Rank-65865 over GF(16)

January 15, 2021

The equation

The equation of the surface is:

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

(0, 1, 1, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0) The point rank of the equation over GF(16) is 303108645

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:

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

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_{481} = (15, 12, 0, 1)
2: P_{36} = (1, 1, 1, 0)
                                                                  29: P_{487} = (5, 13, 0, 1)
3: P_{61} = (10, 2, 1, 0)
                                                                  30: P_{501} = (3, 14, 0, 1)
4: P_{81} = (14, 3, 1, 0)
                                                                  31: P_{519} = (5, 15, 0, 1)
5: P_{94} = (11, 4, 1, 0)
                                                                  32: P_{531} = (1,0,1,1)
6: P_{101} = (2, 5, 1, 0)
                                                                  33: P_{555} = (10, 1, 1, 1)
7: P_{130} = (15, 6, 1, 0)
                                                                  34: P_{556} = (11, 1, 1, 1)
8: P_{136} = (5,7,1,0)
                                                                  35: P_{589} = (12, 3, 1, 1)
9: P_{151} = (4, 8, 1, 0)
                                                                  36: P_{592} = (15, 3, 1, 1)
10: P_{173} = (10, 9, 1, 0)
                                                                  37: P_{612} = (3, 5, 1, 1)
11: P_{189} = (10, 10, 1, 0)
                                                                  38: P_{615} = (6, 5, 1, 1)
12: P_{206} = (11, 11, 1, 0)
                                                                  39: P_{662} = (5, 8, 1, 1)
13: P_{219} = (8, 12, 1, 0)
                                                                  40: P_{670} = (13, 8, 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_{700} = (11, 10, 1, 1)
16: P_{268} = (9, 15, 1, 0)
                                                                  43: P_{706} = (1, 11, 1, 1)
17: P_{291} = (1, 1, 0, 1)
                                                                  44: P_{715} = (10, 11, 1, 1)
18: P_{311} = (5, 2, 0, 1)
                                                                  45: P_{776} = (7, 15, 1, 1)
19: P_{330} = (8, 3, 0, 1)
                                                                  46: P_{777} = (8, 15, 1, 1)
20: P_{346} = (8, 4, 0, 1)
                                                                  47: P_{790} = (5,0,2,1)
21: P_{369} = (15, 5, 0, 1)
                                                                  48: P_{827} = (10, 2, 2, 1)
22: P_{373} = (3, 6, 0, 1)
                                                                  49: P_{831} = (14, 2, 2, 1)
23: P_{394} = (8,7,0,1)
                                                                  50: P_{841} = (8, 3, 2, 1)
24: P_{405} = (3, 8, 0, 1)
                                                                  51: P_{847} = (14, 3, 2, 1)
25: P_{433} = (15, 9, 0, 1)
                                                                  52: P_{868} = (3, 5, 2, 1)
26: P_{435} = (1, 10, 0, 1)
                                                                  53: P_{874} = (9, 5, 2, 1)
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54: P_{887} = (6, 6, 2, 1)
                                                                  108: P_{1737} = (8, 11, 5, 1)
55: P_{891} = (10, 6, 2, 1)
                                                                  109: P_{1779} = (2, 14, 5, 1)
56: P_{933} = (4, 9, 2, 1)
                                                                  110: P_{1783} = (6, 14, 5, 1)
57: P_{944} = (15, 9, 2, 1)
                                                                  111: P_{1812} = (3, 0, 6, 1)
58: P_{967} = (6, 11, 2, 1)
                                                                  112: P_{1836} = (11, 1, 6, 1)
59: P_{970} = (9, 11, 2, 1)
                                                                  113: P_{1838} = (13, 1, 6, 1)
60: P_{985} = (8, 12, 2, 1)
                                                                  114: P_{1956} = (3, 9, 6, 1)
61: P_{986} = (9, 12, 2, 1)
                                                                  115: P_{1960} = (7, 9, 6, 1)
62: P_{1001} = (8, 13, 2, 1)
