)
68: P_{1140} = (3, 6, 3, 1)
                                                                 122: P_{2080} = (15, 0, 7, 1)
69: P_{1167} = (14, 7, 3, 1)
                                                                 123: P_{2096} = (15, 1, 7, 1)
                                                                 124: P_{2107} = (10, 2, 7, 1)
70: P_{1195} = (10, 9, 3, 1)
71: P_{1204} = (3, 10, 3, 1)
                                                                 125: P_{2119} = (6, 3, 7, 1)
                                                                 126: P_{2134} = (5, 4, 7, 1)
72: P_{1227} = (10, 11, 3, 1)
73: P_{1245} = (12, 12, 3, 1)
                                                                 127: P_{2147} = (2, 5, 7, 1)
74: P_{1253} = (4, 13, 3, 1)
                                                                 128: P_{2176} = (15, 6, 7, 1)
                                                                 129: P_{2187} = (10, 7, 7, 1)
75: P_{1274} = (9, 14, 3, 1)
                                                                 130: P_{2198} = (5, 8, 7, 1)
76: P_{1284} = (3, 15, 3, 1)
77: P_{1312} = (15, 0, 4, 1)
                                                                 131: P_{2212} = (3, 9, 7, 1)
78: P_{1315} = (2, 1, 4, 1)
                                                                 132: P_{2229} = (4, 10, 7, 1)
79: P_{1338} = (9, 2, 4, 1)
                                                                 133: P_{2246} = (5, 11, 7, 1)
                                                                 134: P_{2269} = (12, 12, 7, 1)
80: P_{1346} = (1,3,4,1)
81: P_{1369} = (8, 4, 4, 1)
                                                                 135: P_{2275} = (2, 13, 7, 1)
82: P_{1391} = (14, 5, 4, 1)
                                                                 136: P_{2307} = (2, 15, 7, 1)
83: P_{1421} = (12, 7, 4, 1)
                                                                 137: P_{2326} = (5, 0, 8, 1)
84: P_{1432} = (7, 8, 4, 1)
                                                                 138: P_{2347} = (10, 1, 8, 1)
85: P_{1452} = (11, 9, 4, 1)
                                                                 139: P_{2363} = (10, 2, 8, 1)
86: P_{1465} = (8, 10, 4, 1)
                                                                 140: P_{2387} = (2,4,8,1)
87: P_{1479} = (6, 11, 4, 1)
                                                                 141: P_{2409} = (8, 5, 8, 1)
88: P_{1501} = (12, 12, 4, 1)
                                                                 142: P_{2421} = (4, 6, 8, 1)
                                                                 143: P_{2441} = (8, 7, 8, 1)
89: P_{1510} = (5, 13, 4, 1)
90: P_{1534} = (13, 14, 4, 1)
                                                                 144: P_{2451} = (2, 8, 8, 1)
                                                                 145: P_{2472} = (7, 9, 8, 1)
91: P_{1549} = (12, 15, 4, 1)
92: P_{1556} = (3, 0, 5, 1)
                                                                 146: P_{2489} = (8, 10, 8, 1)
93: P_{1580} = (11, 1, 5, 1)
                                                                 147: P_{2507} = (10, 11, 8, 1)
94: P_{1599} = (14, 2, 5, 1)
                                                                 148: P_{2527} = (14, 12, 8, 1)
                                                                 149: P_{2542} = (13, 13, 8, 1)
95: P_{1606} = (5, 3, 5, 1)
96: P_{1630} = (13, 4, 5, 1)
                                                                 150: P_{2556} = (11, 14, 8, 1)
97: P_{1647} = (14, 5, 5, 1)
                                                                 151: P_{2564} = (3, 15, 8, 1)
98: P_{1655} = (6, 6, 5, 1)
                                                                 152: P_{2580} = (3, 0, 9, 1)
                                                                 153: P_{2597} = (4, 1, 9, 1)
99: P_{1674} = (9,7,5,1)
100: P_{1696} = (15, 8, 5, 1)
                                                                 154: P_{2616} = (7, 2, 9, 1)
101: P_{1707} = (10, 9, 5, 1)
                                                                 155: P_{2631} = (6, 3, 9, 1)
102: P_{1724} = (11, 10, 5, 1)
                                                                 156: P_{2655} = (14, 4, 9, 1)
103: P_{1734} = (5, 11, 5, 1)
                                                                 157: P_{2658} = (1, 5, 9, 1)
104: P_{1747} = (2, 12, 5, 1)
                                                                 158: P_{2679} = (6, 6, 9, 1)
105: P_{1766} = (5, 13, 5, 1)
                                                                 159: P_{2697} = (8, 7, 9, 1)
106: P_{1788} = (11, 14, 5, 1)
                                                                 160: P_{2707} = (2, 8, 9, 1)
107: P_{1814} = (5, 0, 6, 1)
                                                                 161: P_{2736} = (15, 9, 9, 1)
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162: P_{2750} = (13, 10, 9, 1)
