

# The Gallery

Jean-Gabriel LUQUE\*and Manuel LUQUE†

February 11, 2008

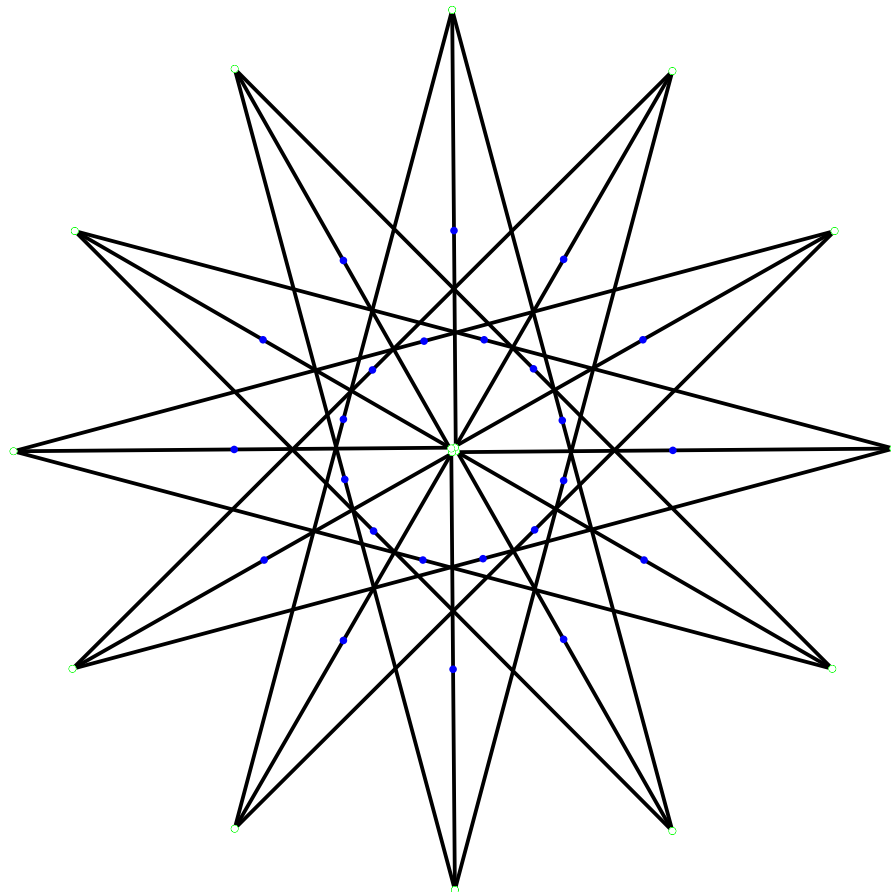
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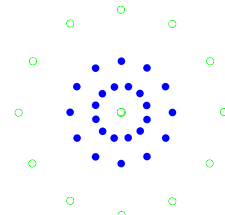
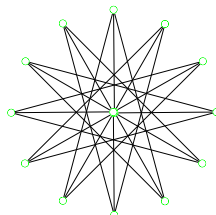
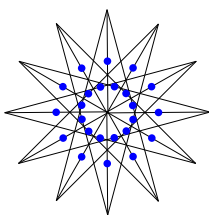
†mluque5130@aol.com

1 Les polygones (dimension 2)

Polytope  $2\{3\}3$



`\CoxeterCoordinates[choice=1]`

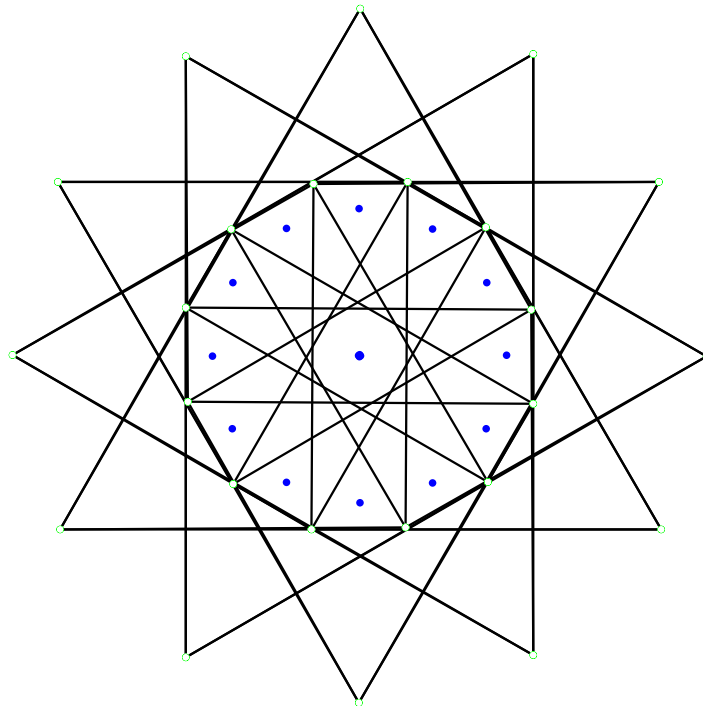


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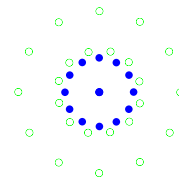
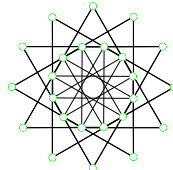
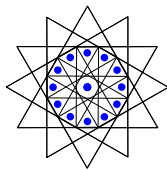
`[drawcenters=false,choice=1]`

`[drawedges=false,choice=1]`

# Polytope $3\{3\}2$



`\CoxeterCoordinates[choice=2]`

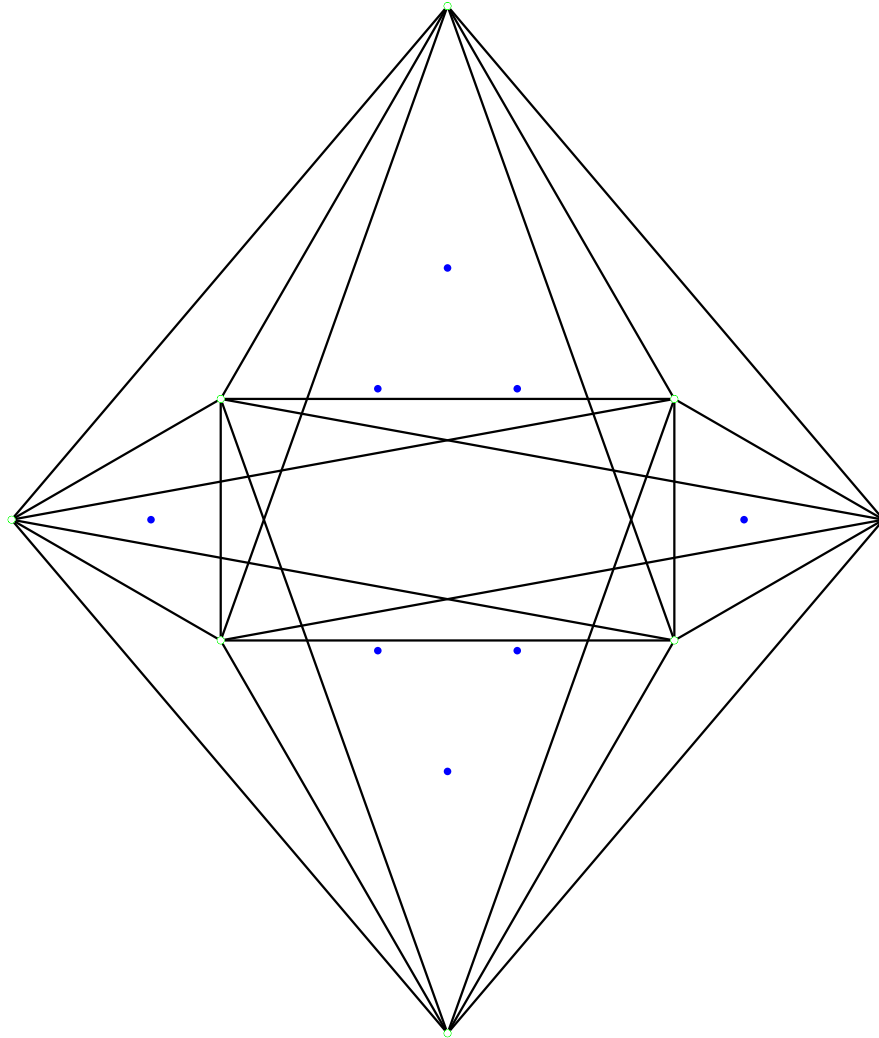


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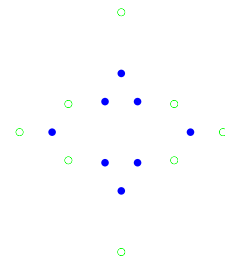
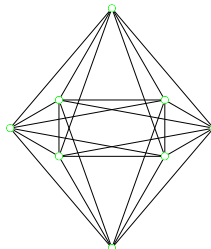
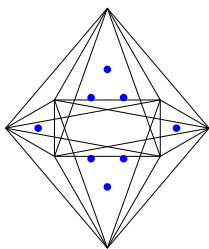
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`[drawedges=false,choice=2]`

# Polytope $3\{3\}3$



`\CoxeterCoordinates[choice=3]`

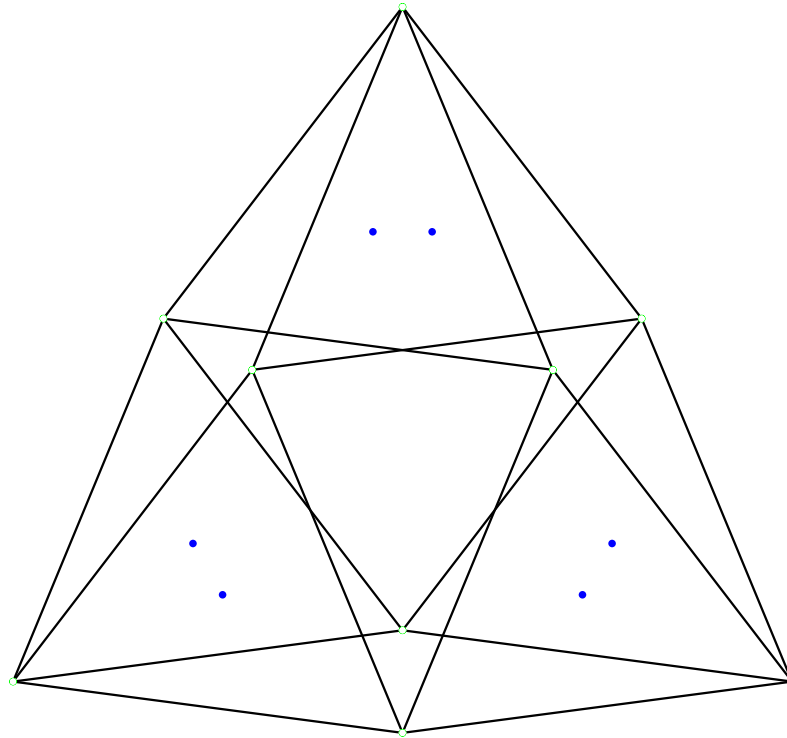


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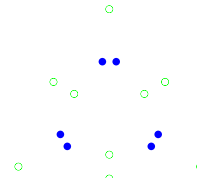
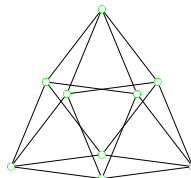
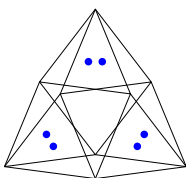
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`[drawedges=false,choice=3]`

# Polytope $3\{4\}2$



`\CoxeterCoordinates[choice=4]`

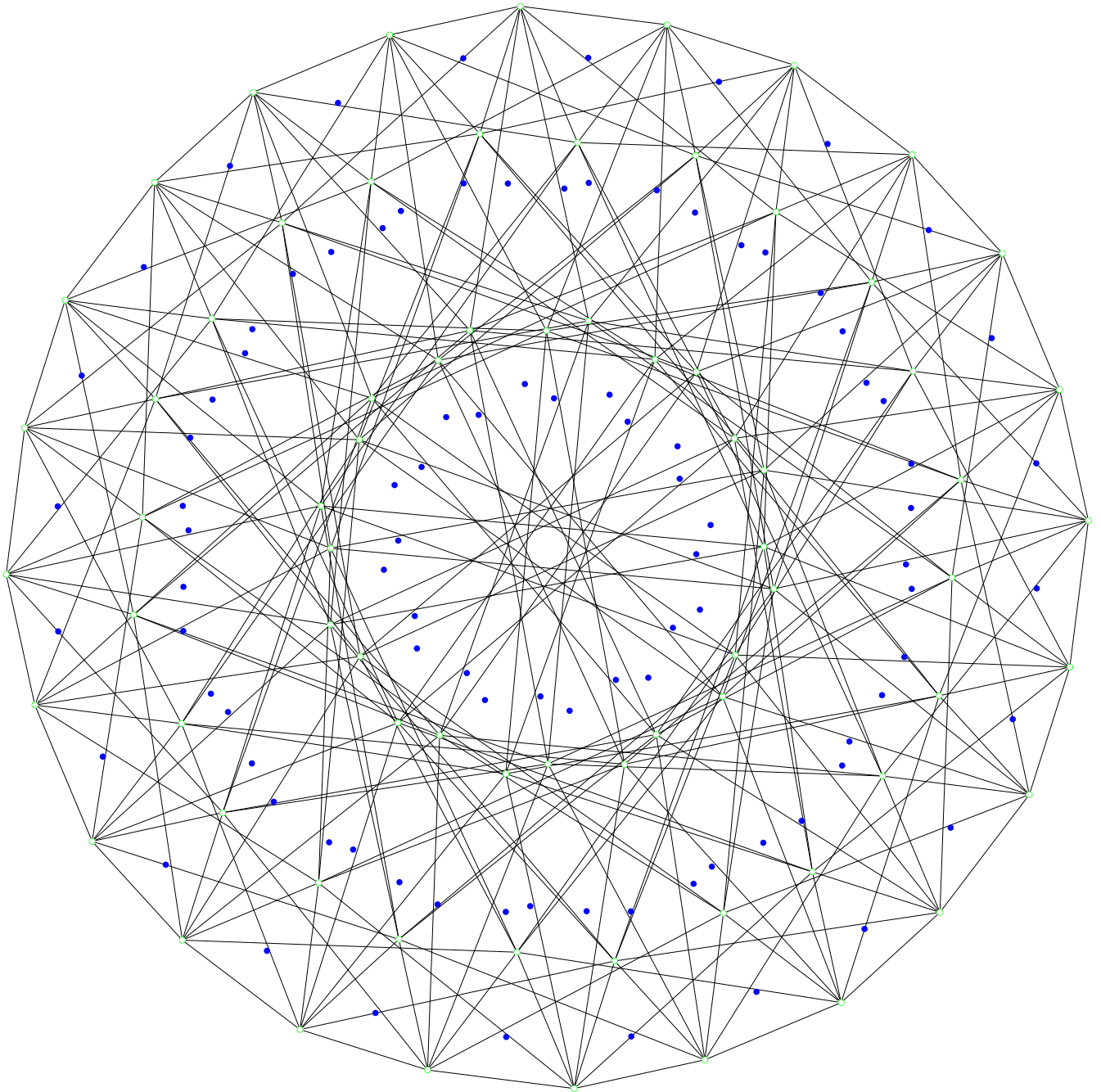


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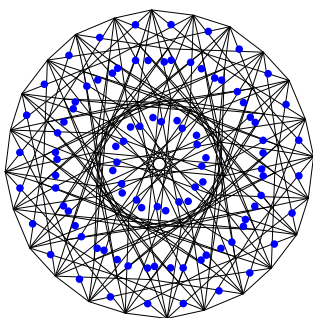
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`[drawedges=false,choice=4]`

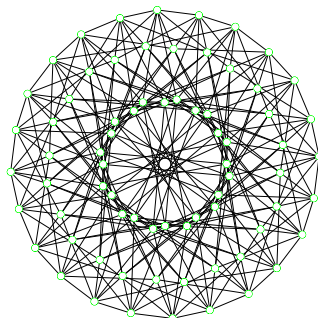
# Polytope $3\{4\}4$



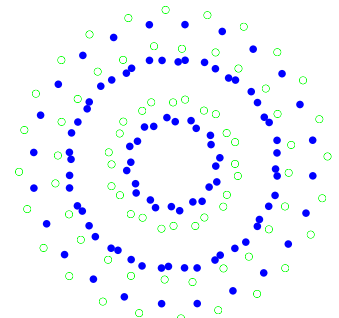
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`[drawvertices=false,choice=5]`

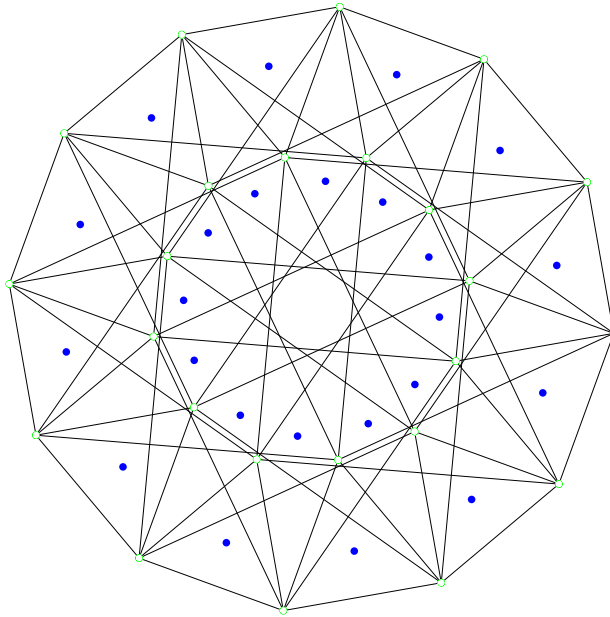


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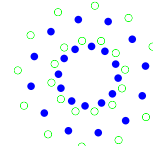
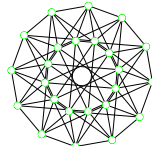
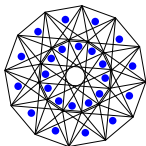


`[drawedges=false,choice=5]`

# Polytope 3{4}3



`\CoxeterCoordinates[choice=6]`

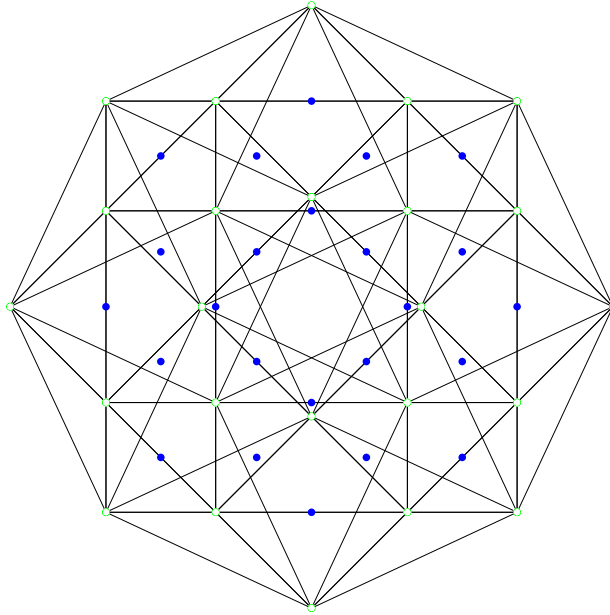


`[drawvertices=false,choice=6]`

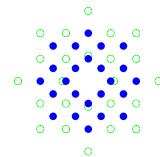
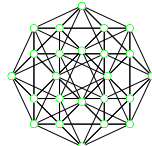
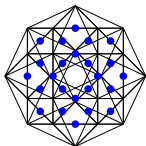
`[drawcenters=false,choice=6]`

`[drawedges=false,choice=6]`

# Polytope $4\{3\}4$



`\CoxeterCoordinates[choice=7]`



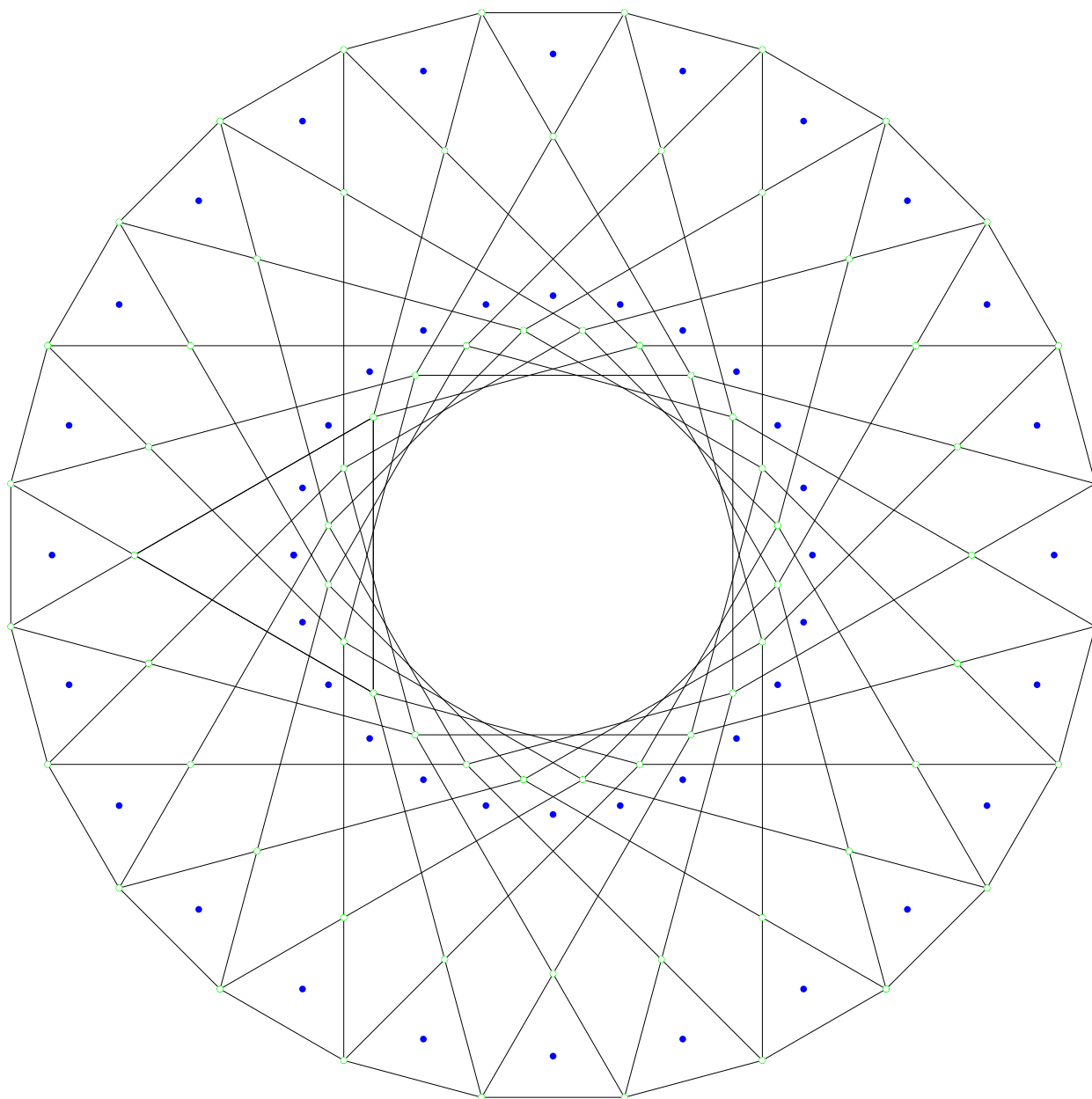
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`[drawcenters=false,choice=7]`

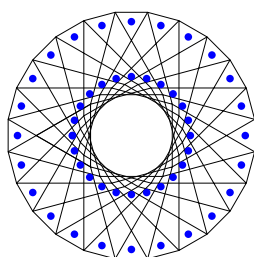
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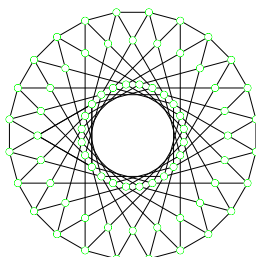
# Polytope 3{8}2



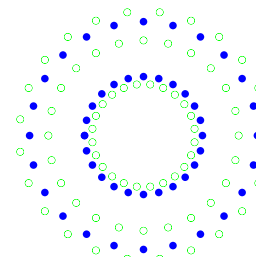
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`[drawvertices=false,choice=12]`

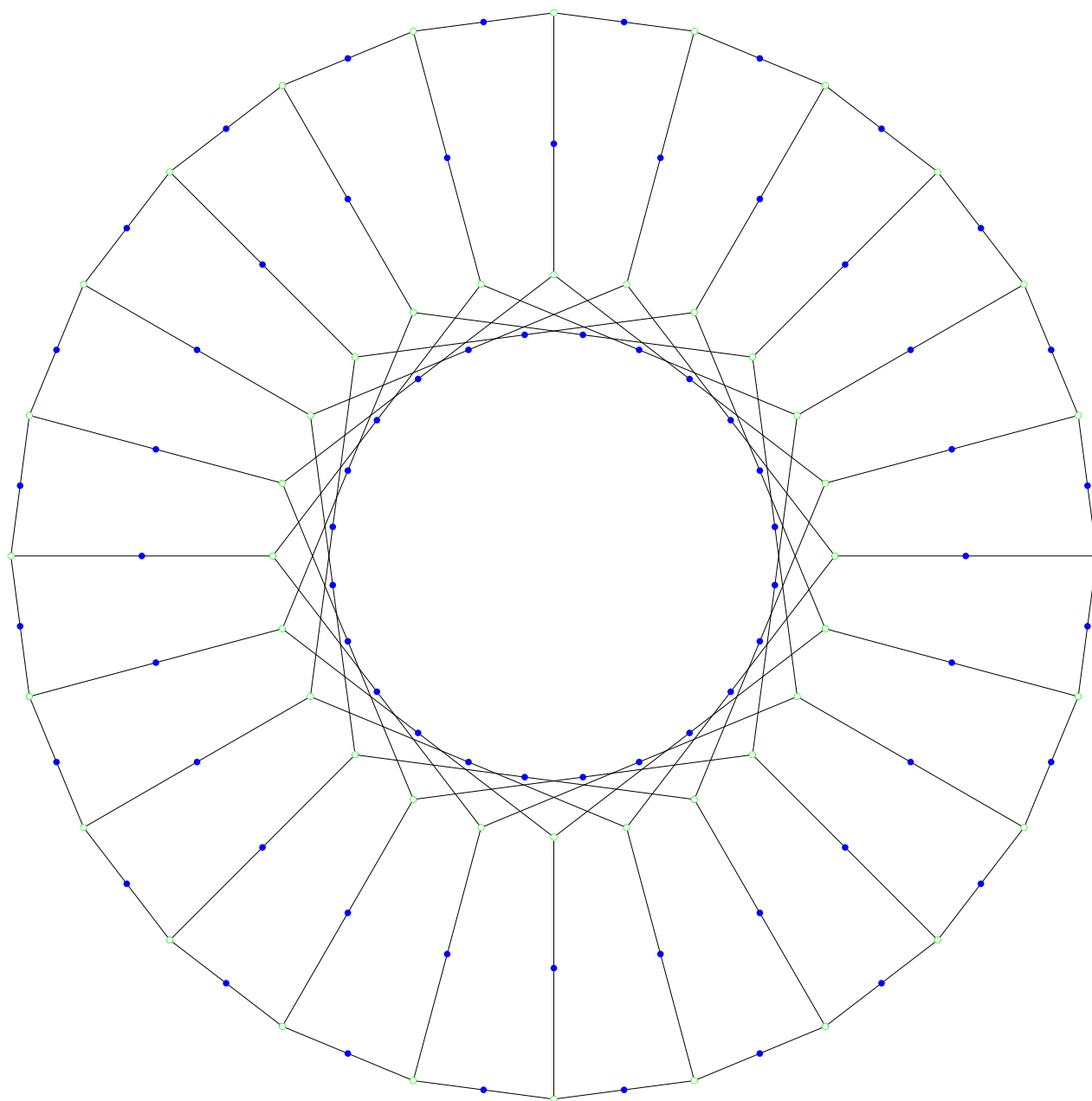


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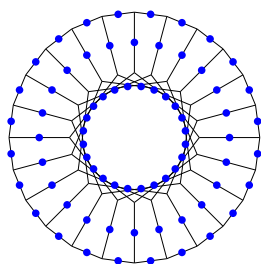


`[drawedges=false,choice=12]`

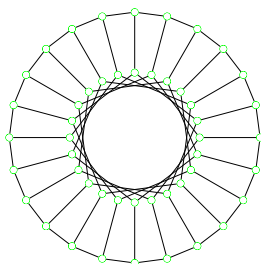
# Polytope 2{8}3



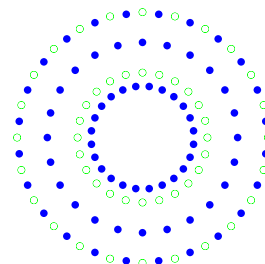
`\CoxeterCoordinates[choice=13]`



`[drawvertices=false,choice=13]`

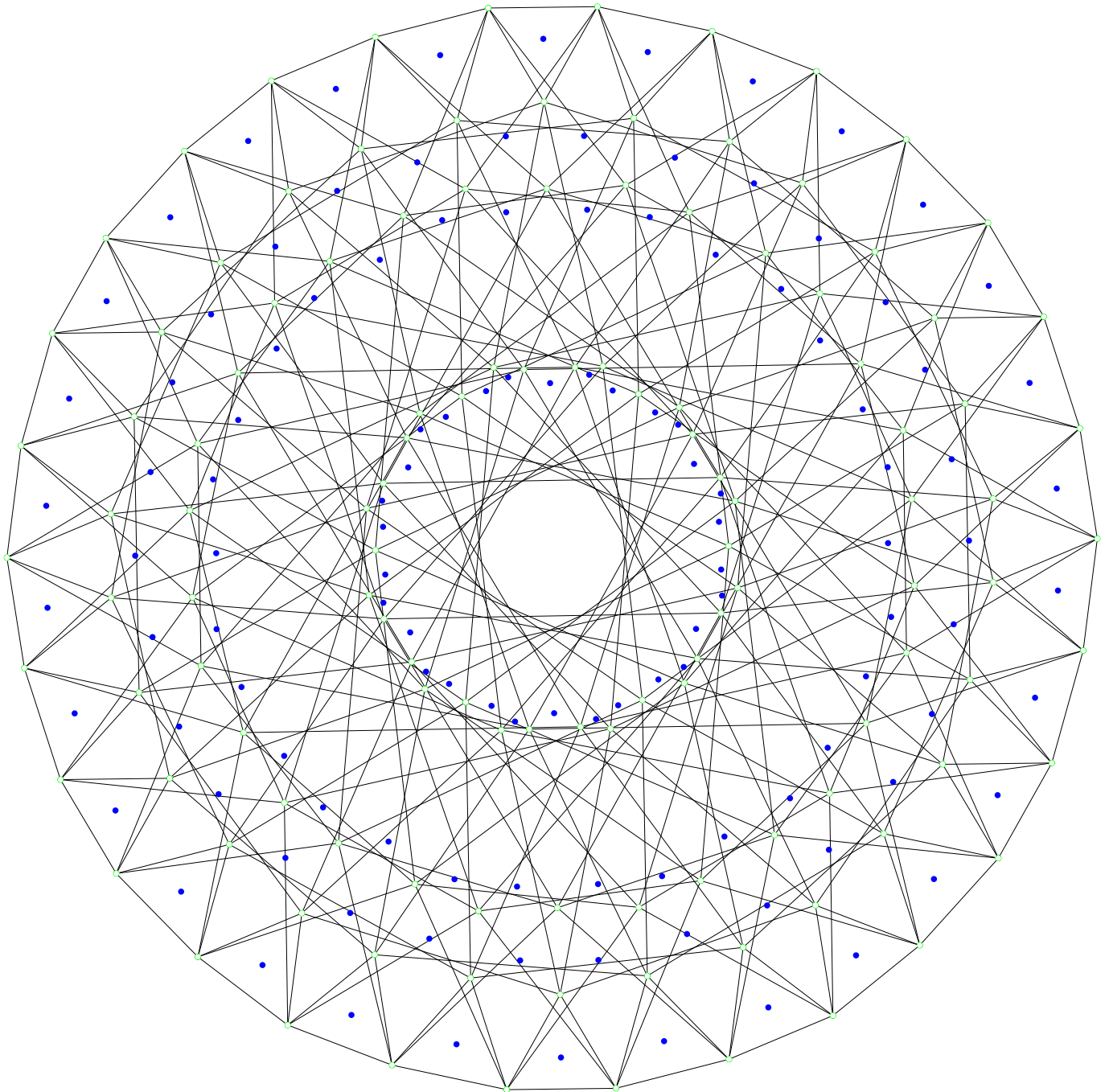


`[drawcenters=false,choice=13]`

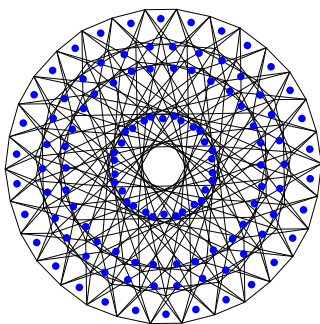


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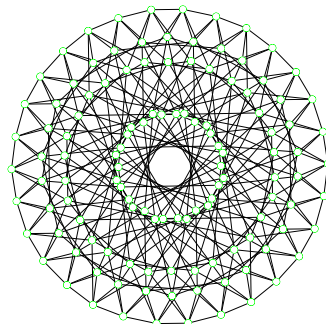
# Polytope $3\{5\}3$



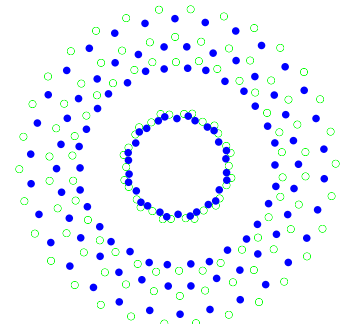
`\CoxeterCoordinates[choice=14]`



`[drawvertices=false,choice=14]`

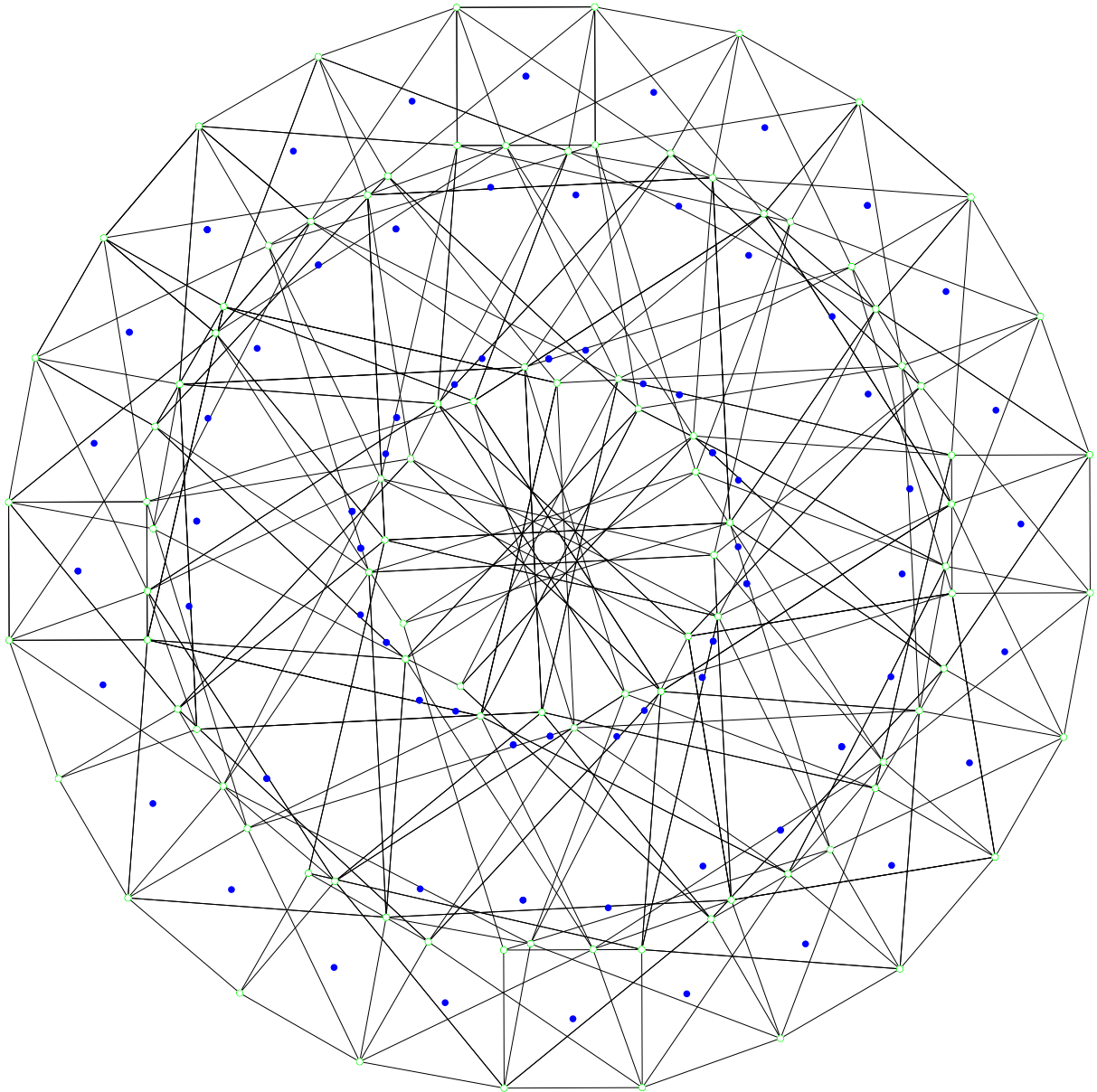


`[drawcenters=false,choice=14]`

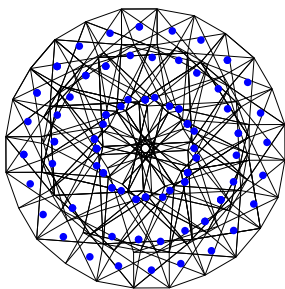


`[drawedges=false,choice=14]`

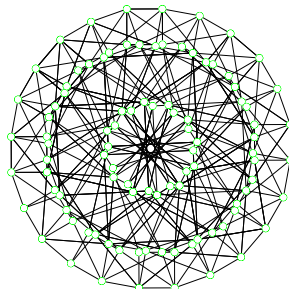
# Polytope $4\{4\}3$



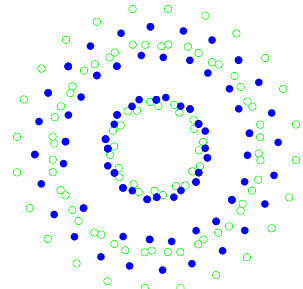
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`[drawvertices=false,choice=15]`

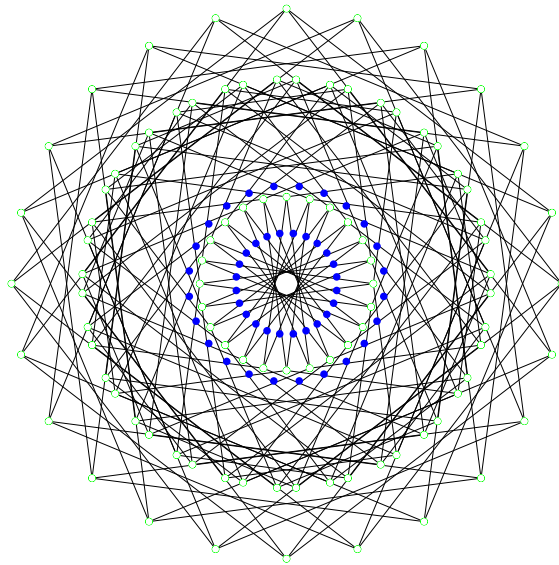


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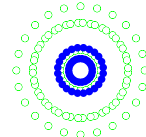
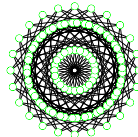
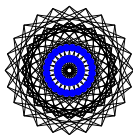