                                                                  116: P_{1974} = (5, 10, 6, 1)
63: P_{1004} = (11, 13, 2, 1)
                                                                  117: P_{1980} = (11, 10, 6, 1)
64: P_{1026} = (1, 15, 2, 1)
                                                                  118: P_{2013} = (12, 12, 6, 1)
65: P_{1031} = (6, 15, 2, 1)
                                                                  119: P_{2016} = (15, 12, 6, 1)
66: P_{1049} = (8, 0, 3, 1)
                                                                  120: P_{2028} = (11, 13, 6, 1)
67: P_{1124} = (3, 5, 3, 1)
                                                                  121: P_{2031} = (14, 13, 6, 1)
68: P_{1133} = (12, 5, 3, 1)
                                                                  122: P_{2052} = (3, 15, 6, 1)
69: P_{1197} = (12, 9, 3, 1)
                                                                  123: P_{2059} = (10, 15, 6, 1)
                                                                  124: P_{2073} = (8, 0, 7, 1)
70: P_{1199} = (14, 9, 3, 1)
                                                                  125: P_{2092} = (11, 1, 7, 1)
71: P_{1203} = (2, 10, 3, 1)
                                                                  126: P_{2093} = (12, 1, 7, 1)
72: P_{1206} = (5, 10, 3, 1)
73: P_{1220} = (3, 11, 3, 1)
                                                                  127: P_{2103} = (6, 2, 7, 1)
74: P_{1224} = (7, 11, 3, 1)
                                                                  128: P_{2105} = (8, 2, 7, 1)
                                                                  129: P_{2153} = (8, 5, 7, 1)
75: P_{1252} = (3, 13, 3, 1)
                                                                  130: P_{2155} = (10, 5, 7, 1)
76: P_{1262} = (13, 13, 3, 1)
77: P_{1285} = (4, 15, 3, 1)
                                                                  131: P_{2236} = (11, 10, 7, 1)
78: P_{1293} = (12, 15, 3, 1)
                                                                  132: P_{2240} = (15, 10, 7, 1)
79: P_{1305} = (8, 0, 4, 1)
                                                                  133: P_{2261} = (4, 12, 7, 1)
80: P_{1346} = (1,3,4,1)
                                                                  134: P_{2268} = (11, 12, 7, 1)
81: P_{1358} = (13, 3, 4, 1)
                                                                  135: P_{2278} = (5, 13, 7, 1)
82: P_{1363} = (2, 4, 4, 1)
                                                                  136: P_{2286} = (13, 13, 7, 1)
83: P_{1372} = (11, 4, 4, 1)
                                                                  137: P_{2324} = (3,0,8,1)
84: P_{1379} = (2, 5, 4, 1)
                                                                  138: P_{2357} = (4, 2, 8, 1)
85: P_{1392} = (15, 5, 4, 1)
                                                                  139: P_{2366} = (13, 2, 8, 1)
86: P_{1407} = (14, 6, 4, 1)
                                                                  140: P_{2414} = (13, 5, 8, 1)
87: P_{1408} = (15, 6, 4, 1)
                                                                  141: P_{2415} = (14, 5, 8, 1)
88: P_{1419} = (10, 7, 4, 1)
                                                                  142: P_{2490} = (9, 10, 8, 1)
89: P_{1424} = (15, 7, 4, 1)
                                                                  143: P_{2496} = (15, 10, 8, 1)
90: P_{1430} = (5, 8, 4, 1)
                                                                  144: P_{2503} = (6, 11, 8, 1)
                                                                  145: P_{2505} = (8, 11, 8, 1)
91: P_{1439} = (14, 8, 4, 1)
92: P_{1470} = (13, 10, 4, 1)
                                                                  146: P_{2521} = (8, 12, 8, 1)
93: P_{1471} = (14, 10, 4, 1)
                                                                  147: P_{2525} = (12, 12, 8, 1)
94: P_{1516} = (11, 13, 4, 1)
                                                                  148: P_{2569} = (8, 15, 8, 1)
                                                                  149: P_{2574} = (13, 15, 8, 1)
95: P_{1518} = (13, 13, 4, 1)
96: P_{1524} = (3, 14, 4, 1)
                                                                  150: P_{2592} = (15, 0, 9, 1)
                                                                  151: P_{2614} = (5, 2, 9, 1)