                                                                210: P_{3574} = (5, 14, 12, 1)
163: P_{2768} = (15, 11, 9, 1)
                                                                211: P_{3593} = (8, 15, 12, 1)
164: P_{2775} = (6, 12, 9, 1)
                                                                212: P_{3609} = (8, 0, 13, 1)
165: P_{2811} = (10, 14, 9, 1)
                                                                213: P_{3625} = (8, 1, 13, 1)
166: P_{2829} = (12, 15, 9, 1)
                                                                214: P_{3636} = (3, 2, 13, 1)
167: P_{2834} = (1, 0, 10, 1)
                                                                215: P_{3663} = (14, 3, 13, 1)
168: P_{2860} = (11, 1, 10, 1)
                                                                216: P_{3680} = (15, 4, 13, 1)
169: P_{2878} = (13, 2, 10, 1)
                                                                217: P_{3684} = (3, 5, 13, 1)
170: P_{2886} = (5, 3, 10, 1)
                                                                218: P_{3711} = (14, 6, 13, 1)
171: P_{2898} = (1, 4, 10, 1)
                                                                219: P_{3720} = (7, 7, 13, 1)
172: P_{2925} = (12, 5, 10, 1)
                                                                220: P_{3743} = (14, 8, 13, 1)
173: P_{2941} = (12, 6, 10, 1)
                                                                221: P_{3764} = (3, 10, 13, 1)
                                                                222: P_{3779} = (2, 11, 13, 1)
174: P_{2958} = (13, 7, 10, 1)
175: P_{2976} = (15, 8, 10, 1)
                                                                223: P_{3801} = (8, 12, 13, 1)
176: P_{2989} = (12, 9, 10, 1)
                                                                224: P_{3820} = (11, 13, 13, 1)
177: P_{3004} = (11, 10, 10, 1)
                                                                225: P_{3836} = (11, 14, 13, 1)
                                                                226: P_{3853} = (12, 15, 13, 1)
178: P_{3028} = (3, 12, 10, 1)
                                                                227: P_{3862} = (5, 0, 14, 1)
179: P_{3049} = (8, 13, 10, 1)
180: P_{3058} = (1, 14, 10, 1)
                                                                228: P_{3882} = (9, 1, 14, 1)
                                                                229: P_{3900} = (11, 2, 14, 1)
181: P_{3086} = (13, 15, 10, 1)
182: P_{3090} = (1, 0, 11, 1)
                                                                230: P_{3911} = (6, 3, 14, 1)
183: P_{3115} = (10, 1, 11, 1)
                                                                231: P_{3933} = (12, 4, 14, 1)
184: P_{3122} = (1, 2, 11, 1)
                                                                232: P_{3950} = (13, 5, 14, 1)
185: P_{3144} = (7, 3, 11, 1)
                                                                233: P_{3966} = (13, 6, 14, 1)
186: P_{3160} = (7, 4, 11, 1)
                                                                234: P_{3986} = (1, 8, 14, 1)
187: P_{3177} = (8, 5, 11, 1)
                                                                235: P_{4003} = (2, 9, 14, 1)
                                                                236: P_{4020} = (3, 10, 14, 1)
188: P_{3190} = (5, 6, 11, 1)
189 : P_{3216} = (15, 7, 11, 1)
                                                                237: P_{4040} = (7, 11, 14, 1)
190: P_{3223} = (6, 8, 11, 1)
                                                                238: P_{4064} = (15, 12, 14, 1)
191: P_{3234} = (1, 9, 11, 1)
                                                                239: P_{4078} = (13, 13, 14, 1)
192: P_{3275} = (10, 11, 11, 1)
                                                                240: P_{4084} = (3, 14, 14, 1)
193: P_{3288} = (7, 12, 11, 1)
                                                                241: P_{4101} = (4, 15, 14, 1)
194: P_{3303} = (6, 13, 11, 1)
                                                                242: P_{4121} = (8, 0, 15, 1)
195: P_{3319} = (6, 14, 11, 1)
                                                                243: P_{4140} = (11, 1, 15, 1)
                                                                244: P_{4155} = (10, 2, 15, 1)
196: P_{3332} = (3, 15, 11, 1)
                                                                245: P_{4166} = (5, 3, 15, 1)
197: P_{3348} = (3, 0, 12, 1)
198: P_{3364} = (3, 1, 12, 1)
                                                                246: P_{4188} = (11, 4, 15, 1)
                                                                247: P_{4211} = (2, 6, 15, 1)
199: P_{3397} = (4, 3, 12, 1)
200: P_{3420} = (11, 4, 12, 1)
                                                                248: P_{4232} = (7, 7, 15, 1)
201: P_{3438} = (13, 5, 12, 1)
                                                                249: P_{4256} = (15, 8, 15, 1)