`[drawedges=false,choice=15]`

# Polytope $4\{3\}2$



`\CoxeterCoordinates[choice=16]`

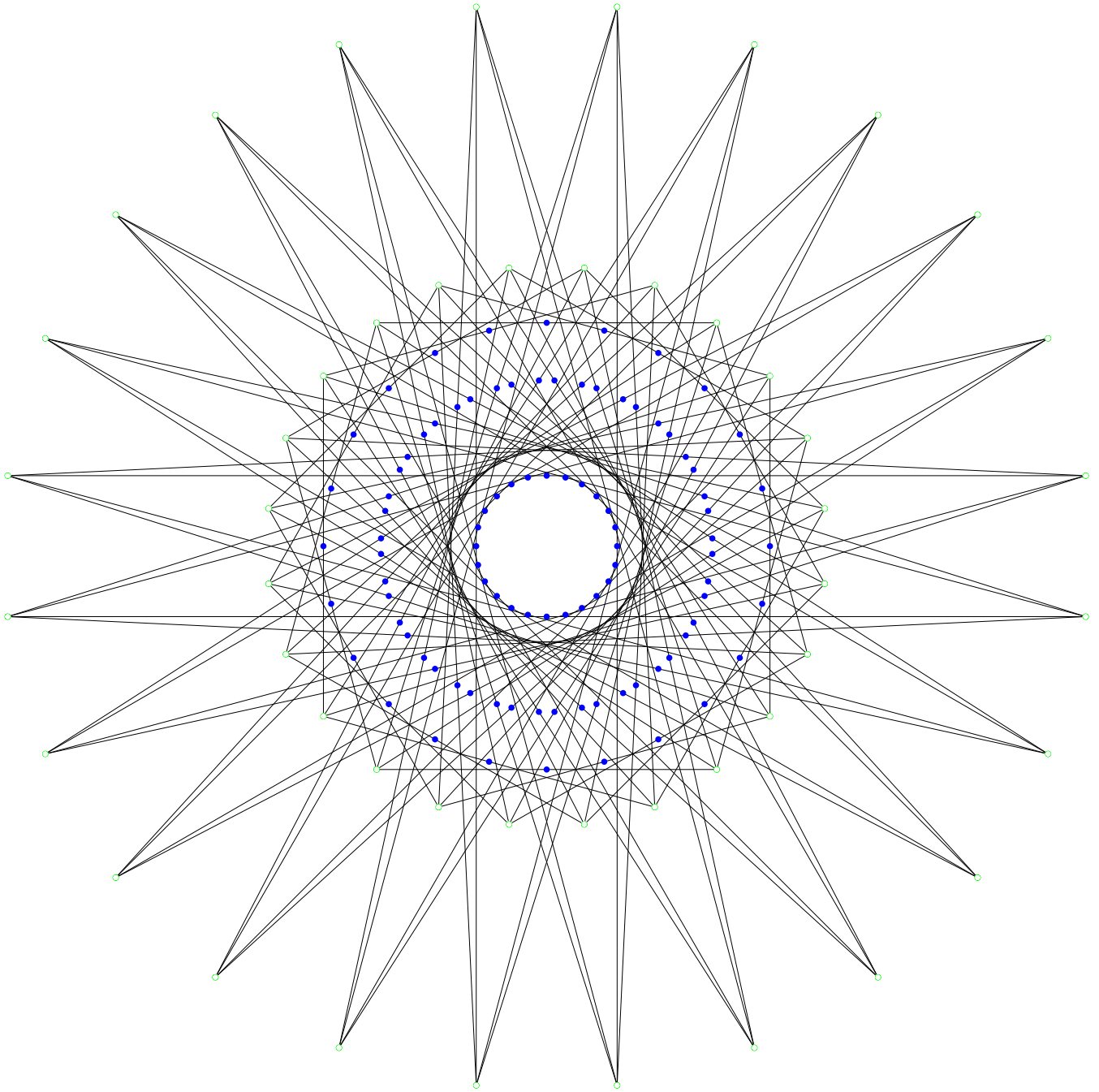


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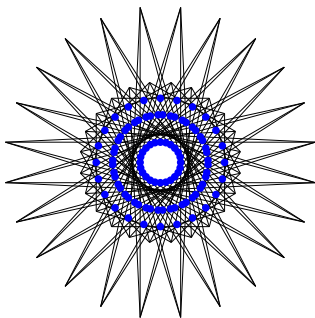
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`[drawedges=false,choice=16]`

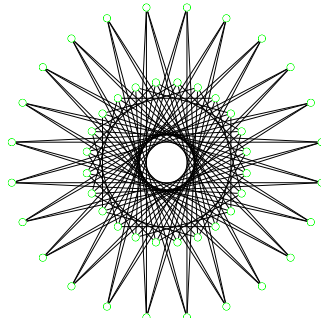
# Polytope $2\{3\}4$



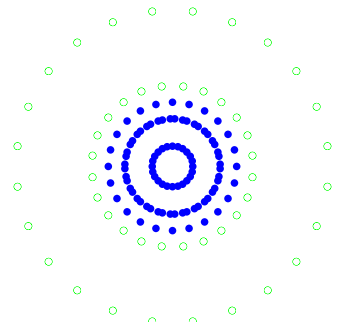
`\CoxeterCoordinates[choice=17]`



`[drawvertices=false,choice=17]`

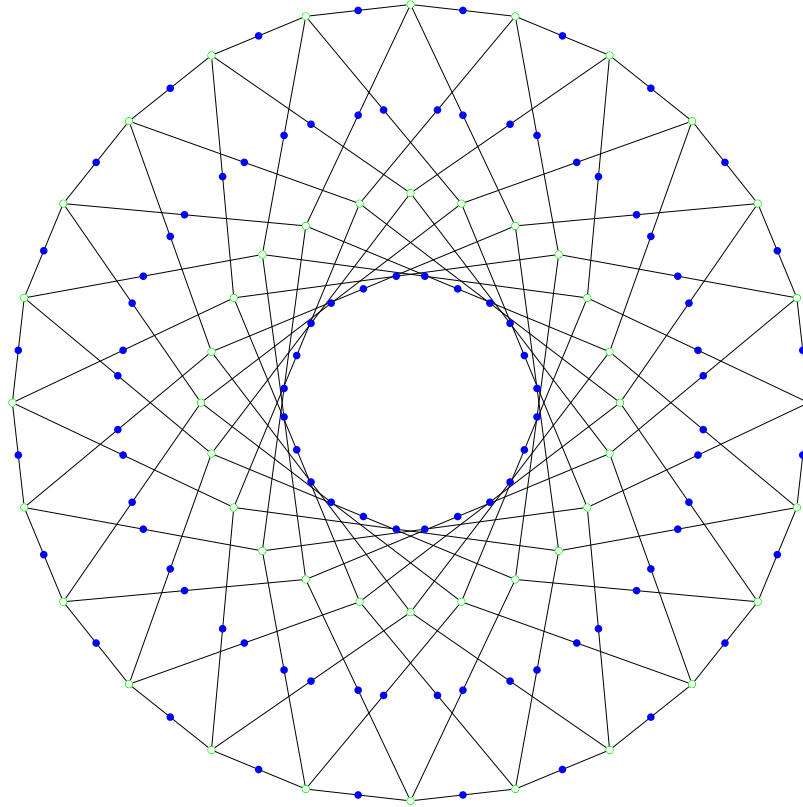


`[drawcenters=false,choice=17]`

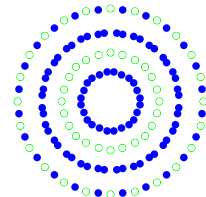
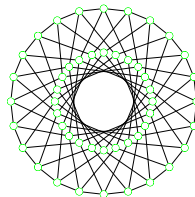
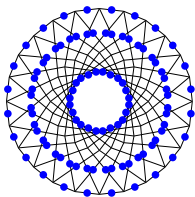


`[drawedges=false,choice=17]`

# Polytope $2\{6\}_4$



`\CoxeterCoordinates[choice=18]`



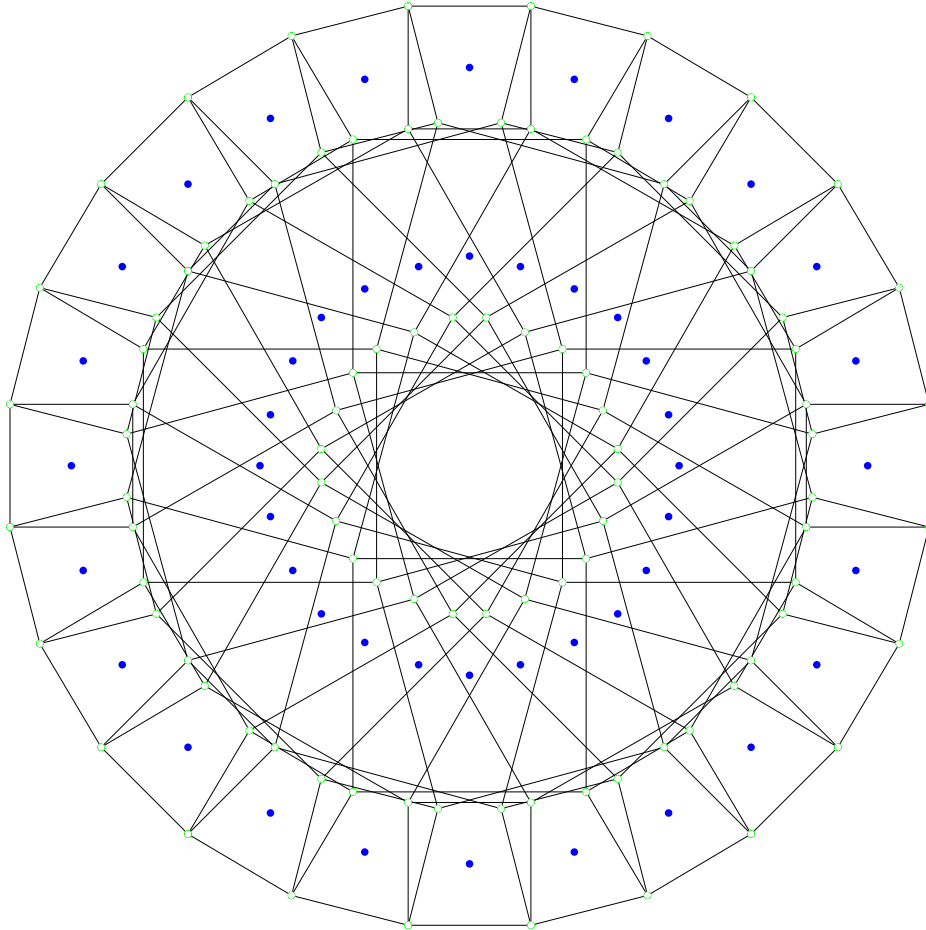
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`[drawcenters=false,choice=18]`

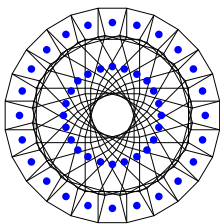
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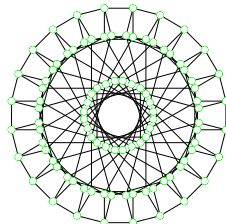
# Polytope 4{6}2



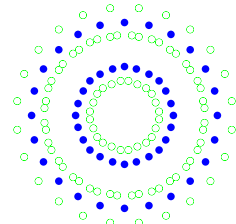
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`[drawvertices=false,choice=19]`



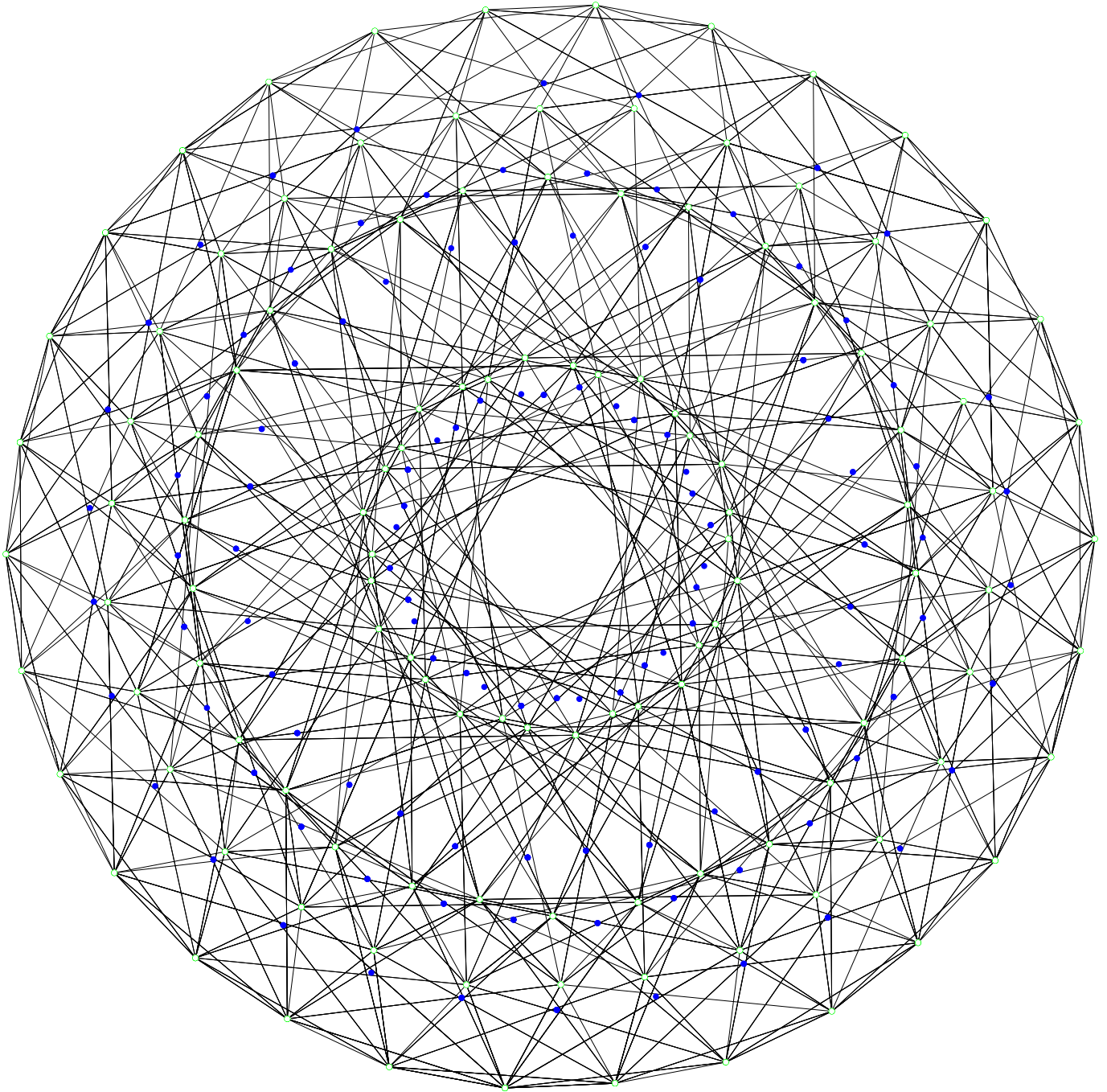
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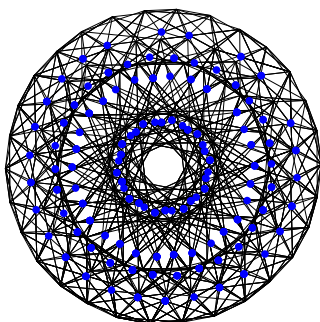
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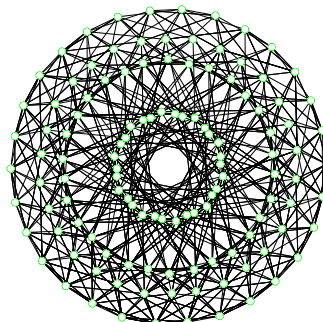
# Polytope $5\{3\}5$



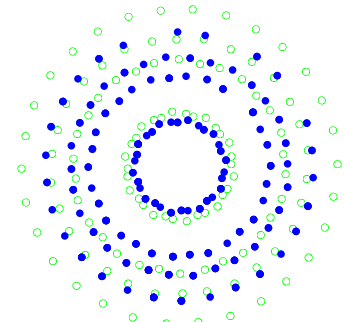
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`[drawvertices=false, choice=20]`

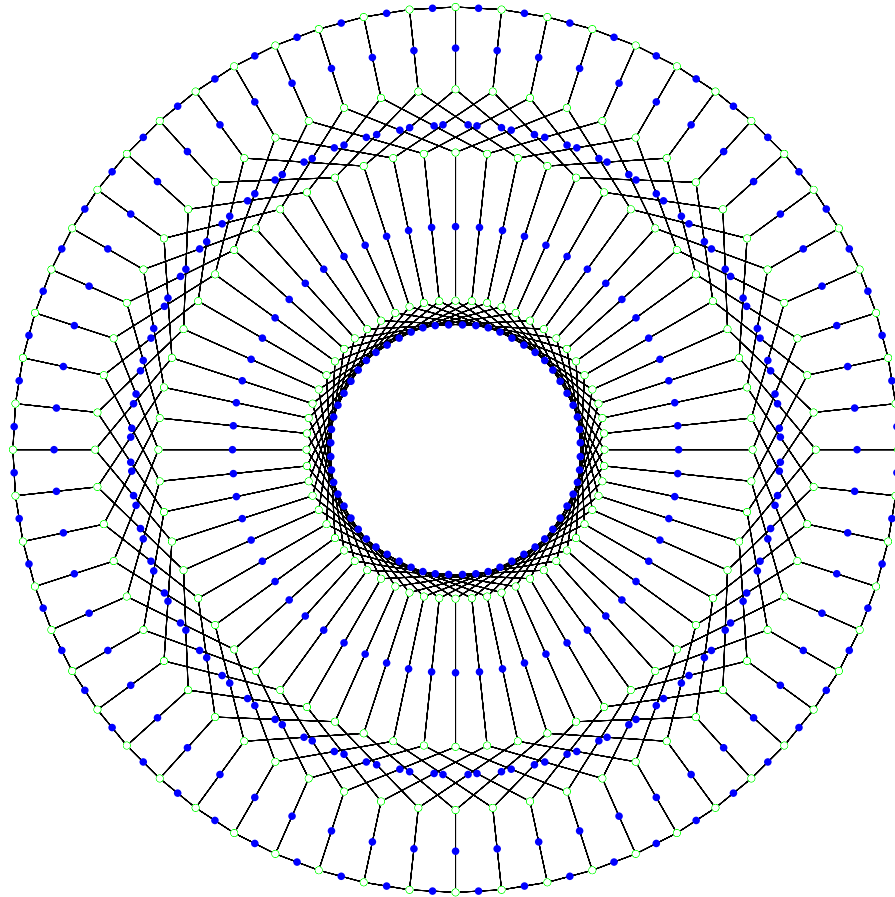


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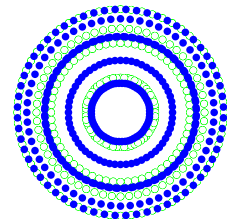
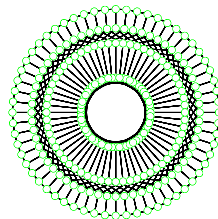
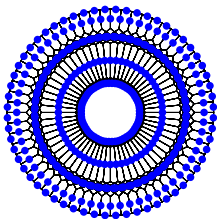


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# Polytope $2\{10\}_3$



`\CoxeterCoordinates[choice=21]`

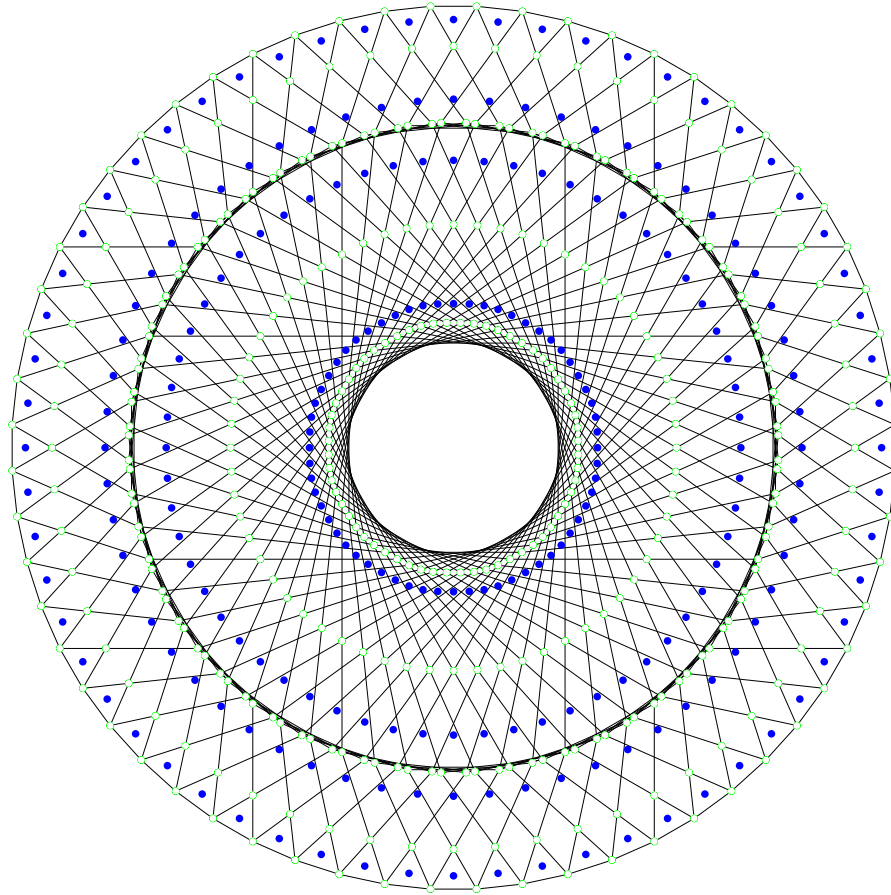


`[drawvertices=false,choice=21]`

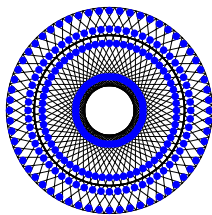
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`[drawedges=false,choice=21]`

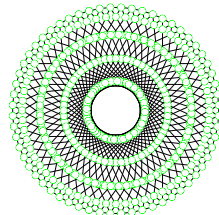
# Polytope $3\{10\}_2$



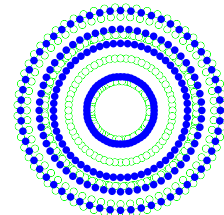
`\CoxeterCoordinates[choice=22]`



`[drawvertices=false,choice=22]`

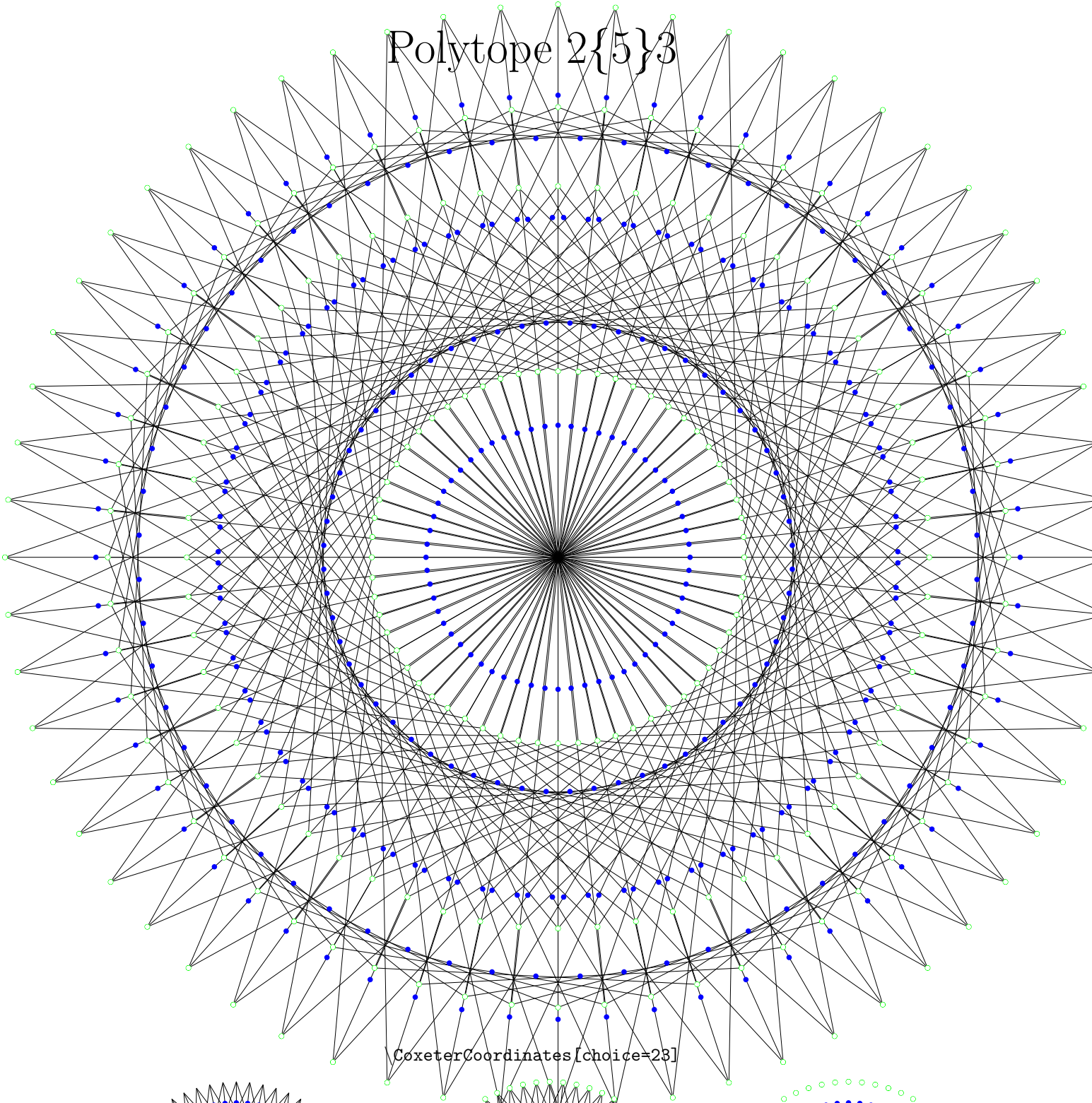


`[drawcenters=false,choice=22]`

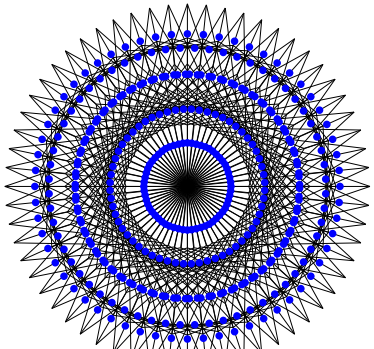


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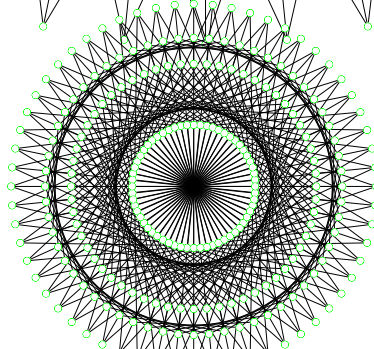
# Polytope $2\{5\}3$



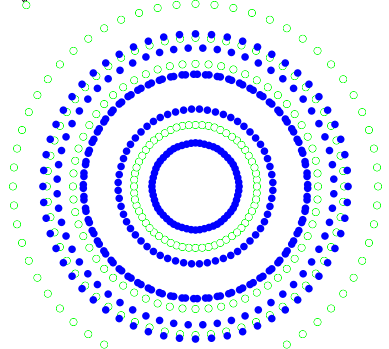
CoxeterCoordinates[choice=23]



[drawvertices=false,choice=23]



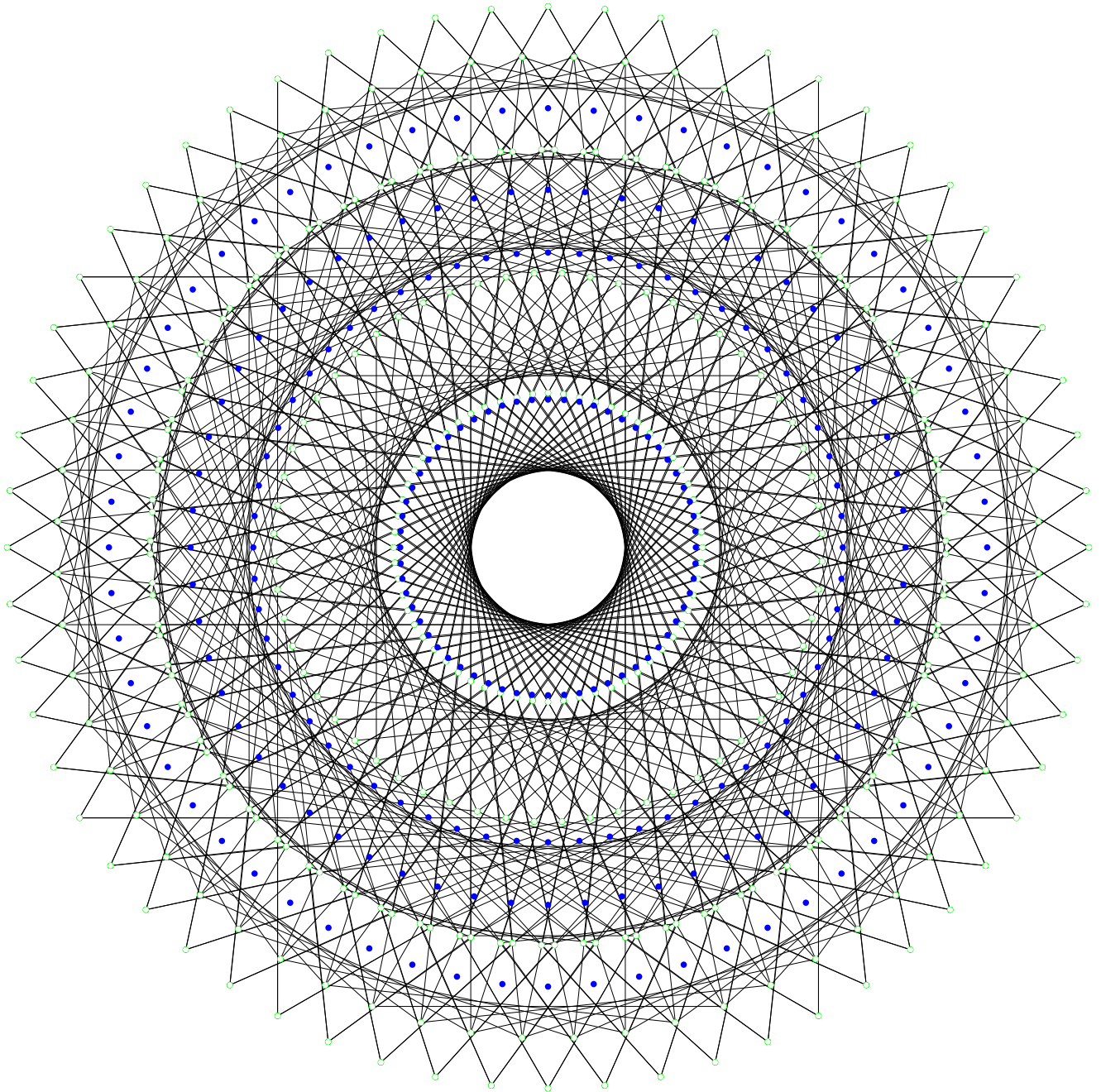
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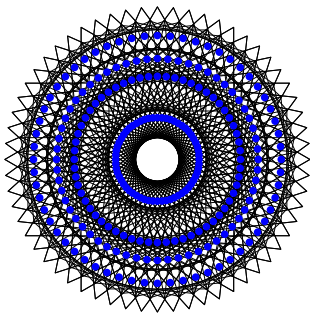
[drawedges=false,choice=23]



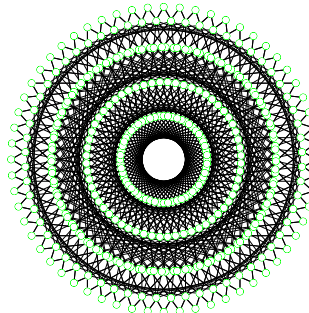
# Polytope $3\{5\}2$



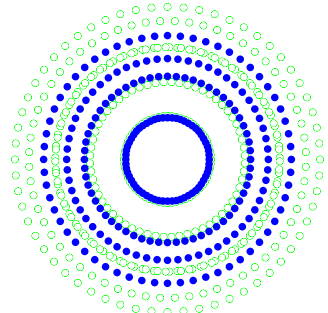
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`[drawvertices=false,choice=24]`

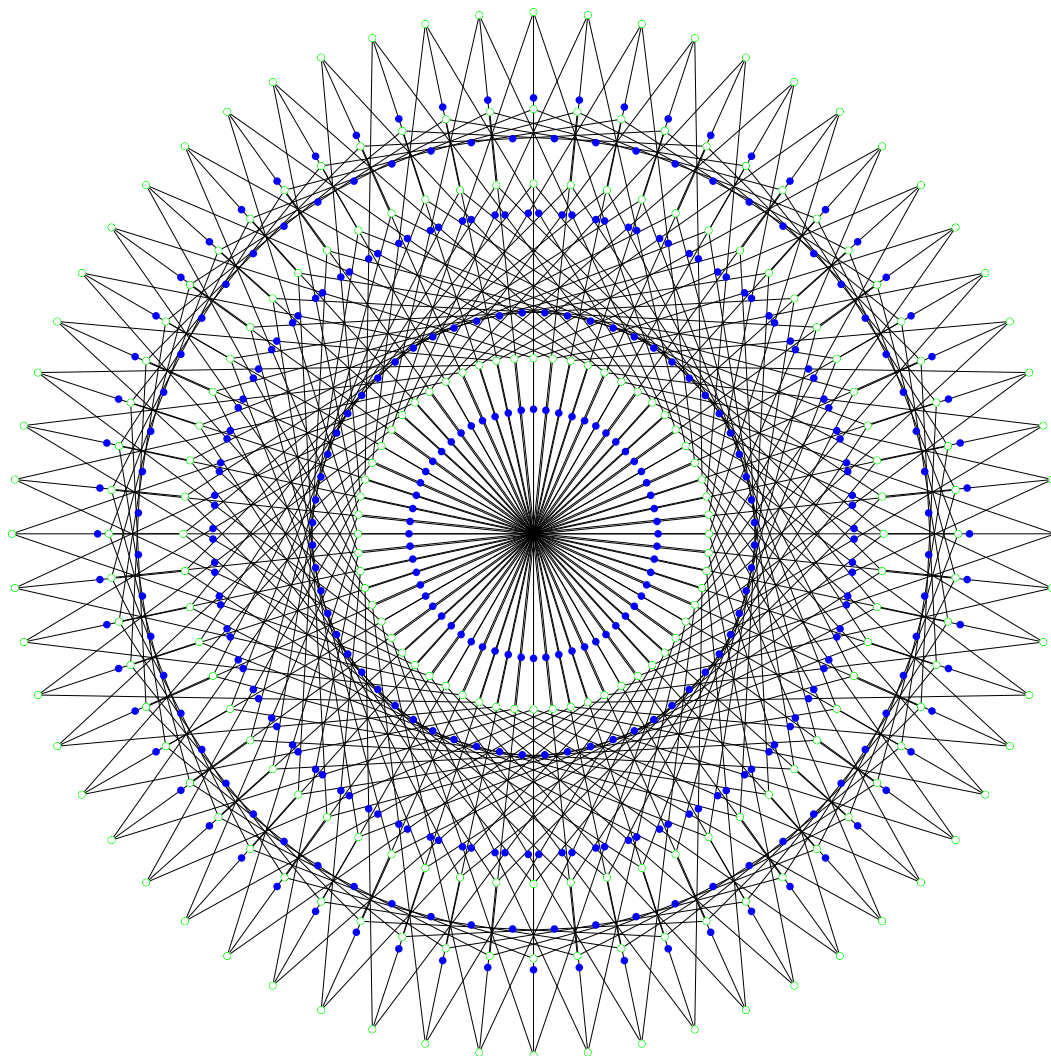


`[drawcenters=false,choice=24]`

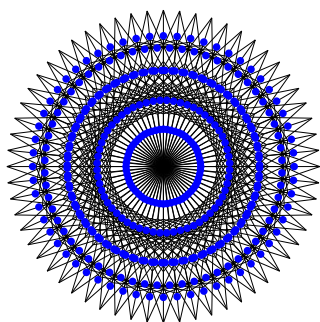


`[drawedges=false,choice=24]`

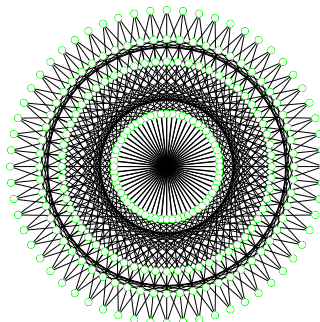
# Polytope $2\{5\}3$



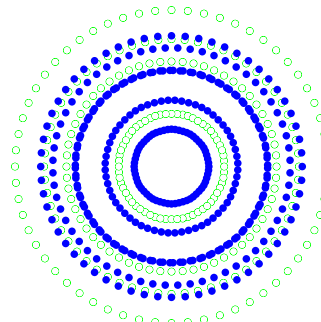
`\CoxeterCoordinates[choice=23]`



`[drawvertices=false,choice=23]`



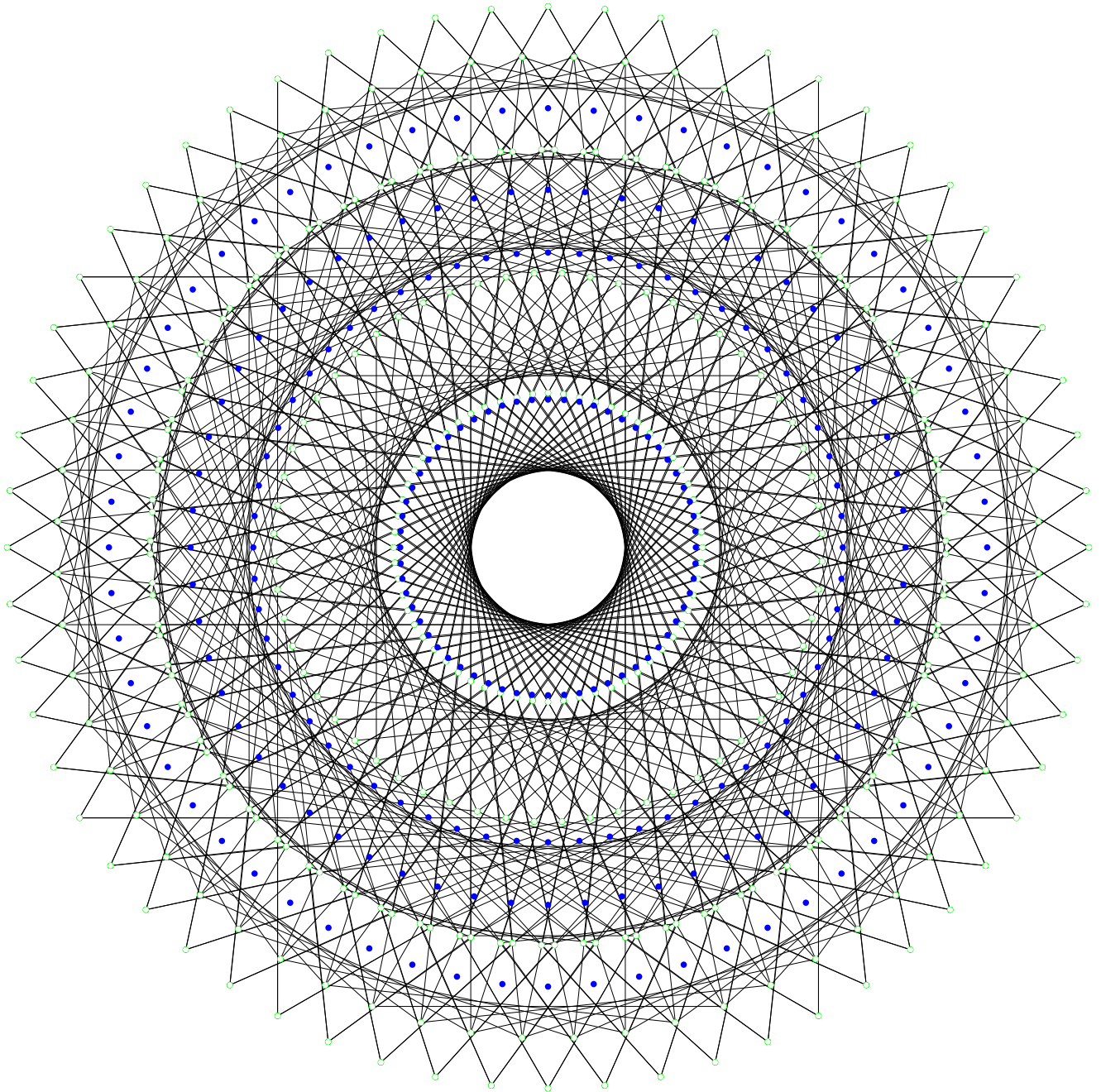
`[drawcenters=false,choice=23]`



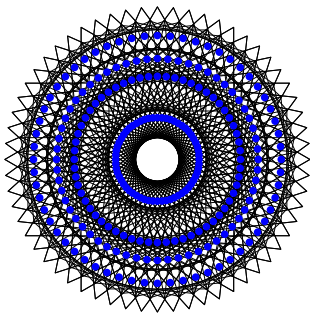
`[drawedges=false,choice=23]`



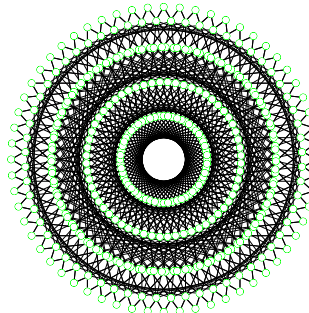
# Polytope $3\{5\}2$



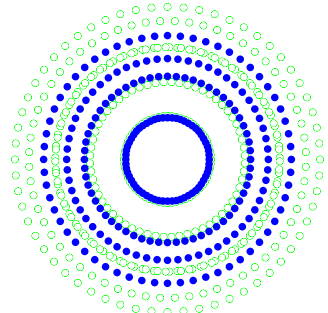
`\CoxeterCoordinates[choice=24]`



`[drawvertices=false,choice=24]`

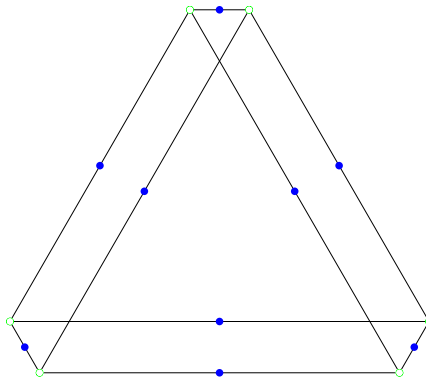


`[drawcenters=false,choice=24]`

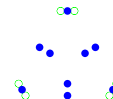
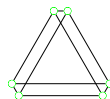
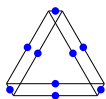