97: P_{1530} = (9, 14, 4, 1)
98: P_{1568} = (15, 0, 5, 1)
                                                                  152: P_{2623} = (14, 2, 9, 1)
99: P_{1607} = (6, 3, 5, 1)
                                                                  153: P_{2658} = (1, 5, 9, 1)
100: P_{1610} = (9, 3, 5, 1)
                                                                  154: P_{2664} = (7, 5, 9, 1)
101: P_{1670} = (5, 7, 5, 1)
                                                                  155: P_{2696} = (7, 7, 9, 1)
102: P_{1672} = (7, 7, 5, 1)
                                                                  156: P_{2699} = (10, 7, 9, 1)
103: P_{1686} = (5, 8, 5, 1)
                                                                  157: P_{2708} = (3, 8, 9, 1)
                                                                  158: P_{2709} = (4, 8, 9, 1)
104: P_{1687} = (6, 8, 5, 1)
105: P_{1718} = (5, 10, 5, 1)
                                                                  159: P_{2725} = (4, 9, 9, 1)
106: P_{1725} = (12, 10, 5, 1)
                                                                  160: P_{2731} = (10, 9, 9, 1)
107: P_{1733} = (4, 11, 5, 1)
                                                                  161: P_{2755} = (2, 11, 9, 1)
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162: P_{2760} = (7, 11, 9, 1)
                                                                210: P_{3524} = (3, 11, 12, 1)
163: P_{2772} = (3, 12, 9, 1)
                                                                211: P_{3531} = (10, 11, 12, 1)
164: P_{2780} = (11, 12, 9, 1)
                                                                212: P_{3606} = (5, 0, 13, 1)
165: P_{2787} = (2, 13, 9, 1)
                                                                213: P_{3624} = (7, 1, 13, 1)
166: P_{2788} = (3, 13, 9, 1)
                                                                214: P_{3627} = (10, 1, 13, 1)
167: P_{2819} = (2, 15, 9, 1)
                                                                215: P_{3654} = (5, 3, 13, 1)
168: P_{2825} = (8, 15, 9, 1)
                                                                216: P_{3660} = (11, 3, 13, 1)
169: P_{2834} = (1, 0, 10, 1)
                                                                217: P_{3700} = (3, 6, 13, 1)
170: P_{2853} = (4, 1, 10, 1)
                                                                218: P_{3703} = (6, 6, 13, 1)
171: P_{2863} = (14, 1, 10, 1)
                                                                219: P_{3715} = (2,7,13,1)
172: P_{2898} = (1, 4, 10, 1)
                                                                220: P_{3723} = (10, 7, 13, 1)
173: P_{2899} = (2, 4, 10, 1)
                                                                221: P_{3785} = (8, 11, 13, 1)
174: P_{2996} = (3, 10, 10, 1)
                                                                222: P_{3787} = (10, 11, 13, 1)
175: P_{3001} = (8, 10, 10, 1)
                                                                223: P_{3830} = (5, 14, 13, 1)
176: P_{3015} = (6, 11, 10, 1)
                                                                224: P_{3837} = (12, 14, 13, 1)
177: P_{3016} = (7, 11, 10, 1)
                                                                225: P_{3860} = (3, 0, 14, 1)
178: P_{3033} = (8, 12, 10, 1)
                                                                226: P_{3909} = (4, 3, 14, 1)
                                                                227: P_{3920} = (15, 3, 14, 1)
179: P_{3038} = (13, 12, 10, 1)
180: P_{3044} = (3, 13, 10, 1)
                                                                228: P_{3923} = (2, 4, 14, 1)
181: P_{3053} = (12, 13, 10, 1)
                                                                229: P_{3929} = (8, 4, 14, 1)
182: P_{3058} = (1, 14, 10, 1)
                                                                230: P_{3958} = (5, 6, 14, 1)
183: P_{3066} = (9, 14, 10, 1)
                                                                231: P_{3963} = (10, 6, 14, 1)
                                                                232: P_{3973} = (4,7,14,1)
184: P_{3090} = (1, 0, 11, 1)
185: P_{3107} = (2, 1, 11, 1)
                                                                233: P_{3974} = (5, 7, 14, 1)
186: P_{3114} = (9, 1, 11, 1)
