1 Appendix

```
//file for all the primitive reps of J1

 load simgps;
Loading "/applic/magma2.4/libs/simgps/simgps"
 g:=SimGroup("J1");
  re:=SimRecord("J1");
  ma:=re`Max;

//J1 of degree 266
 g1:=ma[1];
 a1,a2,a3:=CosetAction(g,g1);
 pr:=[2,3,5,7,11];
 st:=Stabilizer(a2,1);
   orbs:=Orbits(st);#orbs;
5
   lo:=[#orbs[i]: i in [1..#orbs]];lo;
[ 1, 132, 110, 11, 12 ]
 v:=Index(a2,st);
 for j:=2 to #lo do
 "orbs no",j,"of length",#orbs[j];
 edg:={1,Setseq(orbs[j])[1]}^a2;
 gr:=Graph<v|edg>;"no of edges=",#edg;
 "valence=",Valence(gr),"girth=",Girth(gr),
 "diameter=",Diameter(gr);
 Order(AutomorphismGroup(gr));
   blox:=Setseq(orbs[j]^a2);
 des:=Design<1,v|blox>;
 Order(AutomorphismGroup(des));
  for i:=1 to 5 do
  p:=pr[i];dc:=descode(v,blox,p);
 d1:=Dim(dc);d2:=Dim(Dual(dc));
 d3:=Dim(dc meet Dual(dc));
 "p=",p,"dim=",d1,"dimdual=",d2,"hull=",d3;
  end for;
   end for;
orbs no 2 of length 132
no of edges= 17556
valence= 132 girth= 3 diameter= 2
175560
175560
p= 2 dim= 112 dimdual= 154 hull= 0
p= 3 dim= 153 dimdual= 113 hull= 0
p= 5 dim= 266 dimdual= 0 hull= 0
p= 7 dim= 266 dimdual= 0 hull= 0
p= 11 dim= 209 dimdual= 57 hull= 0
orbs no 3 of length 110
no of edges= 14630
valence= 110 girth= 3 diameter= 2
175560
175560
p= 2 dim= 188 dimdual= 78 hull= 0
p= 3 dim= 266 dimdual= 0 hull= 0
p= 5 dim= 56 dimdual= 210 hull= 56
p= 7 dim= 266 dimdual= 0 hull= 0
p= 11 dim= 209 dimdual= 57 hull= 0
orbs no 4 of length 11
no of edges= 1463
valence= 11 girth= 5 diameter= 4
175560
175560
p= 2 dim= 190 dimdual= 76 hull= 0
p= 3 dim= 266 dimdual= 0 hull= 0
p= 5 dim= 266 dimdual= 0 hull= 0
p= 7 dim= 266 dimdual= 0 hull= 0
p= 11 dim= 209 dimdual= 57 hull= 0
orbs no 5 of length 12
no of edges= 1596
valence= 12 girth= 5 diameter= 3
175560
175560
p= 2 dim= 112 dimdual= 154 hull= 0
p= 3 dim= 153 dimdual= 113 hull= 0
p= 5 dim= 266 dimdual= 0 hull= 0
p= 7 dim= 266 dimdual= 0 hull= 0
p= 11 dim= 266 dimdual= 0 hull= 0
---------------------------------------
//J1 of degree 1045
 load simgps;
Loading "/applic/magma2.4/libs/simgps/simgps"
 g:=SimGroup("J1");
  re:=SimRecord("J1");
  ma:=re`Max;
  g2:=ma[2];
  a1,a2,a3:=CosetAction(g,g2);
 a2;
Permutation group a2 acting on a set of cardinality 1045
Order = 175560 = 2^3 * 3 * 5 * 7 * 11 * 19
 pr:=[2,3,5,7,11];
 st:=Stabilizer(a2,1);
   orbs:=Orbits(st);#orbs;
11
   lo:=[#orbs[i]: i in [1..#orbs]];lo;
[ 1, 28, 168, 168, 168, 56, 168, 168, 56, 56, 8 ]
 v:=Index(a2,st);
 for j:=2 to #lo do
 "orbs no",j,"of length",#orbs[j];
 edg:={1,Setseq(orbs[j])[1]}^a2;
 gr:=Graph<v|edg>;"no of edges=",#edg;
 "valence=",Valence(gr),"girth=",Girth(gr),
 "diameter=",Diameter(gr);
```

```
 Order(AutomorphismGroup(gr));
   blox:=Setseq(orbs[j]^a2);
 des:=Design<1,v|blox>;
 Order(AutomorphismGroup(des));
  for i:=1 to 5 do
  p:=pr[i];dc:=descode(v,blox,p);
 d1:=Dim(dc);d2:=Dim(Dual(dc));
 d3:=Dim(dc meet Dual(dc));
 "p=",p,"dim=",d1,"dimdual=",d2,"hull=",d3;
  end for;
   end for;
orbs no 2 of length 28
no of edges= 14630
valence= 28 girth= 3 diameter= 3
175560
175560
p= 2 dim= 572 dimdual= 473 hull= 0
p= 3 dim= 1045 dimdual= 0 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 770 dimdual= 275 hull= 0
p= 11 dim= 962 dimdual= 83 hull= 49
orbs no 3 of length 168
no of edges= 87780
valence= 168 girth= 3 diameter= 3
175560
175560
p= 2 dim= 856 dimdual= 189 hull= 0
p= 3 dim= 702 dimdual= 343 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 684 dimdual= 361 hull= 89
p= 11 dim= 1045 dimdual= 0 hull= 0
orbs no 4 of length 168
no of edges= 87780
valence= 168 girth= 3 diameter= 2
175560
175560
p= 2 dim= 968 dimdual= 77 hull= 0
p= 3 dim= 360 dimdual= 685 hull= 0
p= 5 dim= 856 dimdual= 189 hull= 56
p= 7 dim= 924 dimdual= 121 hull= 0
p= 11 dim= 968 dimdual= 77 hull= 0
orbs no 5 of length 168
no of edges= 87780
valence= 168 girth= 3 diameter= 2
175560
175560
p= 2 dim= 758 dimdual= 287 hull= 134
p= 3 dim= 702 dimdual= 343 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 791 dimdual= 254 hull= 0
p= 11 dim= 1045 dimdual= 0 hull= 0
orbs no 6 of length 56
no of edges= 29260
valence= 56 girth= 3 diameter= 3
175560
175560
p= 2 dim= 968 dimdual= 77 hull= 0
p= 3 dim= 1045 dimdual= 0 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 924 dimdual= 121 hull= 0
p= 11 dim= 1045 dimdual= 0 hull= 0
orbs no 7 of length 168
no of edges= 87780
valence= 168 girth= 3 diameter= 2
175560
175560
p= 2 dim= 856 dimdual= 189 hull= 0
p= 3 dim= 493 dimdual= 552 hull= 133
p= 5 dim= 912 dimdual= 133 hull= 56
p= 7 dim= 924 dimdual= 121 hull= 0
p= 11 dim= 1045 dimdual= 0 hull= 0
orbs no 8 of length 168
no of edges= 87780
valence= 168 girth= 3 diameter= 3
175560
175560
p= 2 dim= 758 dimdual= 287 hull= 134
p= 3 dim= 702 dimdual= 343 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 684 dimdual= 361 hull= 89
p= 11 dim= 968 dimdual= 77 hull= 0
orbs no 9 of length 56
no of edges= 29260
valence= 56 girth= 3 diameter= 3
175560
175560
p= 2 dim= 968 dimdual= 77 hull= 0
p= 3 dim= 836 dimdual= 209 hull= 133
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 924 dimdual= 121 hull= 0
p= 11 dim= 968 dimdual= 77 hull= 0
orbs no 10 of length 56
no of edges= 29260
valence= 56 girth= 4 diameter= 3
175560
175560
p= 2 dim= 512 dimdual= 533 hull= 152
p= 3 dim= 1045 dimdual= 0 hull= 0
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 924 dimdual= 121 hull= 0
p= 11 dim= 1045 dimdual= 0 hull= 0
orbs no 11 of length 8
```

```
no of edges= 4180
valence= 8 girth= 5 diameter= 5
175560
175560
p= 2 dim= 968 dimdual= 77 hull= 0
p= 3 dim= 836 dimdual= 209 hull= 133
p= 5 dim= 1045 dimdual= 0 hull= 0
p= 7 dim= 1045 dimdual= 0 hull= 0
p= 11 dim= 1045 dimdual= 0 hull= 0
------------------------------------
//J1 of degree 1463

Total time: 2190.920 seconds
Magma V2.4-4      Wed Apr  7 1999 12:06:04 on unpsun2
Type ? for help.  Type <Ctrl>-D to quit.
Restoring Magma state from "g3.w"
orbs no 2 of length 20
p= 2 dim= 264 dimdual= 1199 hull= 76
p= 3 dim= 1463 dimdual= 0 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 3 of length 120
p= 2 dim= 320 dimdual= 1143 hull= 208
p= 3 dim= 1350 dimdual= 113 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1254 dimdual= 209 hull= 0
orbs no 4 of length 60
p= 2 dim= 700 dimdual= 763 hull= 152
p= 3 dim= 1350 dimdual= 113 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 5 of length 120
p= 2 dim= 568 dimdual= 895 hull= 208
p= 3 dim= 1350 dimdual= 113 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1254 dimdual= 209 hull= 120
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 6 of length 120
p= 2 dim= 660 dimdual= 803 hull= 188
p= 3 dim= 1273 dimdual= 190 hull= 76
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1253 dimdual= 210 hull= 133
p= 11 dim= 1386 dimdual= 77 hull= 0
orbs no 7 of length 60
p= 2 dim= 888 dimdual= 575 hull= 340
p= 3 dim= 1008 dimdual= 455 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 8 of length 120
p= 2 dim= 320 dimdual= 1143 hull= 208
p= 3 dim= 1008 dimdual= 455 hull= 0
p= 5 dim= 1252 dimdual= 211 hull= 56
p= 7 dim= 1330 dimdual= 133 hull= 0
p= 11 dim= 1316 dimdual= 147 hull= 106
orbs no 9 of length 60
p= 2 dim= 888 dimdual= 575 hull= 340
p= 3 dim= 1008 dimdual= 455 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 10 of length 120
p= 2 dim= 660 dimdual= 803 hull= 188
p= 3 dim= 1273 dimdual= 190 hull= 76
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1343 dimdual= 120 hull= 56
orbs no 11 of length 120
p= 2 dim= 492 dimdual= 971 hull= 20
p= 3 dim= 855 dimdual= 608 hull= 77
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1386 dimdual= 77 hull= 0
p= 11 dim= 1386 dimdual= 77 hull= 0
orbs no 12 of length 60
p= 2 dim= 888 dimdual= 575 hull= 340
p= 3 dim= 1141 dimdual= 322 hull= 133
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1209 dimdual= 254 hull= 75
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 13 of length 120
p= 2 dim= 660 dimdual= 803 hull= 188
p= 3 dim= 1196 dimdual= 267 hull= 152
p= 5 dim= 1252 dimdual= 211 hull= 77
p= 7 dim= 1309 dimdual= 154 hull= 0
p= 11 dim= 1309 dimdual= 154 hull= 0
orbs no 14 of length 60
p= 2 dim= 832 dimdual= 631 hull= 284
p= 3 dim= 1064 dimdual= 399 hull= 209
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 15 of length 20
p= 2 dim= 964 dimdual= 499 hull= 416
p= 3 dim= 1463 dimdual= 0 hull= 0
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1380 dimdual= 83 hull= 49
orbs no 16 of length 60
p= 2 dim= 964 dimdual= 499 hull= 416
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p= 3 dim= 1141 dimdual= 322 hull= 133
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1386 dimdual= 77 hull= 0
p= 11 dim= 1380 dimdual= 83 hull= 49
orbs no 17 of length 60
p= 2 dim= 832 dimdual= 631 hull= 284
p= 3 dim= 1064 dimdual= 399 hull= 210
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 18 of length 15
p= 2 dim= 1044 dimdual= 419 hull= 419
p= 3 dim= 1197 dimdual= 266 hull= 153
p= 5 dim= 1329 dimdual= 134 hull= 77
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 19 of length 60
p= 2 dim= 888 dimdual= 575 hull= 340
p= 3 dim= 1141 dimdual= 322 hull= 133
p= 5 dim= 1385 dimdual= 78 hull= 0
p= 7 dim= 1209 dimdual= 254 hull= 75
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 20 of length 60
p= 2 dim= 492 dimdual= 971 hull= 416
p= 3 dim= 1141 dimdual= 322 hull= 133
p= 5 dim= 967 dimdual= 496 hull= 56
p= 7 dim= 1254 dimdual= 209 hull= 120
p= 11 dim= 1254 dimdual= 209 hull= 0
orbs no 21 of length 15
p= 2 dim= 1044 dimdual= 419 hull= 231
p= 3 dim= 1197 dimdual= 266 hull= 77
p= 5 dim= 1329 dimdual= 134 hull= 77
p= 7 dim= 1463 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 0 hull= 0
orbs no 22 of length 12
p= 2 dim= 964 dimdual= 499 hull= 416
p= 3 dim= 1350 dimdual= 113 hull= 0
p= 5 dim= 1463 dimdual= 0 hull= 0
p= 7 dim= 1342 dimdual= 121 hull= 75
p= 11 dim= 1463 dimdual= 0 hull= 0
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//J1 of degree 1540

Magma V2.4-4      Mon Apr  5 1999 15:38:42 on unpsun2
Type ? for help.  Type <Ctrl>-D to quit.
Restoring Magma state from "g4.w"
orbs no 1 of length 1
p= 2 dim= 1540 dimdual= 0 hull= 0
p= 3 dim= 1540 dimdual= 0 hull= 0
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 2 of length 38
p= 2 dim= 738 dimdual= 802 hull= 246
p= 3 dim= 1463 dimdual= 77 hull= 76
p= 5 dim= 1295 dimdual= 245 hull= 0
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 3 of length 57
p= 2 dim= 1464 dimdual= 76 hull= 76
p= 3 dim= 855 dimdual= 685 hull= 0
p= 5 dim= 1295 dimdual= 245 hull= 0
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 4 of length 114
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 988 dimdual= 552 hull= 209
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1428 dimdual= 112 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 5 of length 38
p= 2 dim= 856 dimdual= 684 hull= 0
p= 3 dim= 1331 dimdual= 209 hull= 133
p= 5 dim= 1330 dimdual= 210 hull= 0
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 6 of length 38
p= 2 dim= 646 dimdual= 894 hull= 134
p= 3 dim= 1121 dimdual= 419 hull= 285
p= 5 dim= 1331 dimdual= 209 hull= 76
p= 7 dim= 1211 dimdual= 329 hull= 0
p= 11 dim= 1254 dimdual= 286 hull= 0
orbs no 7 of length 114
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 988 dimdual= 552 hull= 209
p= 5 dim= 1407 dimdual= 133 hull= 77
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 8 of length 114
p= 2 dim= 759 dimdual= 781 hull= 135
p= 3 dim= 1120 dimdual= 420 hull= 76
p= 5 dim= 1198 dimdual= 342 hull= 265
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 9 of length 57
p= 2 dim= 1540 dimdual= 0 hull= 0
p= 3 dim= 911 dimdual= 629 hull= 209
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1393 dimdual= 147 hull= 106
orbs no 10 of length 114
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p= 2 dim= 759 dimdual= 781 hull= 135
p= 3 dim= 1120 dimdual= 420 hull= 0
p= 5 dim= 1198 dimdual= 342 hull= 132
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 11 of length 57
p= 2 dim= 894 dimdual= 646 hull= 210
p= 3 dim= 855 dimdual= 685 hull= 209
p= 5 dim= 1407 dimdual= 133 hull= 56
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1463 dimdual= 77 hull= 0
orbs no 12 of length 114
p= 2 dim= 758 dimdual= 782 hull= 134
p= 3 dim= 1196 dimdual= 344 hull= 76
p= 5 dim= 1198 dimdual= 342 hull= 265
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 13 of length 114
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 779 dimdual= 761 hull= 266
p= 5 dim= 1407 dimdual= 133 hull= 77
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1463 dimdual= 77 hull= 0
orbs no 14 of length 114
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 988 dimdual= 552 hull= 209
p= 5 dim= 1407 dimdual= 133 hull= 77
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 15 of length 114
p= 2 dim= 856 dimdual= 684 hull= 0
p= 3 dim= 988 dimdual= 552 hull= 209
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1463 dimdual= 77 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 16 of length 114
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 855 dimdual= 685 hull= 0
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1267 dimdual= 273 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 17 of length 57
p= 2 dim= 1540 dimdual= 0 hull= 0
p= 3 dim= 911 dimdual= 629 hull= 209
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1393 dimdual= 147 hull= 106
orbs no 18 of length 19
p= 2 dim= 1540 dimdual= 0 hull= 0
p= 3 dim= 1540 dimdual= 0 hull= 0
p= 5 dim= 1331 dimdual= 209 hull= 76
p= 7 dim= 1330 dimdual= 210 hull= 0
p= 11 dim= 1540 dimdual= 0 hull= 0
orbs no 19 of length 57
p= 2 dim= 858 dimdual= 682 hull= 134
p= 3 dim= 855 dimdual= 685 hull= 0
p= 5 dim= 1331 dimdual= 209 hull= 76
p= 7 dim= 1419 dimdual= 121 hull= 75
p= 11 dim= 1463 dimdual= 77 hull= 0
orbs no 20 of length 57
p= 2 dim= 1540 dimdual= 0 hull= 0
p= 3 dim= 1196 dimdual= 344 hull= 76
p= 5 dim= 1540 dimdual= 0 hull= 0
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1184 dimdual= 356 hull= 106
orbs no 21 of length 38
p= 2 dim= 968 dimdual= 572 hull= 0
p= 3 dim= 1540 dimdual= 0 hull= 0
p= 5 dim= 1331 dimdual= 209 hull= 209
p= 7 dim= 1540 dimdual= 0 hull= 0
p= 11 dim= 1393 dimdual= 147 hull= 106
--------------------------------------
//J1 of degree 1596

 g5:=ma[5];
Order = 175560 = 2^3 * 3 * 5 * 7 * 11 * 19
 v:=1596;
   orbs:=Orbits(st);#orbs;
19
[ 1, 22, 110, 110, 110, 110, 110, 110,
110, 110, 55, 55, 110, 110,
110, 22, 110, 110, 11 ]
orbs no 2 of length 22
p= 2 dim= 264 dimdual= 1332 hull= 152
p= 3 dim= 1596 dimdual= 0 hull= 0
p= 5 dim= 1596 dimdual= 0 hull= 0
p= 7 dim= 1519 dimdual= 77 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 3 of length 110
p= 2 dim= 700 dimdual= 896 hull= 76
p= 3 dim= 1311 dimdual= 285 hull= 0
p= 5 dim= 1044 dimdual= 552 hull= 209
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1475 dimdual= 121 hull= 56
orbs no 4 of length 110
p= 2 dim= 778 dimdual= 818 hull= 266
p= 3 dim= 1519 dimdual= 77 hull= 76
p= 5 dim= 1330 dimdual= 266 hull= 133
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 5 of length 110
p= 2 dim= 343 dimdual= 1253 hull= 343
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p= 3 dim= 1387 dimdual= 209 hull= 133
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 6 of length 110
p= 2 dim= 779 dimdual= 817 hull= 419
p= 3 dim= 1387 dimdual= 209 hull= 76
p= 5 dim= 1330 dimdual= 266 hull= 133
p= 7 dim= 1236 dimdual= 360 hull= 165
p= 11 dim= 1455 dimdual= 141 hull= 69
orbs no 7 of length 110
p= 2 dim= 700 dimdual= 896 hull= 76
p= 3 dim= 1596 dimdual= 0 hull= 0
p= 5 dim= 1177 dimdual= 419 hull= 132
p= 7 dim= 1386 dimdual= 210 hull= 0
p= 11 dim= 1419 dimdual= 177 hull= 0
orbs no 8 of length 110
p= 2 dim= 512 dimdual= 1084 hull= 152
p= 3 dim= 1387 dimdual= 209 hull= 133
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1519 dimdual= 77 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 9 of length 110
p= 2 dim= 1100 dimdual= 496 hull= 76
p= 3 dim= 1387 dimdual= 209 hull= 133
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 10 of length 110
p= 2 dim= 1156 dimdual= 440 hull= 378
p= 3 dim= 1234 dimdual= 362 hull= 209
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1519 dimdual= 77 hull= 0
p= 11 dim= 1309 dimdual= 287 hull= 0
orbs no 11 of length 55
p= 2 dim= 1044 dimdual= 552 hull= 0
p= 3 dim= 1236 dimdual= 360 hull= 0
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1386 dimdual= 210 hull= 0
orbs no 12 of length 55
p= 2 dim= 762 dimdual= 834 hull= 190
p= 3 dim= 1387 dimdual= 209 hull= 76
p= 5 dim= 1330 dimdual= 266 hull= 0
p= 7 dim= 1445 dimdual= 151 hull= 45
p= 11 dim= 1455 dimdual= 141 hull= 69
orbs no 13 of length 110
p= 2 dim= 779 dimdual= 817 hull= 267
p= 3 dim= 1387 dimdual= 209 hull= 76
p= 5 dim= 1330 dimdual= 266 hull= 133
p= 7 dim= 1236 dimdual= 360 hull= 165
p= 11 dim= 1455 dimdual= 141 hull= 69
orbs no 14 of length 110
p= 2 dim= 1064 dimdual= 532 hull= 0
p= 3 dim= 1330 dimdual= 266 hull= 112
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1310 dimdual= 286 hull= 120
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 15 of length 110
p= 2 dim= 343 dimdual= 1253 hull= 191
p= 3 dim= 1387 dimdual= 209 hull= 133
p= 5 dim= 1386 dimdual= 210 hull= 56
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 16 of length 22
p= 2 dim= 796 dimdual= 800 hull= 380
p= 3 dim= 1387 dimdual= 209 hull= 76
p= 5 dim= 1387 dimdual= 209 hull= 133
p= 7 dim= 1356 dimdual= 240 hull= 89
p= 11 dim= 1386 dimdual= 210 hull= 0
orbs no 17 of length 110
p= 2 dim= 1176 dimdual= 420 hull= 0
p= 3 dim= 1387 dimdual= 209 hull= 133
p= 5 dim= 1330 dimdual= 266 hull= 0
p= 7 dim= 1356 dimdual= 240 hull= 89
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 18 of length 110
p= 2 dim= 1100 dimdual= 496 hull= 76
p= 3 dim= 1519 dimdual= 77 hull= 76
p= 5 dim= 1274 dimdual= 322 hull= 77
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1595 dimdual= 1 hull= 0
orbs no 19 of length 11
p= 2 dim= 1520 dimdual= 76 hull= 76
p= 3 dim= 1311 dimdual= 285 hull= 0
p= 5 dim= 1386 dimdual= 210 hull= 0
p= 7 dim= 1596 dimdual= 0 hull= 0
p= 11 dim= 1475 dimdual= 121 hull= 56
--------------------------------------
//J1 of degree 2926

Magma V2.3-1 Wed Mar 31 1999 03:26:13 on babbage
Loading "/usr/local/magma2.3/LIBS/simgps/simgps"
Permutation group a2 acting on a
set of cardinality 2926
Order = 175560 = 2^3 * 3 * 5 * 7 * 11 * 19
67

[ 1, 15, 60, 30, 30, 30, 60, 15, 60,
60, 30, 30, 30, 30, 30, 60, 30,
60, 15, 30, 60, 60, 30, 60, 30, 60,
15, 15, 60, 60, 60, 60, 30, 60,
```

```
60, 60, 60, 60, 60, 60, 60, 30, 30,
30, 60, 30, 30, 60, 60, 30, 60,
60, 60, 30, 30, 30, 60, 60, 60, 30,
60, 30, 60, 30, 30, 60, 30 ]