`[drawedges=false,choice=24]`

# Polytope $2\{4\}3$



`\CoxeterCoordinates[choice=25]`



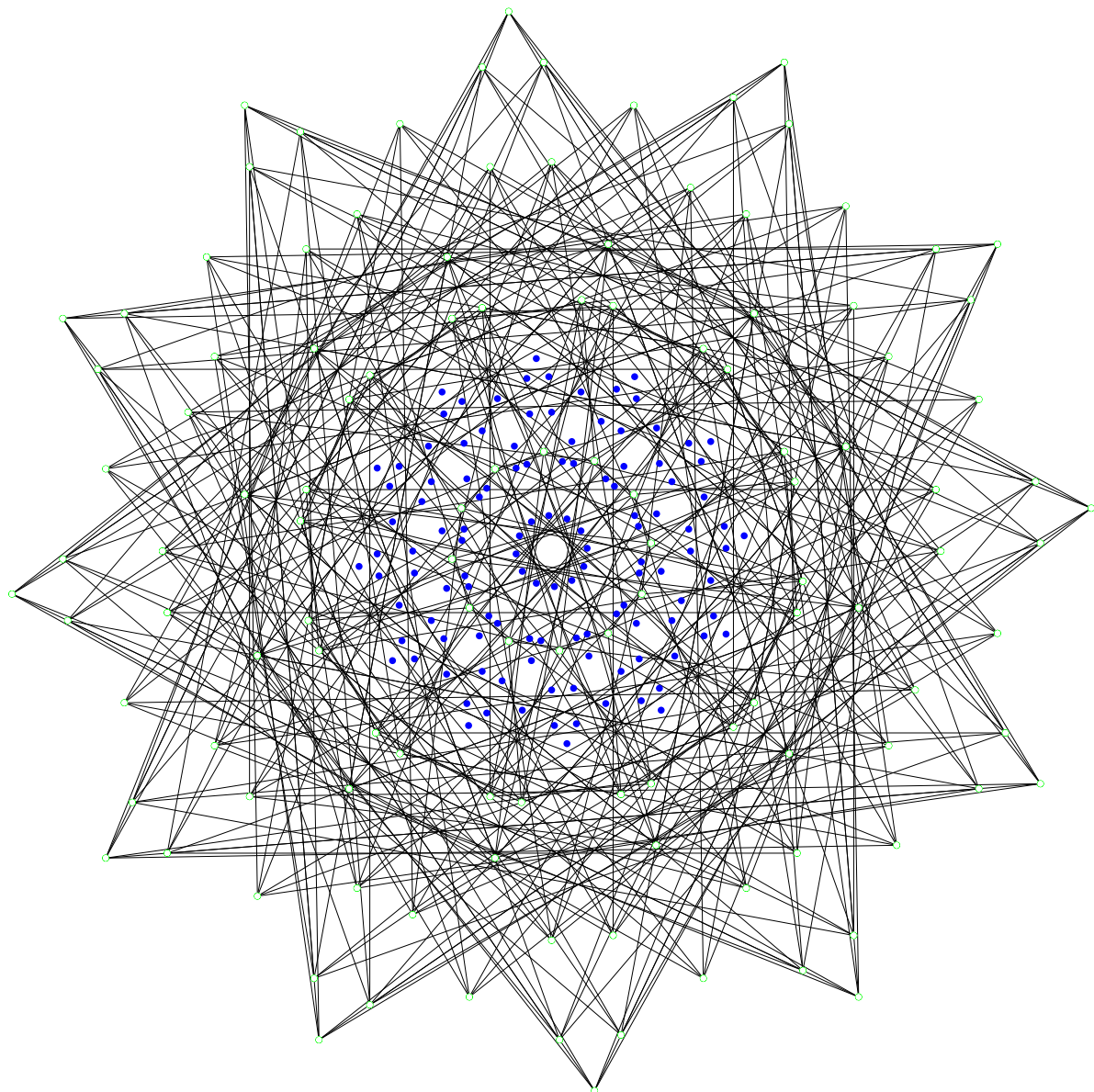
`[drawvertices=false,choice=25]`

`[drawcenters=false,choice=25]`

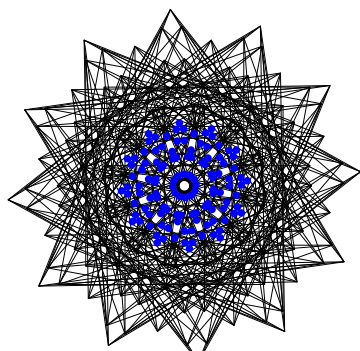
`[drawedges=false,choice=25]`



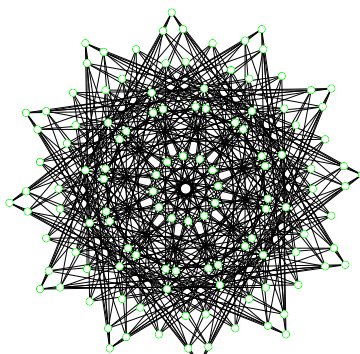
# Polytope $3\{\frac{5}{2}\}3$



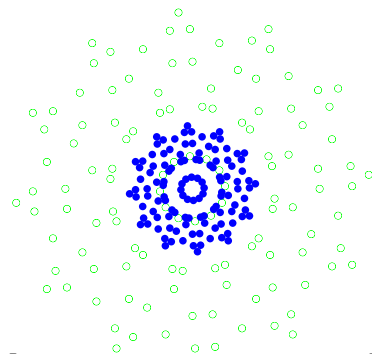
`\CoxeterCoordinates[choice=37]`



`[drawvertices=false,choice=37]`

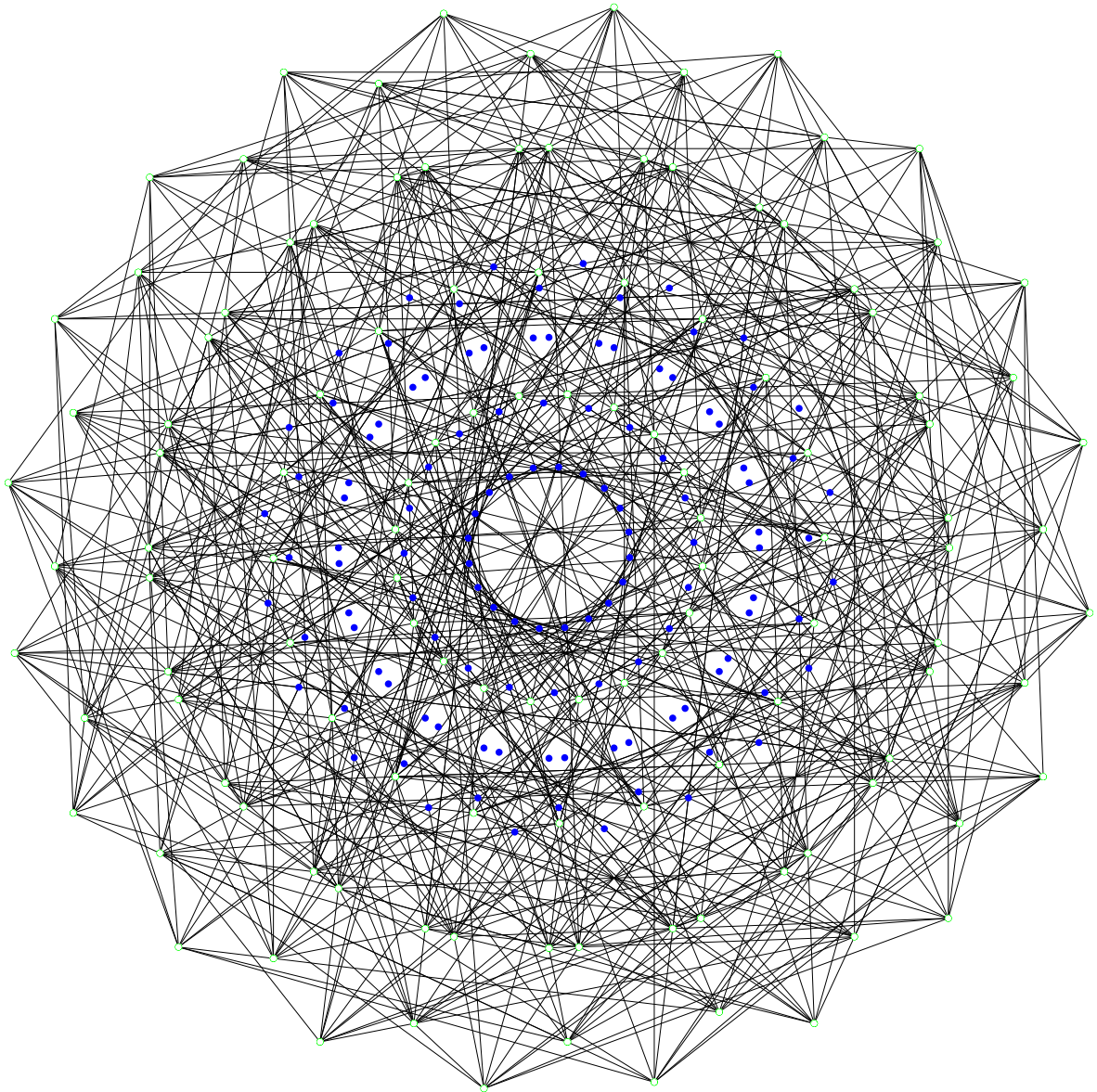


`[drawcenters=false,choice=37]`

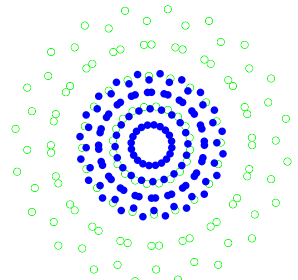
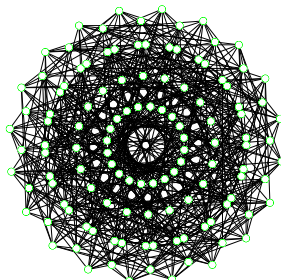
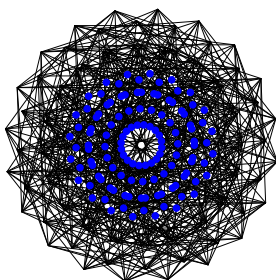


`[drawedges=false,choice=37]`

# Polytope $5 \left\{ \frac{5}{2} \right\} 5$



`\CoxeterCoordinates[choice=38]`

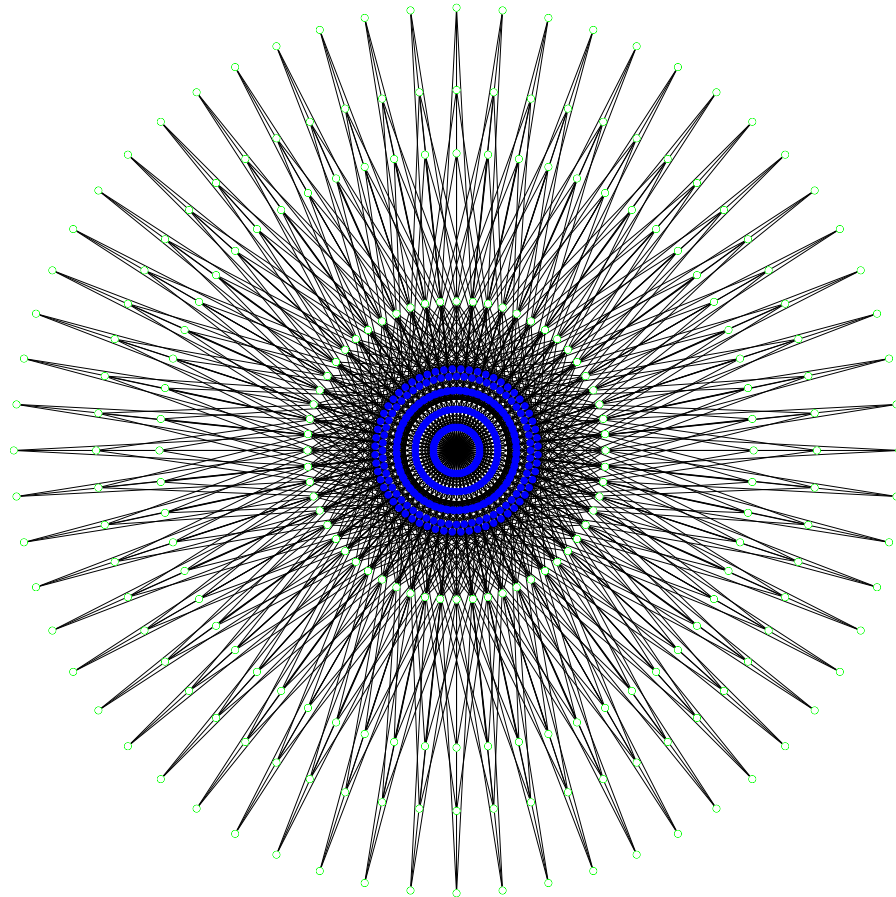


`[drawvertices=false,choice=38]`

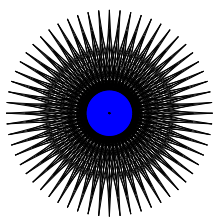
`[drawcenters=false,choice=38]`

`[drawedges=false,choice=38]`

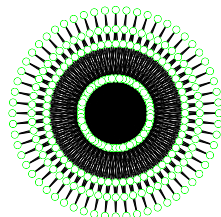
# Polytope 2 $\left\{\frac{5}{2}\right\} 3$



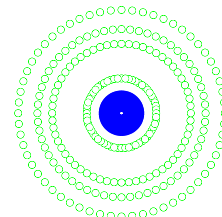
`\CoxeterCoordinates[choice=39]`



`[drawvertices=false,choice=39]`



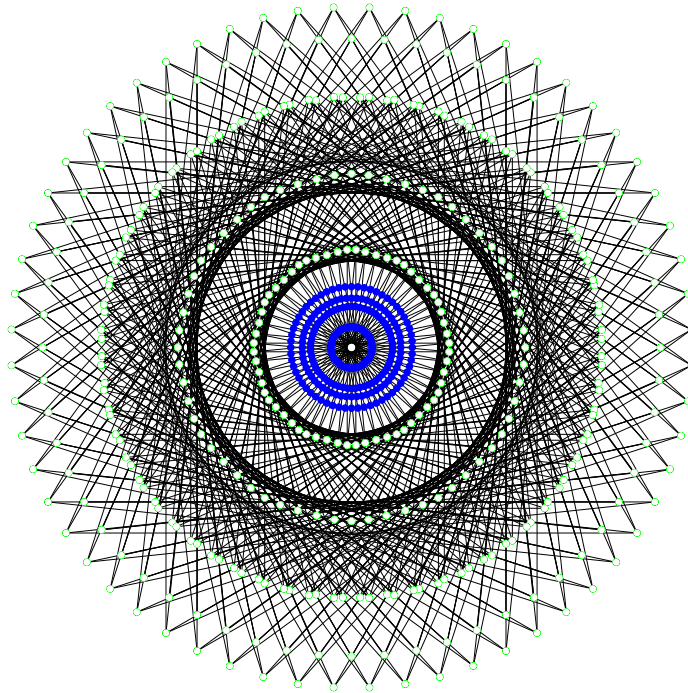
`[drawcenters=false,choice=39]`



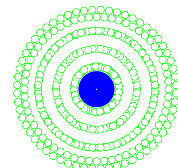
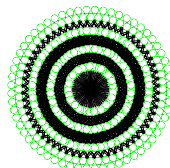
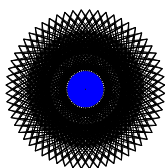
`[drawedges=false,choice=39]`



# Polytope $3 \left\{ \frac{5}{2} \right\} 2$



`\CoxeterCoordinates[choice=40]`

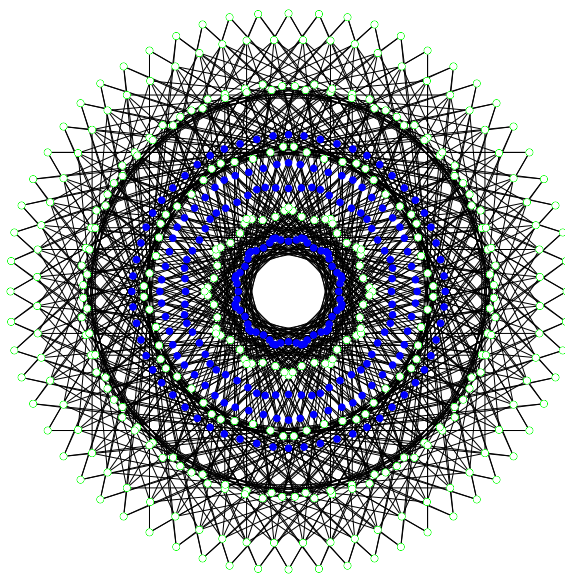


`[drawvertices=false,choice=40]`

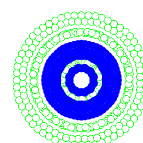
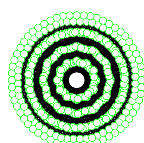
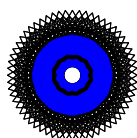
`[drawcenters=false,choice=40]`

`[drawedges=false,choice=40]`

# Polytope 3 $\left\{\frac{10}{3}\right\} 2$



`\CoxeterCoordinates[choice=41]`

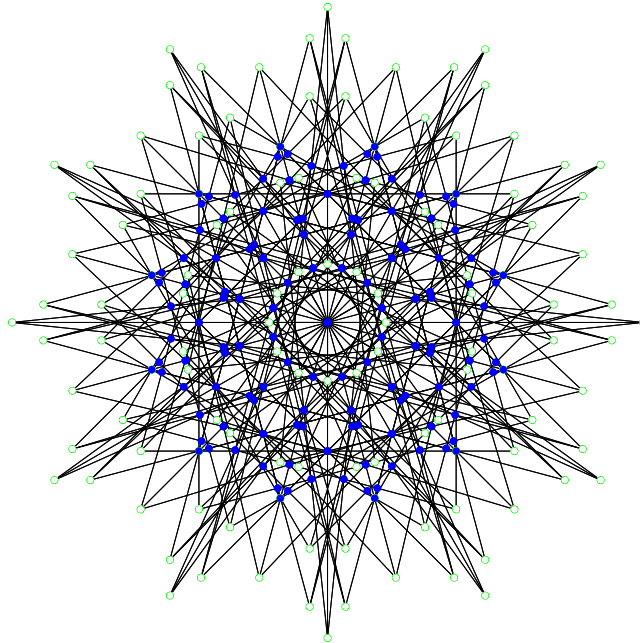


`[drawvertices=false,choice=41]`

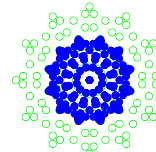
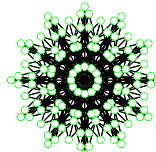
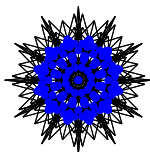
`[drawcenters=false,choice=41]`

`[drawedges=false,choice=41]`

# Polytope $2 \left\{ \frac{10}{3} \right\} 3$



`\CoxeterCoordinates[choice=42]`

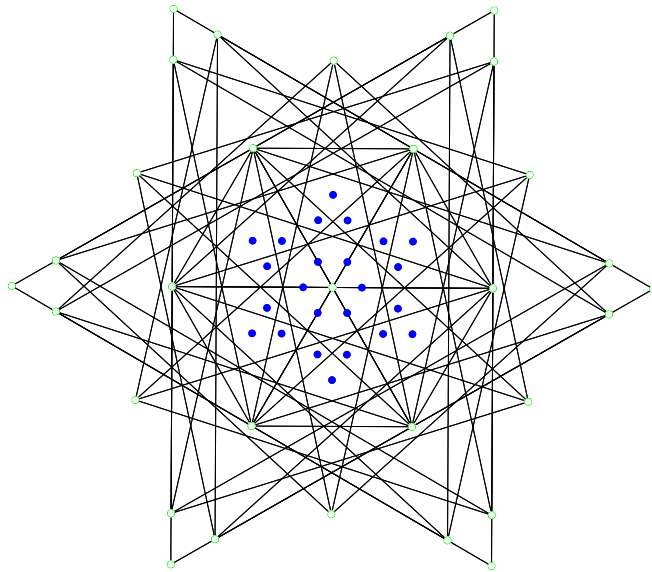


`[drawvertices=false,choice=42]`

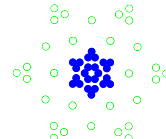
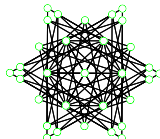
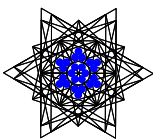
`[drawcenters=false,choice=42]`

`[drawedges=false,choice=42]`

# Polytope 3 $\left\{ \frac{8}{3} \right\} 2$



`\CoxeterCoordinates[choice=43]`

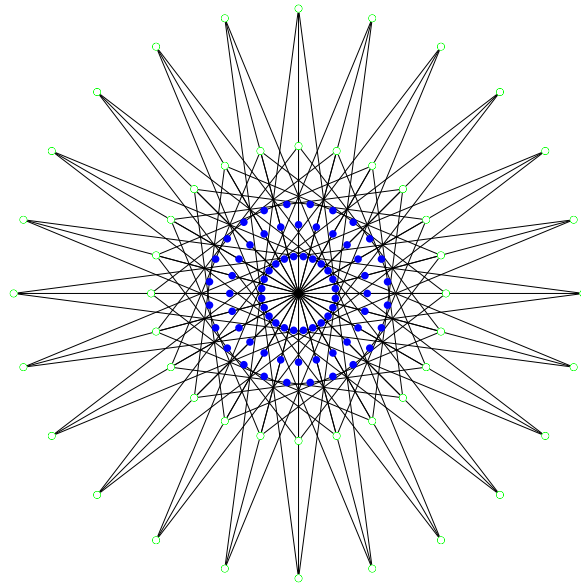


`[drawvertices=false,choice=43]`

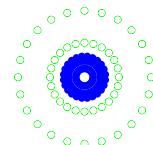
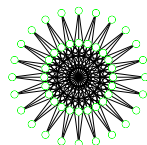
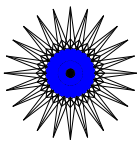
`[drawcenters=false,choice=43]`

`[drawedges=false,choice=43]`

# Polytope 2 $\left\{\frac{8}{3}\right\} 3$



`\CoxeterCoordinates[choice=44]`



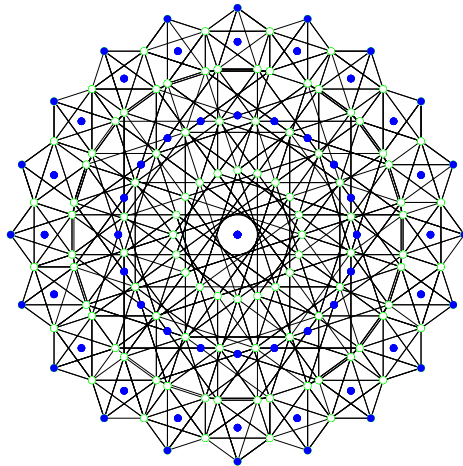
`[drawvertices=false,choice=44]`

`[drawcenters=false,choice=44]`

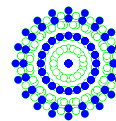
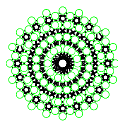
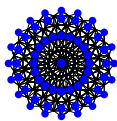
`[drawedges=false,choice=44]`



# Polytope $5\{6\}2$



`\CoxeterCoordinates[choice=45]`

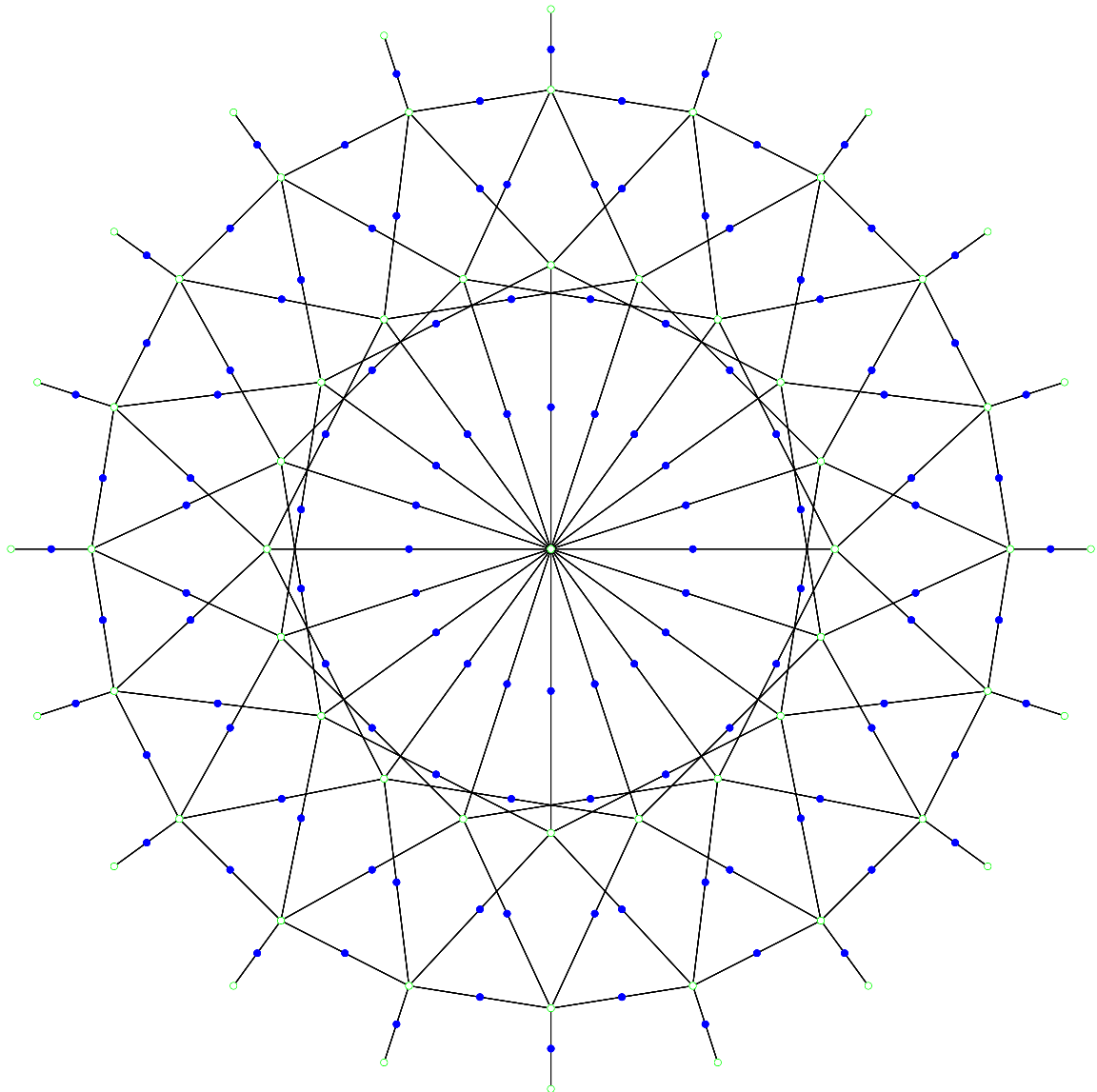


`[drawvertices=false,choice=45]`

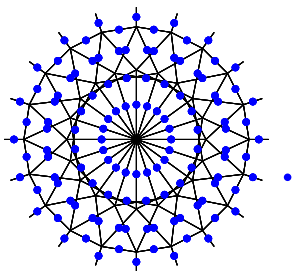
`[drawcenters=false,choice=45]`

`[drawedges=false,choice=45]`

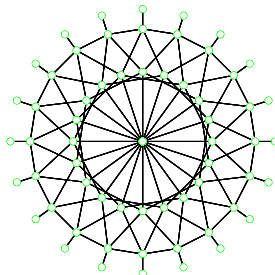
# Polytope $2\{6\}_5$



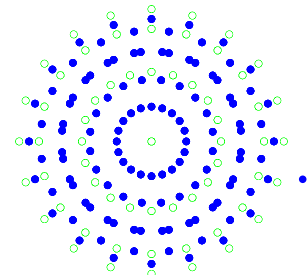
`\CoxeterCoordinates[choice=46]`



`[drawvertices=false,choice=46]`

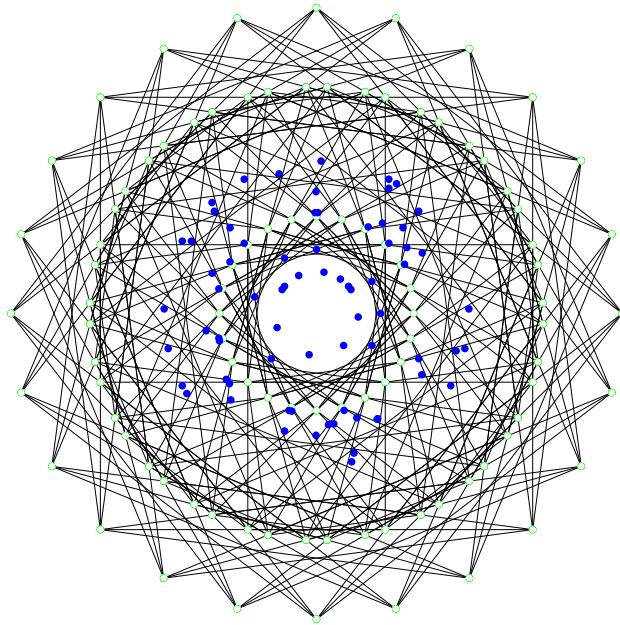


`[drawcenters=false,choice=46]`

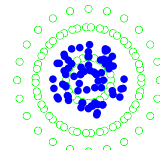
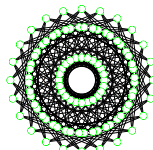
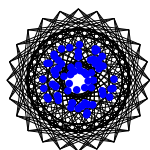


`[drawedges=false,choice=46]`

# Polytope $4 \left\{ \frac{8}{3} \right\} 3$



`\CoxeterCoordinates[choice=47]`

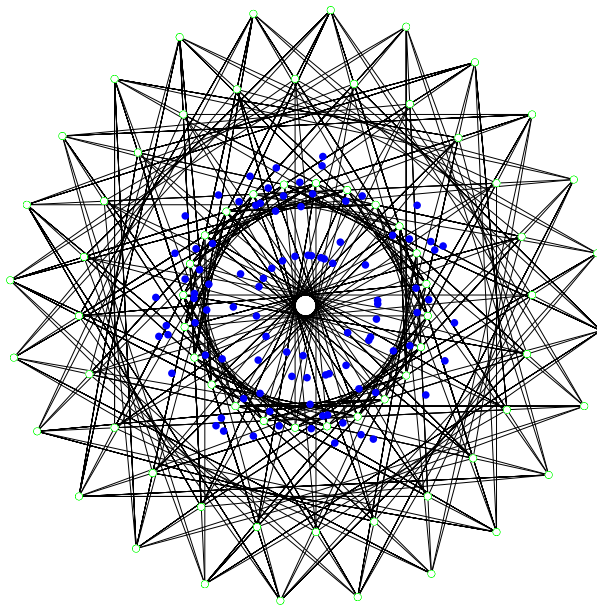


`[drawvertices=false,choice=47]`

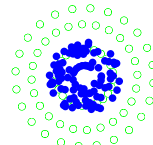
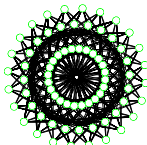
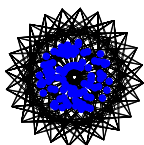
`[drawcenters=false,choice=47]`

`[drawedges=false,choice=47]`

# Polytope $3 \left\{ \frac{8}{3} \right\} 4$



`\CoxeterCoordinates[choice=48]`

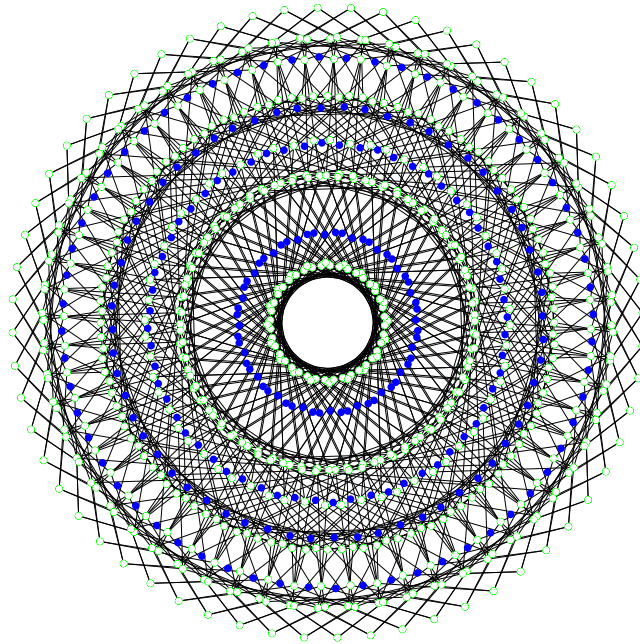


`[drawvertices=false,choice=48]`

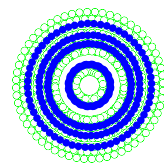
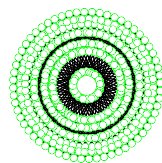
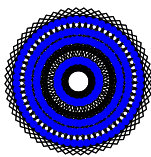
`[drawcenters=false,choice=48]`

`[drawedges=false,choice=48]`

# Polytope $5\{5\}2$



`\CoxeterCoordinates[choice=49]`

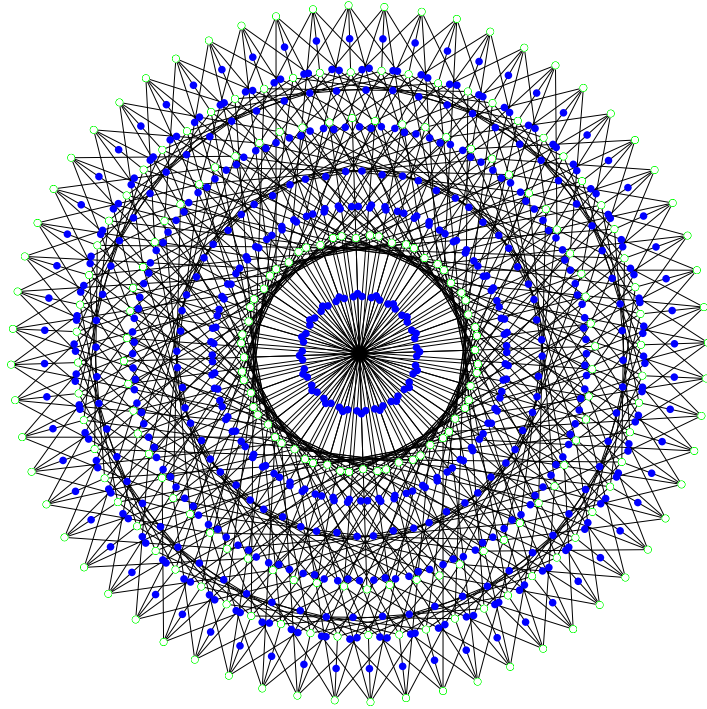


`[drawvertices=false,choice=49]`

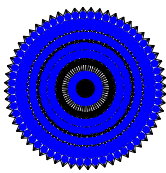
`[drawcenters=false,choice=49]`

`[drawedges=false,choice=49]`

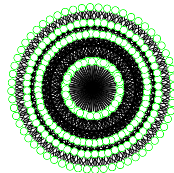
# Polytope $2\{5\}5$



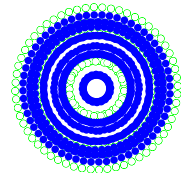
`\CoxeterCoordinates[choice=50]`



`[drawvertices=false,choice=50]`

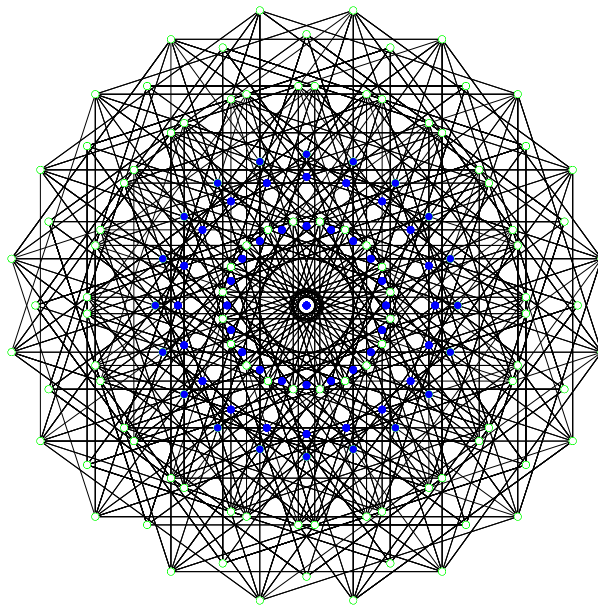


`[drawcenters=false,choice=50]`

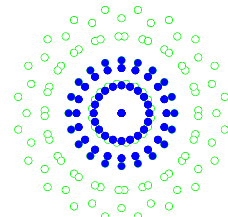
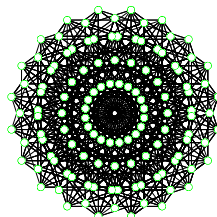
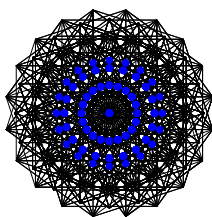


`[drawedges=false,choice=50]`

# Polytope $5 \left\{ \frac{10}{3} \right\} 2$



`\CoxeterCoordinates[choice=51]`

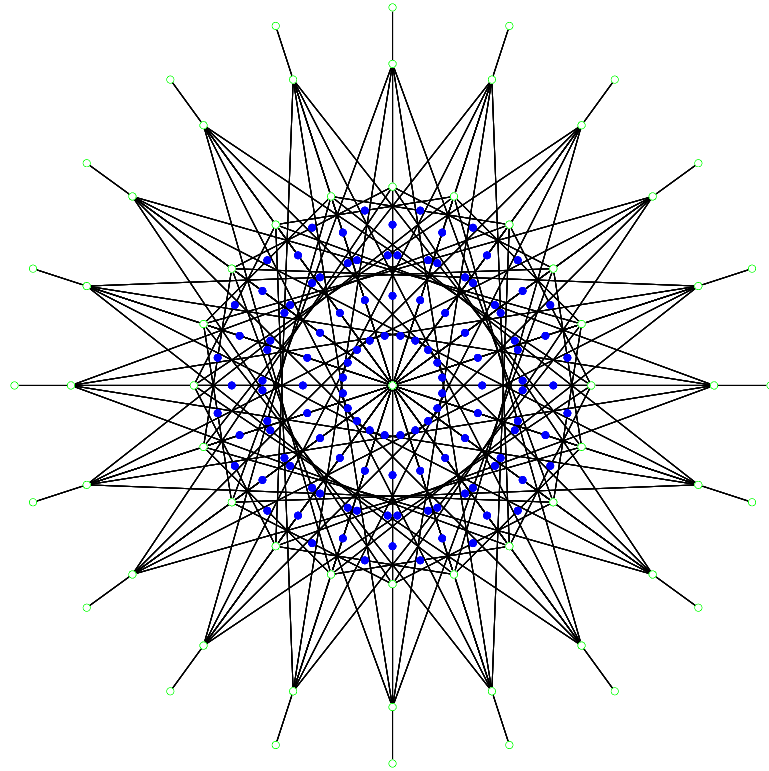


`[drawvertices=false,choice=51]`

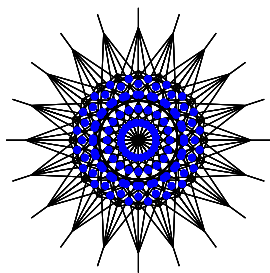
`[drawcenters=false,choice=51]`

`[drawedges=false,choice=51]`

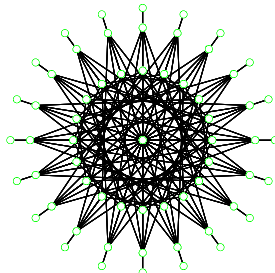
# Polytope 2 $\left\{\frac{10}{3}\right\} 5$