                                                                234: P_{3986} = (1, 8, 14, 1)
187: P_{3122} = (1, 2, 11, 1)
                                                                235: P_{3997} = (12, 8, 14, 1)
188: P_{3135} = (14, 2, 11, 1)
                                                                236: P_{4021} = (4, 10, 14, 1)
189 : P_{3192} = (7, 6, 11, 1)
                                                                237: P_{4029} = (12, 10, 14, 1)
190: P_{3200} = (15, 6, 11, 1)
                                                                238: P_{4060} = (11, 12, 14, 1)
191: P_{3206} = (5, 7, 11, 1)
                                                                239: P_{4061} = (12, 12, 14, 1)
192: P_{3207} = (6, 7, 11, 1)
                                                                240: P_{4090} = (9, 14, 14, 1)
193: P_{3234} = (1, 9, 11, 1)
                                                                241: P_{4092} = (11, 14, 14, 1)
194 : P_{3237} = (4, 9, 11, 1)
                                                                242: P_{4102} = (5, 15, 14, 1)
195: P_{3261} = (12, 10, 11, 1)
                                                                243: P_{4106} = (9, 15, 14, 1)
196: P_{3262} = (13, 10, 11, 1)
                                                                244: P_{4118} = (5, 0, 15, 1)
197: P_{3270} = (5, 11, 11, 1)
                                                                245: P_{4168} = (7, 3, 15, 1)
198: P_{3280} = (15, 11, 11, 1)
                                                                246: P_{4176} = (15, 3, 15, 1)
                                                                247: P_{4184} = (7, 4, 15, 1)
199: P_{3360} = (15, 0, 12, 1)
200: P_{3367} = (6, 1, 12, 1)
                                                                248: P_{4186} = (9, 4, 15, 1)
201: P_{3371} = (10, 1, 12, 1)
                                                                249: P_{4215} = (6, 6, 15, 1)
202: P_{3422} = (13, 4, 12, 1)
                                                                250: P_{4224} = (15, 6, 15, 1)
203: P_{3424} = (15, 4, 12, 1)
                                                                251: P_{4243} = (2, 8, 15, 1)
204: P_{3450} = (9, 6, 12, 1)
                                                                252: P_{4248} = (7, 8, 15, 1)
205: P_{3451} = (10, 6, 12, 1)
                                                                253: P_{4286} = (13, 10, 15, 1)
206: P_{3464} = (7, 7, 12, 1)
                                                                254: P_{4288} = (15, 10, 15, 1)
                                                                255: P_{4292} = (3, 11, 15, 1)
207: P_{3465} = (8, 7, 12, 1)
208: P_{3484} = (11, 8, 12, 1)
                                                                256: P_{4303} = (14, 11, 15, 1)
209: P_{3488} = (15, 8, 12, 1)
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Line Intersection Graph

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

4

The points on the surface are:

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0: P_0 = (1,0,0,0)
                                            51: P_{847} = (14, 3, 2, 1)
                                                                                        102: P_{1672} = (7,7,5,1)
1: P_3 = (0,0,0,1)
                                            52: P_{868} = (3, 5, 2, 1)
                                                                                        103: P_{1686} = (5, 8, 5, 1)
                                            53: P_{874} = (9, 5, 2, 1)
                                                                                        104: P_{1687} = (6, 8, 5, 1)
2: P_{36} = (1, 1, 1, 0)
                                                                                        105: P_{1718} = (5, 10, 5, 1)
3: P_{61} = (10, 2, 1, 0)
                                            54: P_{887} = (6, 6, 2, 1)
4: P_{81} = (14, 3, 1, 0)
                                            55: P_{891} = (10, 6, 2, 1)
                                                                                        106: P_{1725} = (12, 10, 5, 1)
5: P_{94} = (11, 4, 1, 0)
                                            56: P_{933} = (4, 9, 2, 1)
                                                                                        107: P_{1733} = (4, 11, 5, 1)