orbs no 2 of length 15
p= 2 dim= 2850 dimdual= 76 hull= 0
p= 3 dim= 1462 dimdual= 1464 hull= 112
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2639 dimdual= 287 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 3 of length 60
p= 2 dim= 1556 dimdual= 1370 hull= 536
p= 3 dim= 2583 dimdual= 343 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 133
p= 7 dim= 2521 dimdual= 405 hull= 120
p= 11 dim= 2535 dimdual= 391 hull= 27
orbs no 4 of length 30
p= 2 dim= 1725 dimdual= 1201 hull= 593
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 209
p= 7 dim= 2595 dimdual= 331 hull= 75
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 5 of length 30
p= 2 dim= 1744 dimdual= 1182 hull= 536
p= 3 dim= 2848 dimdual= 78 hull= 77
p= 5 dim= 2792 dimdual= 134 hull= 77
p= 7 dim= 2399 dimdual= 527 hull= 121
p= 11 dim= 2849 dimdual= 77 hull= 0
orbs no 6 of length 30
p= 2 dim= 2124 dimdual= 802 hull= 112
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2624 dimdual= 302 hull= 83
orbs no 7 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2772 dimdual= 154 hull= 153
p= 5 dim= 2640 dimdual= 286 hull= 0
p= 7 dim= 2684 dimdual= 242 hull= 150
p= 11 dim= 2744 dimdual= 182 hull= 27
orbs no 8 of length 15
p= 2 dim= 2242 dimdual= 684 hull= 308
p= 3 dim= 2506 dimdual= 420 hull= 189
p= 5 dim= 2450 dimdual= 476 hull= 266
p= 7 dim= 2660 dimdual= 266 hull= 0
p= 11 dim= 2603 dimdual= 323 hull= 183
orbs no 9 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2506 dimdual= 420 hull= 77
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2792 dimdual= 134 hull= 119
orbs no 10 of length 60
p= 2 dim= 1211 dimdual= 1715 hull= 439
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2640 dimdual= 286 hull= 0
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 11 of length 30
p= 2 dim= 1725 dimdual= 1201 hull= 517
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2595 dimdual= 331 hull= 75
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 12 of length 30
p= 2 dim= 2088 dimdual= 838 hull= 0
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2805 dimdual= 121 hull= 75
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 13 of length 30
p= 2 dim= 1177 dimdual= 1749 hull= 517
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2849 dimdual= 77 hull= 0
orbs no 14 of length 30
p= 2 dim= 1177 dimdual= 1749 hull= 517
p= 3 dim= 2716 dimdual= 210 hull= 209
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2849 dimdual= 77 hull= 0
orbs no 15 of length 30
p= 2 dim= 1649 dimdual= 1277 hull= 629
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2717 dimdual= 209 hull= 120
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 16 of length 60
p= 2 dim= 1648 dimdual= 1278 hull= 628
p= 3 dim= 2565 dimdual= 361 hull= 0
p= 5 dim= 2583 dimdual= 343 hull= 209
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 17 of length 30
p= 2 dim= 1745 dimdual= 1181 hull= 573
p= 3 dim= 2716 dimdual= 210 hull= 209
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 18 of length 60
```

```
p= 2 dim= 1556 dimdual= 1370 hull= 460
p= 3 dim= 2716 dimdual= 210 hull= 209
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2535 dimdual= 391 hull= 27
orbs no 19 of length 15
p= 2 dim= 2068 dimdual= 858 hull= 398
p= 3 dim= 2659 dimdual= 267 hull= 112
p= 5 dim= 2450 dimdual= 476 hull= 286
p= 7 dim= 2527 dimdual= 399 hull= 0
p= 11 dim= 2603 dimdual= 323 hull= 183
orbs no 20 of length 30
p= 2 dim= 1727 dimdual= 1199 hull= 595
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2583 dimdual= 343 hull= 132
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 21 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2563 dimdual= 363 hull= 209
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2849 dimdual= 77 hull= 0
p= 11 dim= 2570 dimdual= 356 hull= 106
orbs no 22 of length 60
p= 2 dim= 1308 dimdual= 1618 hull= 460
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 209
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 23 of length 30
p= 2 dim= 2088 dimdual= 838 hull= 0
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2805 dimdual= 121 hull= 75
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 24 of length 60
p= 2 dim= 1156 dimdual= 1770 hull= 420
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 25 of length 30
p= 2 dim= 2352 dimdual= 574 hull= 264
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2728 dimdual= 198 hull= 152
p= 11 dim= 2792 dimdual= 134 hull= 119
orbs no 26 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 536
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 27 of length 15
p= 2 dim= 2068 dimdual= 858 hull= 210
p= 3 dim= 2659 dimdual= 267 hull= 112
p= 5 dim= 2450 dimdual= 476 hull= 286
p= 7 dim= 2527 dimdual= 399 hull= 0
p= 11 dim= 2603 dimdual= 323 hull= 183
orbs no 28 of length 15
p= 2 dim= 2242 dimdual= 684 hull= 308
p= 3 dim= 2506 dimdual= 420 hull= 112
p= 5 dim= 2450 dimdual= 476 hull= 210
p= 7 dim= 2660 dimdual= 266 hull= 0
p= 11 dim= 2603 dimdual= 323 hull= 183
orbs no 29 of length 60
p= 2 dim= 1556 dimdual= 1370 hull= 572
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2535 dimdual= 391 hull= 27
orbs no 30 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2843 dimdual= 83 hull= 49
orbs no 31 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2792 dimdual= 134 hull= 77
p= 7 dim= 2446 dimdual= 480 hull= 178
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 32 of length 60
p= 2 dim= 1570 dimdual= 1356 hull= 550
p= 3 dim= 2639 dimdual= 287 hull= 210
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2686 dimdual= 240 hull= 89
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 33 of length 30
p= 2 dim= 1727 dimdual= 1199 hull= 671
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2583 dimdual= 343 hull= 132
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 34 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2297 dimdual= 629 hull= 398
p= 5 dim= 2716 dimdual= 210 hull= 209
p= 7 dim= 2672 dimdual= 254 hull= 75
p= 11 dim= 2744 dimdual= 182 hull= 27
orbs no 35 of length 60
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p= 2 dim= 1648 dimdual= 1278 hull= 628
p= 3 dim= 2565 dimdual= 361 hull= 0
p= 5 dim= 2583 dimdual= 343 hull= 209
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 36 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2772 dimdual= 154 hull= 0
p= 5 dim= 2792 dimdual= 134 hull= 77
p= 7 dim= 2497 dimdual= 429 hull= 240
p= 11 dim= 2702 dimdual= 224 hull= 106
orbs no 37 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 38 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 572
p= 3 dim= 2848 dimdual= 78 hull= 76
p= 5 dim= 2715 dimdual= 211 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 39 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 572
p= 3 dim= 2297 dimdual= 629 hull= 322
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2672 dimdual= 254 hull= 75
p= 11 dim= 2744 dimdual= 182 hull= 27
orbs no 40 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2843 dimdual= 83 hull= 49
orbs no 41 of length 60
p= 2 dim= 1556 dimdual= 1370 hull= 572
p= 3 dim= 2772 dimdual= 154 hull= 77
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 42 of length 30
p= 2 dim= 1633 dimdual= 1293 hull= 461
p= 3 dim= 2848 dimdual= 78 hull= 77
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 43 of length 30
p= 2 dim= 1745 dimdual= 1181 hull= 613
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 44 of length 30
p= 2 dim= 2352 dimdual= 574 hull= 264
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2583 dimdual= 343 hull= 189
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 45 of length 60
p= 2 dim= 1022 dimdual= 1904 hull= 474
p= 3 dim= 1442 dimdual= 1484 hull= 286
p= 5 dim= 2792 dimdual= 134 hull= 77
p= 7 dim= 2849 dimdual= 77 hull= 0
p= 11 dim= 2849 dimdual= 77 hull= 0
orbs no 46 of length 30
p= 2 dim= 1725 dimdual= 1201 hull= 629
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2597 dimdual= 329 hull= 56
orbs no 47 of length 30
p= 2 dim= 1633 dimdual= 1293 hull= 649
p= 3 dim= 2848 dimdual= 78 hull= 76
p= 5 dim= 2716 dimdual= 210 hull= 76
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 48 of length 60
p= 2 dim= 1211 dimdual= 1715 hull= 723
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2640 dimdual= 286 hull= 209
p= 7 dim= 2793 dimdual= 133 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 49 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2565 dimdual= 361 hull= 0
p= 5 dim= 2716 dimdual= 210 hull= 133
p= 7 dim= 2849 dimdual= 77 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 50 of length 30
p= 2 dim= 2352 dimdual= 574 hull= 264
p= 3 dim= 2772 dimdual= 154 hull= 0
p= 5 dim= 2450 dimdual= 476 hull= 419
p= 7 dim= 2805 dimdual= 121 hull= 75
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 51 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 536
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2507 dimdual= 419 hull= 209
p= 7 dim= 2814 dimdual= 112 hull= 0
p= 11 dim= 2779 dimdual= 147 hull= 106
orbs no 52 of length 60
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p= 2 dim= 1648 dimdual= 1278 hull= 552
p= 3 dim= 2547 dimdual= 379 hull= 0
p= 5 dim= 2374 dimdual= 552 hull= 362
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 53 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2744 dimdual= 182 hull= 27
orbs no 54 of length 30
p= 2 dim= 2276 dimdual= 650 hull= 264
p= 3 dim= 2450 dimdual= 476 hull= 245
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 55 of length 30
p= 2 dim= 2276 dimdual= 650 hull= 264
p= 3 dim= 2506 dimdual= 420 hull= 76
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 56 of length 30
p= 2 dim= 2352 dimdual= 574 hull= 264
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2728 dimdual= 198 hull= 75
p= 11 dim= 2792 dimdual= 134 hull= 119
orbs no 57 of length 60
p= 2 dim= 1571 dimdual= 1355 hull= 515
p= 3 dim= 2772 dimdual= 154 hull= 0
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2737 dimdual= 189 hull= 64
orbs no 58 of length 60
p= 2 dim= 1176 dimdual= 1750 hull= 552
p= 3 dim= 2488 dimdual= 438 hull= 77
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 59 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 536
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2680 dimdual= 246 hull= 0
p= 7 dim= 2584 dimdual= 342 hull= 120
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 60 of length 30
p= 2 dim= 2276 dimdual= 650 hull= 264
p= 3 dim= 2506 dimdual= 420 hull= 77
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 61 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 572
p= 3 dim= 2563 dimdual= 363 hull= 133
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2849 dimdual= 77 hull= 77
p= 11 dim= 2570 dimdual= 356 hull= 106
orbs no 62 of length 30
p= 2 dim= 1649 dimdual= 1277 hull= 441
p= 3 dim= 2716 dimdual= 210 hull= 133
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2717 dimdual= 209 hull= 120
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 63 of length 60
p= 2 dim= 1571 dimdual= 1355 hull= 363
p= 3 dim= 2772 dimdual= 154 hull= 153
p= 5 dim= 2792 dimdual= 134 hull= 56
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2737 dimdual= 189 hull= 64
orbs no 64 of length 30
p= 2 dim= 2200 dimdual= 726 hull= 112
p= 3 dim= 2507 dimdual= 419 hull= 342
p= 5 dim= 2223 dimdual= 703 hull= 209
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2926 dimdual= 0 hull= 0
orbs no 65 of length 30
p= 2 dim= 1725 dimdual= 1201 hull= 517
p= 3 dim= 2925 dimdual= 1 hull= 0
p= 5 dim= 2925 dimdual= 1 hull= 0
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2597 dimdual= 329 hull= 56
orbs no 66 of length 60
p= 2 dim= 1668 dimdual= 1258 hull= 460
p= 3 dim= 2772 dimdual= 154 hull= 0
p= 5 dim= 2792 dimdual= 134 hull= 77
p= 7 dim= 2497 dimdual= 429 hull= 89
p= 11 dim= 2702 dimdual= 224 hull= 106
orbs no 67 of length 30
p= 2 dim= 2352 dimdual= 574 hull= 264
p= 3 dim= 2659 dimdual= 267 hull= 112
p= 5 dim= 2527 dimdual= 399 hull= 209
p= 7 dim= 2926 dimdual= 0 hull= 0
p= 11 dim= 2849 dimdual= 77 hull= 0

----------------------------------------
//rep of J1 of degree 4180
Magma V2.3-1      Fri Apr  2 1999 02:07:43 on babbage

Loading "/usr/local/magma2.3/LIBS/simgps/simgps"
Permutation group a2 acting on a set of cardinality 4180
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```
Order = 175560 = 2^3 * 3 * 5 * 7 * 11 * 19
107

[ 1, 42, 42, 42, 42, 42, 21, 42, 42, 42,
21, 42, 42, 42, 42, 42, 42,
42, 42, 42, 42, 42, 42, 42, 42, 42,
42, 42, 42, 42, 42, 42, 42, 42,
42, 42, 42, 42, 42, 42, 42, 42, 21, 42,
42, 42, 42, 42, 42, 42, 42,
42, 42, 42, 42, 42, 42, 42, 42, 42, 21,
42, 42, 42, 42, 21, 42, 42,
14, 42, 42, 42, 42, 42, 7, 42, 42, 42, 42,
42, 42, 42, 42, 42, 42, 42,
21, 42, 42, 42, 42, 42, 42, 42, 42, 42,
42, 42, 42, 42, 42, 14, 42,
42, 42, 14, 14 ]

orbs no 2 of length 42
p= 2 dim= 2660 dimdual= 1520 hull= 400
p= 3 dim= 3286 dimdual= 894 hull= 133
p= 5 dim= 4026 dimdual= 154 hull= 76
p= 7 dim= 4025 dimdual= 155 hull= 0
p= 11 dim= 4026 dimdual= 154 hull= 77
orbs no 3 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 190
p= 3 dim= 3683 dimdual= 497 hull= 112
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4014 dimdual= 166 hull= 31
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 4 of length 42
p= 2 dim= 3188 dimdual= 992 hull= 324
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 3849 dimdual= 331 hull= 284
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 5 of length 42
p= 2 dim= 3378 dimdual= 802 hull= 246
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 6 of length 42
p= 2 dim= 3588 dimdual= 592 hull= 378
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3792 dimdual= 388 hull= 75
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 7 of length 21
p= 2 dim= 3608 dimdual= 572 hull= 476
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3848 dimdual= 332 hull= 75
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 8 of length 42
p= 2 dim= 2926 dimdual= 1254 hull= 134
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 9 of length 42
p= 2 dim= 3266 dimdual= 914 hull= 246
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3970 dimdual= 210 hull= 120
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 10 of length 42
p= 2 dim= 3302 dimdual= 878 hull= 590
p= 3 dim= 3495 dimdual= 685 hull= 0
p= 5 dim= 3705 dimdual= 475 hull= 189
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 11 of length 21
p= 2 dim= 3608 dimdual= 572 hull= 572
p= 3 dim= 3323 dimdual= 857 hull= 112
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 12 of length 42
p= 2 dim= 3188 dimdual= 992 hull= 324
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 3849 dimdual= 331 hull= 284
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 13 of length 42
p= 2 dim= 3322 dimdual= 858 hull= 210
p= 3 dim= 3474 dimdual= 706 hull= 321
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 14 of length 42
p= 2 dim= 3112 dimdual= 1068 hull= 400
p= 3 dim= 3628 dimdual= 552 hull= 76
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3817 dimdual= 363 hull= 317
p= 11 dim= 4040 dimdual= 140 hull= 69
orbs no 15 of length 42
p= 2 dim= 3172 dimdual= 1008 hull= 76
p= 3 dim= 3230 dimdual= 950 hull= 363
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 3970 dimdual= 210 hull= 120
p= 11 dim= 3927 dimdual= 253 hull= 134
orbs no 16 of length 42
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p= 2 dim= 3226 dimdual= 954 hull= 608
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3893 dimdual= 287 hull= 132
p= 7 dim= 3850 dimdual= 330 hull= 0
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 17 of length 42
p= 2 dim= 3168 dimdual= 1012 hull= 456
p= 3 dim= 3474 dimdual= 706 hull= 285
p= 5 dim= 3991 dimdual= 189 hull= 56
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 18 of length 42
p= 2 dim= 3588 dimdual= 592 hull= 378
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3792 dimdual= 388 hull= 75
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 19 of length 42
p= 2 dim= 3322 dimdual= 858 hull= 114
p= 3 dim= 3530 dimdual= 650 hull= 112
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3837 dimdual= 343 hull= 209
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 20 of length 42
p= 2 dim= 3226 dimdual= 954 hull= 608
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3893 dimdual= 287 hull= 132
p= 7 dim= 3850 dimdual= 330 hull= 0
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 21 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 287
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 22 of length 42
p= 2 dim= 3496 dimdual= 684 hull= 0
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 3817 dimdual= 363 hull= 209
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 23 of length 42
p= 2 dim= 3190 dimdual= 990 hull= 322
p= 3 dim= 3495 dimdual= 685 hull= 0
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4046 dimdual= 134 hull= 119
orbs no 24 of length 42
p= 2 dim= 3344 dimdual= 836 hull= 0
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 25 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 341
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4047 dimdual= 133 hull= 56
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 26 of length 42
p= 2 dim= 3322 dimdual= 858 hull= 266
p= 3 dim= 3530 dimdual= 650 hull= 112
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3837 dimdual= 343 hull= 253
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 27 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 286
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 4047 dimdual= 133 hull= 56
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 28 of length 42
p= 2 dim= 3039 dimdual= 1141 hull= 343
p= 3 dim= 3419 dimdual= 761 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4102 dimdual= 78 hull= 77
p= 11 dim= 3991 dimdual= 189 hull= 64
orbs no 29 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 152
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 30 of length 42
p= 2 dim= 3039 dimdual= 1141 hull= 191
p= 3 dim= 3419 dimdual= 761 hull= 76
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4102 dimdual= 78 hull= 0
p= 11 dim= 3991 dimdual= 189 hull= 64
orbs no 31 of length 42
p= 2 dim= 3248 dimdual= 932 hull= 152
p= 3 dim= 3419 dimdual= 761 hull= 133
p= 5 dim= 3914 dimdual= 266 hull= 56
p= 7 dim= 3862 dimdual= 318 hull= 89
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 32 of length 42
p= 2 dim= 3248 dimdual= 932 hull= 152
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3914 dimdual= 266 hull= 64
orbs no 33 of length 42
```