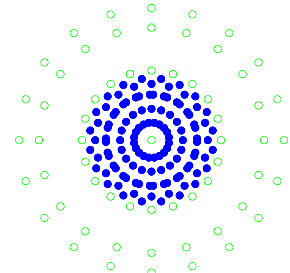
`\CoxeterCoordinates[choice=52]`



`[drawvertices=false,choice=52]`



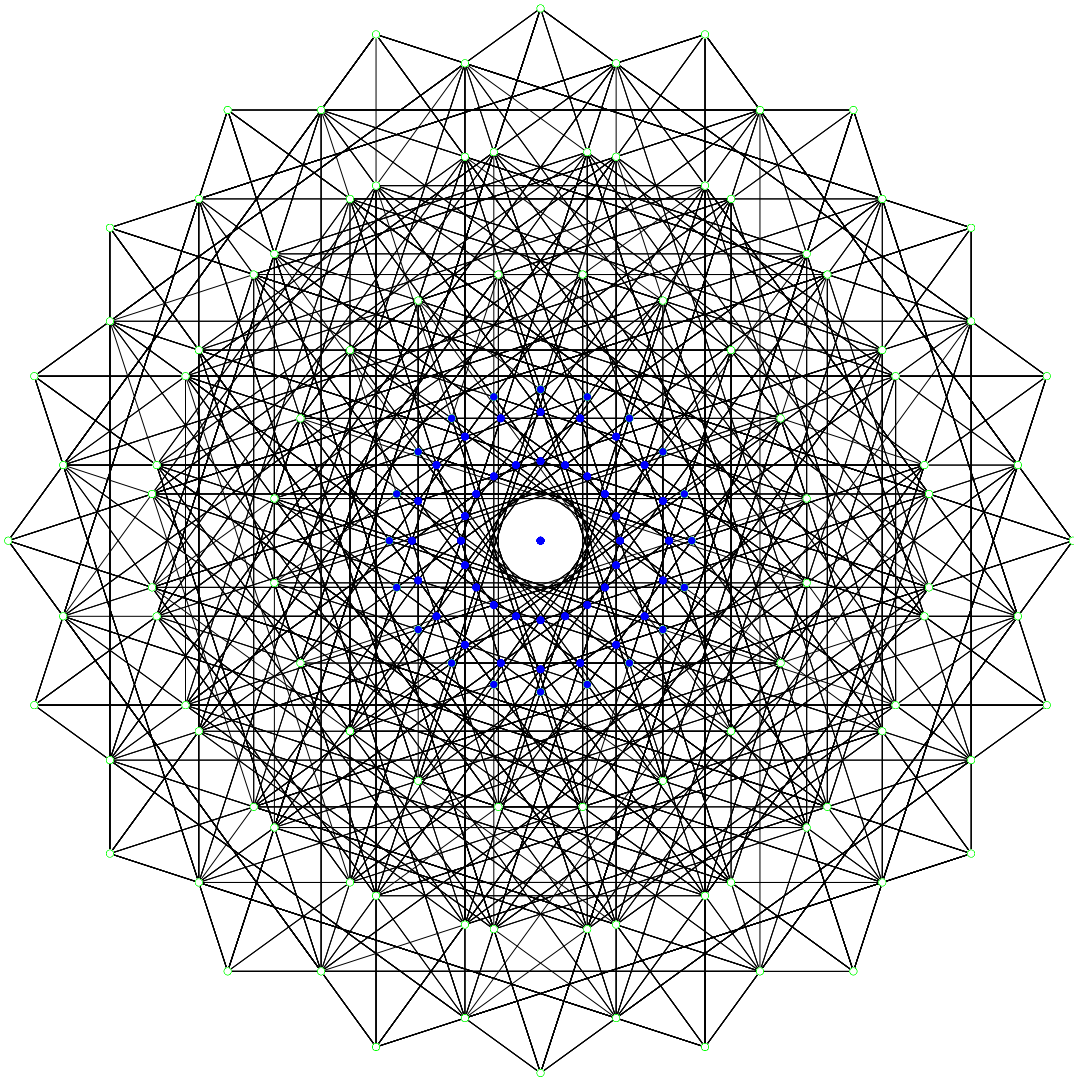
`[drawcenters=false,choice=52]`



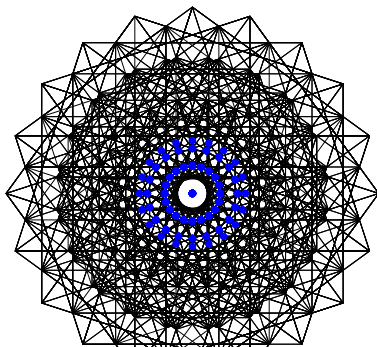
`[drawedges=false,choice=52]`



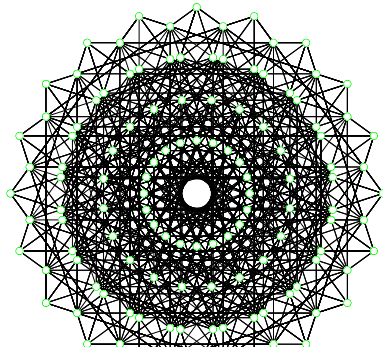
# Polytope $5\{3\}2$



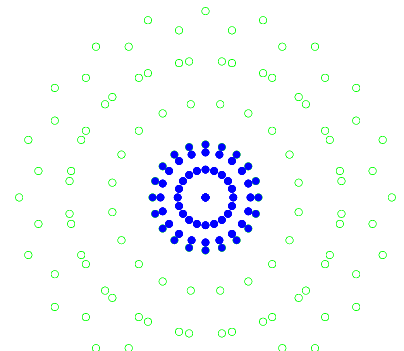
`\CoxeterCoordinates[choice=53]`



`[drawvertices=false,choice=53]`

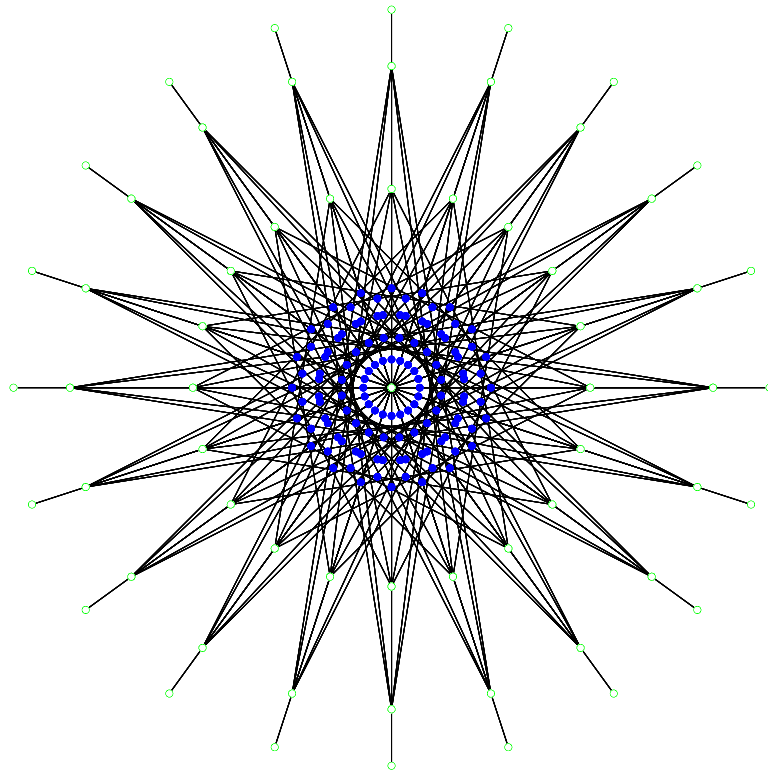


`[drawcenters=false,choice=53]`

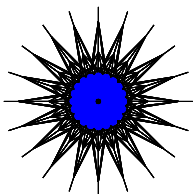


`[drawedges=false,choice=53]`

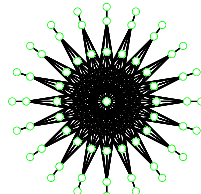
# Polytope $2\{3\}5$



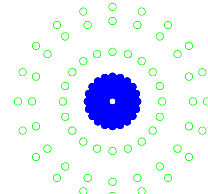
`\ CoxeterCoordinates[choice=54]`



`[drawvertices=false,choice=54]`

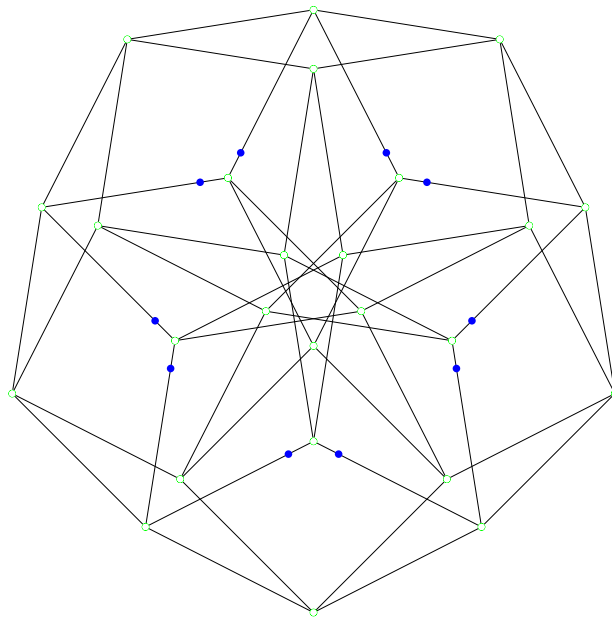


`[drawcenters=false,choice=54]`

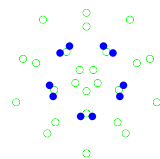
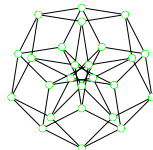
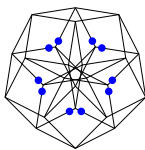


`[drawedges=false,choice=54]`

# Polytope $5\{4\}2$



`\CoxeterCoordinates[choice=55]`

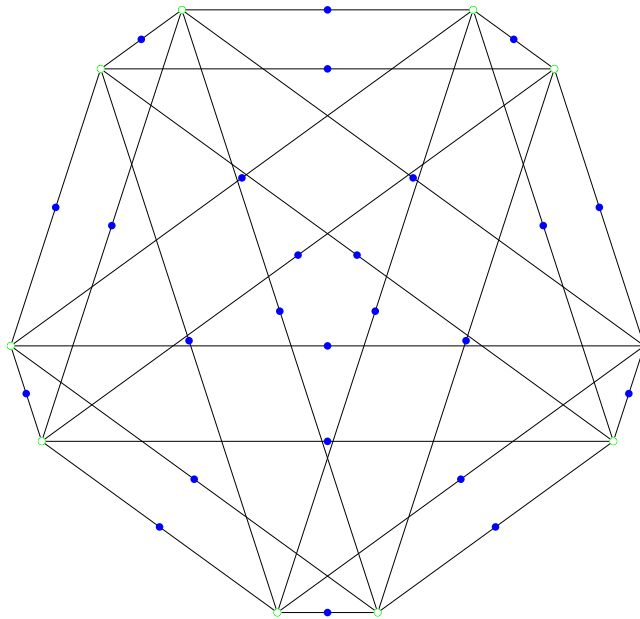


`[drawvertices=false,choice=55]`

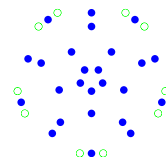
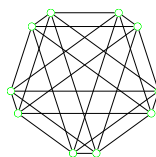
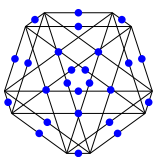
`[drawcenters=false,choice=55]`

`[drawedges=false,choice=55]`

# Polytope $2\{4\}5$



`\CoxeterCoordinates[choice=56]`

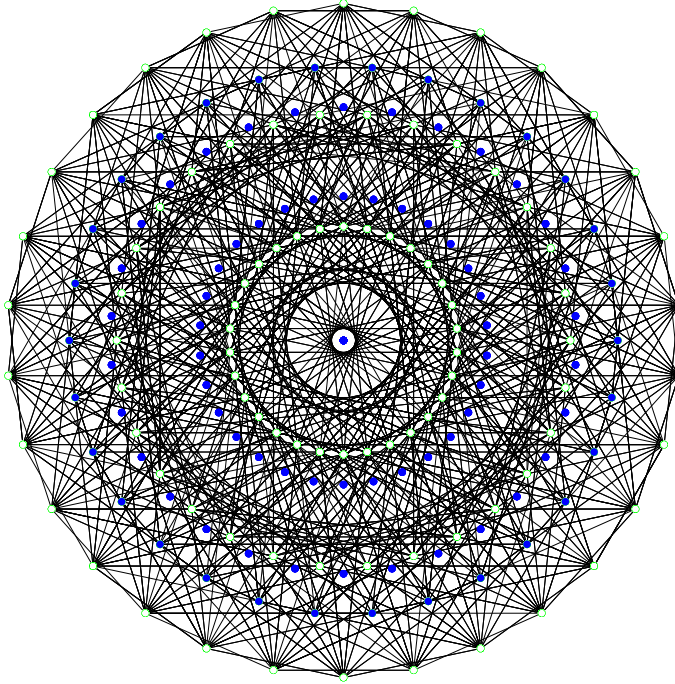


`[drawvertices=false,choice=56]`

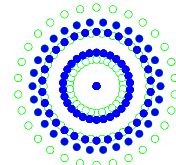
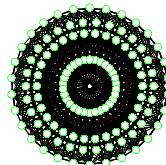
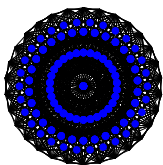
`[drawcenters=false,choice=56]`

`[drawedges=false,choice=56]`

# Polytope $5 \left\{ \frac{10}{3} \right\} 3$



`\CoxeterCoordinates[choice=57]`

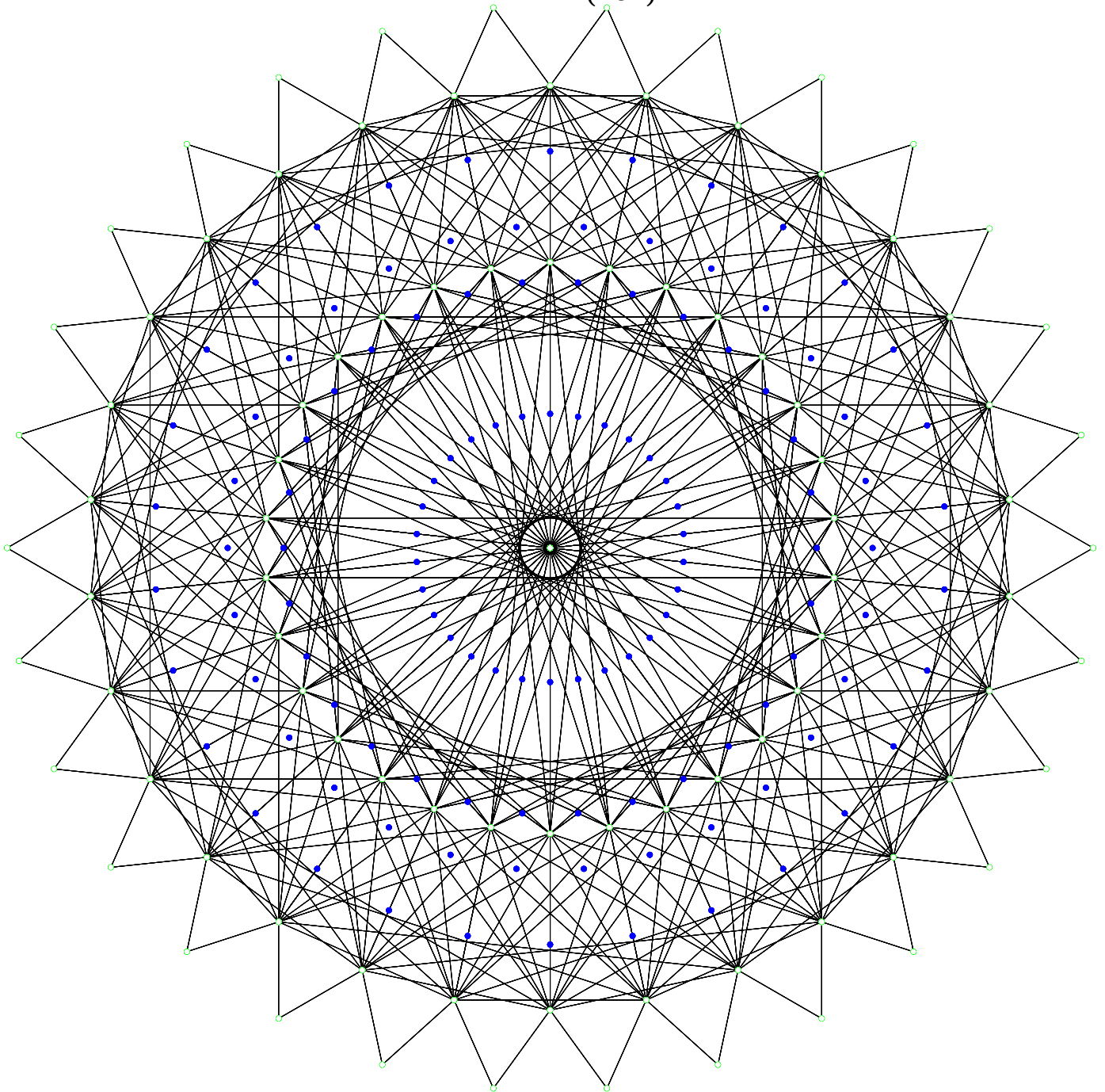


`[drawvertices=false,choice=57]`

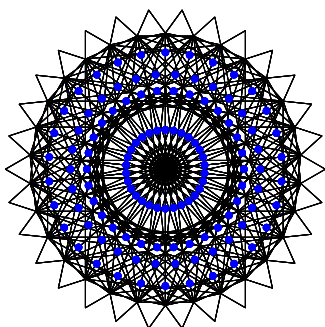
`[drawcenters=false,choice=57]`

`[drawedges=false,choice=57]`

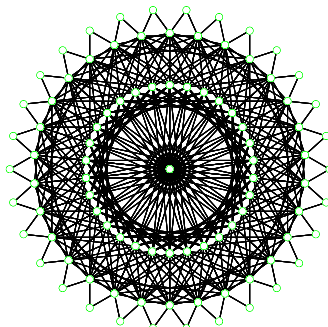
# Polytope 3 $\left\{\frac{10}{3}\right\} 5$



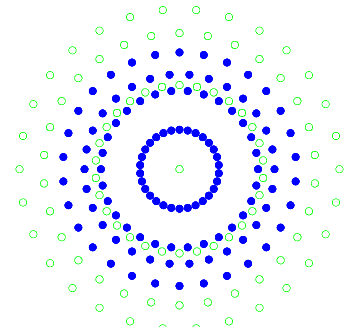
`\CoxeterCoordinates[choice=58]`



`[drawvertices=false,choice=58]`

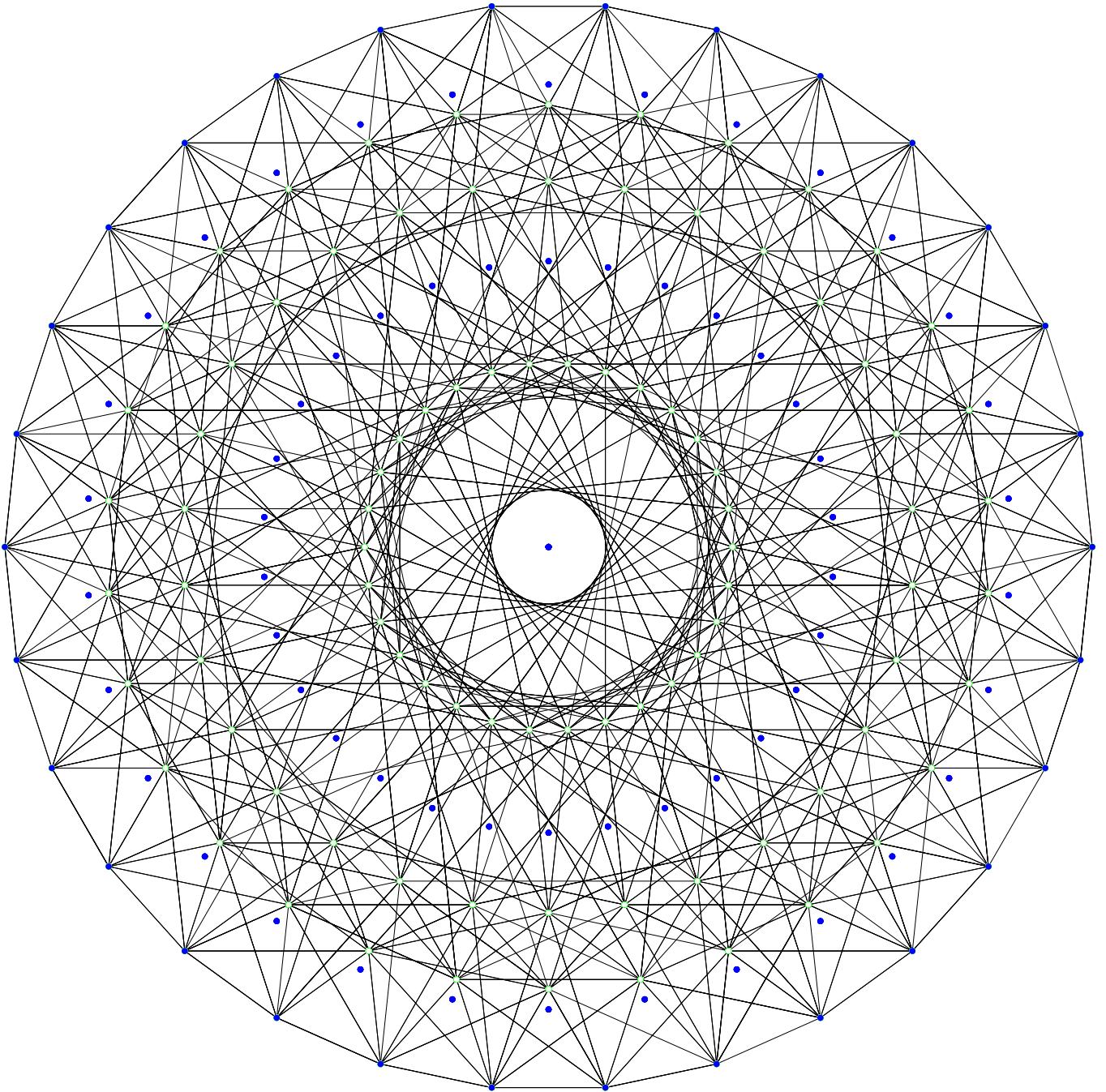


`[drawcenters=false,choice=58]`

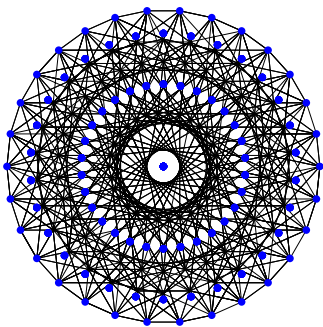


`[drawedges=false,choice=58]`

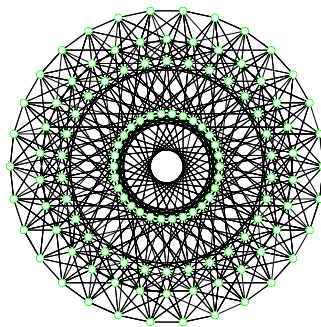
# Polytope $5\{4\}3$



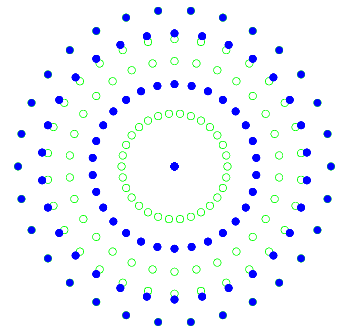
`\CoxeterCoordinates[choice=59]`



`[drawvertices=false,choice=59]`



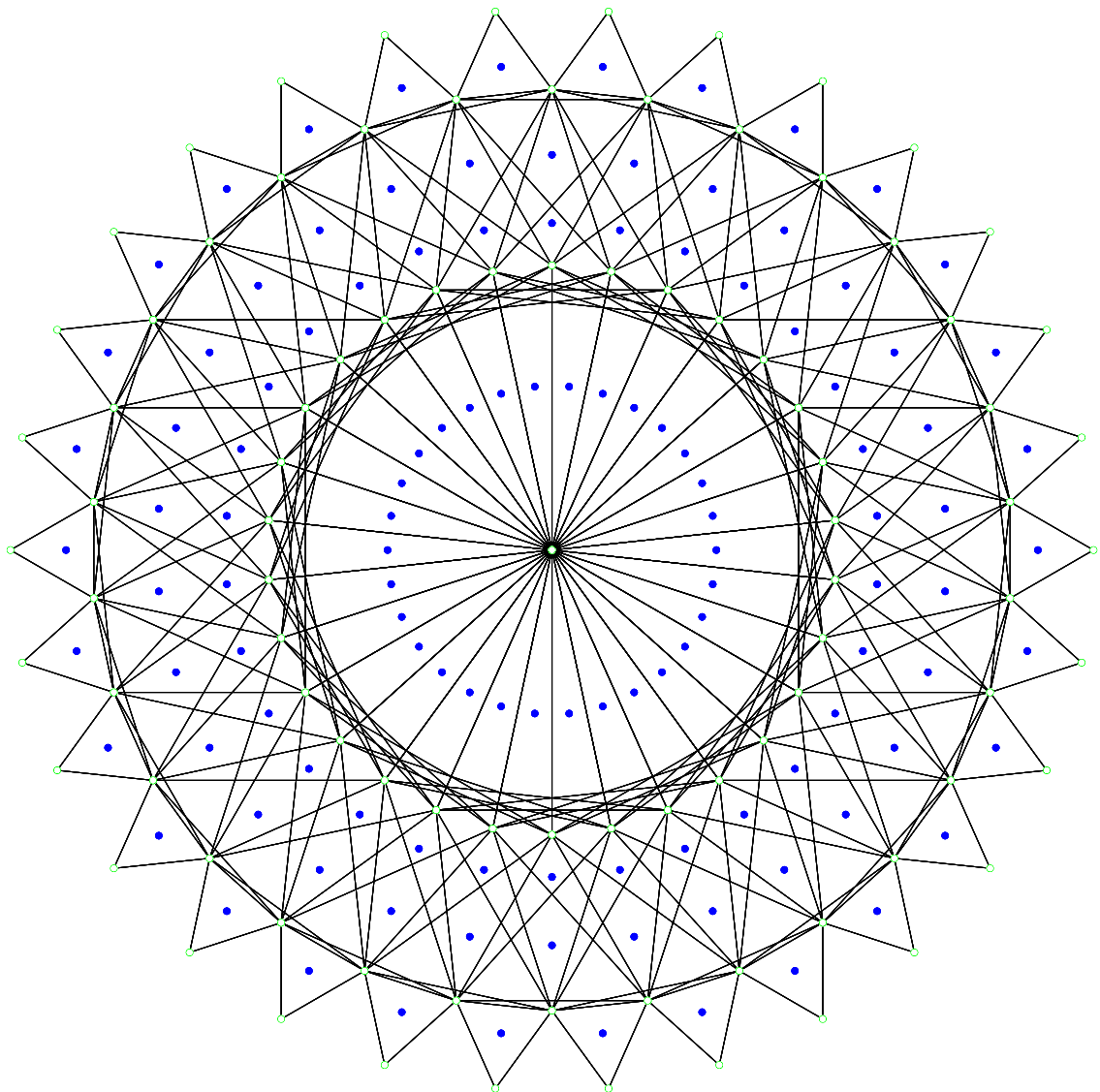
`[drawcenters=false,choice=59]`



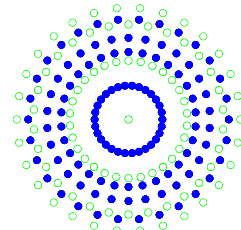
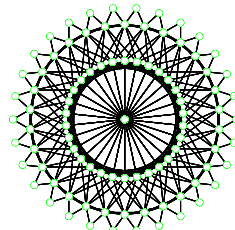
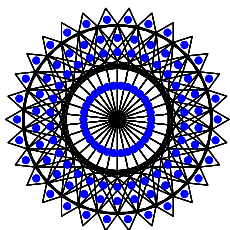
`[drawedges=false,choice=59]`



# Polytope $3\{4\}5$



`\CoxeterCoordinates[choice=60]`

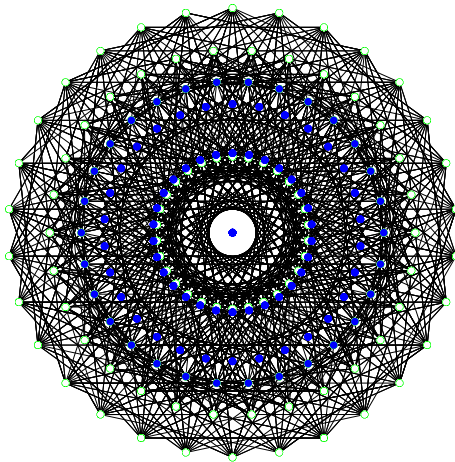


`[drawvertices=false,choice=60]`

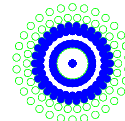
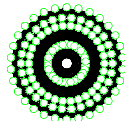
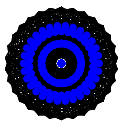
`[drawcenters=false,choice=60]`

`[drawedges=false,choice=60]`

# Polytope $5\{3\}3$



`\CoxeterCoordinates[choice=61]`

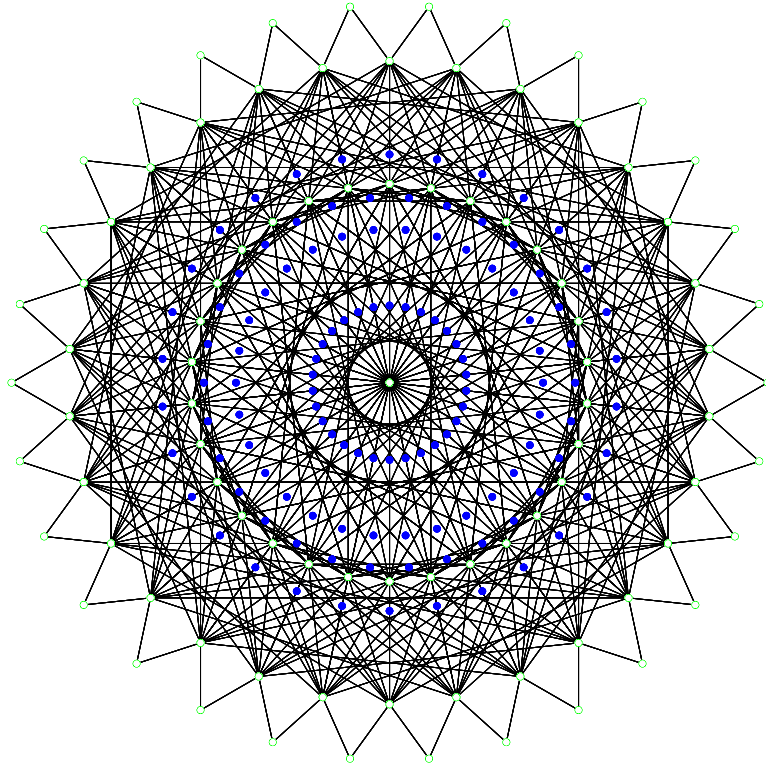


`[drawvertices=false,choice=61]`

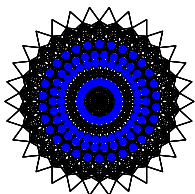
`[drawcenters=false,choice=61]`

`[drawedges=false,choice=61]`

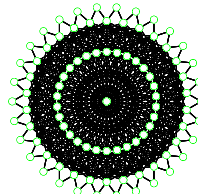
# Polytope $3\{3\}5$



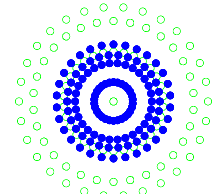
`\CoxeterCoordinates[choice=62]`



`[drawvertices=false,choice=62]`

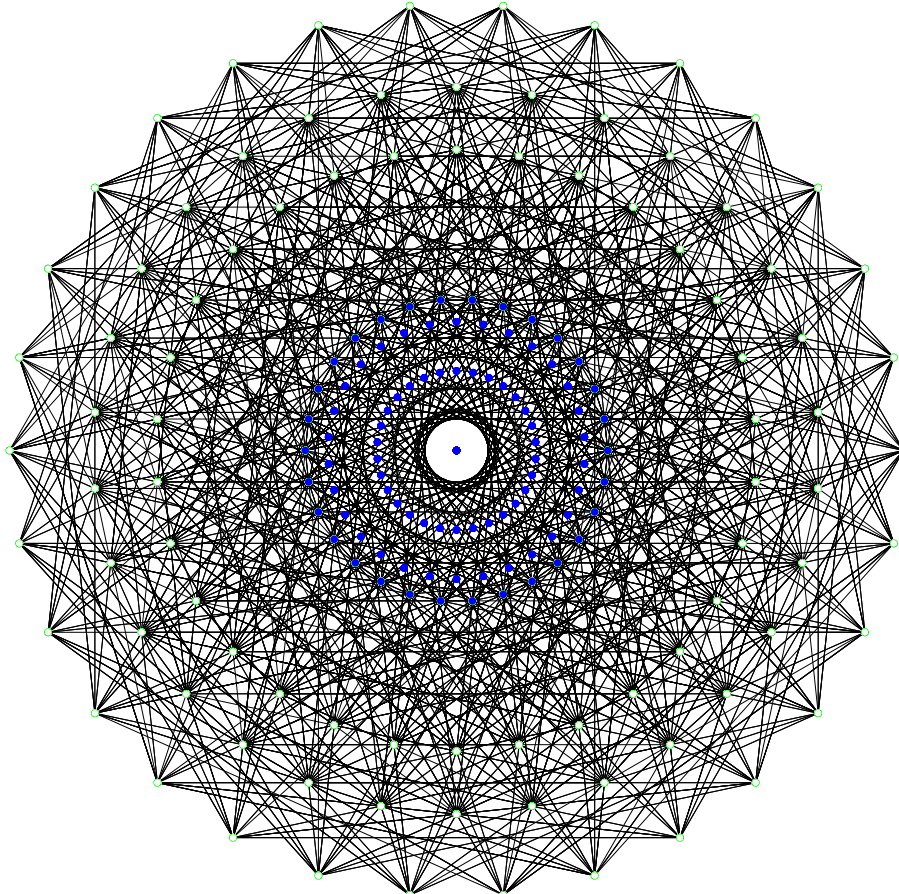


`[drawcenters=false,choice=62]`

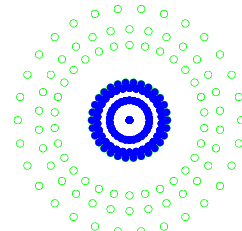
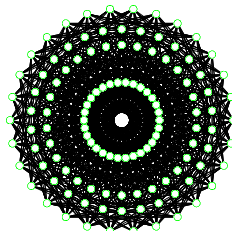
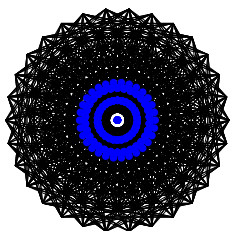


`[drawedges=false,choice=62]`

# Polytope $5 \left\{ \frac{5}{2} \right\} 3$



`\CoxeterCoordinates[choice=63]`

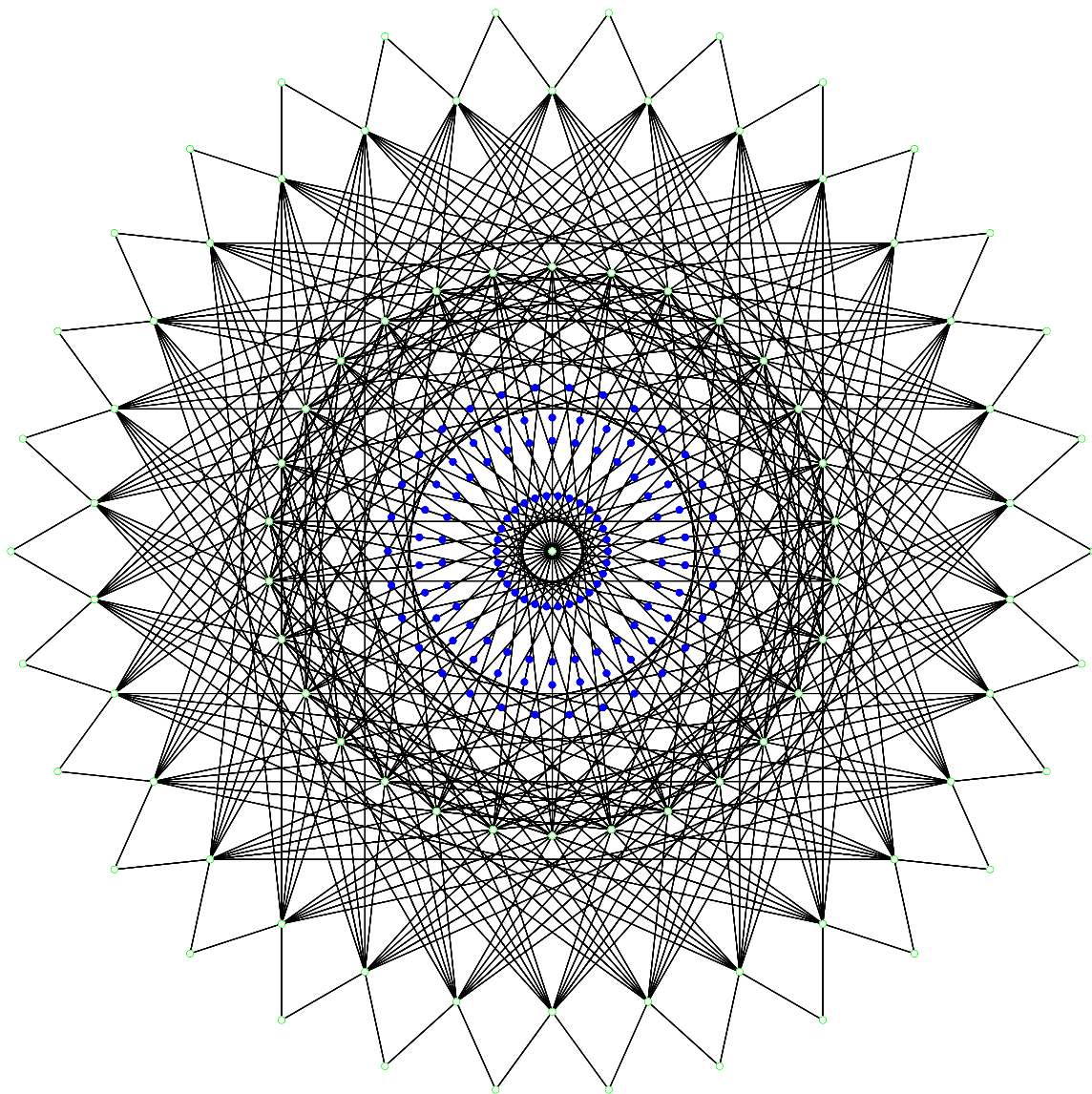


`[drawvertices=false,choice=63]`

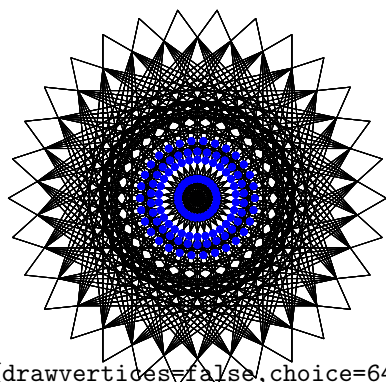
`[drawcenters=false,choice=63]`

`[drawedges=false,choice=63]`

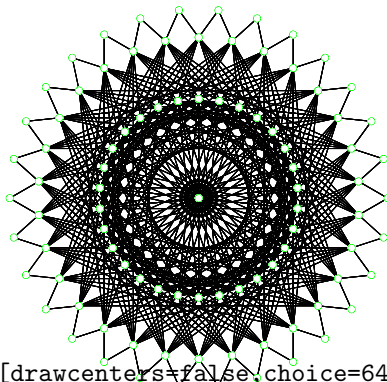
# Polytope 3 $\left\{ \frac{5}{2} \right\} 5$



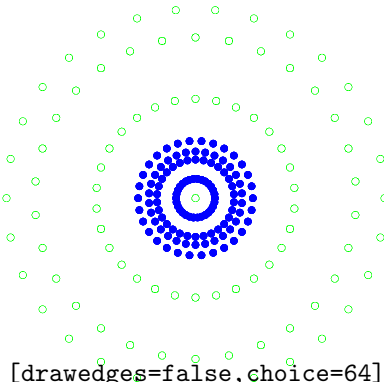
\ CoxeterCoordinates[choice=64]



[drawvertices=false,choice=64]



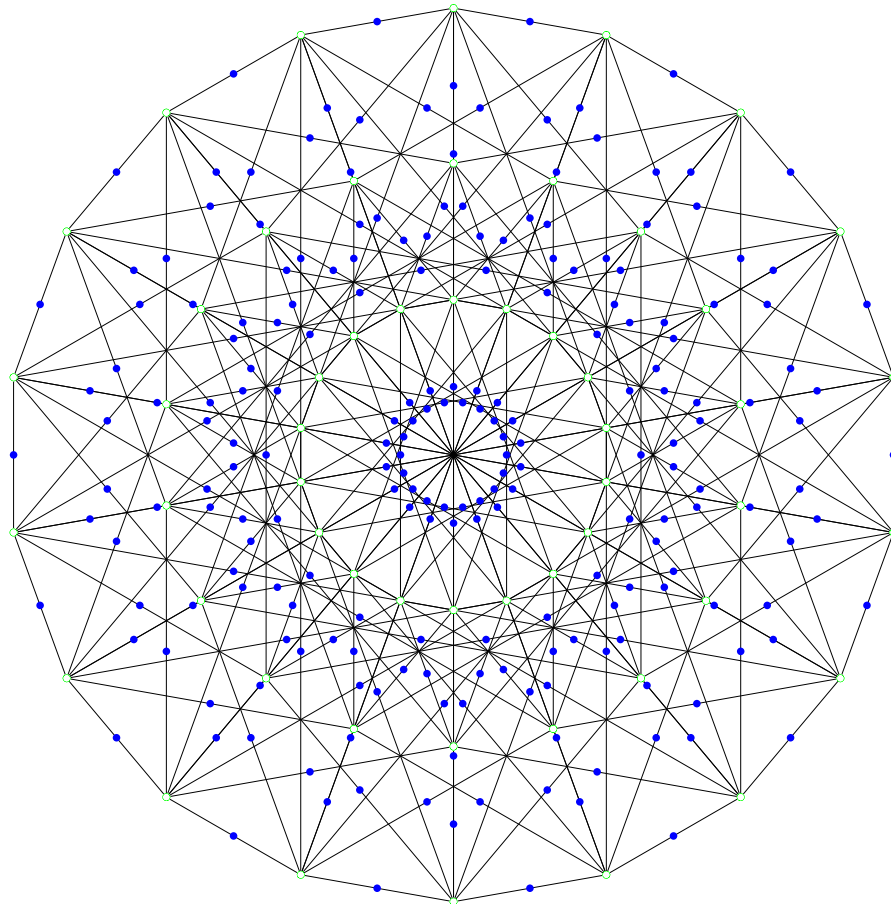
[drawcenters=false,choice=64]



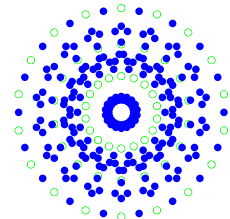
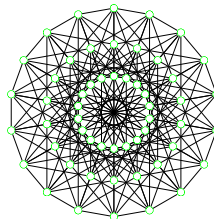
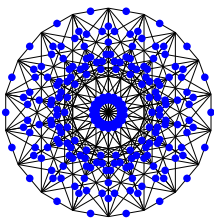
[drawedges=false,choice=64]