6: P_{101} = (2, 5, 1, 0)
                                            57: P_{944} = (15, 9, 2, 1)
                                                                                        108: P_{1737} = (8, 11, 5, 1)
7: P_{130} = (15, 6, 1, 0)
                                            58: P_{967} = (6, 11, 2, 1)
                                                                                        109: P_{1779} = (2, 14, 5, 1)
                                            59: P_{970} = (9, 11, 2, 1)
                                                                                        110: P_{1783} = (6, 14, 5, 1)
8: P_{136} = (5,7,1,0)
9: P_{151} = (4, 8, 1, 0)
                                            60: P_{985} = (8, 12, 2, 1)
                                                                                        111: P_{1812} = (3, 0, 6, 1)
10: P_{173} = (10, 9, 1, 0)
                                            61: P_{986} = (9, 12, 2, 1)
                                                                                        112: P_{1836} = (11, 1, 6, 1)
11: P_{189} = (10, 10, 1, 0)
                                                                                        113: P_{1838} = (13, 1, 6, 1)
                                            62: P_{1001} = (8, 13, 2, 1)
12: P_{206} = (11, 11, 1, 0)
                                            63: P_{1004} = (11, 13, 2, 1)
                                                                                        114: P_{1956} = (3, 9, 6, 1)
13: P_{219} = (8, 12, 1, 0)
                                            64: P_{1026} = (1, 15, 2, 1)
                                                                                        115: P_{1960} = (7, 9, 6, 1)
14: P_{230} = (3, 13, 1, 0)
                                            65: P_{1031} = (6, 15, 2, 1)
                                                                                        116: P_{1974} = (5, 10, 6, 1)
15: P_{254} = (11, 14, 1, 0)
                                            66: P_{1049} = (8, 0, 3, 1)
                                                                                        117: P_{1980} = (11, 10, 6, 1)
16: P_{268} = (9, 15, 1, 0)
                                            67: P_{1124} = (3, 5, 3, 1)
                                                                                        118: P_{2013} = (12, 12, 6, 1)
17: P_{291} = (1, 1, 0, 1)
                                            68: P_{1133} = (12, 5, 3, 1)
                                                                                        119: P_{2016} = (15, 12, 6, 1)
18: P_{311} = (5, 2, 0, 1)
                                            69: P_{1197} = (12, 9, 3, 1)
                                                                                        120: P_{2028} = (11, 13, 6, 1)
19: P_{330} = (8, 3, 0, 1)
                                                                                        121: P_{2031} = (14, 13, 6, 1)
                                            70: P_{1199} = (14, 9, 3, 1)
20: P_{346} = (8, 4, 0, 1)
                                            71: P_{1203} = (2, 10, 3, 1)
                                                                                        122: P_{2052} = (3, 15, 6, 1)
21: P_{369} = (15, 5, 0, 1)
                                            72: P_{1206} = (5, 10, 3, 1)
                                                                                        123: P_{2059} = (10, 15, 6, 1)
22: P_{373} = (3, 6, 0, 1)
                                            73: P_{1220} = (3, 11, 3, 1)
                                                                                        124: P_{2073} = (8, 0, 7, 1)
23: P_{394} = (8,7,0,1)
                                            74: P_{1224} = (7, 11, 3, 1)
                                                                                        125: P_{2092} = (11, 1, 7, 1)
24: P_{405} = (3, 8, 0, 1)
                                            75: P_{1252} = (3, 13, 3, 1)
                                                                                        126: P_{2093} = (12, 1, 7, 1)
                                            76: P_{1262} = (13, 13, 3, 1)
                                                                                        127: P_{2103} = (6, 2, 7, 1)
25: P_{433} = (15, 9, 0, 1)
26: P_{435} = (1, 10, 0, 1)