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p= 2 dim= 3302 dimdual= 878 hull= 532
p= 3 dim= 3570 dimdual= 610 hull= 496
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 34 of length 42
p= 2 dim= 3172 dimdual= 1008 hull= 76
p= 3 dim= 3230 dimdual= 950 hull= 439
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 3970 dimdual= 210 hull= 120
p= 11 dim= 3927 dimdual= 253 hull= 0
orbs no 35 of length 42
p= 2 dim= 2866 dimdual= 1314 hull= 530
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4046 dimdual= 134 hull= 0
p= 11 dim= 3927 dimdual= 253 hull= 0
orbs no 36 of length 42
p= 2 dim= 3190 dimdual= 990 hull= 342
p= 3 dim= 3495 dimdual= 685 hull= 342
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4046 dimdual= 134 hull= 119
orbs no 37 of length 42
p= 2 dim= 3588 dimdual= 592 hull= 532
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 3970 dimdual= 210 hull= 133
p= 7 dim= 4014 dimdual= 166 hull= 31
p= 11 dim= 3894 dimdual= 286 hull= 0
orbs no 38 of length 42
p= 2 dim= 2488 dimdual= 1692 hull= 552
p= 3 dim= 3286 dimdual= 894 hull= 0
p= 5 dim= 3970 dimdual= 210 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 39 of length 42
p= 2 dim= 3588 dimdual= 592 hull= 380
p= 3 dim= 3627 dimdual= 553 hull= 152
p= 5 dim= 4047 dimdual= 133 hull= 77
p= 7 dim= 4102 dimdual= 78 hull= 0
p= 11 dim= 4020 dimdual= 160 hull= 49
orbs no 40 of length 42
p= 2 dim= 2926 dimdual= 1254 hull= 134
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 41 of length 42
p= 2 dim= 3496 dimdual= 684 hull= 0
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 3817 dimdual= 363 hull= 209
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 42 of length 42
p= 2 dim= 3076 dimdual= 1104 hull= 476
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3838 dimdual= 342 hull= 132
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 43 of length 21
p= 2 dim= 3894 dimdual= 286 hull= 266
p= 3 dim= 3475 dimdual= 705 hull= 0
p= 5 dim= 3970 dimdual= 210 hull= 154
p= 7 dim= 3817 dimdual= 363 hull= 197
p= 11 dim= 3963 dimdual= 217 hull= 69
orbs no 44 of length 42
p= 2 dim= 3588 dimdual= 592 hull= 532
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 3705 dimdual= 475 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 45 of length 42
p= 2 dim= 3132 dimdual= 1048 hull= 684
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 3665 dimdual= 515 hull= 0
p= 7 dim= 3860 dimdual= 320 hull= 31
p= 11 dim= 3886 dimdual= 294 hull= 69
orbs no 46 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3725 dimdual= 455 hull= 154
p= 5 dim= 4047 dimdual= 133 hull= 77
p= 7 dim= 4102 dimdual= 78 hull= 77
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 47 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 134
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3838 dimdual= 342 hull= 153
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 48 of length 42
p= 2 dim= 3532 dimdual= 648 hull= 76
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3937 dimdual= 243 hull= 31
p= 11 dim= 3984 dimdual= 196 hull= 133
orbs no 49 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4097 dimdual= 83 hull= 49
orbs no 50 of length 42
```