202: P_{3447} = (6, 6, 12, 1)
                                                                250: P_{4261} = (4, 9, 15, 1)
203: P_{3461} = (4,7,12,1)
                                                                251: P_{4284} = (11, 10, 15, 1)
204: P_{3477} = (4, 8, 12, 1)
                                                                252: P_{4304} = (15, 11, 15, 1)
205: P_{3497} = (8, 9, 12, 1)
                                                                253: P_{4320} = (15, 12, 15, 1)
206: P_{3513} = (8, 10, 12, 1)
                                                                254: P_{4330} = (9, 13, 15, 1)
                                                                255: P_{4349} = (12, 14, 15, 1)
207: P_{3530} = (9, 11, 12, 1)
208: P_{3548} = (11, 12, 12, 1)
                                                                256: P_{4357} = (4, 15, 15, 1)
209: P_{3556} = (3, 13, 12, 1)
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### Line Intersection Graph

Neighbor sets in the line intersection graph: The surface has 257 points:

#### The points on the surface are:

```
0: P_0 = (1,0,0,0)
                                            51: P_{859} = (10, 4, 2, 1)
                                                                                        102: P_{1724} = (11, 10, 5, 1)
1: P_3 = (0,0,0,1)
                                            52: P_{878} = (13, 5, 2, 1)
                                                                                        103: P_{1734} = (5, 11, 5, 1)
                                            53: P_{884} = (3, 6, 2, 1)
                                                                                        104: P_{1747} = (2, 12, 5, 1)
2: P_{36} = (1, 1, 1, 0)
3: P_{61} = (10, 2, 1, 0)
                                            54: P_{904} = (7,7,2,1)
                                                                                        105: P_{1766} = (5, 13, 5, 1)
4: P_{81} = (14, 3, 1, 0)
                                            55: P_{920} = (7, 8, 2, 1)
                                                                                        106: P_{1788} = (11, 14, 5, 1)
5: P_{94} = (11, 4, 1, 0)
                                            56: P_{935} = (6, 9, 2, 1)
                                                                                        107: P_{1814} = (5, 0, 6, 1)
6: P_{101} = (2, 5, 1, 0)
                                            57: P_{957} = (12, 10, 2, 1)
                                                                                        108: P_{1830} = (5, 1, 6, 1)
7: P_{130} = (15, 6, 1, 0)
                                            58: P_{966} = (5, 11, 2, 1)
                                                                                        109: P_{1849} = (8, 2, 6, 1)
8: P_{136} = (5,7,1,0)
                                            59: P_{1000} = (7, 13, 2, 1)
                                                                                        110: P_{1872} = (15, 3, 6, 1)
9: P_{151} = (4, 8, 1, 0)
                                            60: P_{1013} = (4, 14, 2, 1)
                                                                                        111: P_{1898} = (9, 5, 6, 1)
10: P_{173} = (10, 9, 1, 0)
                                                                                        112: P_{1915} = (10, 6, 6, 1)
                                            61: P_{1026} = (1, 15, 2, 1)
11: P_{189} = (10, 10, 1, 0)
                                                                                        113: P_{1926} = (5, 7, 6, 1)
                                            62: P_{1056} = (15, 0, 3, 1)
12: P_{206} = (11, 11, 1, 0)
                                            63: P_{1067} = (10, 1, 3, 1)
                                                                                        114: P_{1944} = (7, 8, 6, 1)
13: P_{219} = (8, 12, 1, 0)
                                            64: P_{1079} = (6, 2, 3, 1)
                                                                                        115: P_{1963} = (10, 9, 6, 1)
14: P_{230} = (3, 13, 1, 0)
                                            65: P_{1098} = (9, 3, 3, 1)
                                                                                        116: P_{1983} = (14, 10, 6, 1)
15: P_{254} = (11, 14, 1, 0)
                                            66: P_{1116} = (11, 4, 3, 1)
                                                                                        117: P_{2000} = (15, 11, 6, 1)
16: P_{268} = (9, 15, 1, 0)
                                            67: P_{1129} = (8, 5, 3, 1)
                                                                                        118: P_{2010} = (9, 12, 6, 1)
17: P_{291} = (1, 1, 0, 1)
                                            68: P_{1140} = (3, 6, 3, 1)
                                                                                        119: P_{2030} = (13, 13, 6, 1)