                                            77: P_{1285} = (4, 15, 3, 1)
                                                                                        128: P_{2105} = (8, 2, 7, 1)
27: P_{451} = (1, 11, 0, 1)
                                            78: P_{1293} = (12, 15, 3, 1)
                                                                                        129: P_{2153} = (8, 5, 7, 1)
28: P_{481} = (15, 12, 0, 1)
                                            79: P_{1305} = (8, 0, 4, 1)
                                                                                        130: P_{2155} = (10, 5, 7, 1)
29: P_{487} = (5, 13, 0, 1)
                                            80: P_{1346} = (1, 3, 4, 1)
                                                                                        131: P_{2236} = (11, 10, 7, 1)
                                                                                        132: P_{2240} = (15, 10, 7, 1)
30: P_{501} = (3, 14, 0, 1)
                                            81: P_{1358} = (13, 3, 4, 1)
31: P_{519} = (5, 15, 0, 1)
                                            82: P_{1363} = (2, 4, 4, 1)
                                                                                        133: P_{2261} = (4, 12, 7, 1)
32: P_{531} = (1,0,1,1)
                                            83: P_{1372} = (11, 4, 4, 1)
                                                                                        134: P_{2268} = (11, 12, 7, 1)
33: P_{555} = (10, 1, 1, 1)
                                            84: P_{1379} = (2, 5, 4, 1)
                                                                                        135: P_{2278} = (5, 13, 7, 1)
34: P_{556} = (11, 1, 1, 1)
                                                                                        136: P_{2286} = (13, 13, 7, 1)
                                            85: P_{1392} = (15, 5, 4, 1)
35: P_{589} = (12, 3, 1, 1)
                                            86: P_{1407} = (14, 6, 4, 1)
                                                                                        137: P_{2324} = (3, 0, 8, 1)
36: P_{592} = (15, 3, 1, 1)
                                            87: P_{1408} = (15, 6, 4, 1)
                                                                                        138: P_{2357} = (4, 2, 8, 1)
37: P_{612} = (3, 5, 1, 1)
                                            88: P_{1419} = (10, 7, 4, 1)
                                                                                        139: P_{2366} = (13, 2, 8, 1)
38: P_{615} = (6,5,1,1)
                                            89: P_{1424} = (15, 7, 4, 1)
                                                                                        140: P_{2414} = (13, 5, 8, 1)
39: P_{662} = (5, 8, 1, 1)
                                            90: P_{1430} = (5, 8, 4, 1)
                                                                                        141: P_{2415} = (14, 5, 8, 1)
40: P_{670} = (13, 8, 1, 1)
                                            91: P_{1439} = (14, 8, 4, 1)
                                                                                        142: P_{2490} = (9, 10, 8, 1)
41: P_{690} = (1, 10, 1, 1)
                                            92: P_{1470} = (13, 10, 4, 1)
                                                                                        143: P_{2496} = (15, 10, 8, 1)
                                                                                        144: P_{2503} = (6, 11, 8, 1)
42: P_{700} = (11, 10, 1, 1)
                                            93: P_{1471} = (14, 10, 4, 1)
43: P_{706} = (1, 11, 1, 1)
                                            94: P_{1516} = (11, 13, 4, 1)
                                                                                        145: P_{2505} = (8, 11, 8, 1)
44: P_{715} = (10, 11, 1, 1)
                                            95: P_{1518} = (13, 13, 4, 1)
                                                                                        146: P_{2521} = (8, 12, 8, 1)
45: P_{776} = (7, 15, 1, 1)
                                                                                        147: P_{2525} = (12, 12, 8, 1)
                                            96: P_{1524} = (3, 14, 4, 1)
46: P_{777} = (8, 15, 1, 1)