```
p= 2 dim= 3000 dimdual= 1180 hull= 248
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3969 dimdual= 211 hull= 210
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 51 of length 42
p= 2 dim= 3189 dimdual= 991 hull= 573
p= 3 dim= 3268 dimdual= 912 hull= 76
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 52 of length 42
p= 2 dim= 3168 dimdual= 1012 hull= 798
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 3971 dimdual= 209 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 53 of length 42
p= 2 dim= 3302 dimdual= 878 hull= 590
p= 3 dim= 3495 dimdual= 685 hull= 0
p= 5 dim= 3705 dimdual= 475 hull= 189
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 54 of length 42
p= 2 dim= 2882 dimdual= 1298 hull= 1026
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 55 of length 42
p= 2 dim= 3456 dimdual= 724 hull= 0
p= 3 dim= 3516 dimdual= 664 hull= 287
p= 5 dim= 3817 dimdual= 363 hull= 152
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 56 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3970 dimdual= 210 hull= 120
p= 11 dim= 3969 dimdual= 211 hull= 119
orbs no 57 of length 42
p= 2 dim= 3246 dimdual= 934 hull= 190
p= 3 dim= 3683 dimdual= 497 hull= 152
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 58 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 135
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 59 of length 42
p= 2 dim= 3056 dimdual= 1124 hull= 1080
p= 3 dim= 3474 dimdual= 706 hull= 321
p= 5 dim= 4047 dimdual= 133 hull= 133
p= 7 dim= 3939 dimdual= 241 hull= 209
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 60 of length 42
p= 2 dim= 3132 dimdual= 1048 hull= 664
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 3665 dimdual= 515 hull= 0
p= 7 dim= 3860 dimdual= 320 hull= 31
p= 11 dim= 3886 dimdual= 294 hull= 146
orbs no 61 of length 21
p= 2 dim= 3476 dimdual= 704 hull= 152
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4026 dimdual= 154 hull= 76
p= 7 dim= 4025 dimdual= 155 hull= 0
p= 11 dim= 3639 dimdual= 541 hull= 196
orbs no 62 of length 42
p= 2 dim= 2732 dimdual= 1448 hull= 874
p= 3 dim= 3419 dimdual= 761 hull= 418
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4014 dimdual= 166 hull= 31
p= 11 dim= 4040 dimdual= 140 hull= 69
orbs no 63 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 286
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 4047 dimdual= 133 hull= 56
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 64 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 189
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3894 dimdual= 286 hull= 210
p= 7 dim= 3939 dimdual= 241 hull= 89
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 65 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4097 dimdual= 83 hull= 49
orbs no 66 of length 21
p= 2 dim= 3970 dimdual= 210 hull= 134
p= 3 dim= 3286 dimdual= 894 hull= 266
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 67 of length 42
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p= 2 dim= 3608 dimdual= 572 hull= 152
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 68 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3894 dimdual= 286 hull= 153
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3971 dimdual= 209 hull= 0
orbs no 69 of length 14
p= 2 dim= 1044 dimdual= 3136 hull= 76
p= 3 dim= 3971 dimdual= 209 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3983 dimdual= 197 hull= 56
orbs no 70 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3477 dimdual= 703 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3939 dimdual= 241 hull= 209
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 71 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 267
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3894 dimdual= 286 hull= 210
p= 7 dim= 3939 dimdual= 241 hull= 240
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 72 of length 42
p= 2 dim= 2732 dimdual= 1448 hull= 872
p= 3 dim= 3419 dimdual= 761 hull= 418
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4014 dimdual= 166 hull= 31
p= 11 dim= 4040 dimdual= 140 hull= 69
orbs no 73 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3894 dimdual= 286 hull= 153
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3971 dimdual= 209 hull= 0
orbs no 74 of length 42
p= 2 dim= 3286 dimdual= 894 hull= 134
p= 3 dim= 3398 dimdual= 782 hull= 112
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3729 dimdual= 451 hull= 240
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 75 of length 7
p= 2 dim= 3626 dimdual= 554 hull= 322
p= 3 dim= 4180 dimdual= 0 hull= 0
p= 5 dim= 3838 dimdual= 342 hull= 209
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 76 of length 42
p= 2 dim= 3114 dimdual= 1066 hull= 608
p= 3 dim= 3419 dimdual= 761 hull= 266
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 77 of length 42
p= 2 dim= 3266 dimdual= 914 hull= 378
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3970 dimdual= 210 hull= 120
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 78 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 134
p= 3 dim= 3418 dimdual= 762 hull= 418
p= 5 dim= 4047 dimdual= 133 hull= 77
p= 7 dim= 3774 dimdual= 406 hull= 271
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 79 of length 42
p= 2 dim= 3248 dimdual= 932 hull= 152
p= 3 dim= 3419 dimdual= 761 hull= 76
p= 5 dim= 3914 dimdual= 266 hull= 133
p= 7 dim= 3862 dimdual= 318 hull= 240
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 80 of length 42
p= 2 dim= 3248 dimdual= 932 hull= 0
p= 3 dim= 3477 dimdual= 703 hull= 0
p= 5 dim= 3761 dimdual= 419 hull= 133
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4040 dimdual= 140 hull= 69
orbs no 81 of length 42
p= 2 dim= 2488 dimdual= 1692 hull= 628
p= 3 dim= 3286 dimdual= 894 hull= 112
p= 5 dim= 3970 dimdual= 210 hull= 210
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 82 of length 42
p= 2 dim= 3248 dimdual= 932 hull= 0
p= 3 dim= 3551 dimdual= 629 hull= 152
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3927 dimdual= 253 hull= 0
orbs no 83 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3477 dimdual= 703 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3939 dimdual= 241 hull= 240
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 84 of length 42
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p= 2 dim= 3000 dimdual= 1180 hull= 400
p= 3 dim= 3552 dimdual= 628 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 3969 dimdual= 211 hull= 0
p= 11 dim= 4060 dimdual= 120 hull= 56
orbs no 85 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 135
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 86 of length 42
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 3725 dimdual= 455 hull= 154
p= 5 dim= 4047 dimdual= 133 hull= 77
p= 7 dim= 4102 dimdual= 78 hull= 77
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 87 of length 21
p= 2 dim= 3894 dimdual= 286 hull= 266
p= 3 dim= 3475 dimdual= 705 hull= 76
p= 5 dim= 3970 dimdual= 210 hull= 154
p= 7 dim= 3817 dimdual= 363 hull= 120
p= 11 dim= 3963 dimdual= 217 hull= 146
orbs no 88 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 286
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 3838 dimdual= 342 hull= 132
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 89 of length 42
p= 2 dim= 3112 dimdual= 1068 hull= 476
p= 3 dim= 3628 dimdual= 552 hull= 76
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3817 dimdual= 363 hull= 120
p= 11 dim= 4040 dimdual= 140 hull= 69
orbs no 90 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 287
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 91 of length 42
p= 2 dim= 3496 dimdual= 684 hull= 0
p= 3 dim= 3683 dimdual= 497 hull= 112
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 92 of length 42
p= 2 dim= 3398 dimdual= 782 hull= 134
p= 3 dim= 3837 dimdual= 343 hull= 0
p= 5 dim= 3838 dimdual= 342 hull= 209
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 93 of length 42
p= 2 dim= 3496 dimdual= 684 hull= 152
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4025 dimdual= 155 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 94 of length 42
p= 2 dim= 3399 dimdual= 781 hull= 419
p= 3 dim= 3628 dimdual= 552 hull= 133
p= 5 dim= 4047 dimdual= 133 hull= 56
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 95 of length 42
p= 2 dim= 3189 dimdual= 991 hull= 573
p= 3 dim= 3268 dimdual= 912 hull= 76
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 96 of length 42
p= 2 dim= 3302 dimdual= 878 hull= 552
p= 3 dim= 3570 dimdual= 610 hull= 342
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 97 of length 42
p= 2 dim= 3076 dimdual= 1104 hull= 570
p= 3 dim= 3286 dimdual= 894 hull= 133
p= 5 dim= 3781 dimdual= 399 hull= 266
p= 7 dim= 4058 dimdual= 122 hull= 75
p= 11 dim= 3991 dimdual= 189 hull= 64
orbs no 98 of length 42
p= 2 dim= 2998 dimdual= 1182 hull= 210
p= 3 dim= 3627 dimdual= 553 hull= 285
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 99 of length 42
p= 2 dim= 3056 dimdual= 1124 hull= 948
p= 3 dim= 3474 dimdual= 706 hull= 245
p= 5 dim= 4047 dimdual= 133 hull= 133
p= 7 dim= 3939 dimdual= 241 hull= 209
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 100 of length 42
p= 2 dim= 3532 dimdual= 648 hull= 76
p= 3 dim= 3628 dimdual= 552 hull= 209
p= 5 dim= 4103 dimdual= 77 hull= 77
p= 7 dim= 3937 dimdual= 243 hull= 31
p= 11 dim= 3984 dimdual= 196 hull= 133
orbs no 101 of length 42
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```
p= 2 dim= 3398 dimdual= 782 hull= 286
p= 3 dim= 3836 dimdual= 344 hull= 76
p= 5 dim= 3838 dimdual= 342 hull= 132
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 0
orbs no 102 of length 14
p= 2 dim= 3266 dimdual= 914 hull= 512
p= 3 dim= 3838 dimdual= 342 hull= 342
p= 5 dim= 3991 dimdual= 189 hull= 56
p= 7 dim= 4046 dimdual= 134 hull= 0
p= 11 dim= 4033 dimdual= 147 hull= 106
orbs no 103 of length 42
p= 2 dim= 2561 dimdual= 1619 hull= 649
p= 3 dim= 3495 dimdual= 685 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3971 dimdual= 209 hull= 209
orbs no 104 of length 42
p= 2 dim= 2561 dimdual= 1619 hull= 399
p= 3 dim= 3495 dimdual= 685 hull= 209
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3971 dimdual= 209 hull= 0
orbs no 105 of length 42
p= 2 dim= 3532 dimdual= 648 hull= 76
p= 3 dim= 3417 dimdual= 763 hull= 0
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4102 dimdual= 78 hull= 0
p= 11 dim= 4180 dimdual= 0 hull= 0
orbs no 106 of length 14
p= 2 dim= 3588 dimdual= 592 hull= 532
p= 3 dim= 3818 dimdual= 362 hull= 209
p= 5 dim= 4180 dimdual= 0 hull= 0
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 3971 dimdual= 209 hull= 0
orbs no 107 of length 14
p= 2 dim= 3608 dimdual= 572 hull= 0
p= 3 dim= 4180 dimdual= 0 hull= 0
p= 5 dim= 3838 dimdual= 342 hull= 209
p= 7 dim= 4179 dimdual= 1 hull= 0
p= 11 dim= 4103 dimdual= 77 hull= 77
-------------------------------------
//file for J2
//J2 of degree 100