## 2 Polyhedron (dimension 3)

# Polytope $2\{4\}3\{3\}3$



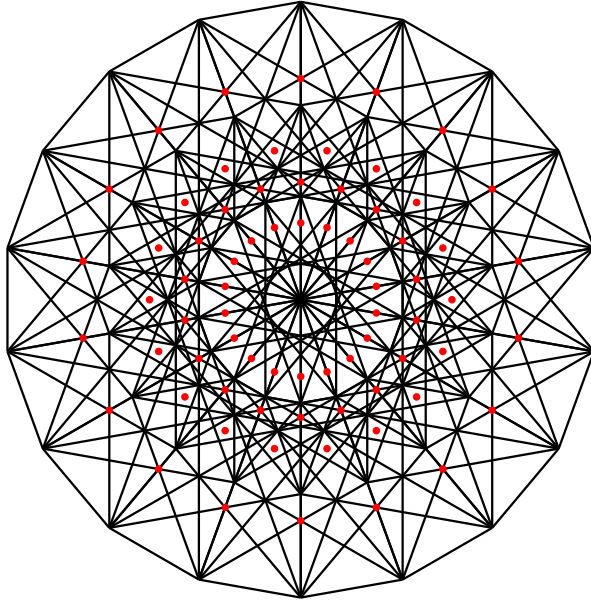
`\CoxeterCoordinates[choice=8]`



`[drawvertices=false,choice=8]`

`[drawcenters=false,choice=8]`

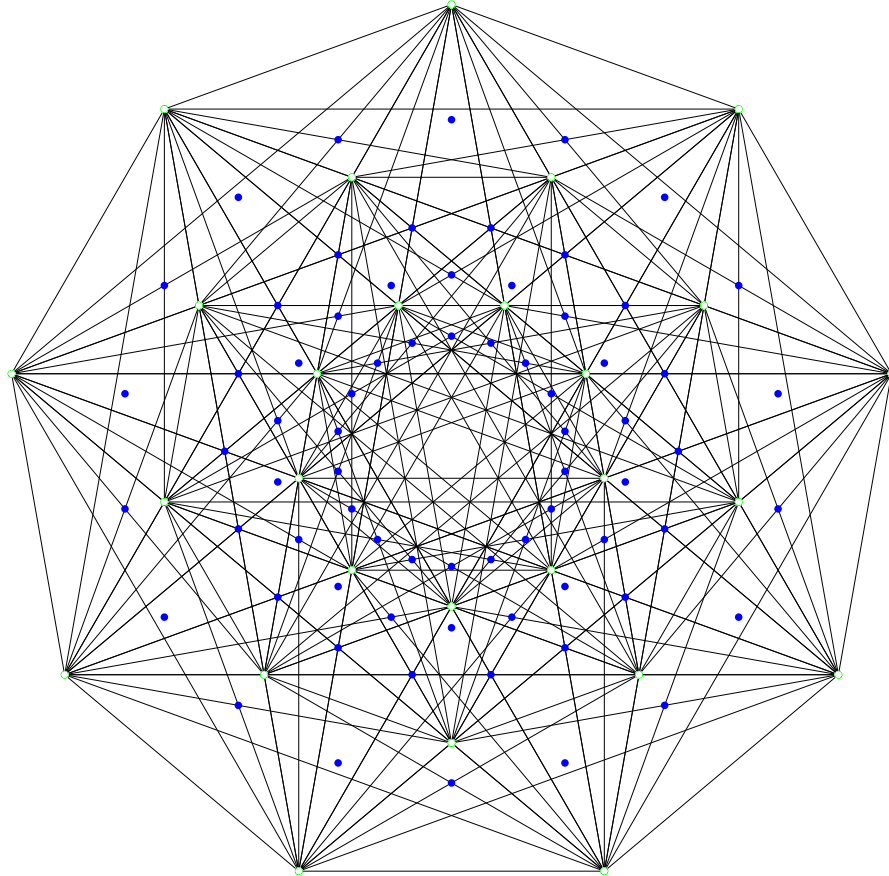
`[drawedges=false,choice=8]`



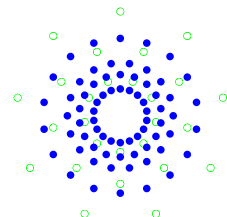
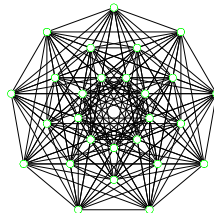
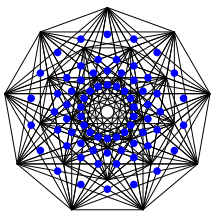
[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=8,linewidth=0.3mm]



# Polytope Hessien



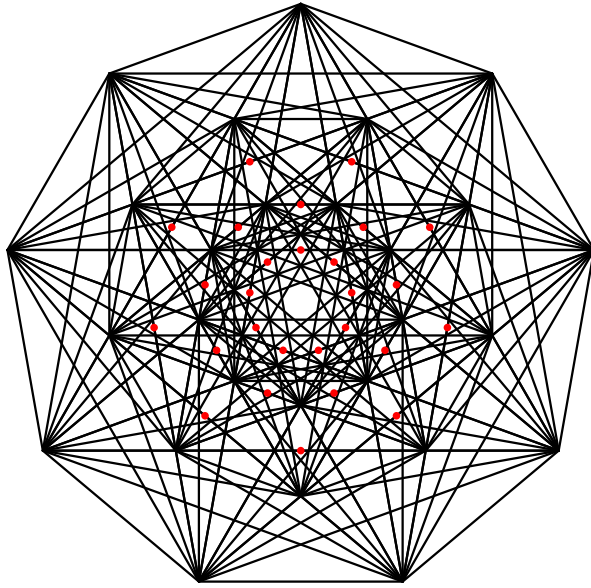
`\CoxeterCoordinates[choice=9]`



`[drawvertices=false,choice=9]`

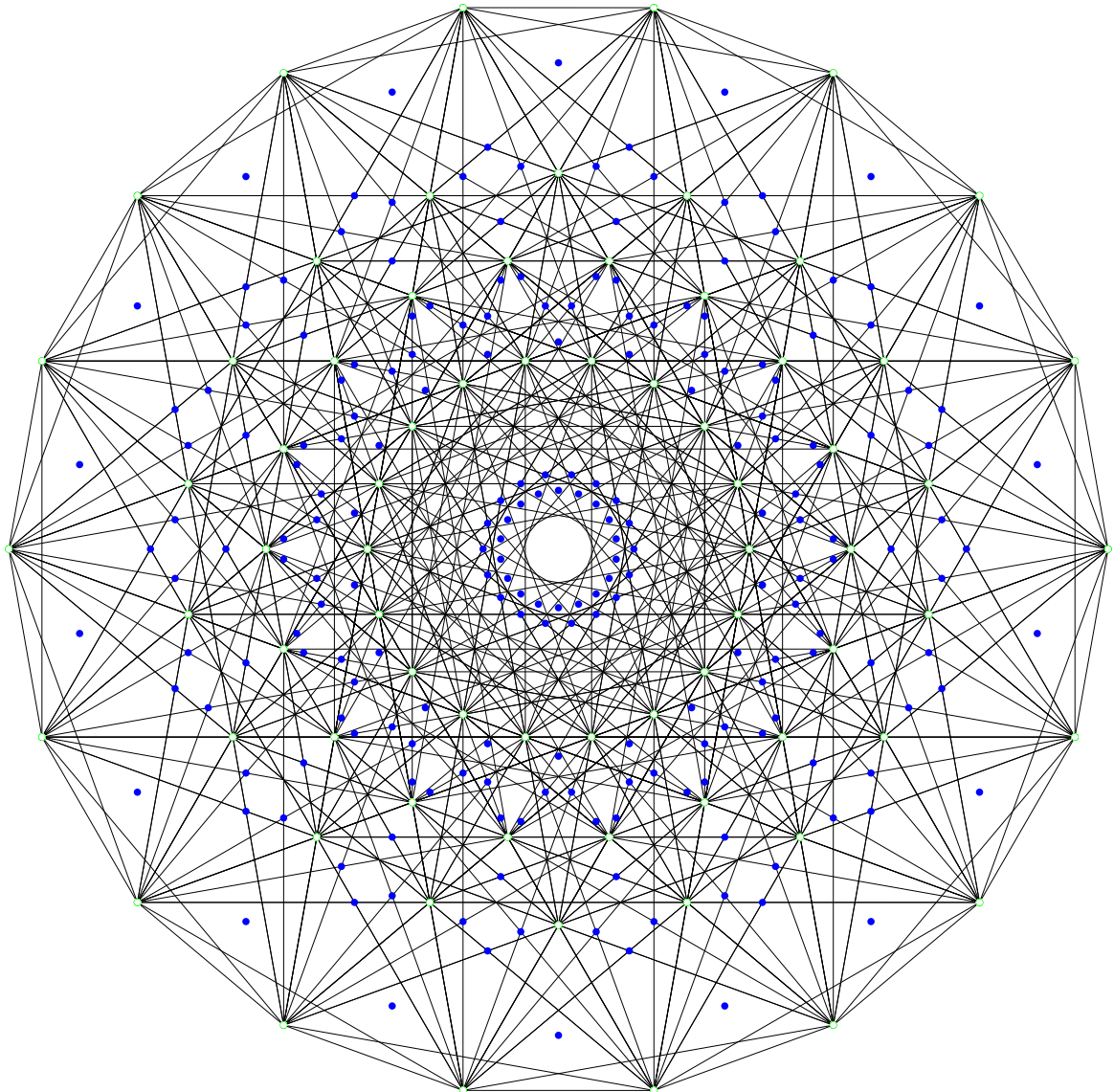
`[drawcenters=false,choice=9]`

`[drawedges=false,choice=9]`

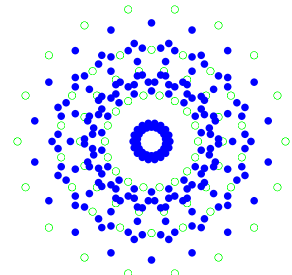
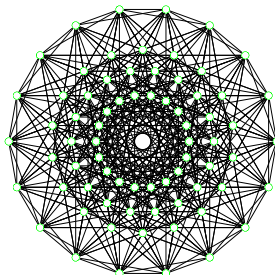
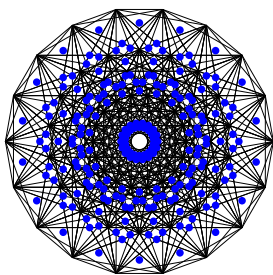


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=9,linewidth=0.3mm]

# Polytope $3\{3\}3\{4\}2$



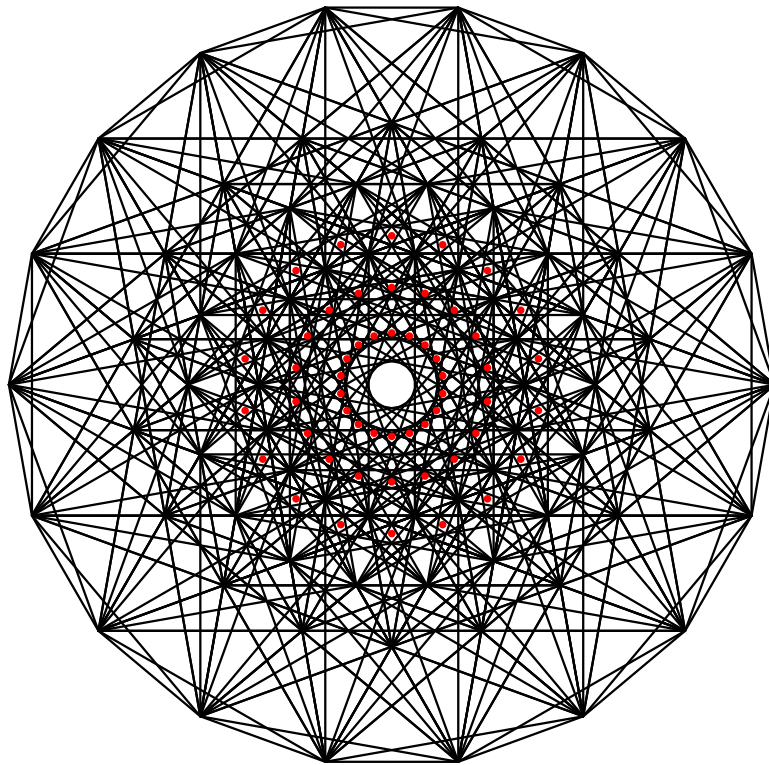
`\CoxeterCoordinates[choice=10]`



`[drawvertices=false,choice=10]`

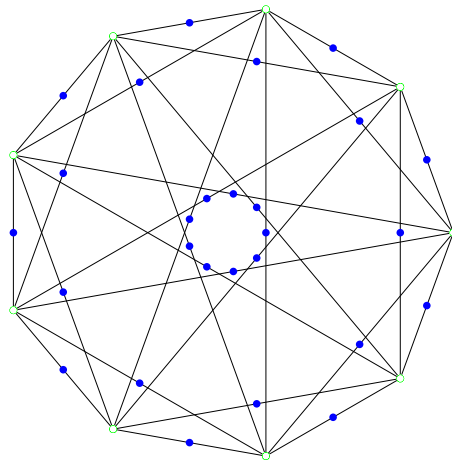
`[drawcenters=false,choice=10]`

`[drawedges=false,choice=10]`

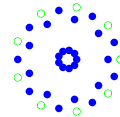
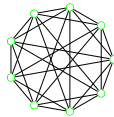
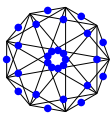


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=10,linewidth=0.3mm]

# Polytope $2\{3\}2\{4\}3$



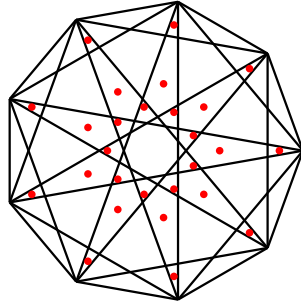
`\CoxeterCoordinates[choice=26]`



`[drawvertices=false,choice=26]`

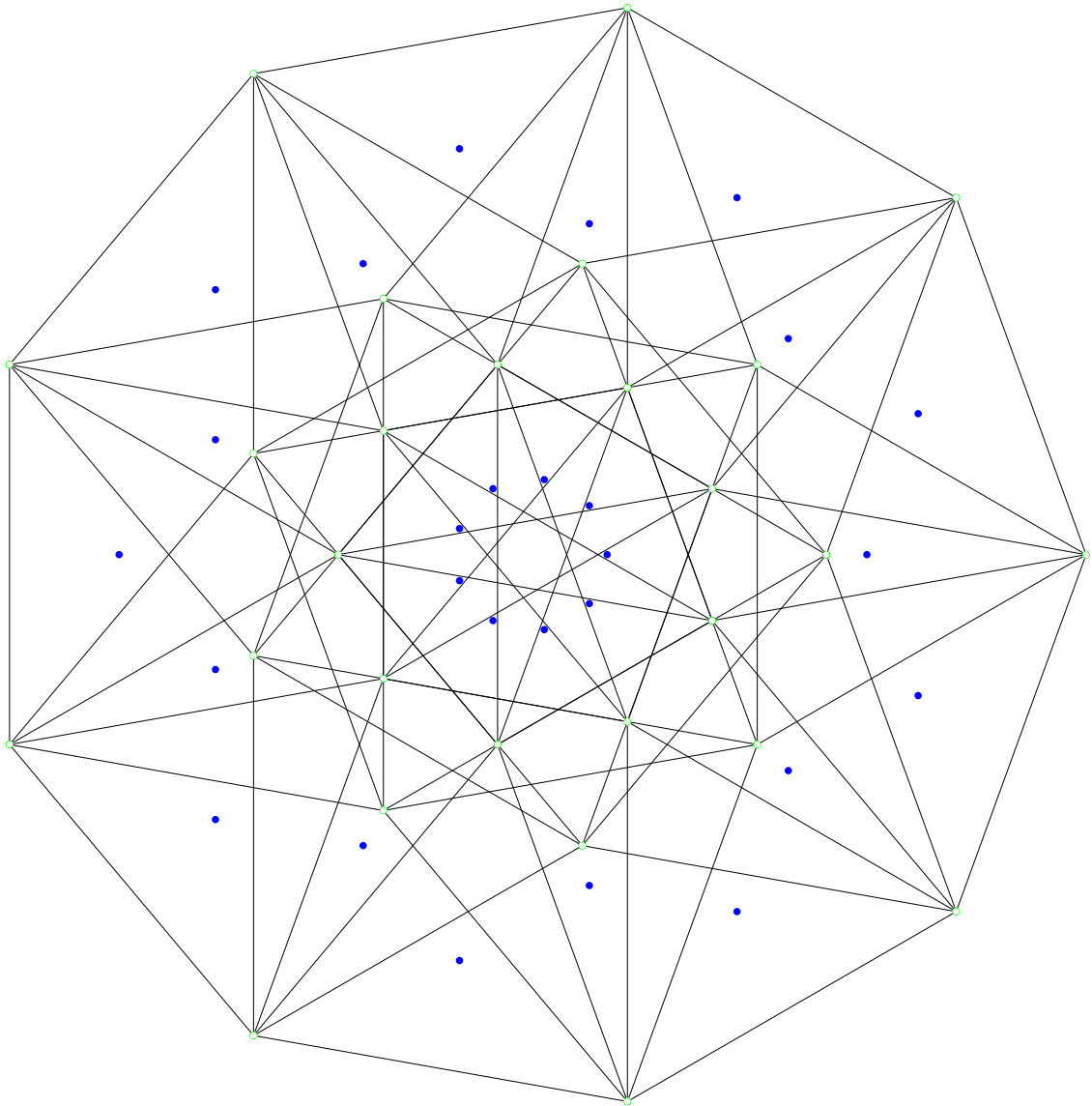
`[drawcenters=false,choice=26]`

`[drawedges=false,choice=26]`

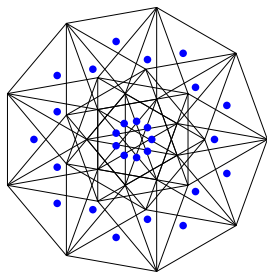


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=26,linewidth=0.3mm]

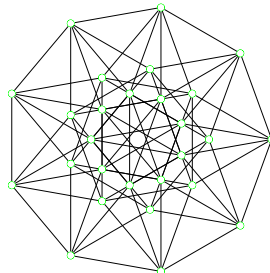
# Polytope $3\{4\}2\{3\}2$



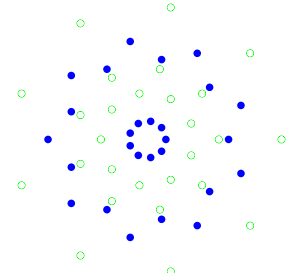
`\CoxeterCoordinates[choice=27]`



`[drawvertices=false,choice=27]`

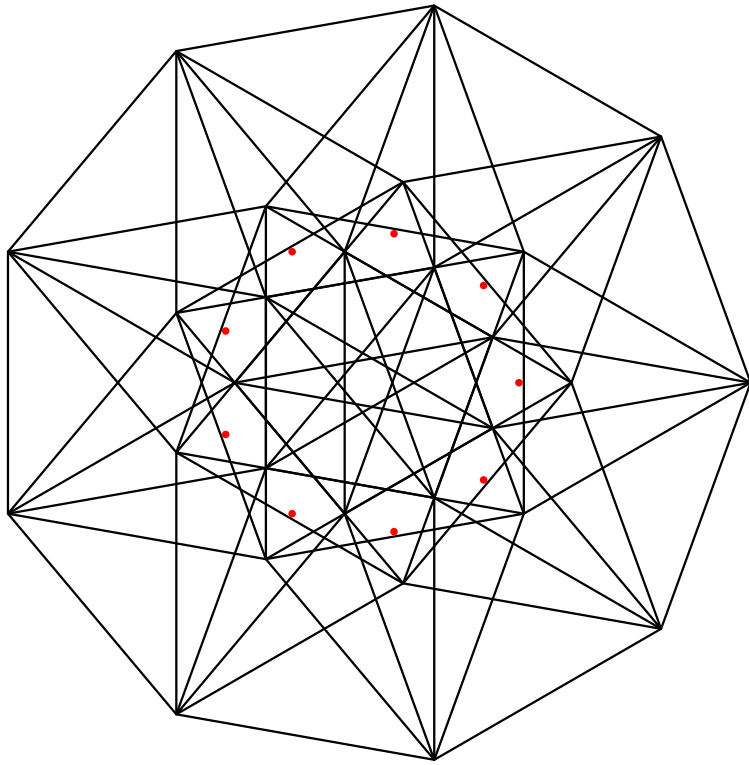


`[drawcenters=false,choice=27]`



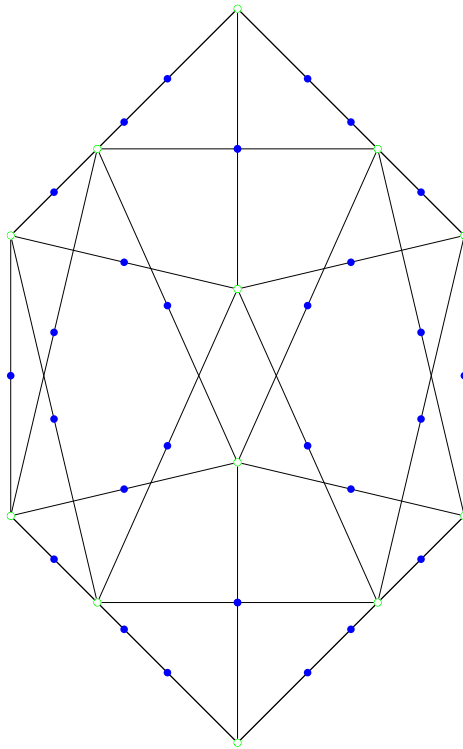
`[drawedges=false,choice=27]`



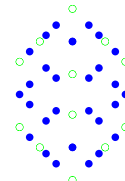
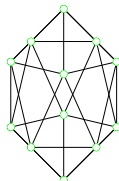
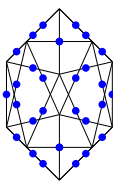


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=27,linewidth=0.3mm]

# Polytope $2\{3\}2\{5\}2$



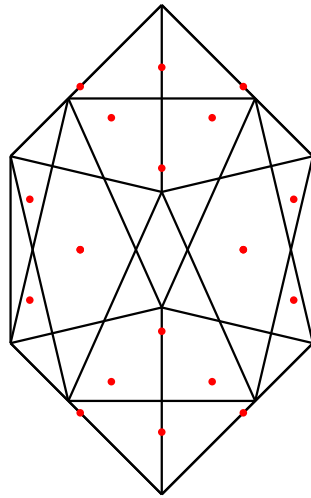
`\CoxeterCoordinates[choice=30]`



`[drawvertices=false,choice=30]`

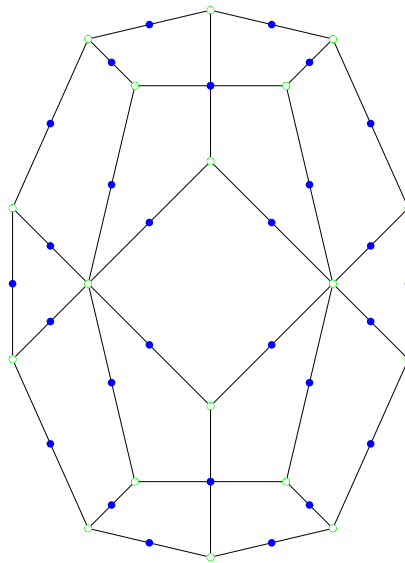
`[drawcenters=false,choice=30]`

`[drawedges=false,choice=30]`

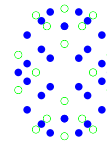
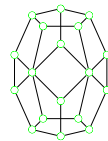
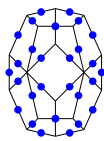


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=30,linewidth=0.3mm]

# Polytope $2\{5\}2\{3\}2$



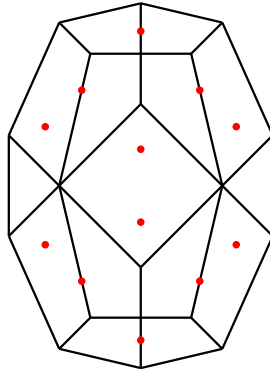
`\CoxeterCoordinates[choice=31]`



`[drawvertices=false,choice=31]`

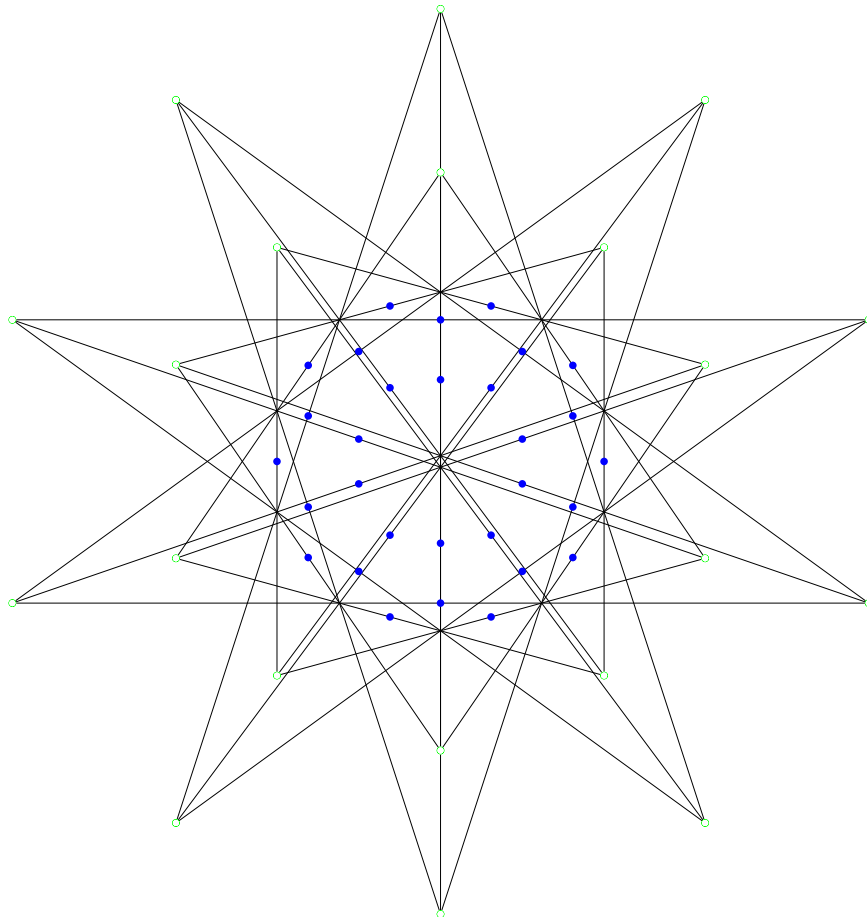
`[drawcenters=false,choice=31]`

`[drawedges=false,choice=31]`

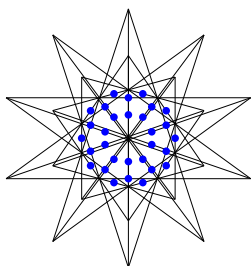


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=31,linewidth=0.3mm]

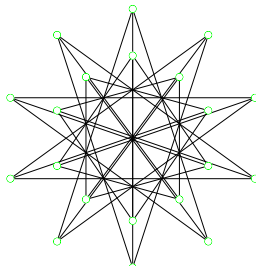
# Polytope $2 \left\{ \frac{5}{2} \right\} 2\{3\}2$



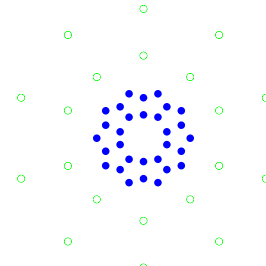
`\CoxeterCoordinates[choice=65]`



`[drawvertices=false,choice=65]`

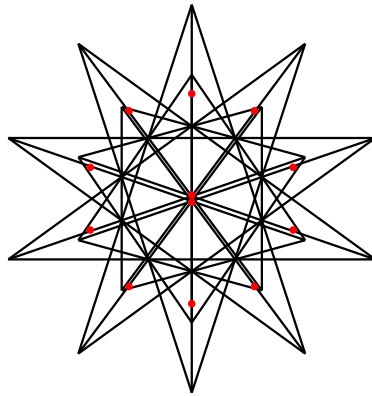


`[drawcenters=false,choice=65]`



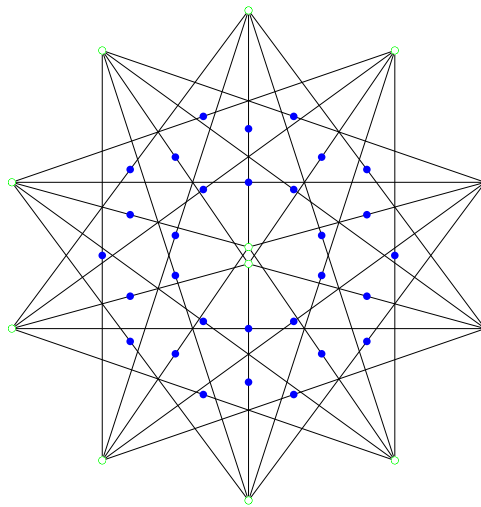
`[drawedges=false,choice=65]`



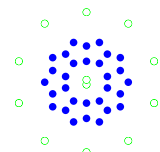
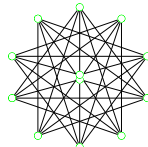
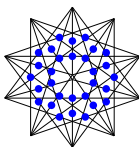


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=65,linewidth=0.3mm]

# Polytope $2\{3\}2\left\{\frac{5}{2}\right\}2$



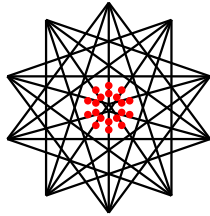
`\CoxeterCoordinates[choice=66]`



`[drawvertices=false,choice=66]`

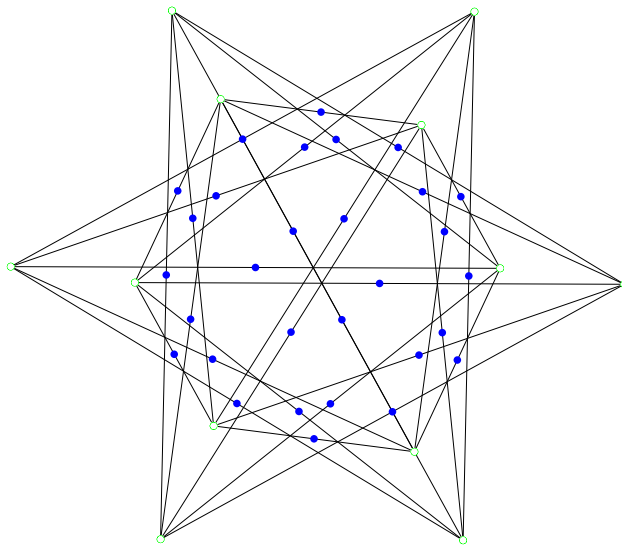
`[drawcenters=false,choice=66]`

`[drawedges=false,choice=66]`

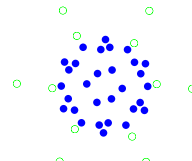
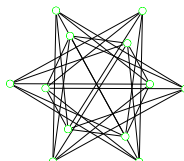
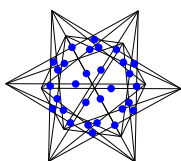


[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=66,linewidth=0.3mm]

# Polytope $2 \left\{ \frac{5}{2} \right\} 2\{5\}2$



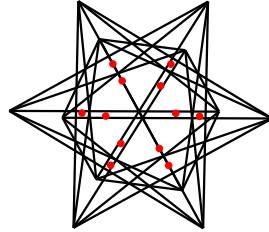
`\CoxeterCoordinates[choice=67]`



`[drawvertices=false,choice=67]`

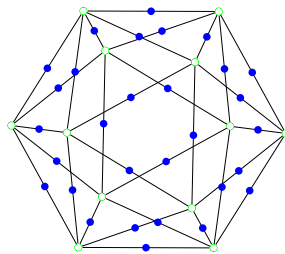
`[drawcenters=false,choice=67]`

`[drawedges=false,choice=67]`



[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=67,linewidth=0.3mm]

# Polytope $2\{5\}2\left\{\frac{5}{2}\right\}2$



`\CoxeterCoordinates[choice=68]`



`[drawvertices=false,choice=68]`

`[drawcenters=false,choice=68]`

`[drawedges=false,choice=68]`

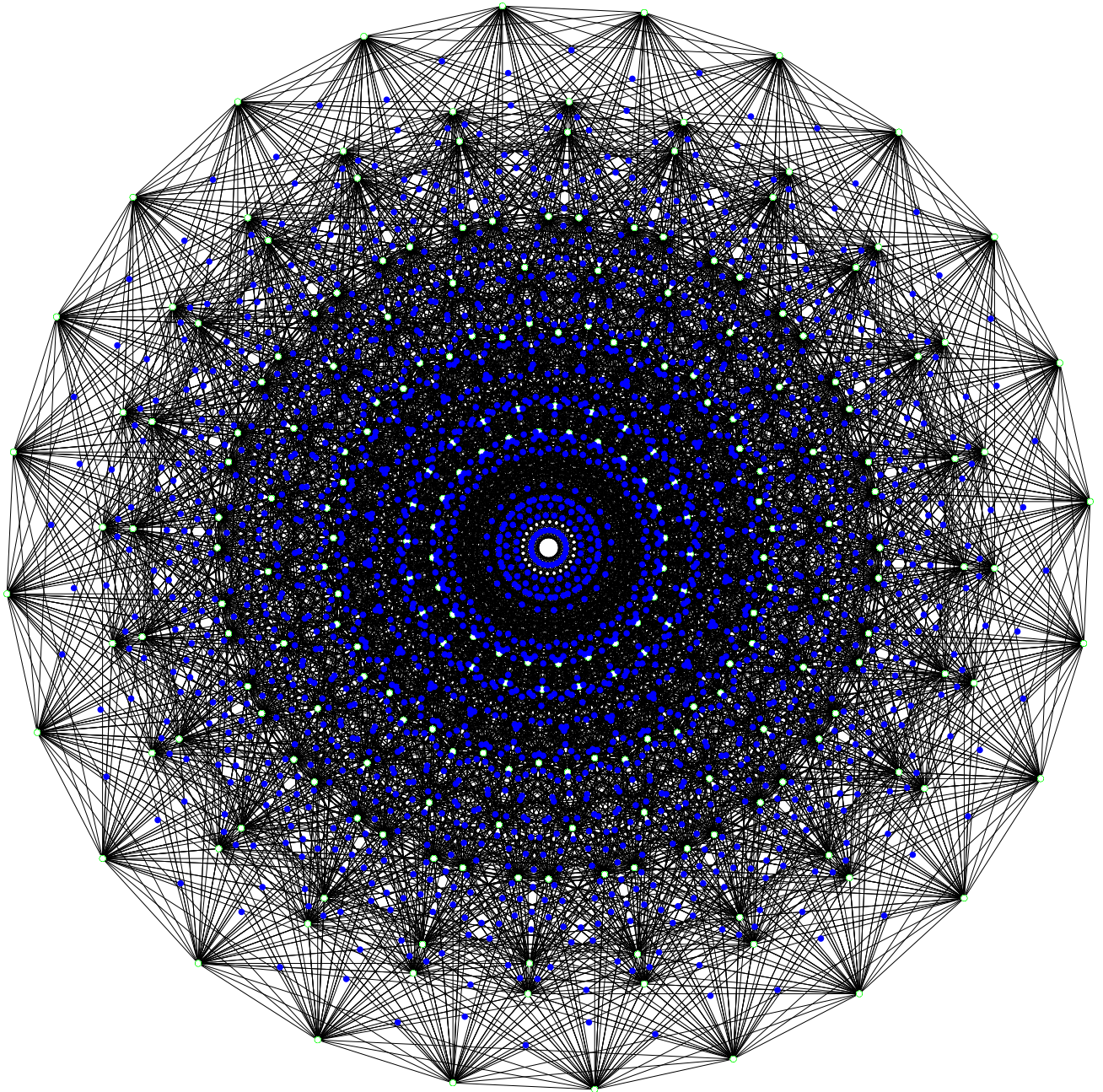


```
[drawvertices=false,drawcentersfaces=true,drawcenters=false,choice=68,linewidth=0.3mm]
```

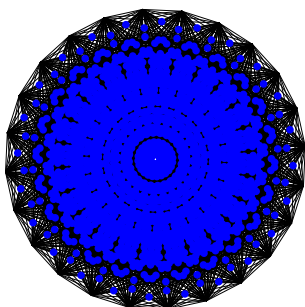


### 3 Polytopes (dimension 4)

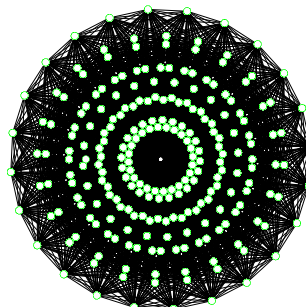
## Witting polytope



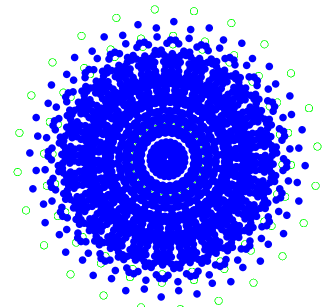
`\CoxeterCoordinates[choice=11]`



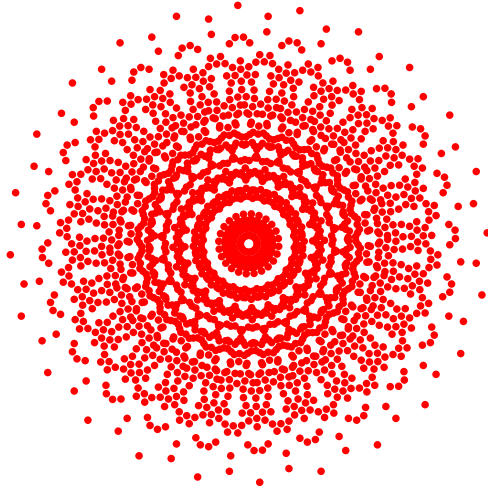
`[drawvertices=false,choice=11]`



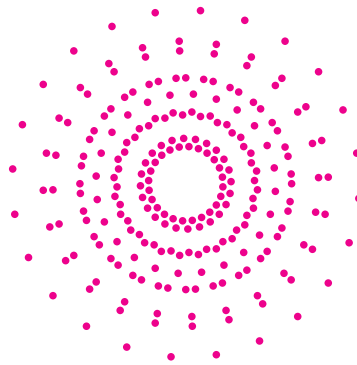
`[drawcenters=false,choice=11]`



`[drawedges=false,choice=11]`

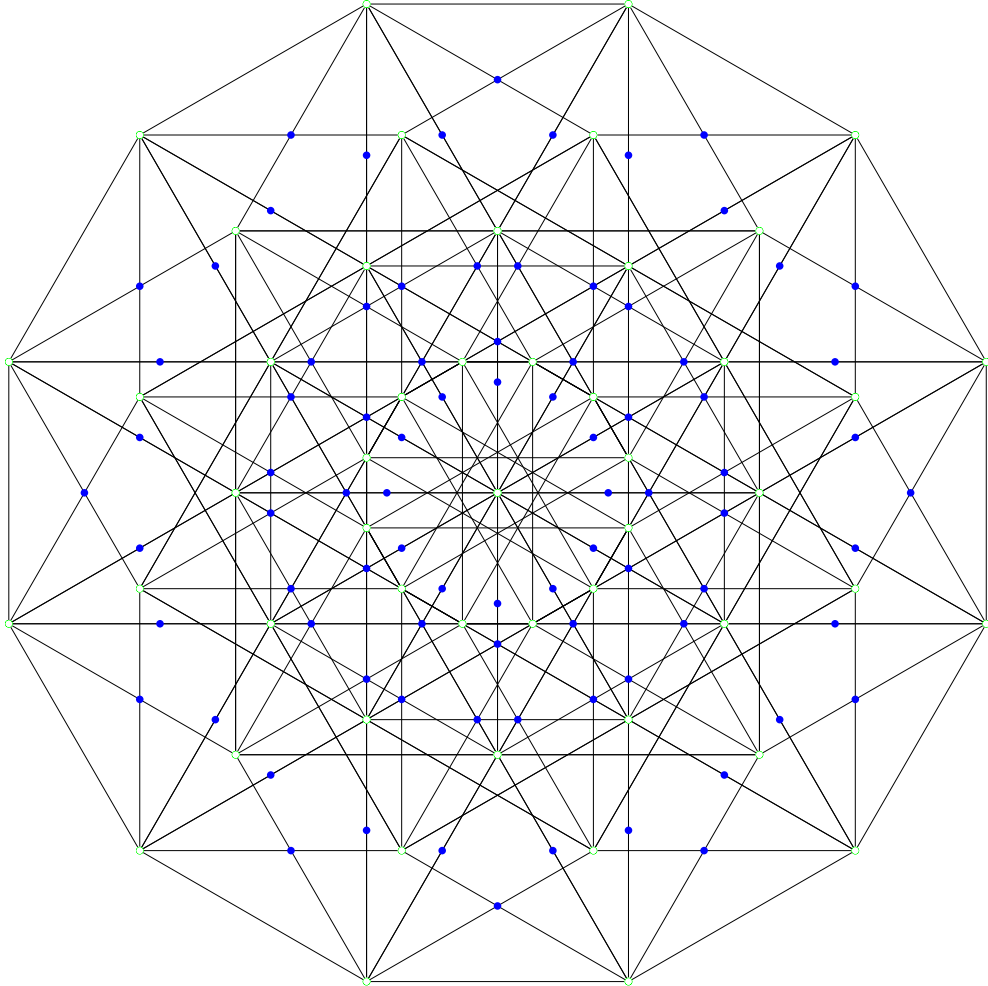


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=11]

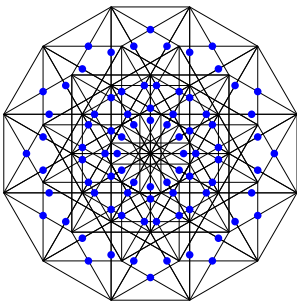


[drawcenters=false,choice=11]

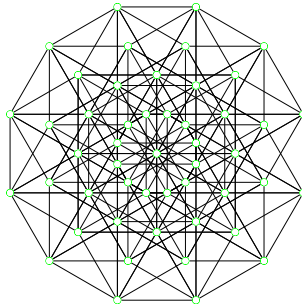
# Polytope $3\{4\}2\{3\}2\{3\}2$



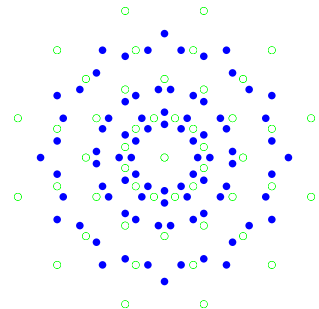
`\CoxeterCoordinates[choice=28]`



`[drawvertices=false,choice=28]`

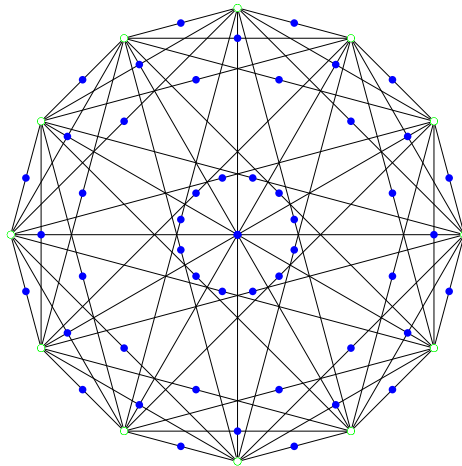


`[drawcenters=false,choice=28]`

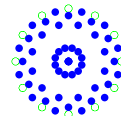
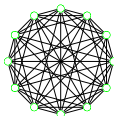
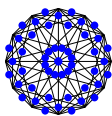