                                            97: P_{1530} = (9, 14, 4, 1)
                                                                                        148: P_{2569} = (8, 15, 8, 1)
47: P_{790} = (5,0,2,1)
                                            98: P_{1568} = (15, 0, 5, 1)
                                                                                        149: P_{2574} = (13, 15, 8, 1)
48: P_{827} = (10, 2, 2, 1)
                                            99: P_{1607} = (6, 3, 5, 1)
                                                                                        150: P_{2592} = (15, 0, 9, 1)
49: P_{831} = (14, 2, 2, 1)
                                            100: P_{1610} = (9, 3, 5, 1)
                                                                                        151: P_{2614} = (5, 2, 9, 1)
50: P_{841} = (8, 3, 2, 1)
                                            101: P_{1670} = (5, 7, 5, 1)
                                                                                        152: P_{2623} = (14, 2, 9, 1)
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153: P_{2658} = (1, 5, 9, 1)
                                           188: P_{3135} = (14, 2, 11, 1)
                                                                                      223: P_{3830} = (5, 14, 13, 1)
154: P_{2664} = (7, 5, 9, 1)
                                           189: P_{3192} = (7, 6, 11, 1)
                                                                                      224: P_{3837} = (12, 14, 13, 1)
155: P_{2696} = (7, 7, 9, 1)
                                           190: P_{3200} = (15, 6, 11, 1)
                                                                                      225: P_{3860} = (3, 0, 14, 1)
156: P_{2699} = (10, 7, 9, 1)
                                           191: P_{3206} = (5, 7, 11, 1)
                                                                                      226: P_{3909} = (4, 3, 14, 1)
157: P_{2708} = (3, 8, 9, 1)
                                           192: P_{3207} = (6, 7, 11, 1)
                                                                                      227: P_{3920} = (15, 3, 14, 1)
158: P_{2709} = (4, 8, 9, 1)
                                           193 : P_{3234} = (1, 9, 11, 1)
                                                                                      228: P_{3923} = (2, 4, 14, 1)
159: P_{2725} = (4, 9, 9, 1)
                                           194: P_{3237} = (4, 9, 11, 1)
                                                                                      229: P_{3929} = (8, 4, 14, 1)
160: P_{2731} = (10, 9, 9, 1)
                                           195: P_{3261} = (12, 10, 11, 1)
                                                                                      230: P_{3958} = (5, 6, 14, 1)
161: P_{2755} = (2, 11, 9, 1)
                                           196: P_{3262} = (13, 10, 11, 1)
                                                                                      231: P_{3963} = (10, 6, 14, 1)
162: P_{2760} = (7, 11, 9, 1)
                                           197: P_{3270} = (5, 11, 11, 1)
                                                                                      232: P_{3973} = (4,7,14,1)
163: P_{2772} = (3, 12, 9, 1)
                                           198: P_{3280} = (15, 11, 11, 1)
                                                                                      233: P_{3974} = (5,7,14,1)
164: P_{2780} = (11, 12, 9, 1)
                                           199: P_{3360} = (15, 0, 12, 1)
                                                                                      234: P_{3986} = (1, 8, 14, 1)
165: P_{2787} = (2, 13, 9, 1)
                                           200: P_{3367} = (6, 1, 12, 1)
                                                                                      235: P_{3997} = (12, 8, 14, 1)
                                           201: P_{3371} = (10, 1, 12, 1)
166: P_{2788} = (3, 13, 9, 1)
                                                                                      236: P_{4021} = (4, 10, 14, 1)
167: P_{2819} = (2, 15, 9, 1)
                                           202: P_{3422} = (13, 4, 12, 1)
                                                                                      237: P_{4029} = (12, 10, 14, 1)