 Degree(a2);
100
 pr:=[2,3,5,7,11];
 st:=Stabilizer(a2,1);
   orbs:=Orbits(st);"no. of orbs=",#orbs;
no. of orbs= 3
   lo:=[#orbs[i]: i in [1..#orbs]];lo;
[ 1, 63, 36 ]
 v:=Index(a2,st);"degree=",v;
degree= 100
 for j:=2 to #orbs do
 "orbs no",j,"of length",#orbs[j];
 edg:={1,Setseq(orbs[j])[1]}^a2;
 gr:=Graph<v|edg>;"no of edges=",#edg;
 "valence=",Valence(gr),"girth=",Girth(gr),
 "diameter=",Diameter(gr);
 #(AutomorphismGroup(gr));
   blox:=Setseq(orbs[j]^a2);
 des:=Design<1,v|blox>;des;
 #(AutomorphismGroup(des));
  for i:=1 to 5 do
  p:=pr[i];dc:=descode(v,blox,p);
 d1:=Dim(dc);d2:=Dim(Dual(dc));
 d3:=Dim(dc meet Dual(dc));
 "p=",p,"dim=",d1,"dimdual=",d2,"hull=",d3;
  end for;
   end for;
orbs no 2 of length 63
no of edges= 3150
valence= 63 girth= 3 diameter= 2
1209600
1-(100, 63, 63) Design with 100 blocks
1209600
p= 2 dim= 100 dimdual= 0 hull= 0
p= 3 dim= 36 dimdual= 64 hull= 0
p= 5 dim= 100 dimdual= 0 hull= 0
p= 7 dim= 63 dimdual= 37 hull= 0
p= 11 dim= 100 dimdual= 0 hull= 0
orbs no 3 of length 36
no of edges= 1800
valence= 36 girth= 3 diameter= 2
1209600
1-(100, 36, 36) Design with 100 blocks
1209600
p= 2 dim= 36 dimdual= 64 hull= 36
p= 3 dim= 63 dimdual= 37 hull= 0
p= 5 dim= 100 dimdual= 0 hull= 0
p= 7 dim= 100 dimdual= 0 hull= 0
p= 11 dim= 100 dimdual= 0 hull= 0