`[drawedges=false,choice=28]`

# Polytope $2\{3\}2\{3\}2\{4\}3$



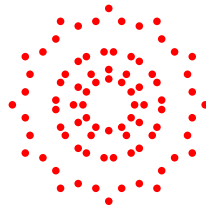
`\CoxeterCoordinates[choice=29]`



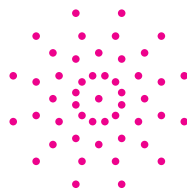
`[drawvertices=false,choice=29]`

`[drawcenters=false,choice=29]`

`[drawedges=false,choice=29]`

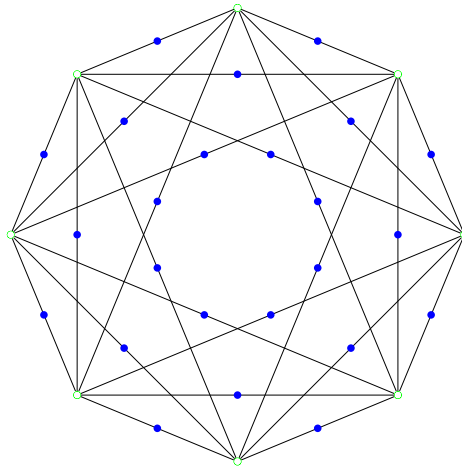


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=29]

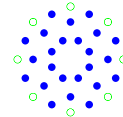
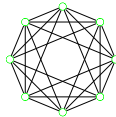
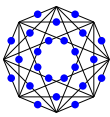


[drawcenters=false,choice=29]

# Polytope $2\{3\}2\{3\}2\{4\}2$



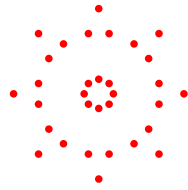
`\CoxeterCoordinates[choice=32]`



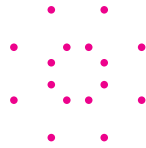
`[drawvertices=false,choice=32]`

`[drawcenters=false,choice=32]`

`[drawedges=false,choice=32]`



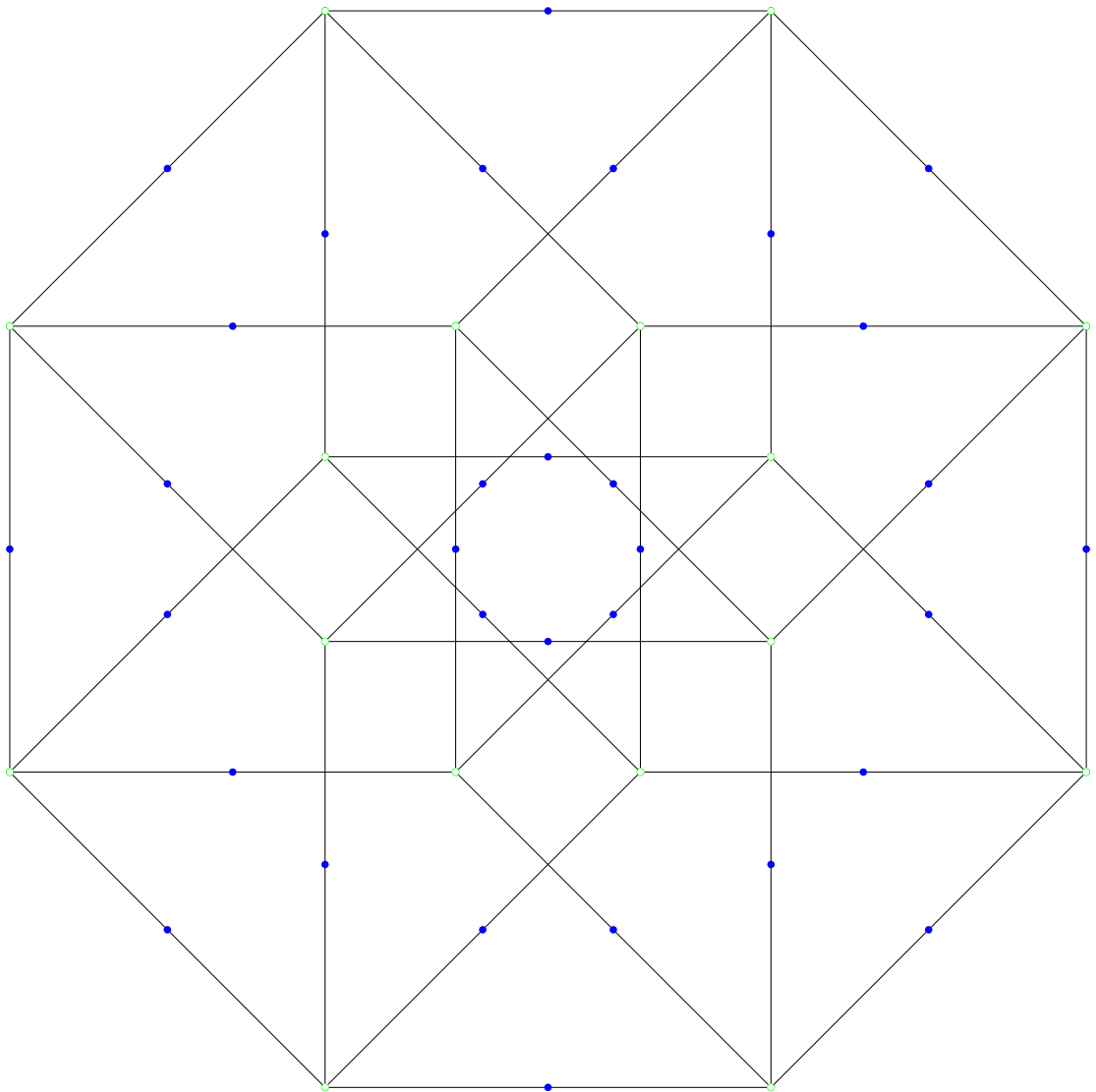
`[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=32]`



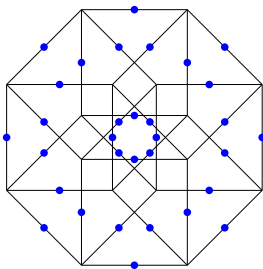
`[drawcenters=false,choice=32]`



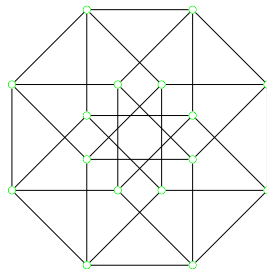
# Polytope $2\{4\}2\{3\}2\{3\}2$



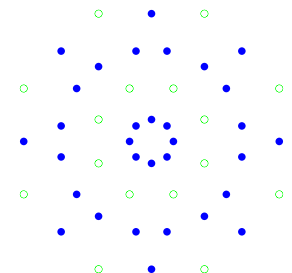
`\CoxeterCoordinates[choice=33]`



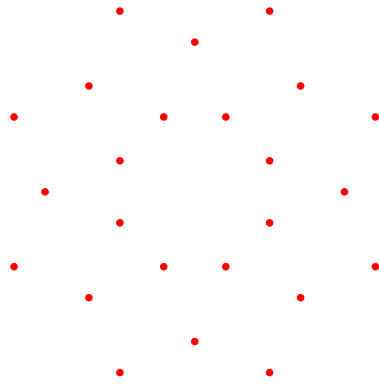
`[drawvertices=false,choice=33]`



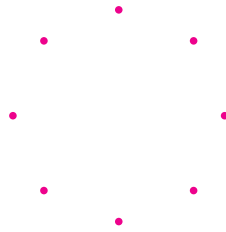
`[drawcenters=false,choice=33]`



`[drawedges=false,choice=33]`

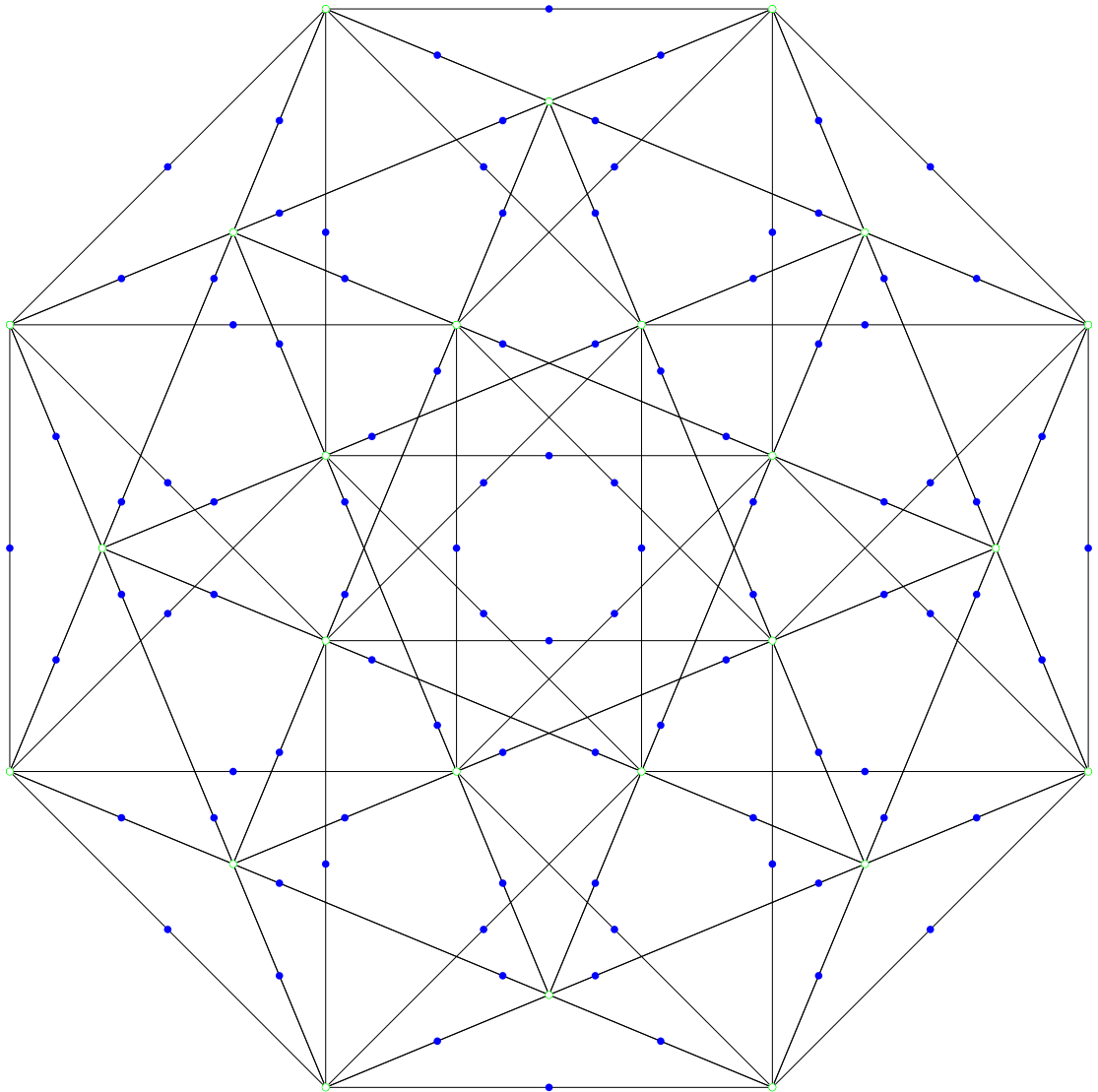


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=33]

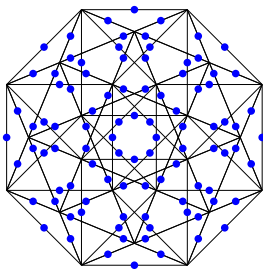


[drawcenters=false,choice=33]

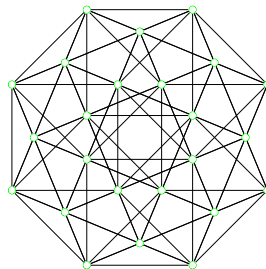
# Polytope $2\{3\}2\{4\}2\{3\}2$



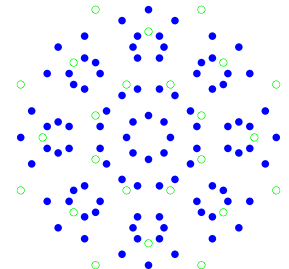
`\CoxeterCoordinates[choice=34]`



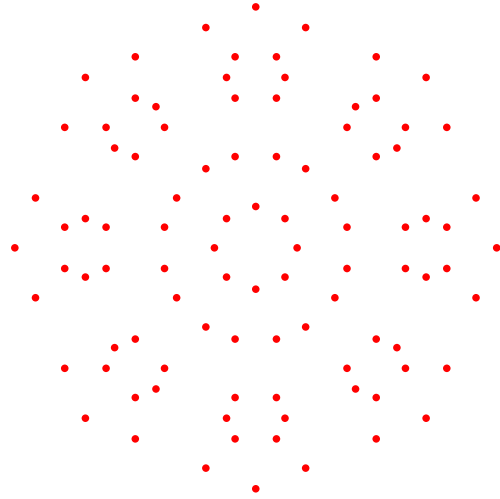
`[drawvertices=false,choice=34]`



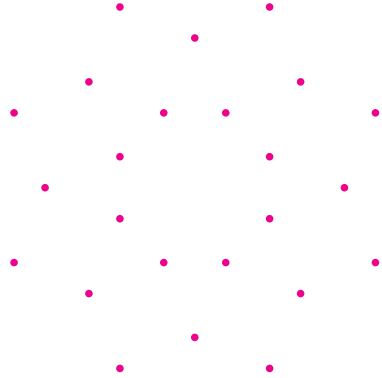
`[drawcenters=false,choice=34]`



`[drawedges=false,choice=34]`

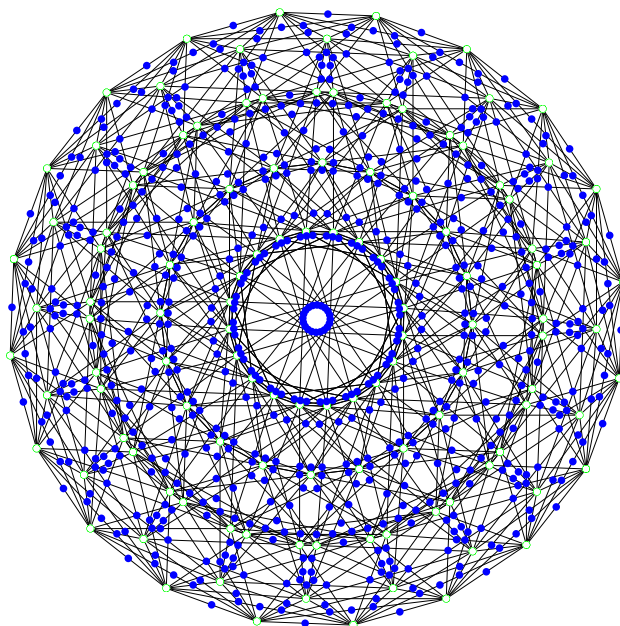


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=34]

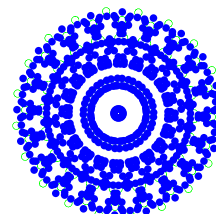
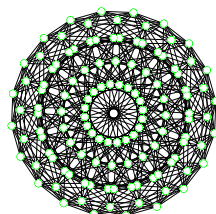
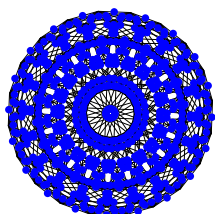


[drawcenters=false,choice=34]

# Le 600-topes



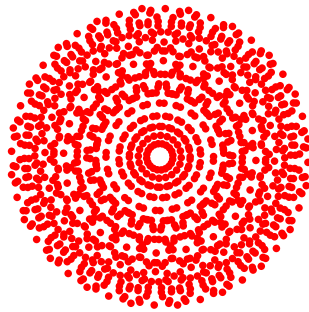
`\CoxeterCoordinates[choice=35]`



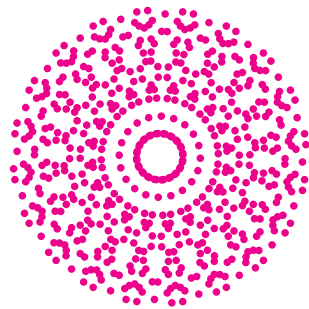
`[drawvertices=false,choice=35]`

`[drawcenters=false,choice=35]`

`[drawedges=false,choice=35]`

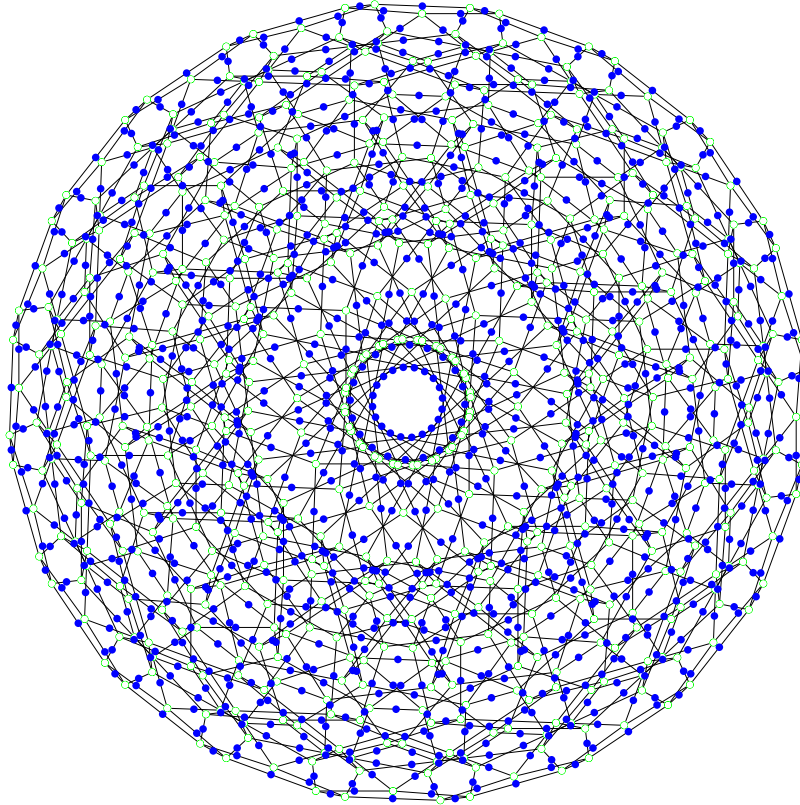


`[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=35]`

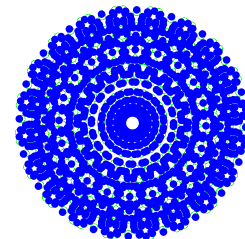
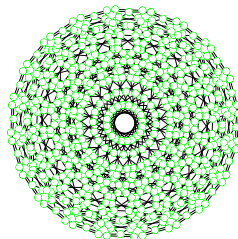
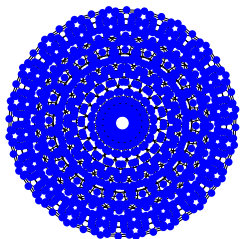


`[drawcenters=false,choice=35]`

# The 120-topes



`\CoxeterCoordinates[choice=36]`

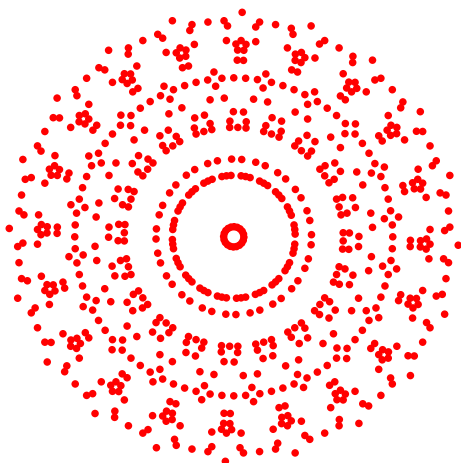


`[drawvertices=false,choice=36]`

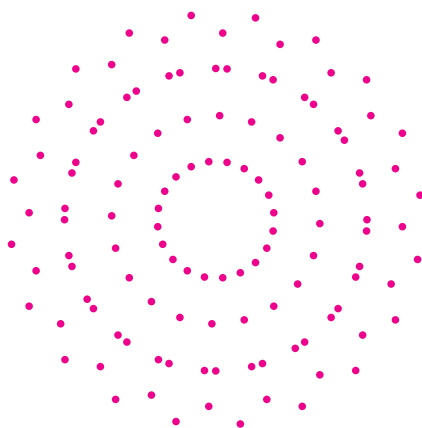
`[drawcenters=false,choice=36]`

`[drawedges=false,choice=36]`



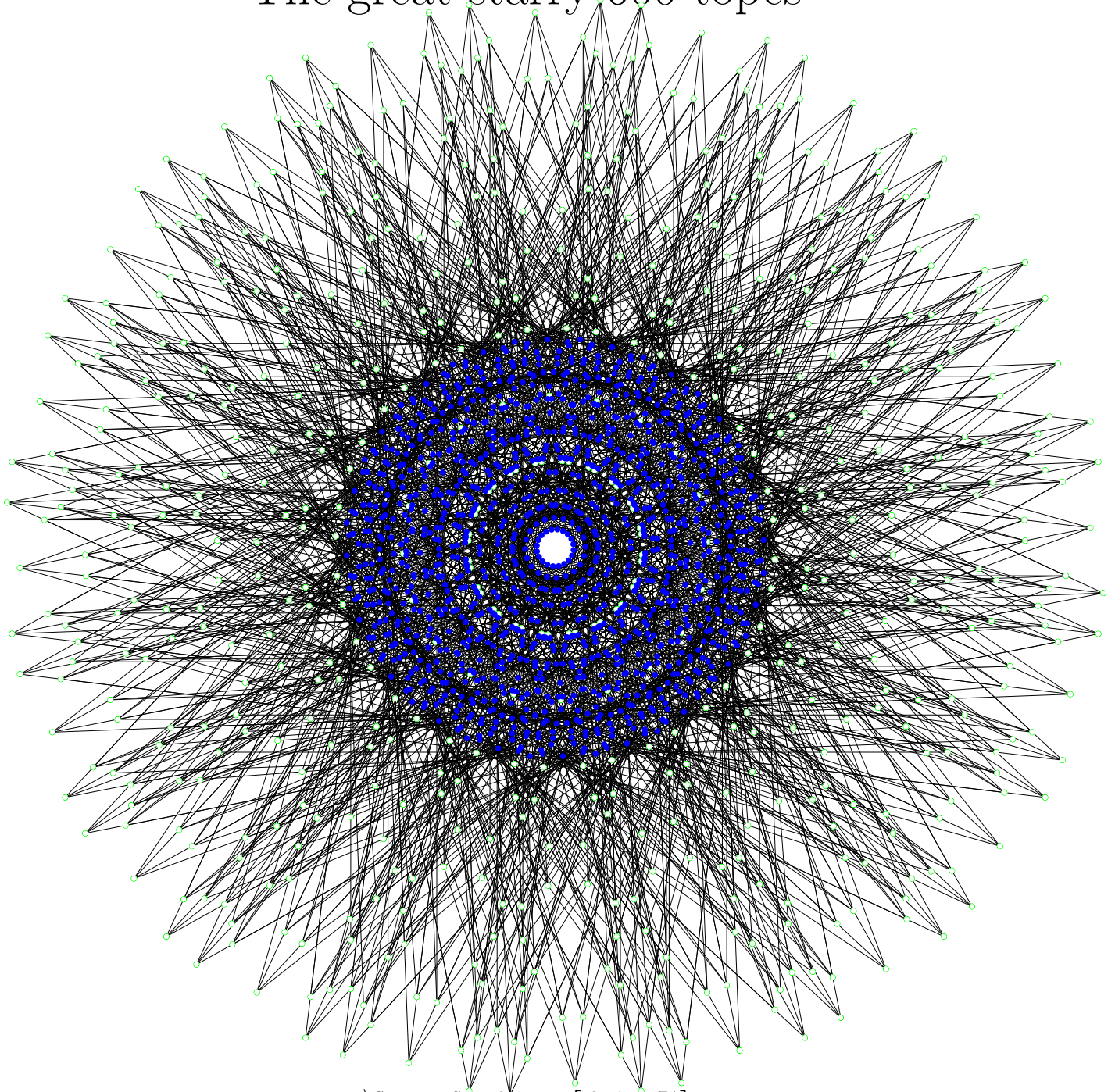


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=36]

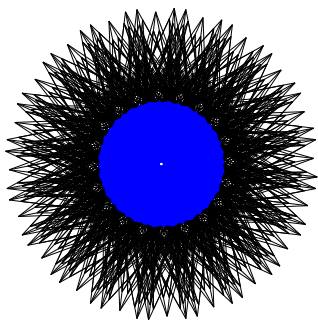


[drawcenters=false,choice=36]

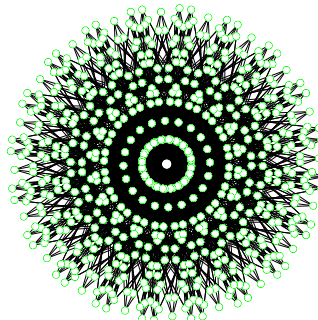
# The great starry 600-topes



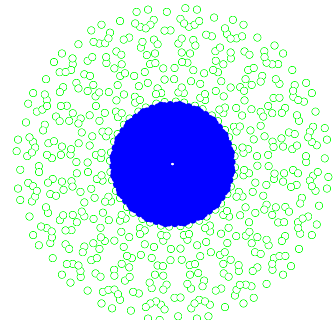
`\CoxeterCoordinates[choice=71]`



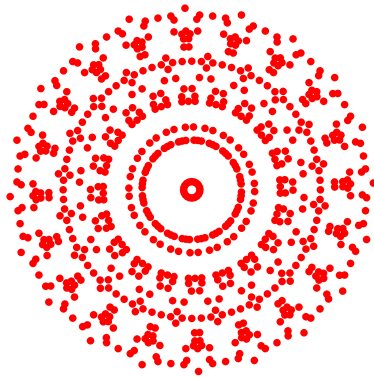
`[drawvertices=false,choice=71]`



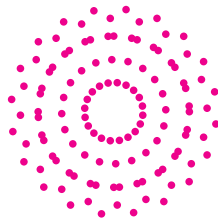
`[drawcenters=false,choice=71]`



`[drawedges=false,choice=71]`



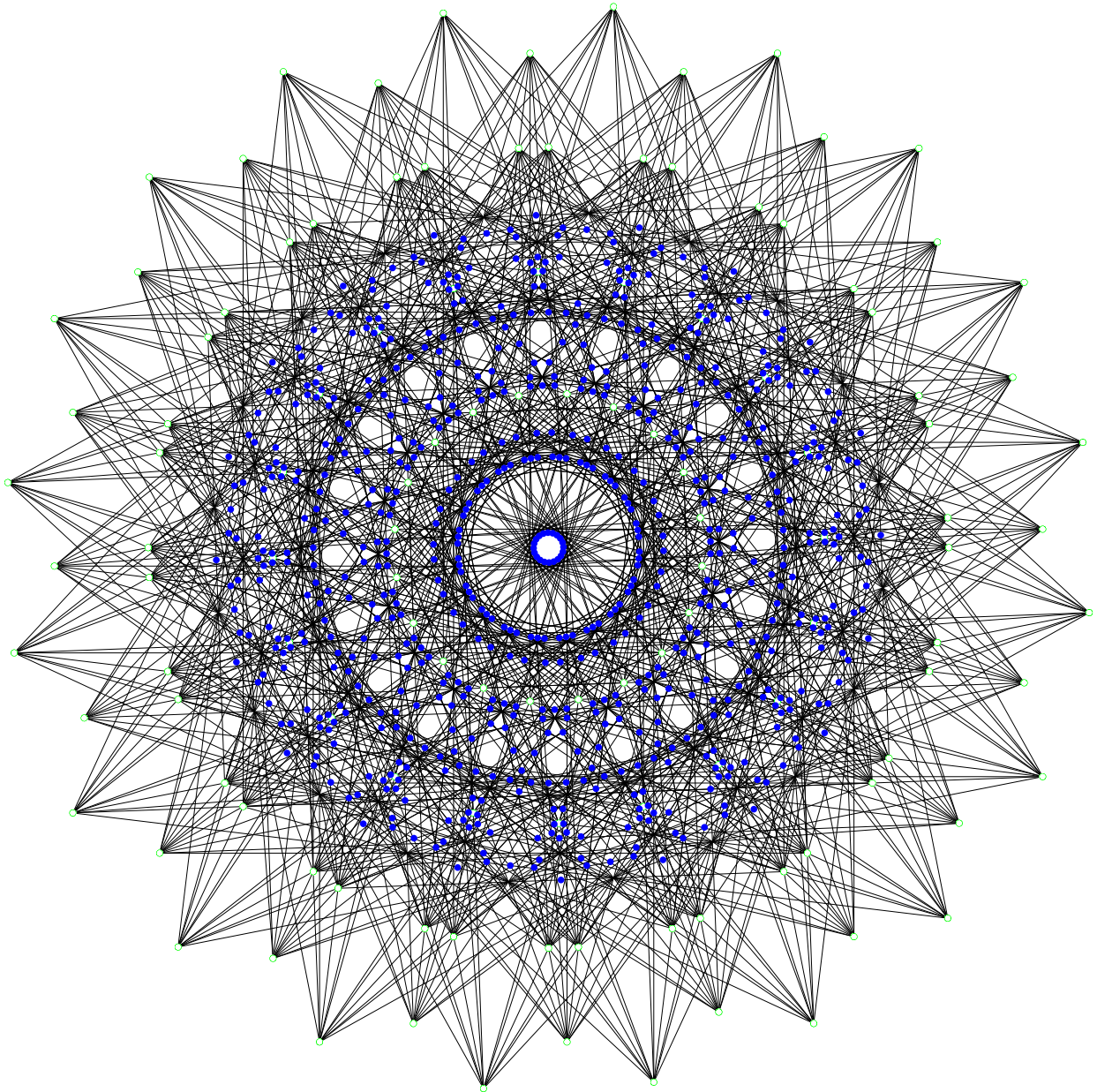
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=71]



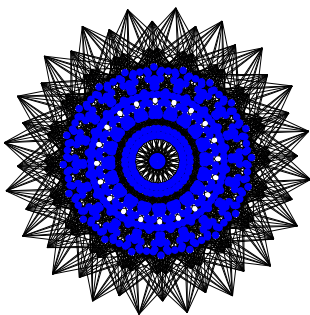
[drawcenters=false,choice=71]



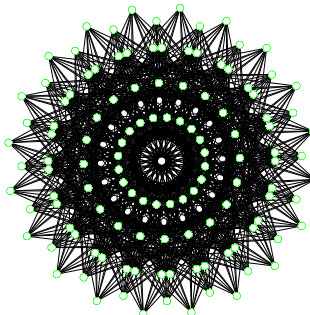
# The great starry 120-topes



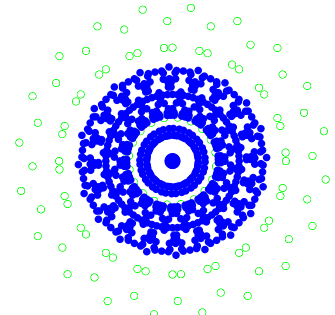
`\CoxeterCoordinates[choice=72]`



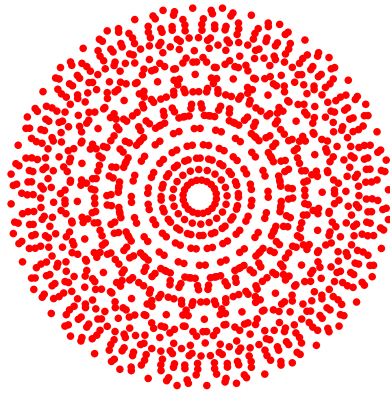
`[drawvertices=false,choice=72]`



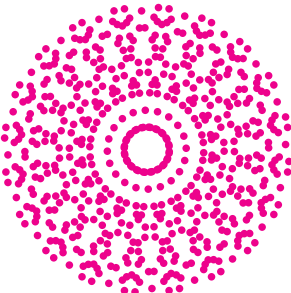
`[drawcenters=false,choice=72]`



`[drawedges=false,choice=72]`



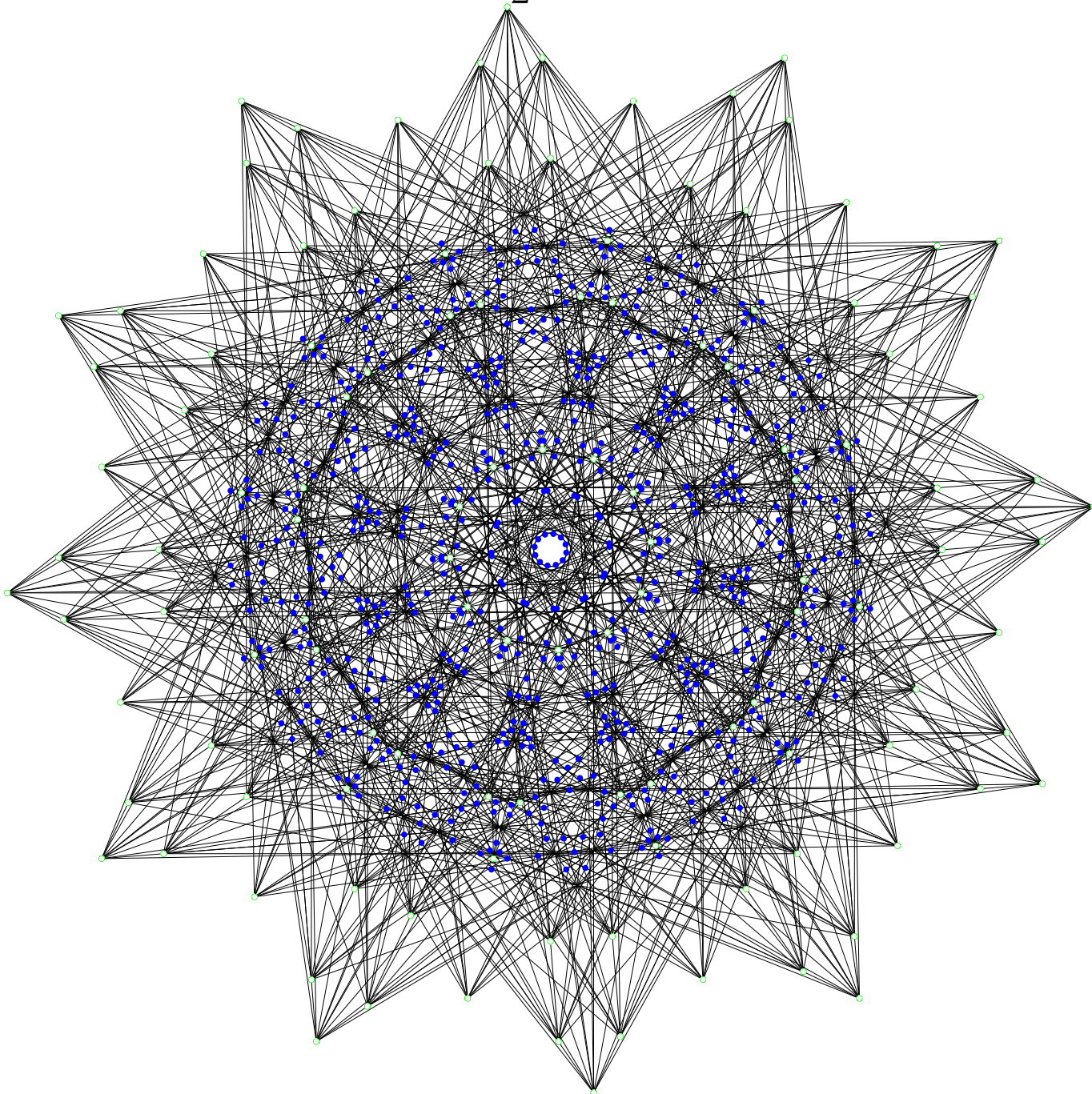
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=72]



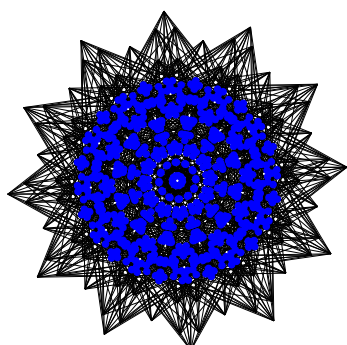
[drawcenters=false,choice=72]



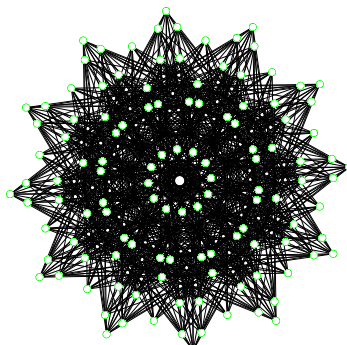
$$2\{3\}2\{\frac{5}{2}\}2\{5\}2$$



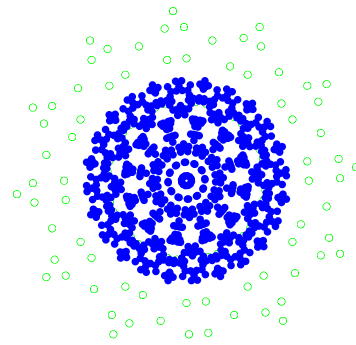
`\CoxeterCoordinates[choice=73]`



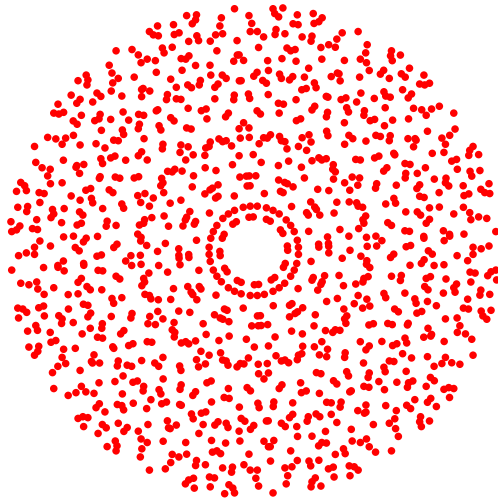
`[drawvertices=false,choice=73]`



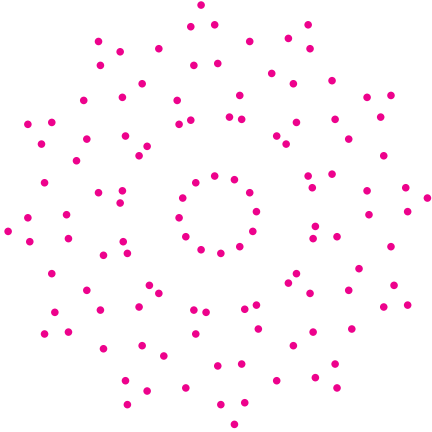
`[drawcenters=false,choice=73]`



`[drawedges=false,choice=73]`



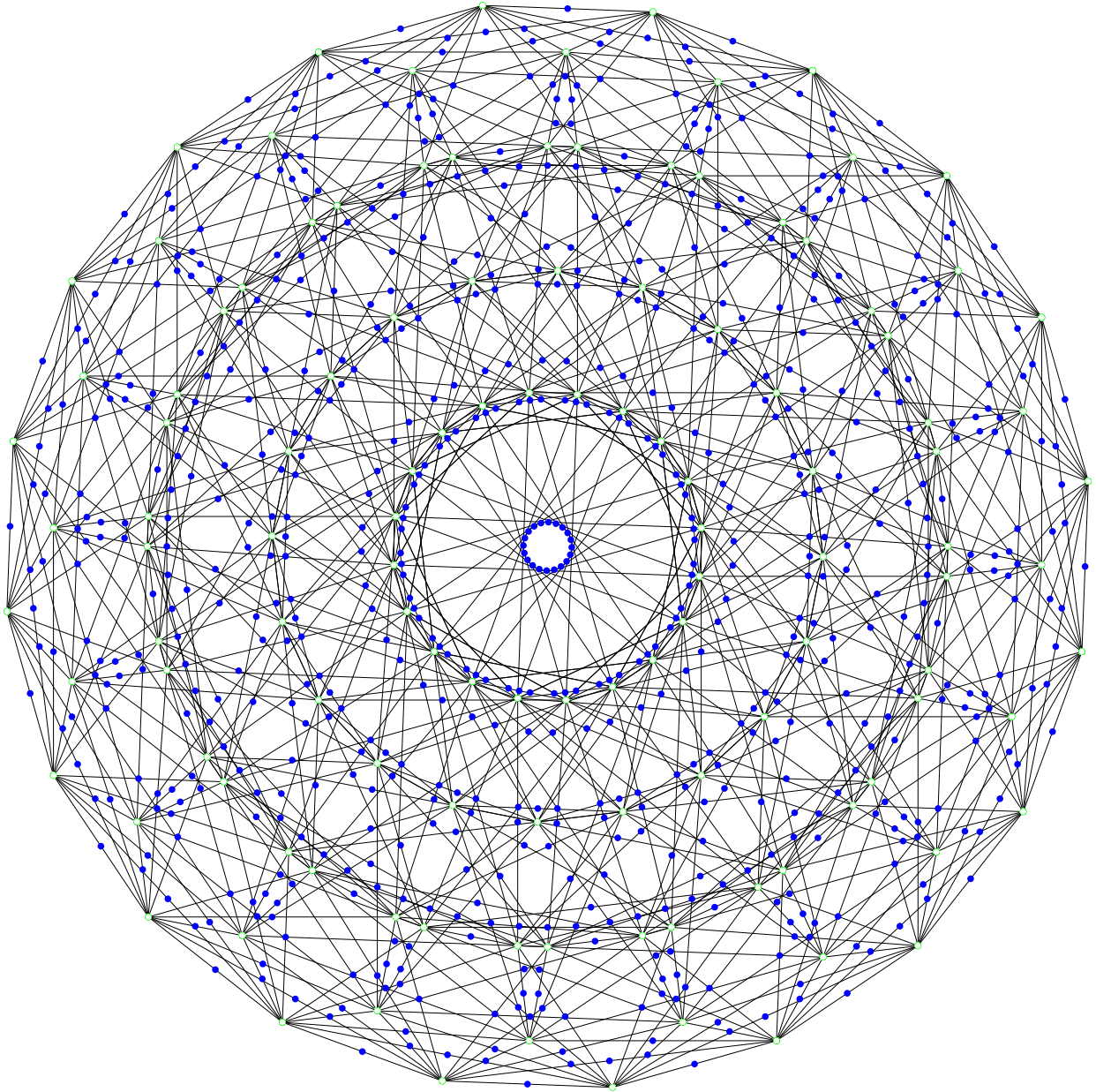
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=73]