18: P_{314} = (8, 2, 0, 1)
                                            69: P_{1167} = (14, 7, 3, 1)
                                                                                        120: P_{2048} = (15, 14, 6, 1)
19: P_{337} = (15, 3, 0, 1)
                                                                                        121: P_{2058} = (9, 15, 6, 1)
                                            70: P_{1195} = (10, 9, 3, 1)
20: P_{353} = (15, 4, 0, 1)
                                            71: P_{1204} = (3, 10, 3, 1)
                                                                                        122: P_{2080} = (15, 0, 7, 1)
21: P_{357} = (3,5,0,1)
                                            72: P_{1227} = (10, 11, 3, 1)
                                                                                        123: P_{2096} = (15, 1, 7, 1)
22: P_{375} = (5, 6, 0, 1)
                                            73: P_{1245} = (12, 12, 3, 1)
                                                                                        124: P_{2107} = (10, 2, 7, 1)
23: P_{401} = (15, 7, 0, 1)
                                            74: P_{1253} = (4, 13, 3, 1)
                                                                                        125: P_{2119} = (6, 3, 7, 1)
24: P_{407} = (5, 8, 0, 1)
                                            75: P_{1274} = (9, 14, 3, 1)
                                                                                        126: P_{2134} = (5, 4, 7, 1)
25: P_{421} = (3, 9, 0, 1)
                                            76: P_{1284} = (3, 15, 3, 1)
                                                                                        127: P_{2147} = (2, 5, 7, 1)
26: P_{435} = (1, 10, 0, 1)
                                            77: P_{1312} = (15, 0, 4, 1)
                                                                                        128: P_{2176} = (15, 6, 7, 1)
27: P_{451} = (1, 11, 0, 1)
                                            78: P_{1315} = (2, 1, 4, 1)
                                                                                        129: P_{2187} = (10, 7, 7, 1)
28: P_{469} = (3, 12, 0, 1)
                                            79: P_{1338} = (9, 2, 4, 1)
                                                                                        130: P_{2198} = (5, 8, 7, 1)
29: P_{490} = (8, 13, 0, 1)
                                            80: P_{1346} = (1, 3, 4, 1)
                                                                                        131: P_{2212} = (3, 9, 7, 1)
                                                                                        132: P_{2229} = (4, 10, 7, 1)
30: P_{503} = (5, 14, 0, 1)
                                            81: P_{1369} = (8, 4, 4, 1)
31: P_{522} = (8, 15, 0, 1)
                                            82: P_{1391} = (14, 5, 4, 1)
                                                                                        133: P_{2246} = (5, 11, 7, 1)
32: P_{531} = (1,0,1,1)
                                            83: P_{1421} = (12, 7, 4, 1)
                                                                                        134: P_{2269} = (12, 12, 7, 1)
33: P_{573} = (12, 2, 1, 1)
                                            84: P_{1432} = (7, 8, 4, 1)
                                                                                        135: P_{2275} = (2, 13, 7, 1)
34: P_{586} = (9, 3, 1, 1)
                                            85: P_{1452} = (11, 9, 4, 1)
                                                                                        136: P_{2307} = (2, 15, 7, 1)
35: P_{599} = (6, 4, 1, 1)
                                            86: P_{1465} = (8, 10, 4, 1)
                                                                                        137: P_{2326} = (5, 0, 8, 1)
36: P_{623} = (14, 5, 1, 1)
                                            87: P_{1479} = (6, 11, 4, 1)
                                                                                        138: P_{2347} = (10, 1, 8, 1)
37: P_{628} = (3, 6, 1, 1)
                                            88: P_{1501} = (12, 12, 4, 1)
                                                                                        139: P_{2363} = (10, 2, 8, 1)
38: P_{649} = (8,7,1,1)
                                            89: P_{1510} = (5, 13, 4, 1)
                                                                                        140: P_{2387} = (2, 4, 8, 1)
39: P_{659} = (2, 8, 1, 1)
                                            90: P_{1534} = (13, 14, 4, 1)
                                                                                        141: P_{2409} = (8, 5, 8, 1)
40: P_{686} = (13, 9, 1, 1)
                                            91: P_{1549} = (12, 15, 4, 1)