--------------------------------
//J2 of degree 280

> g2:=ma[2];
no. of orbs= 4
[ 1, 135, 108, 36 ]
degree= 280
```

```
orbs no 2 of length 135
no of edges= 18900
valence= 135 girth= 3 diameter= 2
1209600
1-(280, 135, 135) Design with 280 blocks
1209600
p= 2 dim= 280 dimdual= 0 hull= 0
p= 3 dim= 216 dimdual= 64 hull= 0
p= 5 dim= 42 dimdual= 238 hull= 42
p= 7 dim= 280 dimdual= 0 hull= 0
p= 11 dim= 280 dimdual= 0 hull= 0
orbs no 3 of length 108
no of edges= 15120
valence= 108 girth= 3 diameter= 2
1209600
1-(280, 108, 108) Design with 280 blocks
1209600
p= 2 dim= 14 dimdual= 266 hull= 14
p= 3 dim= 216 dimdual= 64 hull= 0
p= 5 dim= 280 dimdual= 0 hull= 0
p= 7 dim= 280 dimdual= 0 hull= 0
p= 11 dim= 280 dimdual= 0 hull= 0
orbs no 4 of length 36
no of edges= 5040
valence= 36 girth= 3 diameter= 2
1209600
1-(280, 36, 36) Design with 280 blocks
1209600
p= 2 dim= 62 dimdual= 218 hull= 62
p= 3 dim= 279 dimdual= 1 hull= 0
p= 5 dim= 280 dimdual= 0 hull= 0
p= 7 dim= 280 dimdual= 0 hull= 0
p= 11 dim= 280 dimdual= 0 hull= 0
--------------------------------------
//J2 of degree 315

 g3:=ma[3];
[ 1, 80, 160, 10, 32, 32 ]
degree= 315

orbs no 2 of length 80
no of edges= 12600
valence= 80 girth= 3 diameter= 2
1209600
1-(315, 80, 80) Design with 315 blocks
1209600
p= 2 dim= 36 dimdual= 279 hull= 36
p= 3 dim= 315 dimdual= 0 hull= 0
p= 5 dim= 265 dimdual= 50 hull= 15
p= 7 dim= 315 dimdual= 0 hull= 0
p= 11 dim= 315 dimdual= 0 hull= 0
orbs no 3 of length 160
no of edges= 25200
valence= 160 girth= 3 diameter= 2
1209600
1-(315, 160, 160) Design with 315 blocks
1209600
p= 2 dim= 188 dimdual= 127 hull= 28
p= 3 dim= 279 dimdual= 36 hull= 0
p= 5 dim= 265 dimdual= 50 hull= 15
p= 7 dim= 155 dimdual= 160 hull= 36
p= 11 dim= 279 dimdual= 36 hull= 0
orbs no 4 of length 10
no of edges= 1575
valence= 10 girth= 3 diameter= 4
1209600
1-(315, 10, 10) Design with 315 blocks
1209600
p= 2 dim= 154 dimdual= 161 hull= 0
p= 3 dim= 225 dimdual= 90 hull= 0
p= 5 dim= 265 dimdual= 50 hull= 15
p= 7 dim= 315 dimdual= 0 hull= 0
p= 11 dim= 315 dimdual= 0 hull= 0
orbs no 5 of length 32
no of edges= 5040
valence= 32 girth= 3 diameter= 3
604800
1-(315, 32, 32) Design with 315 blocks
604800
p= 2 dim= 188 dimdual= 127 hull= 28
p= 3 dim= 315 dimdual= 0 hull= 0
p= 5 dim= 315 dimdual= 0 hull= 0
p= 7 dim= 315 dimdual= 0 hull= 0
p= 11 dim= 301 dimdual= 14 hull= 0
orbs no 6 of length 32
no of edges= 5040
valence= 32 girth= 3 diameter= 3
604800
1-(315, 32, 32) Design with 315 blocks
604800
p= 2 dim= 188 dimdual= 127 hull= 28
p= 3 dim= 315 dimdual= 0 hull= 0
p= 5 dim= 315 dimdual= 0 hull= 0
p= 7 dim= 315 dimdual= 0 hull= 0
p= 11 dim= 301 dimdual= 14 hull= 0
> lo;
[ 1, 80, 160, 10, 32, 32 ]

> des5:=Design<1,v|Setseq(orbs[5]^a2)>;
> des6:=Design<1,v|Setseq(orbs[6]^a2)>;
> a,b:=IsIsomorphic(des5,des6);
```