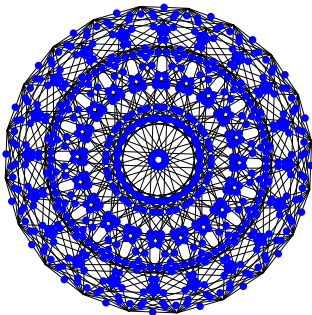
[drawcenters=false,choice=73]



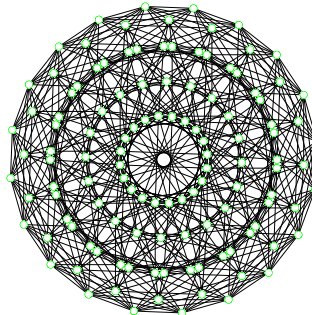
$$2\{3\}2\{5\}2\{\frac{5}{2}\}2$$



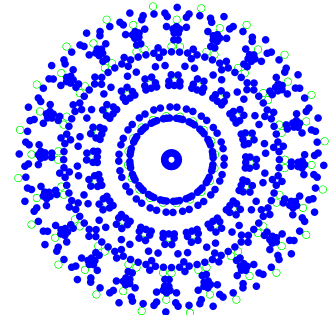
`\CoxeterCoordinates[choice=74]`



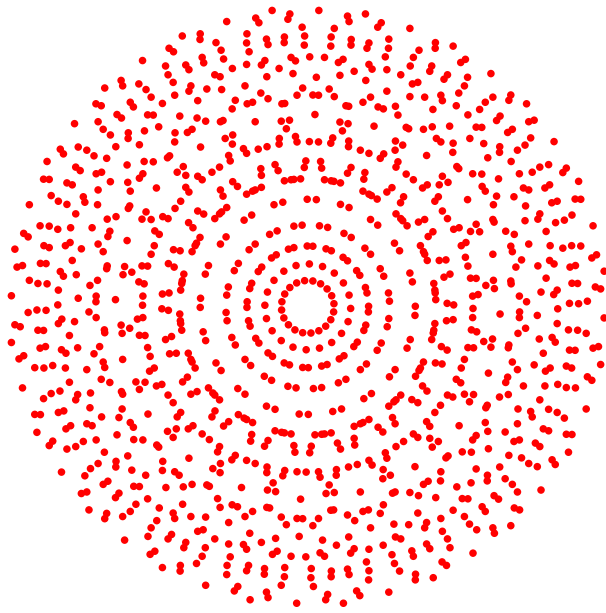
`[drawvertices=false,choice=74]`



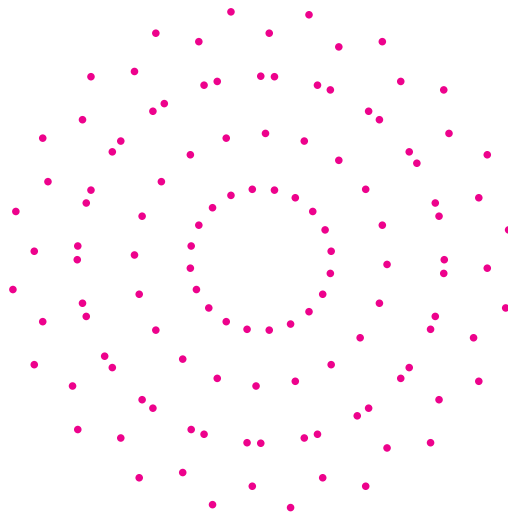
`[drawcenters=false,choice=74]`



`[drawedges=false,choice=74]`

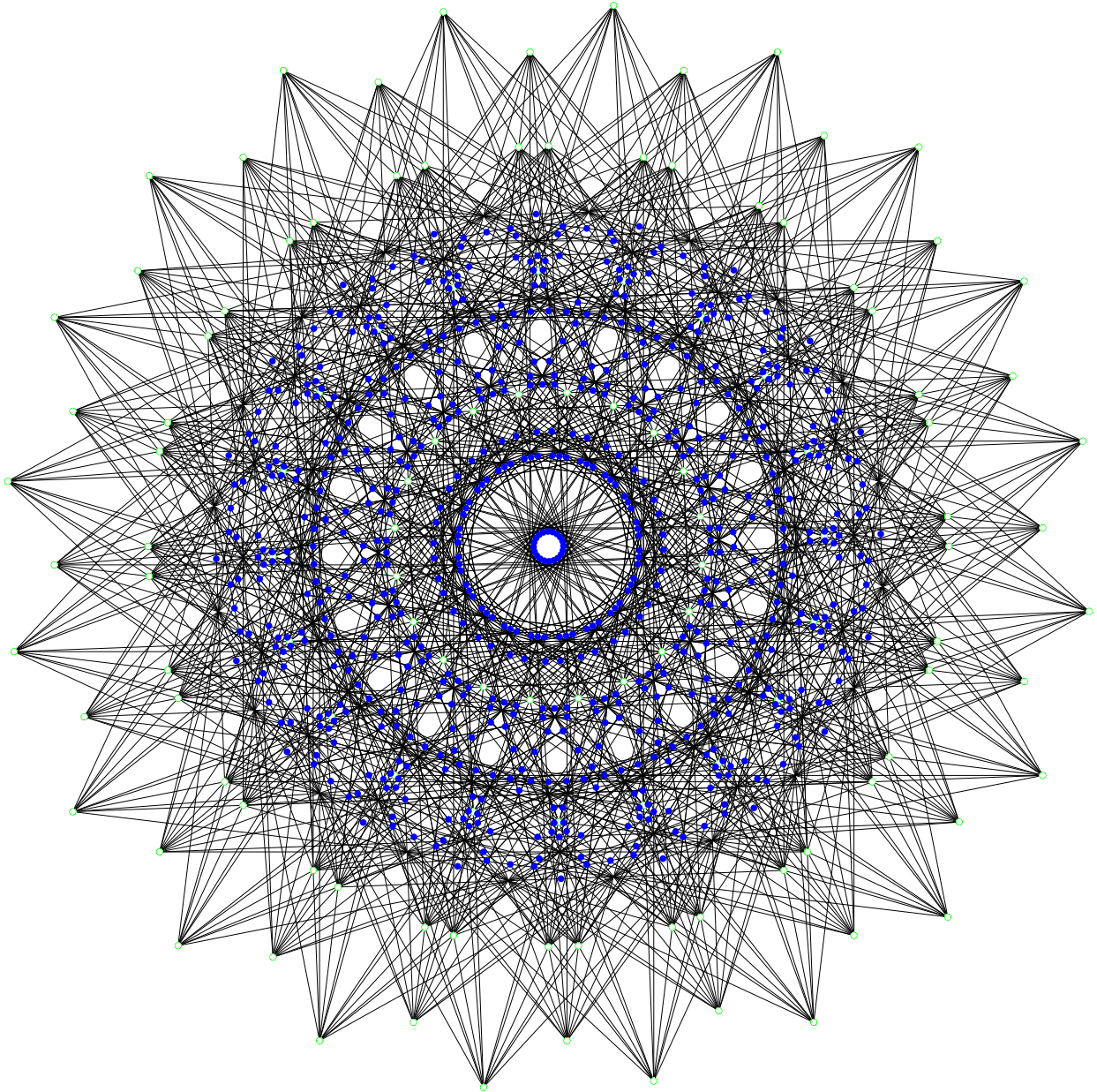


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=74]

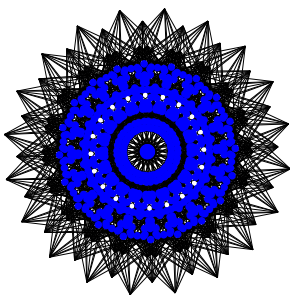


[drawcenters=false,choice=74]

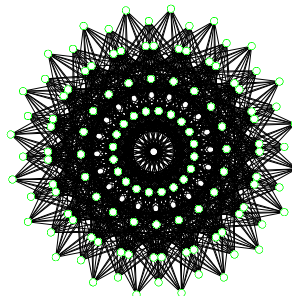
$$2\left\{\frac{5}{2}\right\}2\{3\}2\{5\}2$$



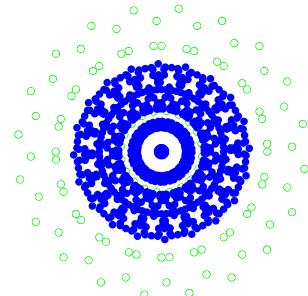
`\CoxeterCoordinates[choice=75]`



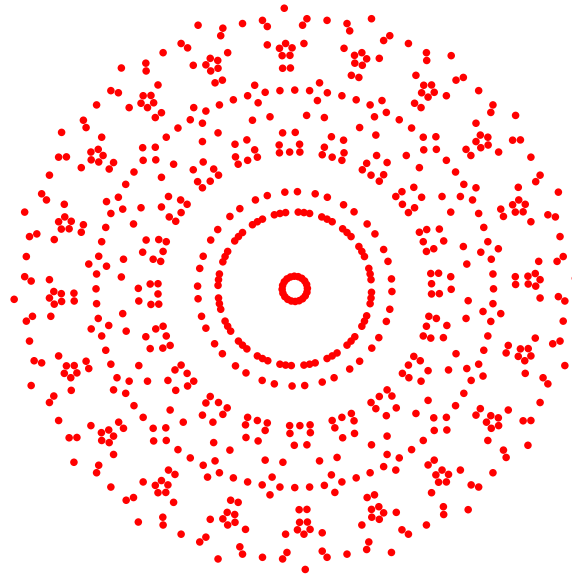
`[drawvertices=false,choice=75]`



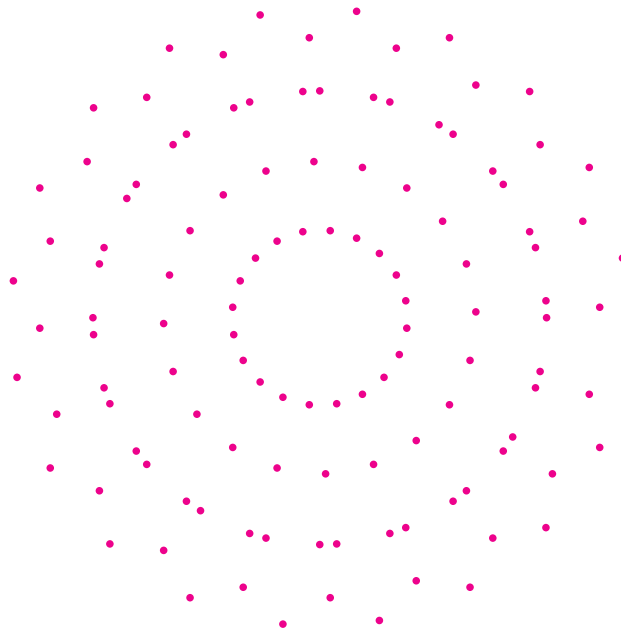
`[drawcenters=false,choice=75]`



`[drawedges=false,choice=75]`



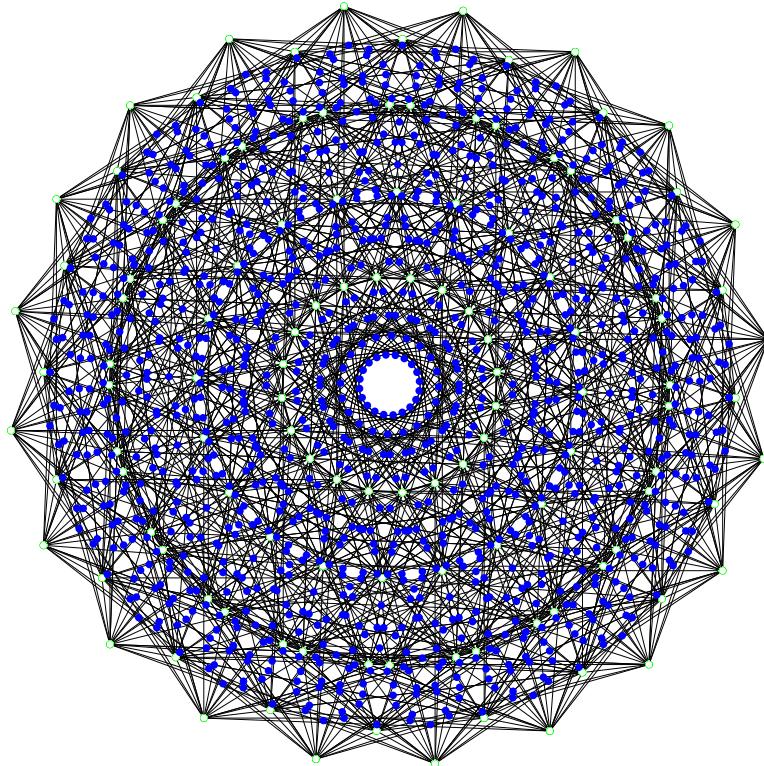
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=75]



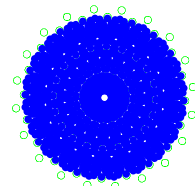
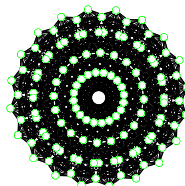
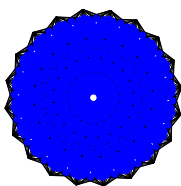
[drawcenters=false,choice=75]



$$2\left\{\frac{5}{2}\right\}2\{5\}2\{3\}2$$



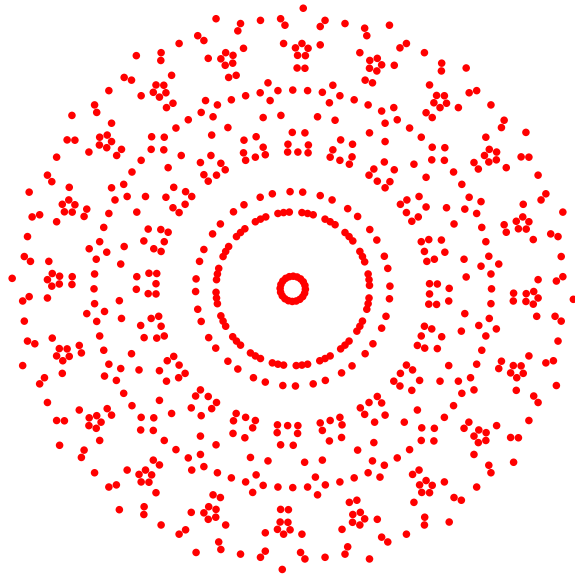
`\CoxeterCoordinates[choice=76]`



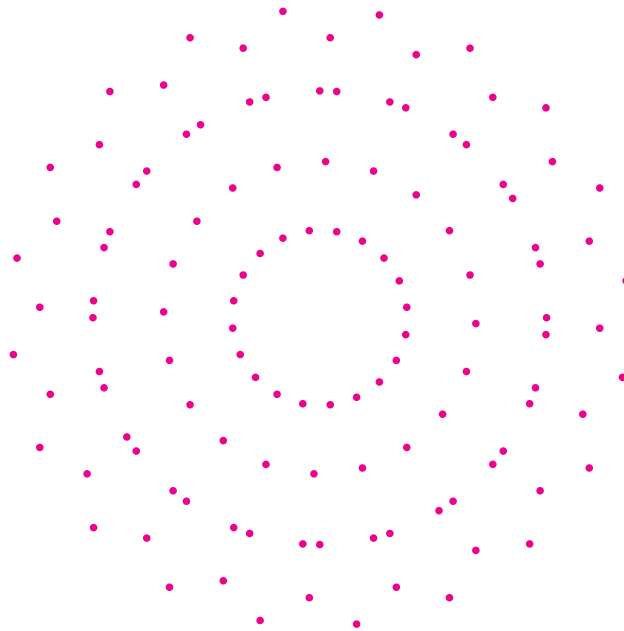
`[drawvertices=false,choice=76]`

`[drawcenters=false,choice=76]`

`[drawedges=false,choice=76]`

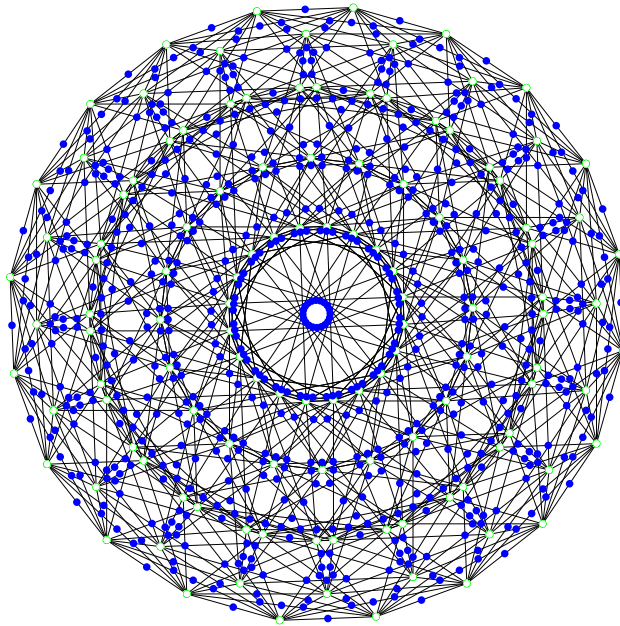


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=76]

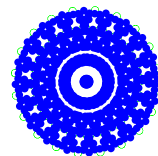
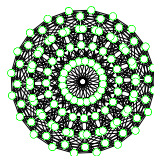
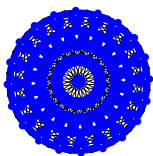


[drawcenters=false,choice=76]

$$2\{5\}2\{3\}2\{\frac{5}{2}\}2$$



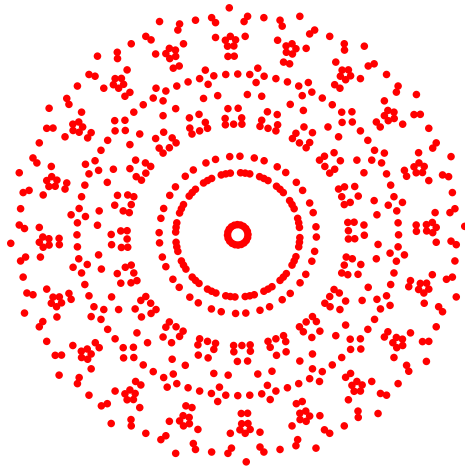
`\CoxeterCoordinates[choice=77]`



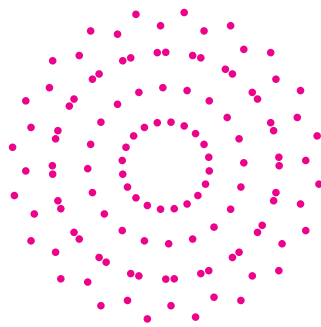
`[drawvertices=false,choice=77]`

`[drawcenters=false,choice=77]`

`[drawedges=false,choice=77]`



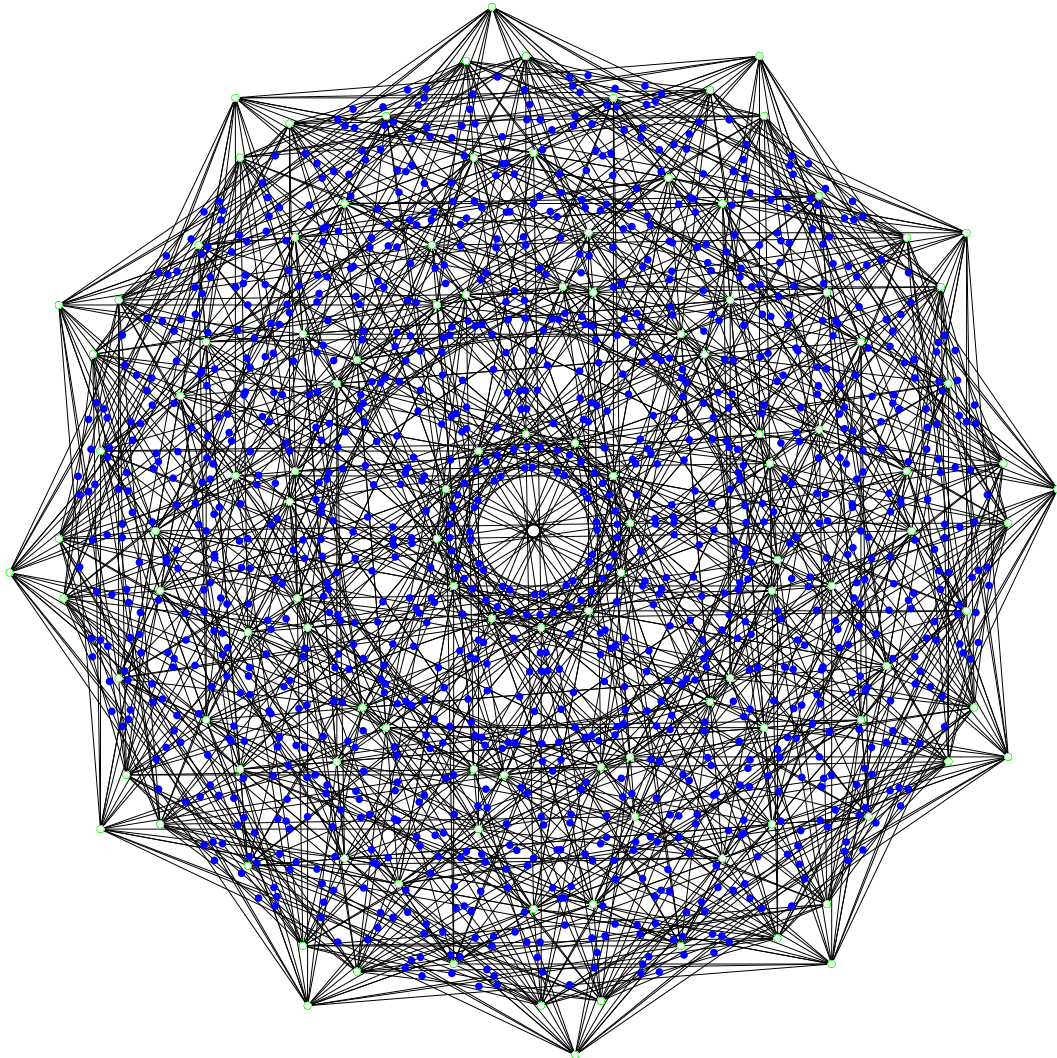
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=77]



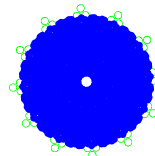
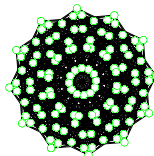
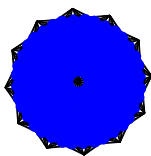
[drawcenters=false,choice=77]



$$2\{5\}2\{\frac{5}{2}\}2\{3\}2$$



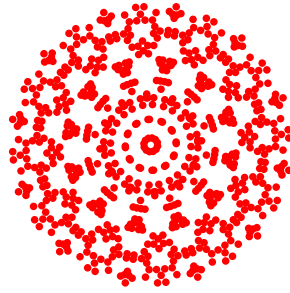
`\CoxeterCoordinates[choice=78]`



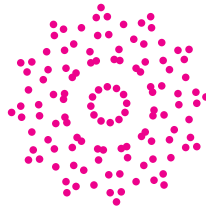
`[drawvertices=false,choice=78]`

`[drawcenters=false,choice=78]`

`[drawedges=false,choice=78]`

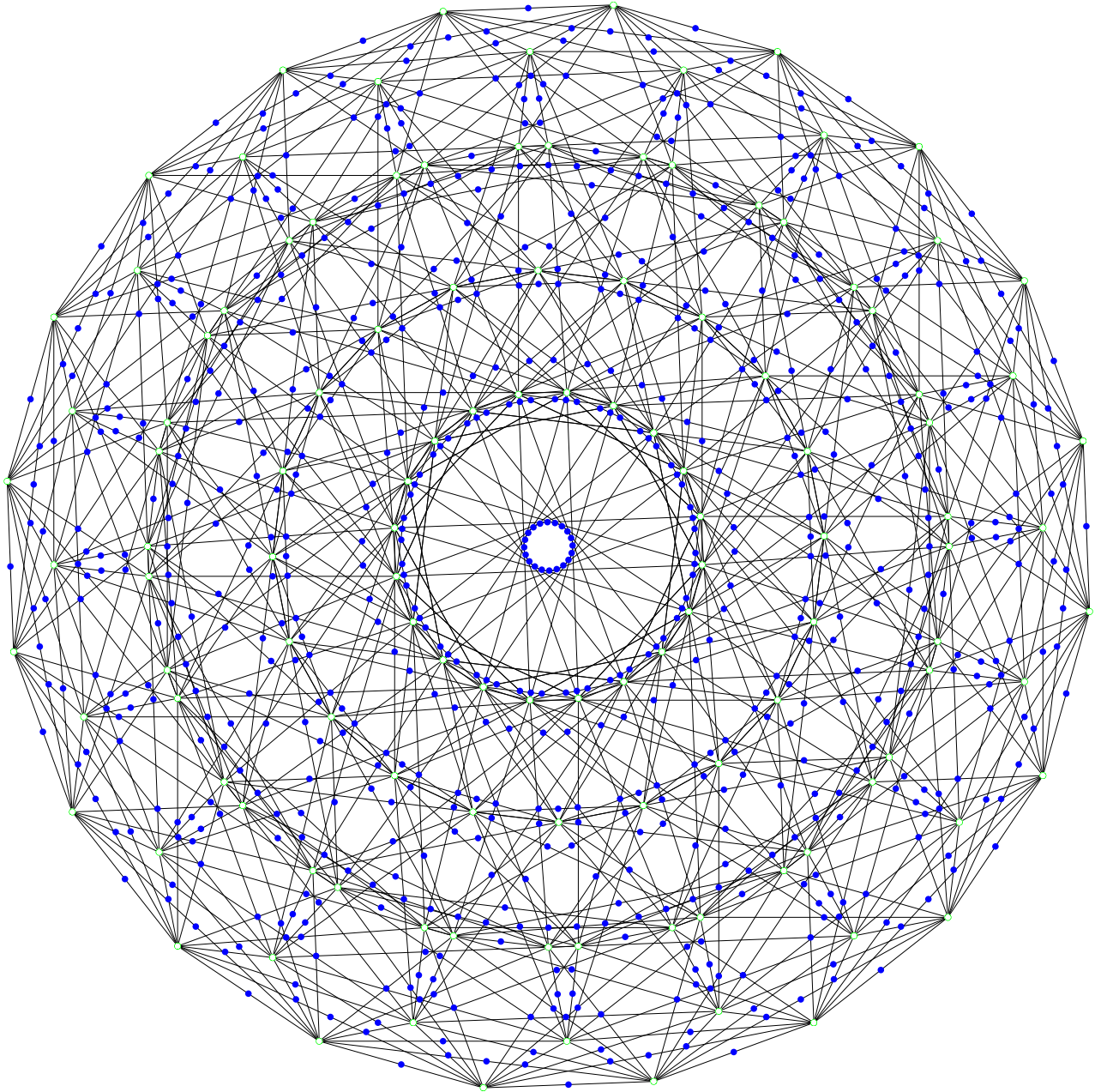


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=78]

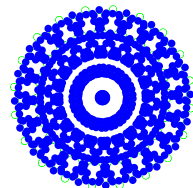
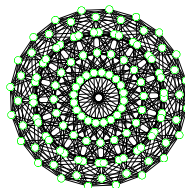
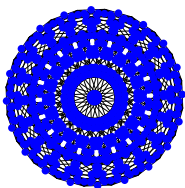


[drawcenters=false,choice=78]

$$2\{5\}2\{\frac{5}{2}\}2\{5\}2$$



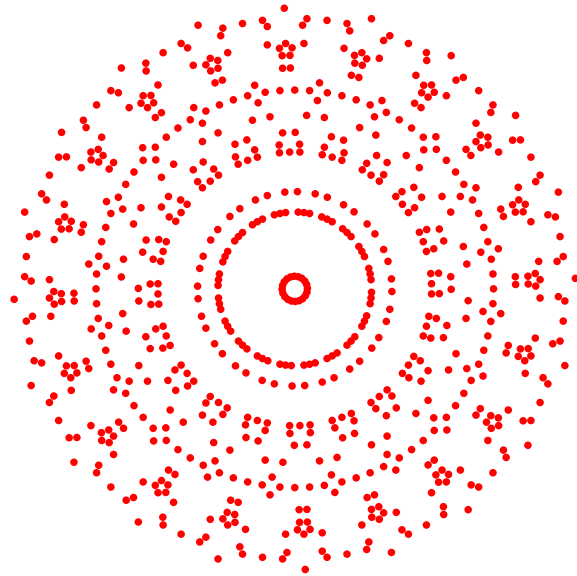
`\CoxeterCoordinates[choice=79`



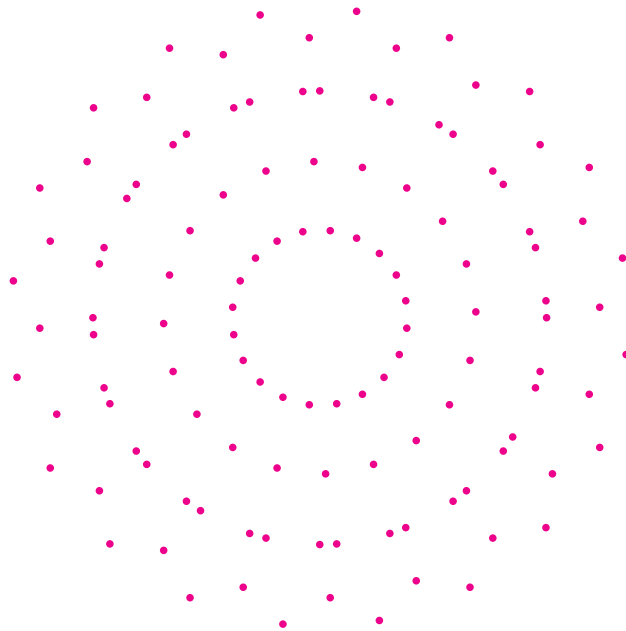
`[drawvertices=false,choice=79]`

`[drawcenters=false,choice=79]`

`[drawedges=false,choice=79]`



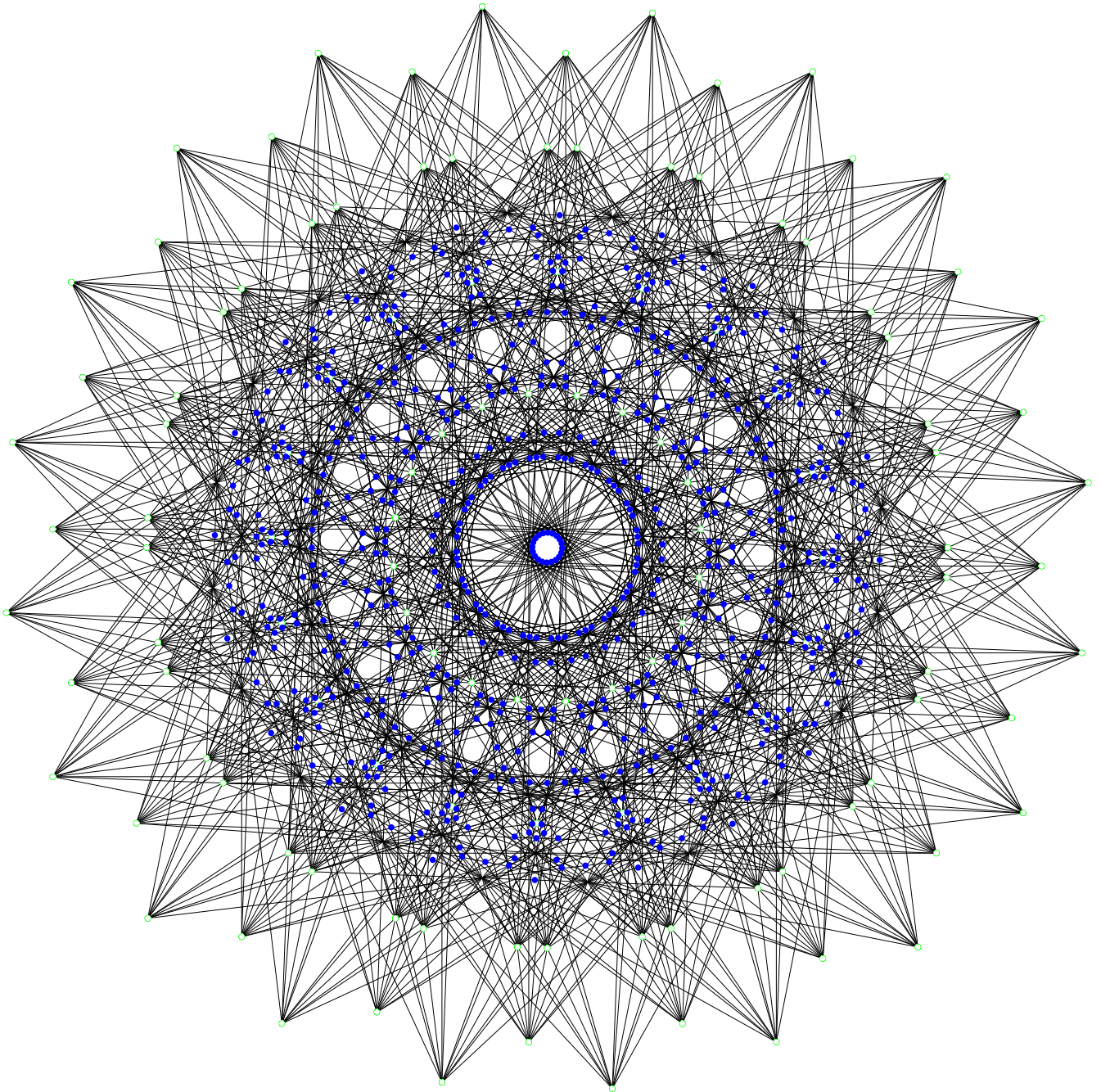
[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=79]



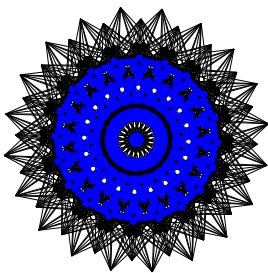
[drawcenters=false,choice=79]



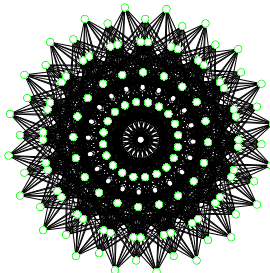
$$2\{\frac{5}{2}\}2\{5\}2\{\frac{5}{2}\}2$$



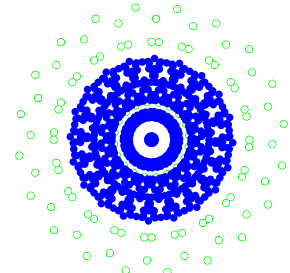
`\CoxeterCoordinates[choice=80]`



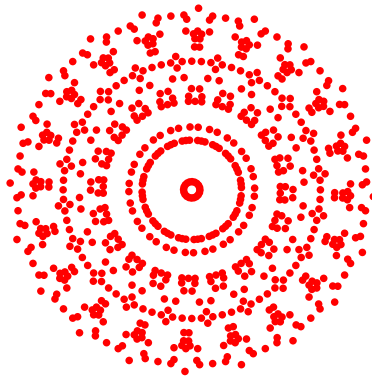
`[drawvertices=false,choice=80]`



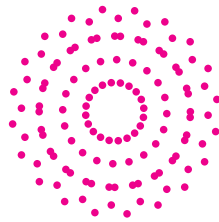
`[drawcenters=false,choice=80]`



`[drawedges=false,choice=80]`

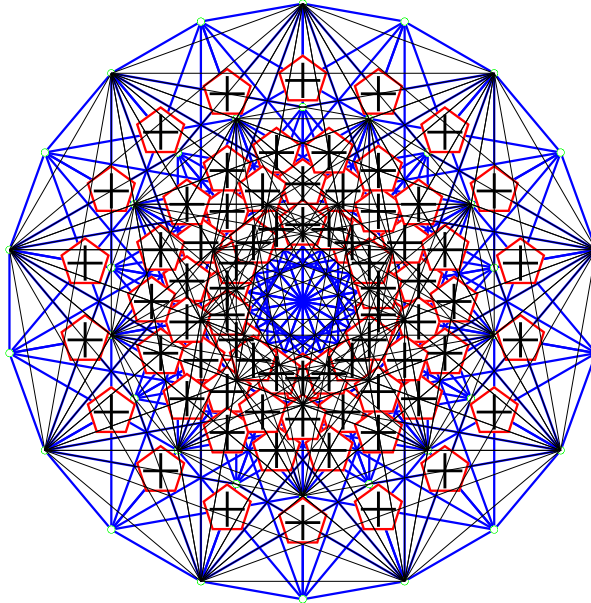


[drawvertices=false,drawedges=false,drawcenters=false,drawcentersfaces=true,choice=80]



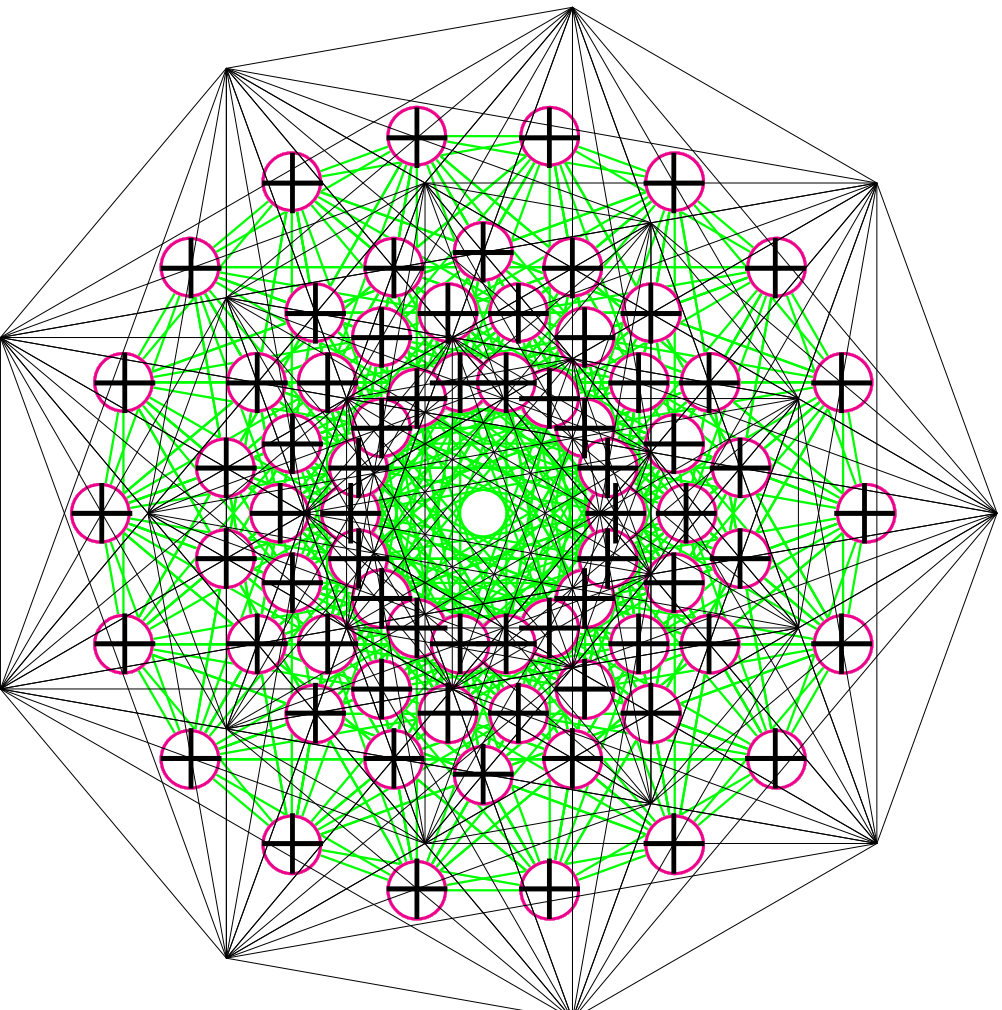
[drawcenters=false,choice=80]

## 4 Examples



The centers of the edges of an Hessian are the vertices of a  $2\{4\}3\{3\}3$ .

```
\psset{unit=2}\rotatebox{90}{  
\CoxeterCoordinates[drawcenters=false,drawcentersfaces=true,  
choice=8,linewidth=0.3mm,linecolor=green,linecolor=blue,sizeCentersFaces=0.15,  
colorCentersFaces=red,styleCentersFaces=pentagon]  
%}  
\psset{unit=1}  
\CoxeterCoordinates[drawvertices=false,choice=9,linewidth=0.01mm,  
styleCenters=+,sizeCenters=0.1,colorCenters=black]
```