                                                                                        142: P_{2421} = (4, 6, 8, 1)
41: P_{690} = (1, 10, 1, 1)
                                            92: P_{1556} = (3, 0, 5, 1)
                                                                                        143: P_{2441} = (8,7,8,1)
42: P_{706} = (1, 11, 1, 1)
                                            93: P_{1580} = (11, 1, 5, 1)
                                                                                        144: P_{2451} = (2, 8, 8, 1)
43: P_{736} = (15, 12, 1, 1)
                                            94: P_{1599} = (14, 2, 5, 1)
                                                                                        145: P_{2472} = (7, 9, 8, 1)
44: P_{742} = (5, 13, 1, 1)
                                            95: P_{1606} = (5, 3, 5, 1)
                                                                                        146: P_{2489} = (8, 10, 8, 1)
45: P_{760} = (7, 14, 1, 1)
                                                                                        147: P_{2507} = (10, 11, 8, 1)
                                            96: P_{1630} = (13, 4, 5, 1)
46: P_{773} = (4, 15, 1, 1)
                                            97: P_{1647} = (14, 5, 5, 1)
                                                                                        148: P_{2527} = (14, 12, 8, 1)
47: P_{793} = (8,0,2,1)
                                            98: P_{1655} = (6, 6, 5, 1)
                                                                                        149: P_{2542} = (13, 13, 8, 1)
48: P_{815} = (14, 1, 2, 1)
                                            99: P_{1674} = (9, 7, 5, 1)
                                                                                        150: P_{2556} = (11, 14, 8, 1)
49: P_{822} = (5, 2, 2, 1)
                                            100: P_{1696} = (15, 8, 5, 1)
                                                                                        151: P_{2564} = (3, 15, 8, 1)
50: P_{842} = (9, 3, 2, 1)
                                            101: P_{1707} = (10, 9, 5, 1)
                                                                                        152: P_{2580} = (3, 0, 9, 1)
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153: P_{2597} = (4, 1, 9, 1)
                                                                                      223: P_{3801} = (8, 12, 13, 1)
                                           188: P_{3190} = (5, 6, 11, 1)
154: P_{2616} = (7, 2, 9, 1)
                                           189: P_{3216} = (15, 7, 11, 1)
                                                                                      224: P_{3820} = (11, 13, 13, 1)
155: P_{2631} = (6, 3, 9, 1)
                                           190: P_{3223} = (6, 8, 11, 1)
                                                                                      225: P_{3836} = (11, 14, 13, 1)
156: P_{2655} = (14, 4, 9, 1)
                                           191: P_{3234} = (1, 9, 11, 1)
                                                                                      226: P_{3853} = (12, 15, 13, 1)
157: P_{2658} = (1, 5, 9, 1)
                                           192: P_{3275} = (10, 11, 11, 1)
                                                                                      227: P_{3862} = (5, 0, 14, 1)
158: P_{2679} = (6, 6, 9, 1)
                                           193: P_{3288} = (7, 12, 11, 1)
                                                                                      228: P_{3882} = (9, 1, 14, 1)
159: P_{2697} = (8, 7, 9, 1)
                                           194: P_{3303} = (6, 13, 11, 1)
                                                                                      229: P_{3900} = (11, 2, 14, 1)
                                           195: P_{3319} = (6, 14, 11, 1)
160: P_{2707} = (2, 8, 9, 1)
                                                                                      230: P_{3911} = (6, 3, 14, 1)
161: P_{2736} = (15, 9, 9, 1)
                                           196: P_{3332} = (3, 15, 11, 1)
                                                                                      231: P_{3933} = (12, 4, 14, 1)
162: P_{2750} = (13, 10, 9, 1)
                                           197: P_{3348} = (3, 0, 12, 1)
                                                                                      232: P_{3950} = (13, 5, 14, 1)
163: P_{2768} = (15, 11, 9, 1)
                                           198 : P_{3364} = (3, 1, 12, 1)
                                                                                      233: P_{3966} = (13, 6, 14, 1)
                                           199: P_{3397} = (4, 3, 12, 1)
164: P_{2775} = (6, 12, 9, 1)
                                                                                      234: P_{3986} = (1, 8, 14, 1)
165: P_{2811} = (10, 14, 9, 1)