```
> a;
true
> b;
Mapping from: Dsgn: des5 to Dsgn: des6
> bl:=orbs[5] join orbs[6];
> des56:=Design<1,v|Setseq(bl^a2)>;
> des56;
1-(315, 64, 64) Design with 315 blocks
> #(AutomorphismGroup(des56));
1209600
----------------------------------------
//J2 of degree 525

 g4:=ma[4];
525
no. of orbs= 6
[ 1, 96, 192, 12, 192, 32 ]
degree= 525

orbs no 2 of length 96
no of edges= 25200
valence= 96 girth= 3 diameter= 2
1209600
1-(525, 96, 96) Design with 525 blocks
1209600
p= 2 dim= 98 dimdual= 427 hull= 62
p= 3 dim= 126 dimdual= 399 hull= 0
p= 5 dim= 525 dimdual= 0 hull= 0
p= 7 dim= 525 dimdual= 0 hull= 0
p= 11 dim= 525 dimdual= 0 hull= 0
orbs no 3 of length 192
no of edges= 50400
valence= 192 girth= 3 diameter= 2
1209600
1-(525, 192, 192) Design with 525 blocks
1209600
p= 2 dim= 112 dimdual= 413 hull= 112
p= 3 dim= 63 dimdual= 462 hull= 0
p= 5 dim= 525 dimdual= 0 hull= 0
p= 7 dim= 525 dimdual= 0 hull= 0
p= 11 dim= 525 dimdual= 0 hull= 0
orbs no 4 of length 12
no of edges= 3150
valence= 12 girth= 3 diameter= 4
1209600
1-(525, 12, 12) Design with 525 blocks
1209600
p= 2 dim= 364 dimdual= 161 hull= 0
p= 3 dim= 260 dimdual= 265 hull= 134
p= 5 dim= 365 dimdual= 160 hull= 90
p= 7 dim= 365 dimdual= 160 hull= 36
p= 11 dim= 365 dimdual= 160 hull= 0
orbs no 5 of length 192
no of edges= 50400
valence= 192 girth= 3 diameter= 2
1209600
1-(525, 192, 192) Design with 525 blocks
1209600
p= 2 dim= 112 dimdual= 413 hull= 112
p= 3 dim= 260 dimdual= 265 hull= 134
p= 5 dim= 365 dimdual= 160 hull= 90
p= 7 dim= 365 dimdual= 160 hull= 36
p= 11 dim= 365 dimdual= 160 hull= 0
orbs no 6 of length 32
no of edges= 8400
valence= 32 girth= 3 diameter= 4
1209600
1-(525, 32, 32) Design with 525 blocks
1209600
p= 2 dim= 160 dimdual= 365 hull= 0
p= 3 dim= 462 dimdual= 63 hull= 0
p= 5 dim= 525 dimdual= 0 hull= 0
p= 7 dim= 525 dimdual= 0 hull= 0
p= 11 dim= 525 dimdual= 0 hull= 0
> lo;
[ 1, 96, 192, 12, 192, 32 ]
> des3:=Design<1,v|Setseq(orbs[3]^a2)>;
> des5:=Design<1,v|Setseq(orbs[5]^a2)>;
> IsIsomorphic(des3,des5);
false
> //good
------------------------------------------
// J2 of degree 840

 g5:=ma[5];
 Degree(a2);
840
no. of orbs= 7
[ 1, 180, 240, 20, 15, 360, 24 ]
degree= 840

orbs no 2 of length 180
no of edges= 75600
valence= 180 girth= 3 diameter= 2
1209600
1-(840, 180, 180) Design with 840 blocks
1209600
p= 2 dim= 280 dimdual= 560 hull= 120
p= 3 dim= 216 dimdual= 624 hull= 0
p= 5 dim= 517 dimdual= 323 hull= 42
p= 7 dim= 602 dimdual= 238 hull= 0
p= 11 dim= 602 dimdual= 238 hull= 0
```

```
orbs no 3 of length 240
no of edges= 100800
valence= 240 girth= 3 diameter= 2
1209600
1-(840, 240, 240) Design with 840 blocks
1209600
p= 2 dim= 120 dimdual= 720 hull= 120
p= 3 dim= 378 dimdual= 462 hull= 90
p= 5 dim= 692 dimdual= 148 hull= 42
p= 7 dim= 714 dimdual= 126 hull= 0
p= 11 dim= 714 dimdual= 126 hull= 0
orbs no 4 of length 20
no of edges= 8400
valence= 20 girth= 3 diameter= 4
1209600
1-(840, 20, 20) Design with 840 blocks
1209600
p= 2 dim= 350 dimdual= 490 hull= 230
p= 3 dim= 714 dimdual= 126 hull= 90
p= 5 dim= 692 dimdual= 148 hull= 42
p= 7 dim= 714 dimdual= 126 hull= 0
p= 11 dim= 714 dimdual= 126 hull= 0
orbs no 5 of length 15
no of edges= 6300
valence= 15 girth= 3 diameter= 4
1209600
1-(840, 15, 15) Design with 840 blocks
1209600
p= 2 dim= 680 dimdual= 160 hull= 0
p= 3 dim= 504 dimdual= 336 hull= 0
p= 5 dim= 692 dimdual= 148 hull= 42
p= 7 dim= 840 dimdual= 0 hull= 0
p= 11 dim= 840 dimdual= 0 hull= 0
orbs no 6 of length 360
no of edges= 151200
valence= 360 girth= 3 diameter= 2
1209600
1-(840, 360, 360) Design with 840 blocks
1209600
p= 2 dim= 350 dimdual= 490 hull= 266
p= 3 dim= 216 dimdual= 624 hull= 0
p= 5 dim= 307 dimdual= 533 hull= 132
p= 7 dim= 455 dimdual= 385 hull= 0
p= 11 dim= 455 dimdual= 385 hull= 0
orbs no 7 of length 24
no of edges= 10080
valence= 24 girth= 3 diameter= 3
1209600
1-(840, 24, 24) Design with 840 blocks
1209600
p= 2 dim= 350 dimdual= 490 hull= 266
p= 3 dim= 350 dimdual= 490 hull= 134
p= 5 dim= 455 dimdual= 385 hull= 90
p= 7 dim= 455 dimdual= 385 hull= 0
p= 11 dim= 455 dimdual= 385 hull= 0
> lo;
[ 1, 180, 240, 20, 15, 360, 24 ]
> bl:=orbs[1] join orbs[7];
> blox:=Setseq(bl^a2);
> #blox;
840
> des17:=Design<1,v|blox>;
> des17;
1-(840, 25, 25) Design with 840 blocks
> AutomorphismGroup(des17);
Order = 1209600 = 2^8 * 3^3 * 5^2 * 7
-----------------------------------------
//J2 of degree 1008

 g6:=ma[6];
 Degree(a2);
1008
no. of orbs= 11
[ 1, 300, 12, 100, 60, 150, 150,
60, 100, 25, 50 ]
degree= 1008

orbs no 2 of length 300
1-(1008, 300, 300) Design with 1008 blocks
1209600
p= 2 dim= 628 dimdual= 380 hull= 152
p= 3 dim= 729 dimdual= 279 hull= 0
p= 5 dim= 560 dimdual= 448 hull= 85
p= 7 dim= 1008 dimdual= 0 hull= 0
p= 11 dim= 918 dimdual= 90 hull= 0
orbs no 3 of length 12
1-(1008, 12, 12) Design with 1008 blocks
1209600
p= 2 dim= 628 dimdual= 380 hull= 152
p= 3 dim= 729 dimdual= 279 hull= 0
p= 5 dim= 1008 dimdual= 0 hull= 0
p= 7 dim= 1008 dimdual= 0 hull= 0
p= 11 dim= 1008 dimdual= 0 hull= 0
orbs no 4 of length 100
1-(1008, 100, 100) Design with 1008 blocks
604800
p= 2 dim= 714 dimdual= 294 hull= 238
p= 3 dim= 882 dimdual= 126 hull= 90
p= 5 dim= 574 dimdual= 434 hull= 99
p= 7 dim= 882 dimdual= 126 hull= 0
p= 11 dim= 708 dimdual= 300 hull= 0
orbs no 5 of length 60
```

```
1-(1008, 60, 60) Design with 1008 blocks
604800
p= 2 dim= 714 dimdual= 294 hull= 238
p= 3 dim= 693 dimdual= 315 hull= 90
p= 5 dim= 678 dimdual= 330 hull= 99
p= 7 dim= 882 dimdual= 126 hull= 0
p= 11 dim= 792 dimdual= 216 hull= 0
orbs no 6 of length 150
1-(1008, 150, 150) Design with 1008 blocks
604800
p= 2 dim= 243 dimdual= 765 hull= 215
p= 3 dim= 441 dimdual= 567 hull= 225
p= 5 dim= 574 dimdual= 434 hull= 99
p= 7 dim= 719 dimdual= 289 hull= 89
p= 11 dim= 720 dimdual= 288 hull= 0
orbs no 7 of length 150
1-(1008, 150, 150) Design with 1008 blocks
604800
p= 2 dim= 243 dimdual= 765 hull= 215
p= 3 dim= 441 dimdual= 567 hull= 225
p= 5 dim= 574 dimdual= 434 hull= 99
p= 7 dim= 719 dimdual= 289 hull= 89
p= 11 dim= 720 dimdual= 288 hull= 0
orbs no 8 of length 60
1-(1008, 60, 60) Design with 1008 blocks
604800
p= 2 dim= 714 dimdual= 294 hull= 238
p= 3 dim= 693 dimdual= 315 hull= 90
p= 5 dim= 678 dimdual= 330 hull= 99
p= 7 dim= 882 dimdual= 126 hull= 0
p= 11 dim= 792 dimdual= 216 hull= 0
orbs no 9 of length 100
1-(1008, 100, 100) Design with 1008 blocks
604800
p= 2 dim= 714 dimdual= 294 hull= 238
p= 3 dim= 882 dimdual= 126 hull= 90
p= 5 dim= 574 dimdual= 434 hull= 99
p= 7 dim= 882 dimdual= 126 hull= 0
p= 11 dim= 708 dimdual= 300 hull= 0
orbs no 10 of length 25
1-(1008, 25, 25) Design with 1008 blocks
1209600
p= 2 dim= 1008 dimdual= 0 hull= 0
p= 3 dim= 1008 dimdual= 0 hull= 0
p= 5 dim= 560 dimdual= 448 hull= 85
p= 7 dim= 1008 dimdual= 0 hull= 0
p= 11 dim= 918 dimdual= 90 hull= 0
orbs no 11 of length 50
1-(1008, 50, 50) Design with 1008 blocks
1209600
p= 2 dim= 266 dimdual= 742 hull= 238
p= 3 dim= 630 dimdual= 378 hull= 225
p= 5 dim= 574 dimdual= 434 hull= 99
p= 7 dim= 630 dimdual= 378 hull= 0
p= 11 dim= 630 dimdual= 378 hull= 0
> lo;
[ 1, 300, 12, 100, 60, 150, 150,
60, 100, 25, 50 ]
> bl:=orbs[4] join orbs[9];
> des49:=Design<1,v|Setseq(bl^a2)>;
> des49;
1-(1008, 200, 200) Design with 1008 blocks
> AutomorphismGroup(des49);
Order = 1209600 = 2^8 * 3^3 * 5^2 * 7
> bl:=orbs[5] join orbs[8];
> des58:=Design<1,v|Setseq(bl^a2)>;
>  AutomorphismGroup(des58);
Order = 1209600 = 2^8 * 3^3 * 5^2 * 7
> des5:=Design<1,v|Setseq(orbs[5]^a2)>;
> des8:=Design<1,v|Setseq(orbs[8]^a2)>;
> IsIsomorphic(des5,des8);
true Mapping from: Dsgn: des5 to Dsgn: des8
> bl:=orbs[6] join orbs[7];
> des67:=Design<1,v|Setseq(bl^a2)>;
> des67;
1-(1008, 300, 300) Design with 1008 blocks
> AutomorphismGroup(des67);
Order = 1209600 = 2^8 * 3^3 * 5^2 * 7
-----------------------------------------------
//J2 of degree 1800

 g7:=ma[7];
no. of orbs= 18
[ 1, 14, 14, 42, 168, 168, 168, 84, 84,
 168, 168, 336, 28, 42, 168,
84, 42, 21 ]
degree= 1800

orbs no 2 of length 14
1-(1800, 14, 14) Design with 1800 blocks
604800
p= 2 dim= 1134 dimdual= 666 hull= 62
p= 3 dim= 1611 dimdual= 189 hull= 36
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1337 dimdual= 463 hull= 0
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 3 of length 14
1-(1800, 14, 14) Design with 1800 blocks
604800
p= 2 dim= 1134 dimdual= 666 hull= 62
p= 3 dim= 1611 dimdual= 189 hull= 36
p= 5 dim= 1800 dimdual= 0 hull= 0
```