168: P_{2825} = (8, 15, 9, 1)
                                           203: P_{3424} = (15, 4, 12, 1)
                                                                                      238: P_{4060} = (11, 12, 14, 1)
                                           204: P_{3450} = (9, 6, 12, 1)
                                                                                      239: P_{4061} = (12, 12, 14, 1)
169: P_{2834} = (1, 0, 10, 1)
170: P_{2853} = (4, 1, 10, 1)
                                                                                      240: P_{4090} = (9, 14, 14, 1)
                                           205: P_{3451} = (10, 6, 12, 1)
                                           206: P_{3464} = (7, 7, 12, 1)
                                                                                      241: P_{4092} = (11, 14, 14, 1)
171: P_{2863} = (14, 1, 10, 1)
172: P_{2898} = (1, 4, 10, 1)
                                           207: P_{3465} = (8, 7, 12, 1)
                                                                                      242: P_{4102} = (5, 15, 14, 1)
173: P_{2899} = (2, 4, 10, 1)
                                           208: P_{3484} = (11, 8, 12, 1)
                                                                                      243: P_{4106} = (9, 15, 14, 1)
                                                                                      244: P_{4118} = (5, 0, 15, 1)
174: P_{2996} = (3, 10, 10, 1)
                                           209: P_{3488} = (15, 8, 12, 1)
                                           210: P_{3524} = (3, 11, 12, 1)
                                                                                      245: P_{4168} = (7, 3, 15, 1)
175: P_{3001} = (8, 10, 10, 1)
176: P_{3015} = (6, 11, 10, 1)
                                           211: P_{3531} = (10, 11, 12, 1)
                                                                                      246: P_{4176} = (15, 3, 15, 1)
177: P_{3016} = (7, 11, 10, 1)
                                           212: P_{3606} = (5, 0, 13, 1)
                                                                                      247: P_{4184} = (7, 4, 15, 1)
178: P_{3033} = (8, 12, 10, 1)
                                           213: P_{3624} = (7, 1, 13, 1)
                                                                                      248: P_{4186} = (9, 4, 15, 1)
                                           214: P_{3627} = (10, 1, 13, 1)
                                                                                      249: P_{4215} = (6, 6, 15, 1)
179: P_{3038} = (13, 12, 10, 1)
180 : P_{3044} = (3, 13, 10, 1)
                                           215: P_{3654} = (5, 3, 13, 1)
                                                                                      250: P_{4224} = (15, 6, 15, 1)
                                                                                      251: P_{4243} = (2, 8, 15, 1)
181: P_{3053} = (12, 13, 10, 1)
                                           216: P_{3660} = (11, 3, 13, 1)
182: P_{3058} = (1, 14, 10, 1)
                                           217: P_{3700} = (3, 6, 13, 1)
                                                                                      252: P_{4248} = (7, 8, 15, 1)
183: P_{3066} = (9, 14, 10, 1)
                                           218: P_{3703} = (6, 6, 13, 1)
                                                                                      253: P_{4286} = (13, 10, 15, 1)
184: P_{3090} = (1, 0, 11, 1)
                                           219: P_{3715} = (2, 7, 13, 1)
                                                                                      254: P_{4288} = (15, 10, 15, 1)
185: P_{3107} = (2, 1, 11, 1)
                                           220: P_{3723} = (10, 7, 13, 1)
                                                                                      255: P_{4292} = (3, 11, 15, 1)
186: P_{3114} = (9, 1, 11, 1)
                                                                                      256: P_{4303} = (14, 11, 15, 1)
                                           221: P_{3785} = (8, 11, 13, 1)
187: P_{3122} = (1, 2, 11, 1)
                                           222: P_{3787} = (10, 11, 13, 1)
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