                                           200: P_{3420} = (11, 4, 12, 1)
                                                                                      235: P_{4003} = (2, 9, 14, 1)
166: P_{2829} = (12, 15, 9, 1)
                                           201: P_{3438} = (13, 5, 12, 1)
                                                                                      236: P_{4020} = (3, 10, 14, 1)
                                                                                      237: P_{4040} = (7, 11, 14, 1)
167: P_{2834} = (1, 0, 10, 1)
                                           202: P_{3447} = (6, 6, 12, 1)
168: P_{2860} = (11, 1, 10, 1)
                                           203: P_{3461} = (4, 7, 12, 1)
                                                                                      238: P_{4064} = (15, 12, 14, 1)
                                                                                      239: P_{4078} = (13, 13, 14, 1)
                                           204: P_{3477} = (4, 8, 12, 1)
169: P_{2878} = (13, 2, 10, 1)
170: P_{2886} = (5, 3, 10, 1)
                                           205: P_{3497} = (8, 9, 12, 1)
                                                                                      240: P_{4084} = (3, 14, 14, 1)
                                           206: P_{3513} = (8, 10, 12, 1)
                                                                                      241: P_{4101} = (4, 15, 14, 1)
171: P_{2898} = (1, 4, 10, 1)
172: P_{2925} = (12, 5, 10, 1)
                                           207: P_{3530} = (9, 11, 12, 1)
                                                                                      242: P_{4121} = (8, 0, 15, 1)
173: P_{2941} = (12, 6, 10, 1)
                                           208: P_{3548} = (11, 12, 12, 1)
                                                                                      243: P_{4140} = (11, 1, 15, 1)
                                                                                      244: P_{4155} = (10, 2, 15, 1)
174: P_{2958} = (13, 7, 10, 1)
                                           209: P_{3556} = (3, 13, 12, 1)
                                           210: P_{3574} = (5, 14, 12, 1)
                                                                                      245: P_{4166} = (5, 3, 15, 1)
175: P_{2976} = (15, 8, 10, 1)
176: P_{2989} = (12, 9, 10, 1)
                                           211: P_{3593} = (8, 15, 12, 1)
                                                                                      246: P_{4188} = (11, 4, 15, 1)
177: P_{3004} = (11, 10, 10, 1)
                                           212: P_{3609} = (8, 0, 13, 1)
                                                                                      247: P_{4211} = (2, 6, 15, 1)
178: P_{3028} = (3, 12, 10, 1)
                                           213: P_{3625} = (8, 1, 13, 1)
                                                                                      248: P_{4232} = (7,7,15,1)
                                           214: P_{3636} = (3, 2, 13, 1)
                                                                                      249: P_{4256} = (15, 8, 15, 1)
179: P_{3049} = (8, 13, 10, 1)
180: P_{3058} = (1, 14, 10, 1)
                                           215: P_{3663} = (14, 3, 13, 1)
                                                                                      250: P_{4261} = (4, 9, 15, 1)
                                                                                      251: P_{4284} = (11, 10, 15, 1)
181: P_{3086} = (13, 15, 10, 1)
                                           216: P_{3680} = (15, 4, 13, 1)
182: P_{3090} = (1, 0, 11, 1)
                                           217: P_{3684} = (3, 5, 13, 1)
                                                                                      252: P_{4304} = (15, 11, 15, 1)
183: P_{3115} = (10, 1, 11, 1)
                                           218: P_{3711} = (14, 6, 13, 1)
                                                                                      253: P_{4320} = (15, 12, 15, 1)
184: P_{3122} = (1, 2, 11, 1)
                                           219: P_{3720} = (7, 7, 13, 1)
                                                                                      254: P_{4330} = (9, 13, 15, 1)
185: P_{3144} = (7, 3, 11, 1)
                                           220: P_{3743} = (14, 8, 13, 1)
                                                                                      255: P_{4349} = (12, 14, 15, 1)
                                           221: P_{3764} = (3, 10, 13, 1)
                                                                                      256: P_{4357} = (4, 15, 15, 1)
186: P_{3160} = (7, 4, 11, 1)
187: P_{3177} = (8, 5, 11, 1)
                                           222: P_{3779} = (2, 11, 13, 1)
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