```
p= 7 dim= 1337 dimdual= 463 hull= 0
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 4 of length 42
1-(1800, 42, 42) Design with 1800 blocks
1209600
p= 2 dim= 700 dimdual= 1100 hull= 364
p= 3 dim= 1050 dimdual= 750 hull= 489
p= 5 dim= 1625 dimdual= 175 hull= 0
p= 7 dim= 1624 dimdual= 176 hull= 0
p= 11 dim= 1589 dimdual= 211 hull= 0
orbs no 5 of length 168
1-(1800, 168, 168) Design with 1800 blocks
1209600
p= 2 dim= 568 dimdual= 1232 hull= 120
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1625 dimdual= 175 hull= 0
p= 7 dim= 1624 dimdual= 176 hull= 0
p= 11 dim= 1625 dimdual= 175 hull= 0
orbs no 6 of length 168
1-(1800, 168, 168) Design with 1800 blocks
1209600
p= 2 dim= 336 dimdual= 1464 hull= 336
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1625 dimdual= 175 hull= 0
p= 7 dim= 1624 dimdual= 176 hull= 0
p= 11 dim= 1625 dimdual= 175 hull= 0
orbs no 7 of length 168
1-(1800, 168, 168) Design with 1800 blocks
1209600
p= 2 dim= 448 dimdual= 1352 hull= 0
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1625 dimdual= 175 hull= 0
p= 7 dim= 1624 dimdual= 176 hull= 0
p= 11 dim= 1625 dimdual= 175 hull= 0
orbs no 8 of length 84
1-(1800, 84, 84) Design with 1800 blocks
604800
p= 2 dim= 734 dimdual= 1066 hull= 398
p= 3 dim= 1050 dimdual= 750 hull= 489
p= 5 dim= 1199 dimdual= 601 hull= 336
p= 7 dim= 1261 dimdual= 539 hull= 36
p= 11 dim= 1262 dimdual= 538 hull= 0
orbs no 9 of length 84
1-(1800, 84, 84) Design with 1800 blocks
1209600
p= 2 dim= 734 dimdual= 1066 hull= 398
p= 3 dim= 1176 dimdual= 624 hull= 399
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1736 dimdual= 64 hull= 63
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 10 of length 168
1-(1800, 168, 168) Design with 1800 blocks
604800
p= 2 dim= 336 dimdual= 1464 hull= 336
p= 3 dim= 939 dimdual= 861 hull= 372
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1799 dimdual= 1 hull= 0
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 11 of length 168
1-(1800, 168, 168) Design with 1800 blocks
604800
p= 2 dim= 336 dimdual= 1464 hull= 336
p= 3 dim= 939 dimdual= 861 hull= 372
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1799 dimdual= 1 hull= 0
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 12 of length 336
1-(1800, 336, 336) Design with 1800 blocks
1209600
p= 2 dim= 120 dimdual= 1680 hull= 120
p= 3 dim= 1275 dimdual= 525 hull= 372
p= 5 dim= 1450 dimdual= 350 hull= 315
p= 7 dim= 1673 dimdual= 127 hull= 0
p= 11 dim= 1674 dimdual= 126 hull= 0
orbs no 13 of length 28
1-(1800, 28, 28) Design with 1800 blocks
1209600
p= 2 dim= 798 dimdual= 1002 hull= 350
p= 3 dim= 1512 dimdual= 288 hull= 63
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1799 dimdual= 1 hull= 0
p= 11 dim= 1800 dimdual= 0 hull= 0
orbs no 14 of length 42
1-(1800, 42, 42) Design with 1800 blocks
604800
p= 2 dim= 1072 dimdual= 728 hull= 0
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1640 dimdual= 160 hull= 90
p= 7 dim= 1639 dimdual= 161 hull= 36
p= 11 dim= 1640 dimdual= 160 hull= 0
orbs no 15 of length 168
1-(1800, 168, 168) Design with 1800 blocks
1209600
p= 2 dim= 336 dimdual= 1464 hull= 336
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1625 dimdual= 175 hull= 0
p= 7 dim= 1624 dimdual= 176 hull= 0
p= 11 dim= 1625 dimdual= 175 hull= 0
orbs no 16 of length 84
1-(1800, 84, 84) Design with 1800 blocks
604800
p= 2 dim= 734 dimdual= 1066 hull= 398
```

```
p= 3 dim= 1050 dimdual= 750 hull= 489
p= 5 dim= 1199 dimdual= 601 hull= 336
p= 7 dim= 1261 dimdual= 539 hull= 36
p= 11 dim= 1262 dimdual= 538 hull= 0
orbs no 17 of length 42
1-(1800, 42, 42) Design with 1800 blocks
604800
p= 2 dim= 1072 dimdual= 728 hull= 0
p= 3 dim= 1401 dimdual= 399 hull= 336
p= 5 dim= 1640 dimdual= 160 hull= 90
p= 7 dim= 1639 dimdual= 161 hull= 36
p= 11 dim= 1640 dimdual= 160 hull= 0
orbs no 18 of length 21
1-(1800, 21, 21) Design with 1800 blocks
1209600
p= 2 dim= 1352 dimdual= 448 hull= 0
p= 3 dim= 939 dimdual= 861 hull= 426
p= 5 dim= 1800 dimdual= 0 hull= 0
p= 7 dim= 1673 dimdual= 127 hull= 0
p= 11 dim= 1737 dimdual= 63 hull= 0
------------------------------------

//J2 of degree 2016

Loading "/usr/local/magma2.3/LIBS/simgps/simgps"
no. of orbs= 18
[ 1, 50, 150, 75, 75, 300, 150, 50, 75,
150, 150, 15, 150, 300, 150,
25, 75, 75 ]
degree= 2016

orbs no 2 of length 50
1-(2016, 50, 50) Design with 2016 blocks
604800
p= 2 dim= 797 dimdual= 1219 hull= 363
p= 3 dim= 1665 dimdual= 351 hull= 225
p= 5 dim= 1575 dimdual= 441 hull= 315
p= 7 dim= 1601 dimdual= 415 hull= 89
p= 11 dim= 1728 dimdual= 288 hull= 0
orbs no 3 of length 150
1-(2016, 150, 150) Design with 2016 blocks
604800
p= 2 dim= 796 dimdual= 1220 hull= 362
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1855 dimdual= 161 hull= 90
p= 7 dim= 1419 dimdual= 597 hull= 124
p= 11 dim= 1856 dimdual= 160 hull= 0
orbs no 4 of length 75
1-(2016, 75, 75) Design with 2016 blocks
604800
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 1491 dimdual= 525 hull= 426
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 5 of length 75
1-(2016, 75, 75) Design with 2016 blocks
1209600
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 1281 dimdual= 735 hull= 336
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 1764 dimdual= 252 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 6 of length 300
1-(2016, 300, 300) Design with 2016 blocks
604800
p= 2 dim= 182 dimdual= 1834 hull= 182
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 1391 dimdual= 625 hull= 89
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 7 of length 150
1-(2016, 150, 150) Design with 2016 blocks
1209600
p= 2 dim= 546 dimdual= 1470 hull= 98
p= 3 dim= 827 dimdual= 1189 hull= 314
p= 5 dim= 1700 dimdual= 316 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 8 of length 50
1-(2016, 50, 50) Design with 2016 blocks
604800
p= 2 dim= 797 dimdual= 1219 hull= 363
p= 3 dim= 1665 dimdual= 351 hull= 225
p= 5 dim= 1575 dimdual= 441 hull= 315
p= 7 dim= 1601 dimdual= 415 hull= 89
p= 11 dim= 1728 dimdual= 288 hull= 0
orbs no 9 of length 75
1-(2016, 75, 75) Design with 2016 blocks
604800
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 10 of length 150
1-(2016, 150, 150) Design with 2016 blocks
1209600
p= 2 dim= 448 dimdual= 1568 hull= 0
p= 3 dim= 1329 dimdual= 687 hull= 561
p= 5 dim= 1338 dimdual= 678 hull= 147
p= 7 dim= 2016 dimdual= 0 hull= 0
```

```
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 11 of length 150
1-(2016, 150, 150) Design with 2016 blocks
604800
p= 2 dim= 797 dimdual= 1219 hull= 363
p= 3 dim= 993 dimdual= 1023 hull= 561
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 1926 dimdual= 90 hull= 0
orbs no 12 of length 15
1-(2016, 15, 15) Design with 2016 blocks
1209600
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 953 dimdual= 1063 hull= 224
p= 5 dim= 2015 dimdual= 1 hull= 0
p= 7 dim= 1890 dimdual= 126 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 13 of length 150
1-(2016, 150, 150) Design with 2016 blocks
604800
p= 2 dim= 796 dimdual= 1220 hull= 362
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1855 dimdual= 161 hull= 90
p= 7 dim= 1419 dimdual= 597 hull= 124
p= 11 dim= 1856 dimdual= 160 hull= 0
orbs no 14 of length 300
1-(2016, 300, 300) Design with 2016 blocks
604800
p= 2 dim= 182 dimdual= 1834 hull= 182
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 1391 dimdual= 625 hull= 89
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 15 of length 150
1-(2016, 150, 150) Design with 2016 blocks
604800
p= 2 dim= 797 dimdual= 1219 hull= 363
p= 3 dim= 993 dimdual= 1023 hull= 561
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 1926 dimdual= 90 hull= 0
orbs no 16 of length 25
1-(2016, 25, 25) Design with 2016 blocks
1209600
p= 2 dim= 2016 dimdual= 0 hull= 0
p= 3 dim= 2016 dimdual= 0 hull= 0
p= 5 dim= 1400 dimdual= 616 hull= 315
p= 7 dim= 1890 dimdual= 126 hull= 0
p= 11 dim= 1926 dimdual= 90 hull= 0
orbs no 17 of length 75
1-(2016, 75, 75) Design with 2016 blocks
604800
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 1491 dimdual= 525 hull= 426
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
orbs no 18 of length 75
1-(2016, 75, 75) Design with 2016 blocks
604800
p= 2 dim= 1568 dimdual= 448 hull= 0
p= 3 dim= 1617 dimdual= 399 hull= 336
p= 5 dim= 1925 dimdual= 91 hull= 0
p= 7 dim= 2016 dimdual= 0 hull= 0
p= 11 dim= 2016 dimdual= 0 hull= 0
```