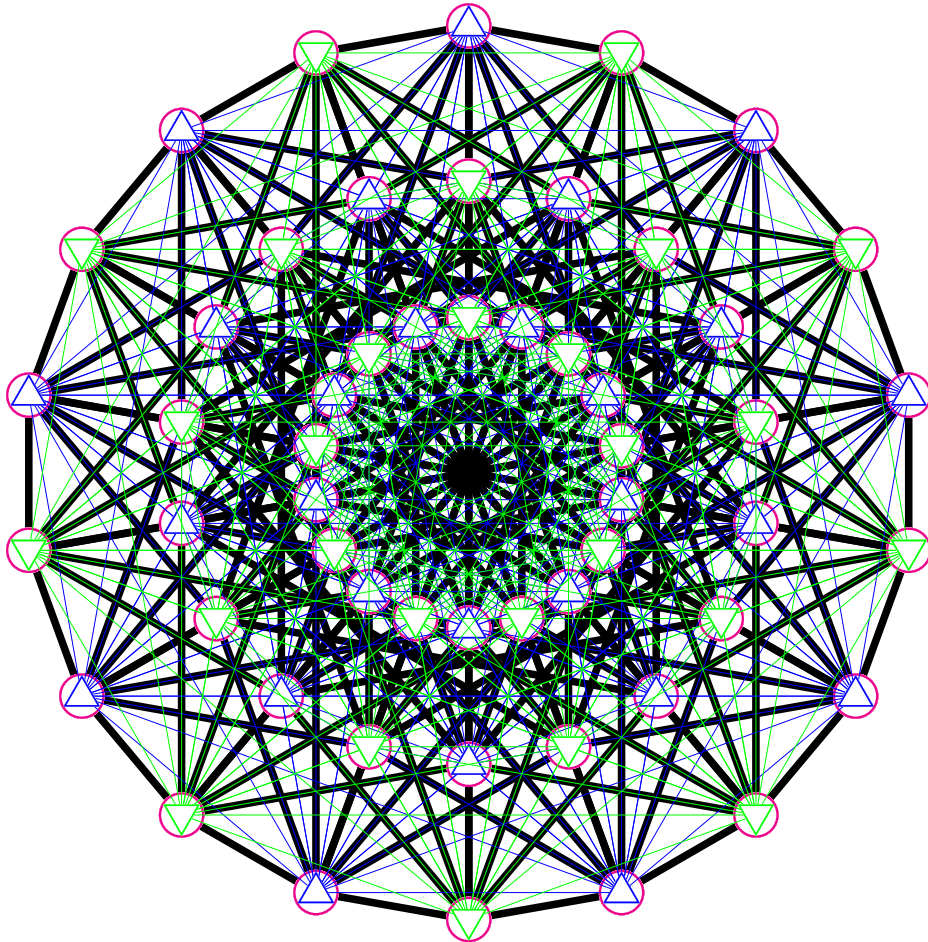
The centers of the edges of an Hessian are the vertices of a  $\{3\}3\{4\}2$ .

```

\psset{unit=2} \rotatebox{90}{
\CoxeterCoordinates[drawcenters=false,choice=10,linewidth=0.3mm,linestyle=green,sizeVertices=0.2,
colorVertices=magenta]} \psset{unit=1.725}
\CoxeterCoordinates[drawvertices=false,choice=9,linewidth=0.01mm,
styleCenters=+,sizeCenters=0.1,colorCenters=black]

```





The vertices of a polytope  $2\{4\}3\{3\}3$  are the vertices of two reciprocal Hessian polytopes

```

\psset{unit=3}
\CoxeterCoordinates[drawcenters=false,choice=8,linewidth=1mm,
sizeVertices=0.1,colorVertices=magenta]
\psset{unit=1}
\CoxeterCoordinates[drawcenters=false,choice=9,linewidth=0.01mm,linecolor=blue,
styleVertices=+,sizeVertices=0.1,colorVertices=blue] \rotatebox{180}
{\CoxeterCoordinates[drawcenters=false,choice=9,linewidth=0.01mm,linecolor=green,
styleVertices=+,sizeVertices=0.1,colorVertices=green]}

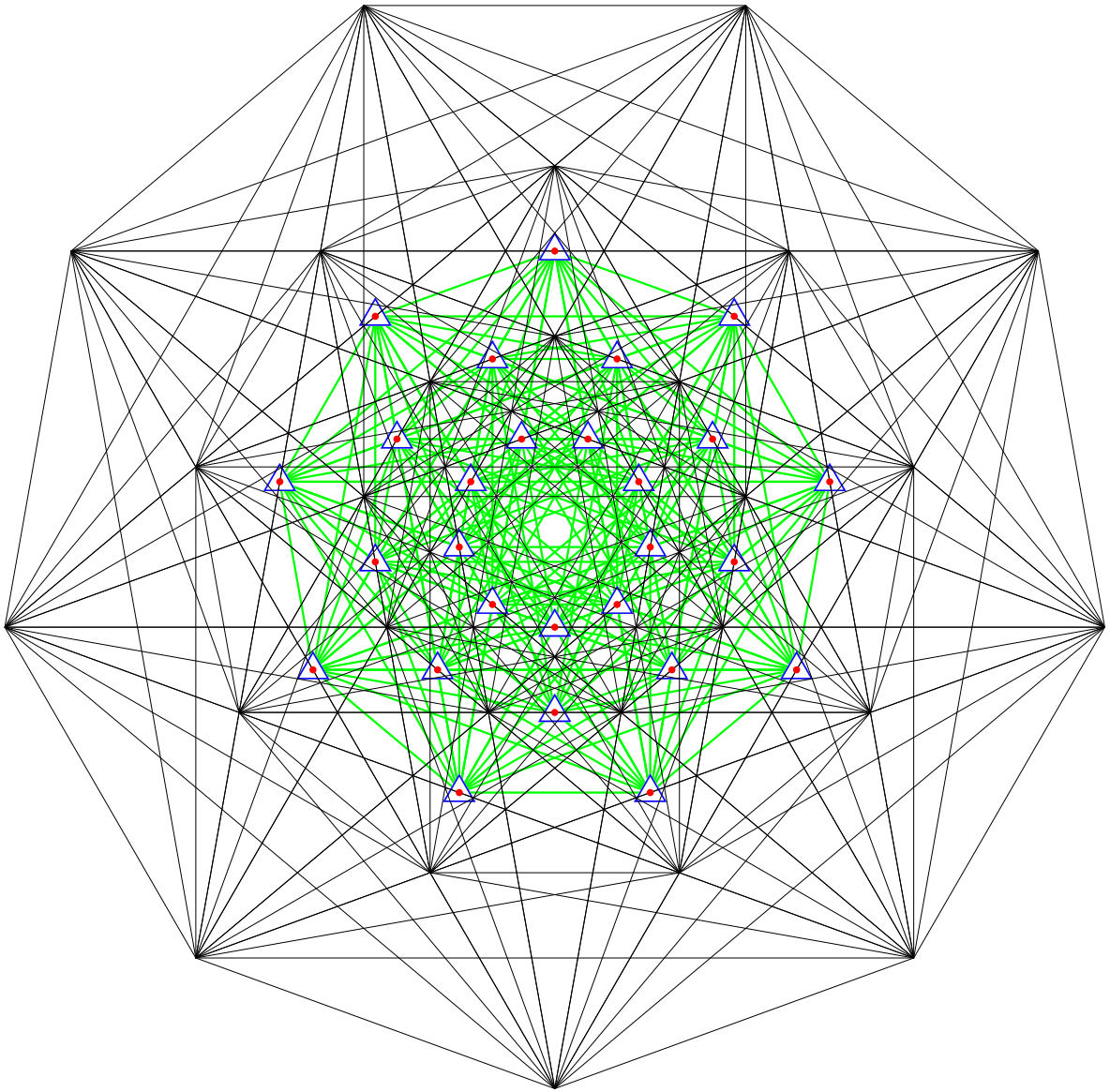
```

```

\psset{unit=2} \rotatebox{180}
{\CoxeterCoordinates[drawcenters=false,choice=9,
\psset{unit=2}
\CoxeterCoordinates[drawvertices=false,drawcenters=true
,choice=9,linewidth=0.01mm]

```

The centers of the faces of an Hessian are the vertices of its reciprocal.

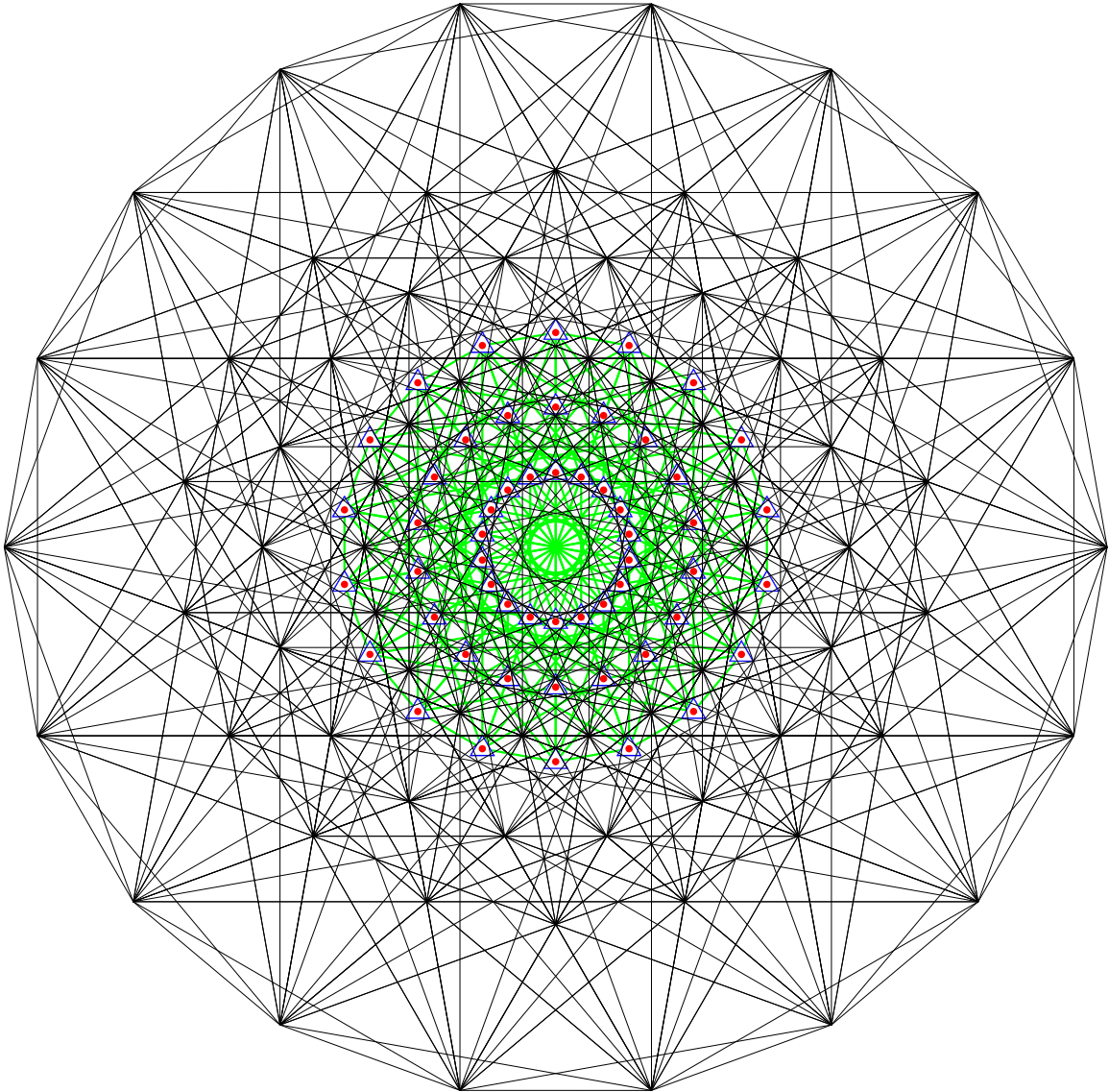


The centers of the faces of a  $2\{4\}3\{3\}3$  are the vertices of a  $3\{3\}3\{4\}2$ .

```

\psset{unit=1.5} \rotatebox{180}
{\CoxeterCoordinates[drawcenters=false,choice=8,
\psset{unit=2}
\CoxeterCoordinates[drawvertices=false,drawcenters=true
,choice=10,linewidth=0.01mm]

```



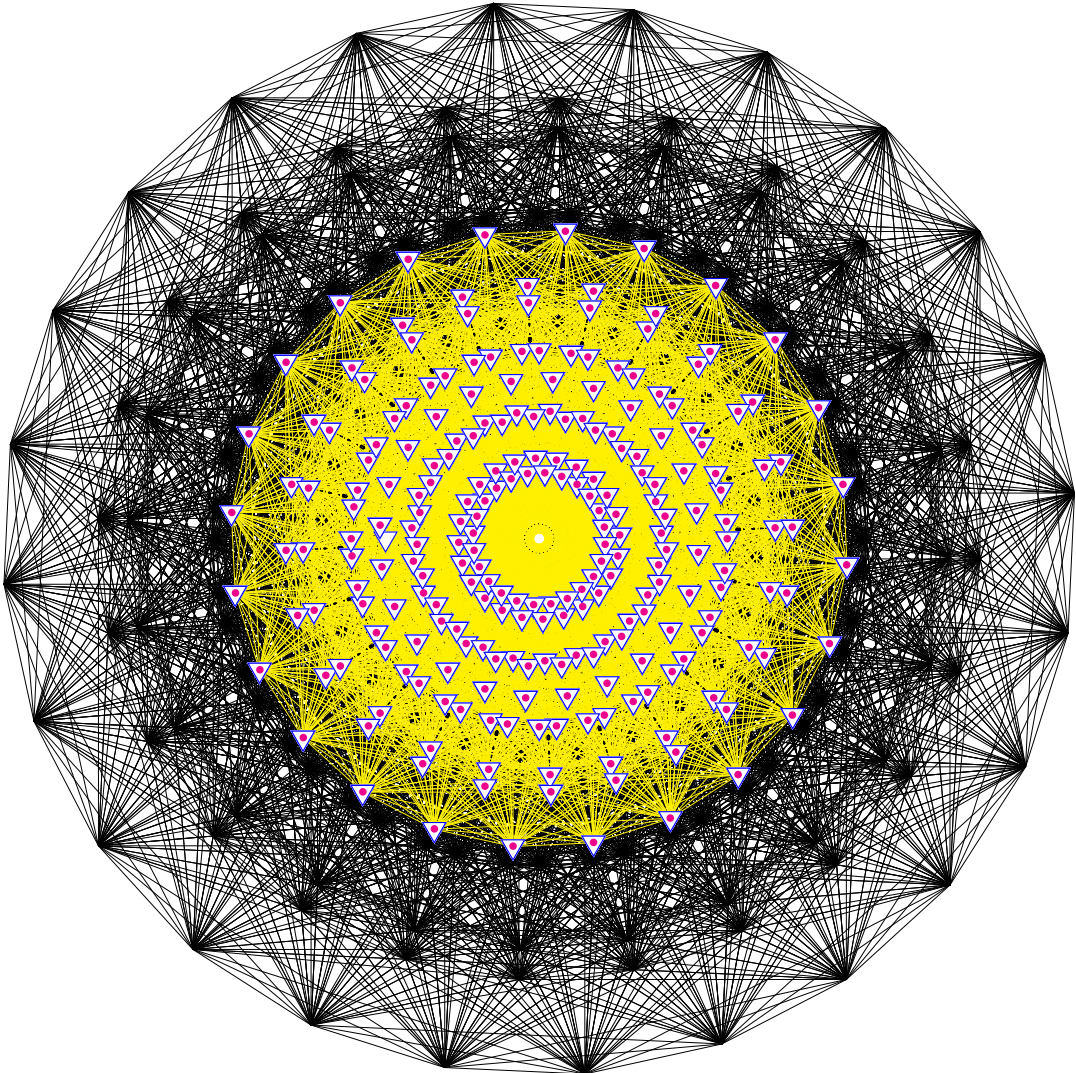


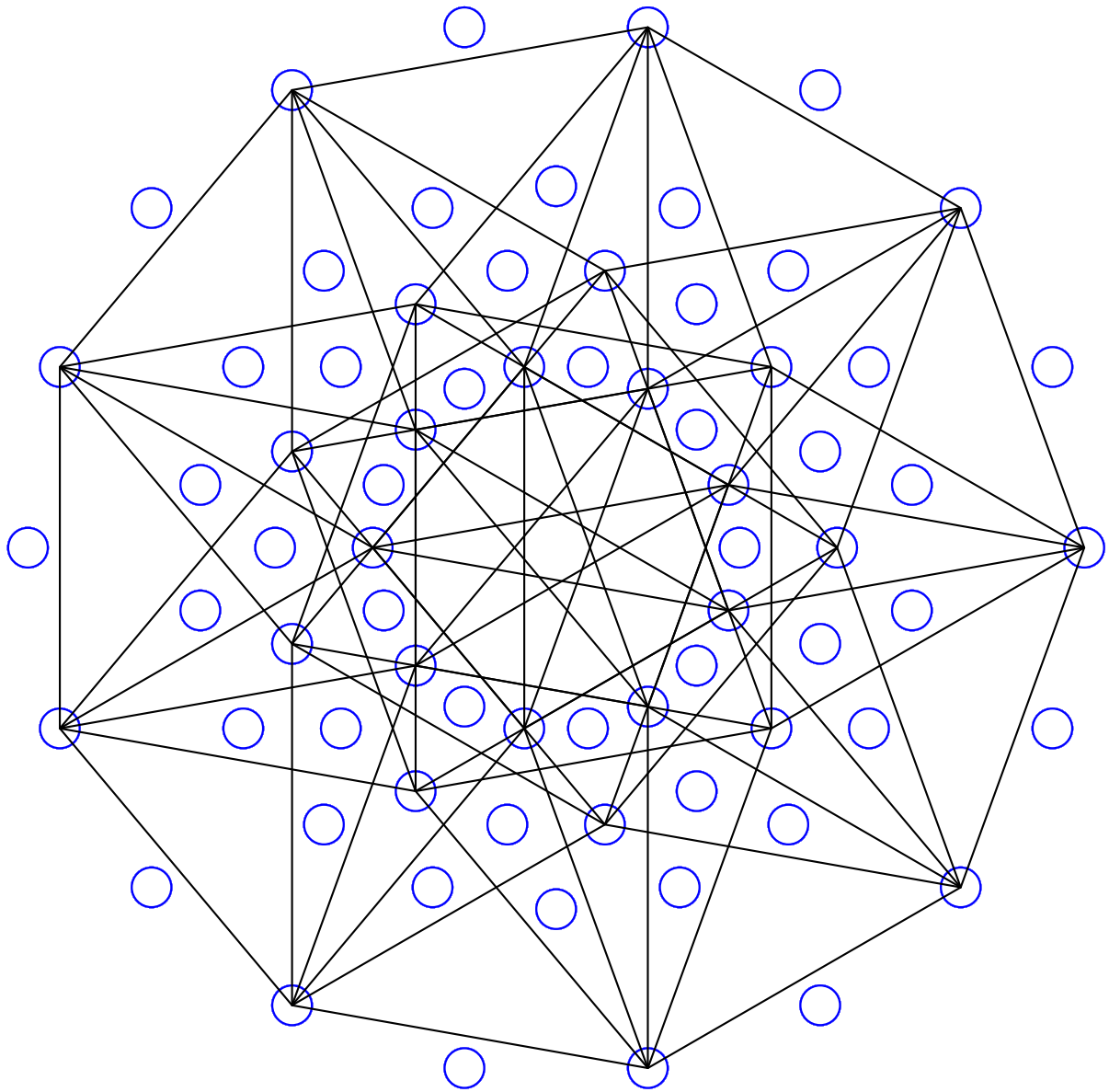
```

\psset{unit=2.5}
\CoxeterCoordinates[drawvertices=false,drawcenters=false,choice=1,linewidth=0.01mm,
\psset{unit=0.575} \reflectbox
\CoxeterCoordinates[drawvertices=false,drawcenters=false,choice=1,
linewidth=0.01mm,linewidth=0.01mm,linewidth=0.01mm,linewidth=0.01mm,linewidth=0.01mm,
\psset{unit=1.73}
\CoxeterCoordinates[drawedges=false,drawvertices=false,drawcenters=false,
drawcenterscells=true,choice=1]

```

The centers of the cells of a Witting polytope are the vertices of its reciprocal.



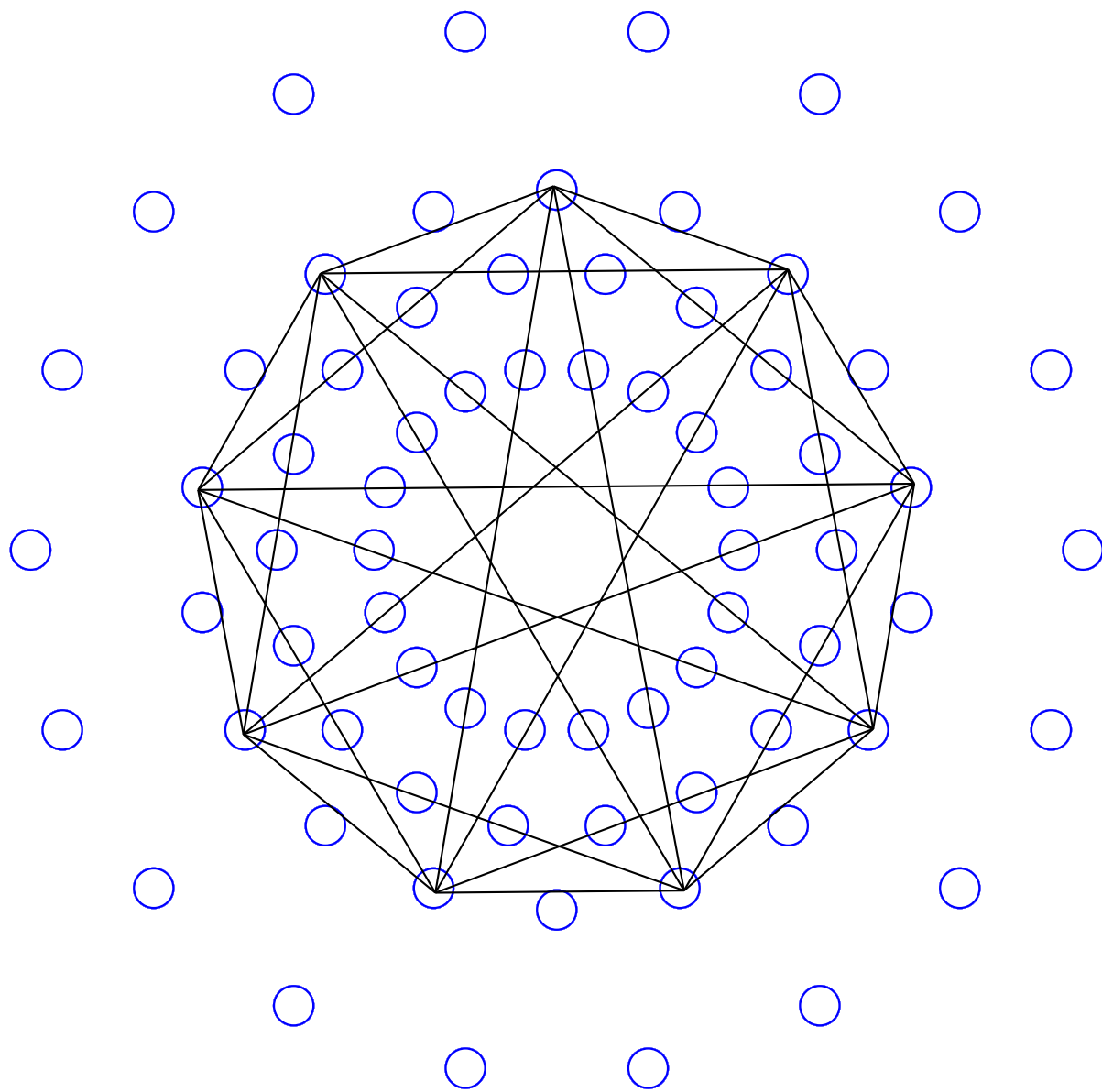


One of the eight  $3\{4\}2\{3\}2$  contained in a  $3\{3\}3\{4\}2$ .

```

\psset{unit=3}
\CoxeterCoordinates[drawedges=false,drawcenters=false,
  choice=10,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.1]
\CoxeterCoordinates[drawvertices=false,drawcenters=false,choice=27]

```

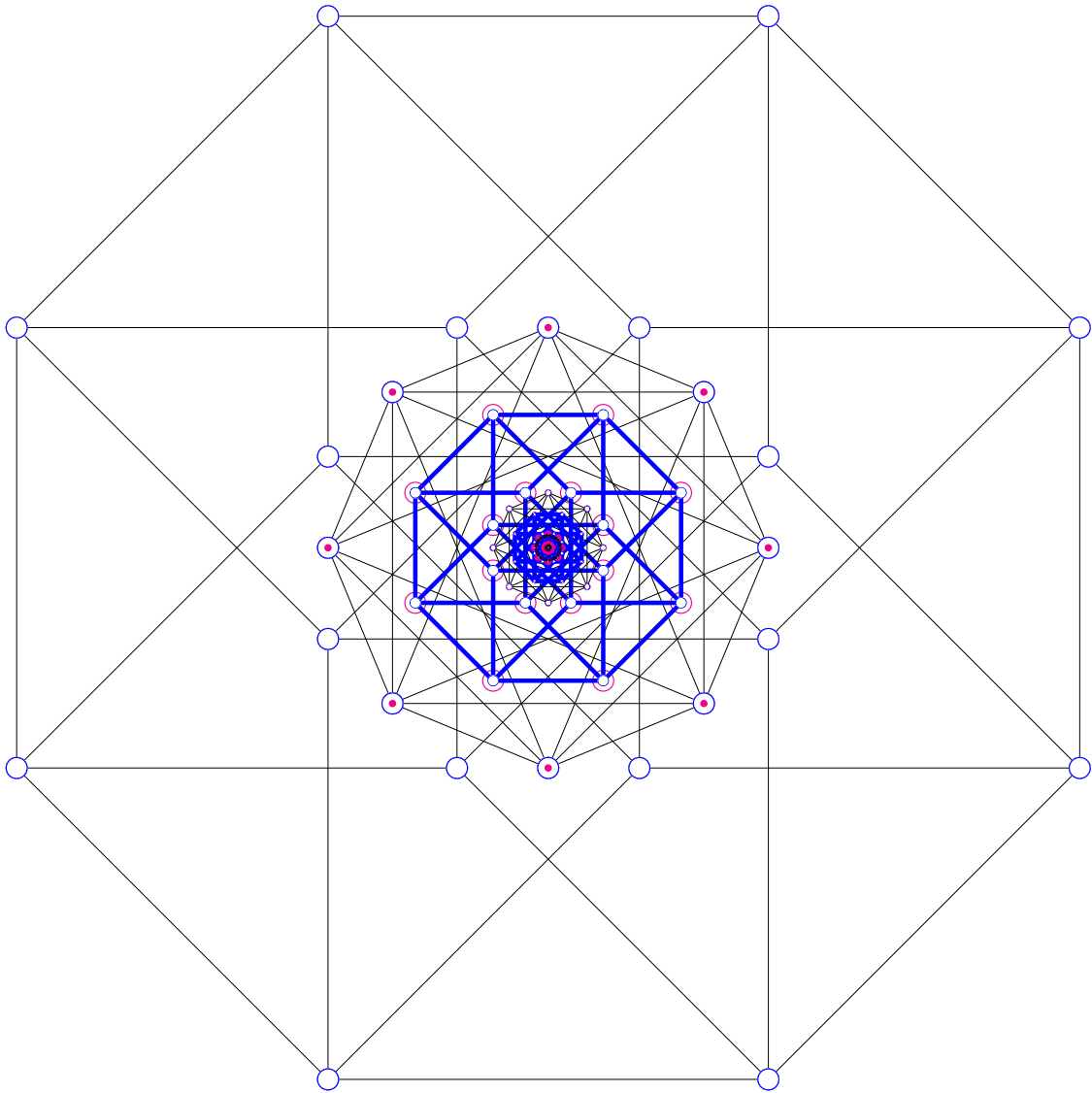


One of the  $8 \times 2\{3\}2\{4\}3$  contained in a  $3\{3\}3\{4\}2$ .

```

\psset{unit=3}
\CoxeterCoordinates[drawedges=false,drawcenters=false,
  choice=10,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.1]
\rotatebox{10.5} {\psset{unit=1.75}
\CoxeterCoordinates[drawvertices=false,drawcenters=false,choice=26]}

```

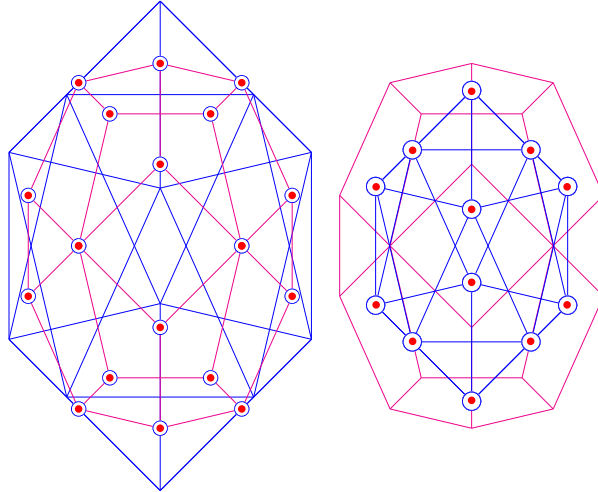


A 16-tope in an hypercube in a 16-tope in an hypercube in ...

```

\psset{unit=3} \CoxeterCoordinates[drawcenters=false,
choice=32,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,drawcenterscells=true,
sizeCentersCells=0.05,styleCentersCells=o]
\CoxeterCoordinates[drawcenters=false,
choice=33,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,drawcenterscells=true]
\psset{unit=0.25}\CoxeterCoordinates[drawcenters=false,
choice=33,linecolor=blue,linewidth=0.6mm,colorVertices=blue,sizeVertices=0.1,drawcenterscells=true]
\CoxeterCoordinates[drawcenters=false,
choice=32,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,drawcenterscells=true,
sizeCentersCells=0.05,styleCentersCells=o]
\psset{unit=0.25}\CoxeterCoordinates[drawcenters=false,
choice=33,linecolor=blue,linewidth=0.6mm,colorVertices=blue,sizeVertices=0.1,drawcenterscells=true]
\CoxeterCoordinates[drawcenters=false,
choice=32,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,drawcenterscells=true,
sizeCentersCells=0.05,styleCentersCells=o]
\psset{unit=0.25}\CoxeterCoordinates[drawcenters=false,
choice=33,linecolor=blue,linewidth=0.6mm,colorVertices=blue,sizeVertices=0.1,drawcenterscells=true]
\CoxeterCoordinates[drawcenters=false,
choice=32,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,drawcenterscells=true,
sizeCentersCells=0.05,styleCentersCells=o]

```



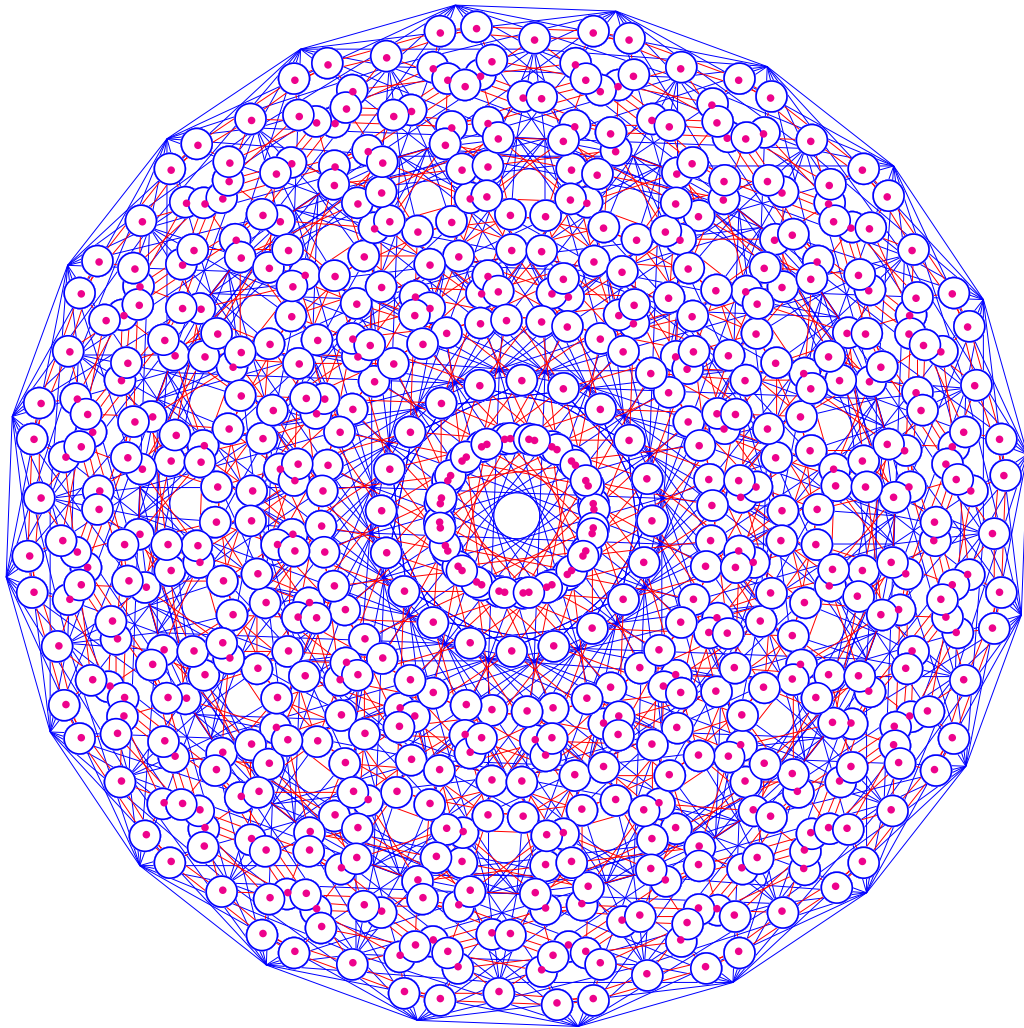
A dodecaëdron in an ikosaëdron and an ikoædron in a dodecaëdron.

```

\begin{pspicture}(-2,-4)(2,4)
\psset{unit=2}
\CoxeterCoordinates[drawcenters=false,drawcentersfaces=false,drawvertices=false,
choice=30,linewidth=0.1mm,linecolor=blue]
\CoxeterCoordinates[drawcenters=false,
choice=31,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,linecolor=magenta]
\CoxeterCoordinates[drawcenters=false,drawcentersfaces=true,drawvertices=false,
drawedges=false,choice=30]
\end{pspicture}
\begin{pspicture}(-2,-4)(2,4)
\psset{unit=2} \CoxeterCoordinates[drawcenters=false,
choice=31,linewidth=0.1mm,drawvertices=false,linecolor=magenta]
{\psset{unit=0.635}\CoxeterCoordinates[drawcenters=false,drawcentersfaces=false,
choice=30,linewidth=0.1mm,linecolor=blue,colorVertices=blue,sizeVertices=0.1]
}
\CoxeterCoordinates[drawcenters=false,drawedges=false,drawcentersfaces=true,
choice=31,linewidth=0.1mm,drawvertices=false]
\end{pspicture}

```



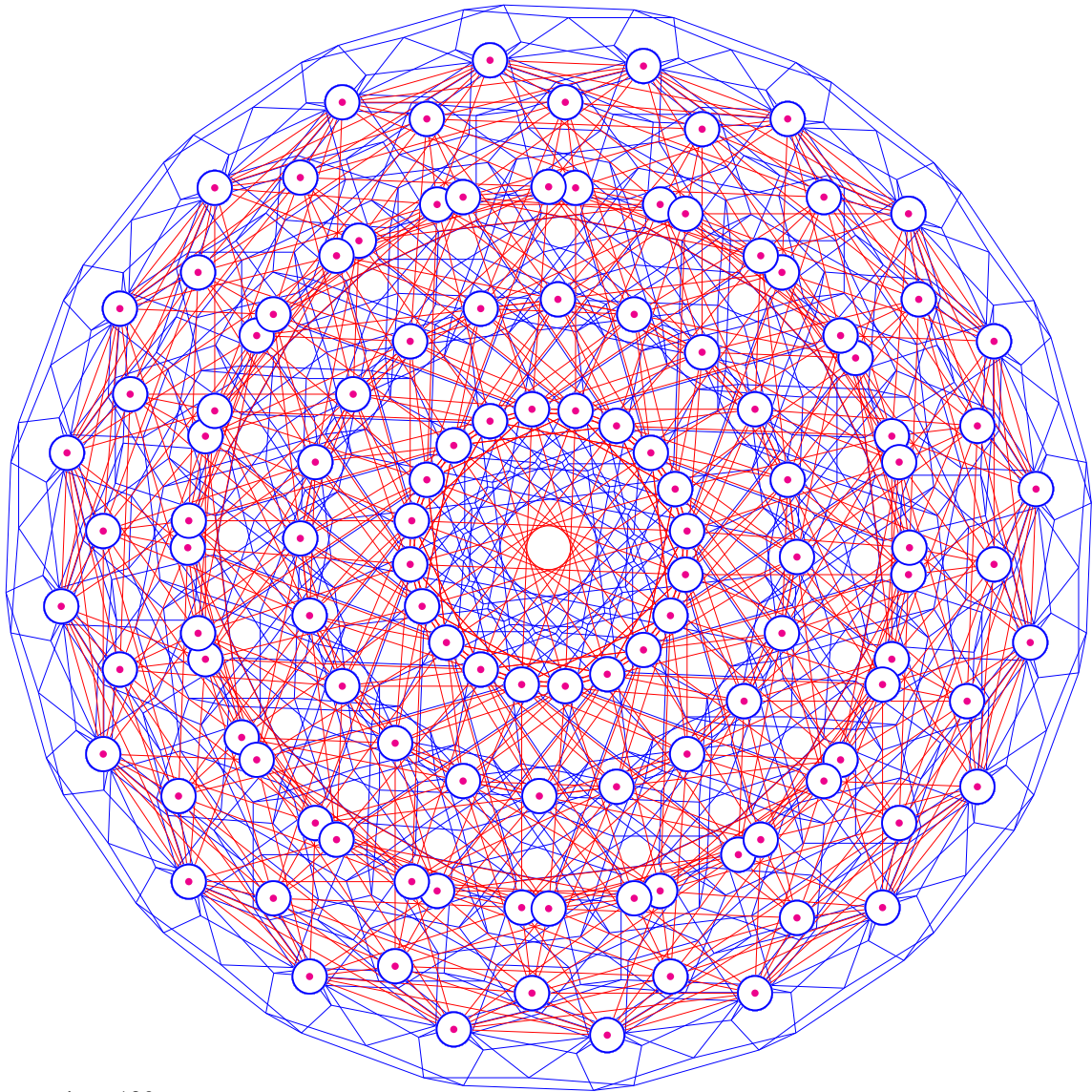


A 120-tope in a 600-tope.

```

\begin{pspicture}(-7,-7)(7,7)
\psset{unit=5}
\CoxeterCoordinates[drawcenters=false,drawcentersfaces=false,drawvertices=false,
choice=35,linewidth=0.1mm,linecolor=blue]
{\psset{unit=0.86}
\CoxeterCoordinates[drawcenters=false,
choice=36,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,linecolor=red]
}
\CoxeterCoordinates[drawcenters=false,drawcenterscells=true,drawvertices=false,
drawedges=false,choice=35]
\end{pspicture}

```

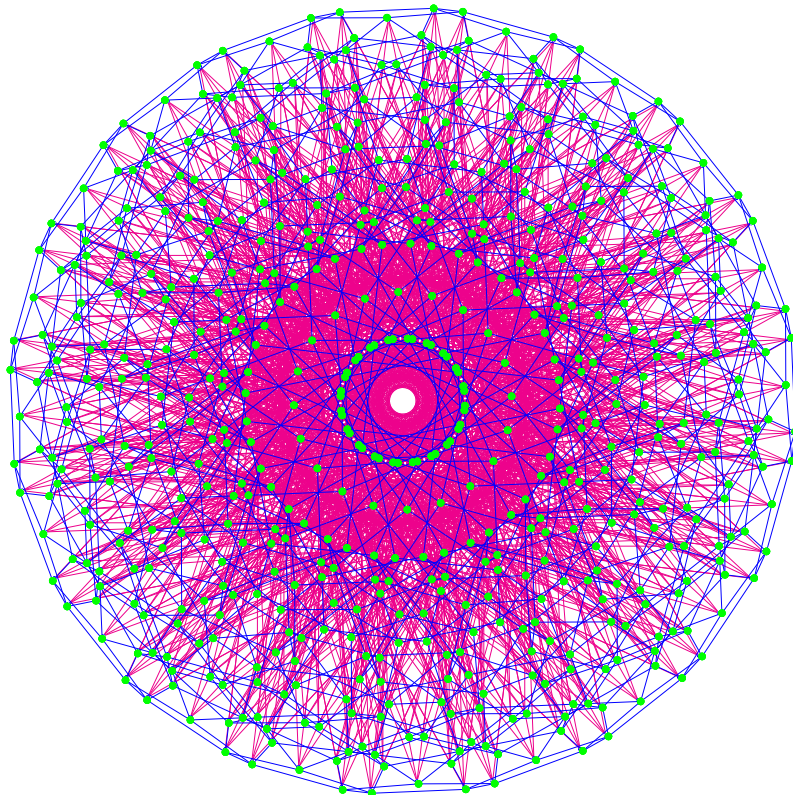


A 600-tope in a 120-tope.

```

\begin{pspicture}(-7,-7)(7,7)
\psset{unit=5}
\CoxeterCoordinates[drawcenters=false,drawcentersfaces=false,drawvertices=false,
choice=36,linewidth=0.1mm,linecolor=blue]
\CoxeterCoordinates[drawcenters=false,
choice=35,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,linecolor=red]
\CoxeterCoordinates[drawcenters=false,drawcenterscells=true,drawvertices=false,
drawedges=false,choice=36]
\end{pspicture}

```



A starry 120-tope in a 120-tope.

```

\psset{unit=0.5} \CoxeterCoordinates[drawcenters=false,
  choice=71,linewidth=0.1mm,colorVertices=blue,sizeVertices=0.05,linecolor=magenta]
\rotatebox{4.5}{\psset{unit=6.9}\CoxeterCoordinates[drawcenters=false,
  choice=36,styleVertices=*,linewidth=

```