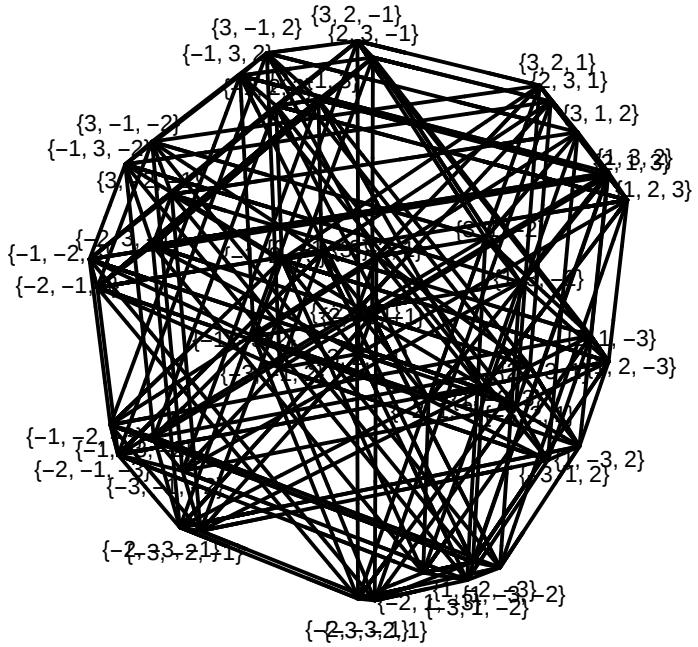
In[1]:=
```
n = 3;
sasiedzi[uu_, vv_, ww_] := {{-uu, vv, ww}, {uu, -vv, ww}, {uu, vv, -ww}, {vv, uu, ww},
  {uu, ww, vv}, {ww, vv, uu}, {-vv, -uu, ww}, {uu, -ww, -vv}, {-ww, vv, -uu}}
roznica[a_, b_] := Complement[{a}, sasiedzi @@ b] == {}

wierzcholki =
  Flatten[Table[a b, {a, Permutations[Range[n]]}, {b, Tuples[{1, -1}, {n}]}], 1];
krawedzie = Select[
   Subsets[wierzcholki, {2}],
   roznica[#[[1]], #[[2]]] == True &];
waga0[k_] := If[k == 1, {1, 0, 0}, If[k == 2, {0, 1, 0}, {0, 0, 1}]]
waga[k_] := Sign[k] waga0[Abs[k]]
mu[a_] := x waga[a[[1]]] + y (waga[a[[1]]] + waga[a[[2]]]) +
  z (waga[a[[1]]] + waga[a[[2]]] + waga[a[[3]]])
wierzcholkiw = Table[mu[w], {w, wierzcholki}];
krawedziew = Table[{mu[kr[[1]]], mu[kr[[2]]]}, {kr, krawedzie}];
```

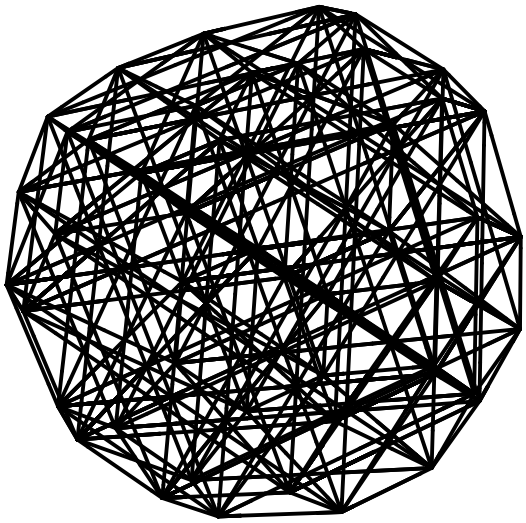
In[27]:=
```
momentpoly[x0_, y0_, z0_] := (
  f[a_] := a /. {x → x0, y → y0, z → z0};
  odcinek[a_] := Graphics3D[{Thick, Line[{f[a][[1]], f[a][[2]]}]}];
  podpis[nr_] := Graphics3D[
    Text[Style[wierzcholki[[nr]], Medium, Black], 1.1 f[wierzcholkiw[[nr]]]]];
  Show[Union[Table[odcinek[a], {a, krawedziew}],
    Table[podpis[nr], {nr, 1, Length[wierzcholki]}]], Boxed → False])
momentpoly[
 1,
 2,
 3]
```

Out[28]=



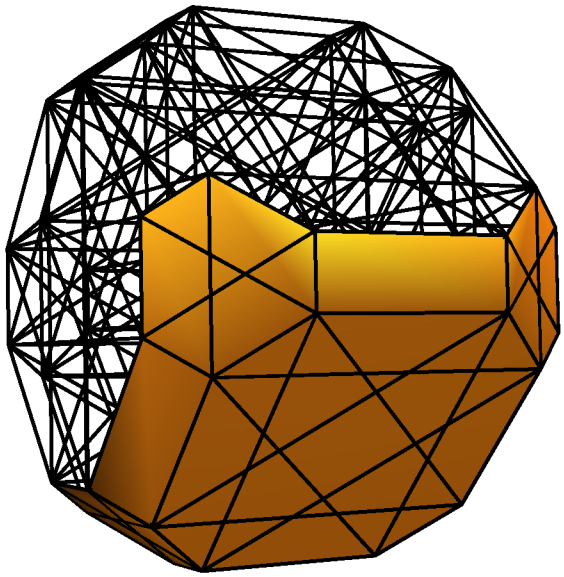
In[29]:=
```
momentpolyk[x0_, y0_, z0_] := (
  f[a_] := a /. {x → x0, y → y0, z → z0};
  odcinek[a_] := Graphics3D[{Thick, Line[{f[a][[1]], f[a][[2]]}]}];
  podpis[nr_] := Graphics3D[
    Text[Style[wierzcholki[[nr]], Medium, Black], 1.1 f[wierzcholkiw[[nr]]]]];
  Show[Union[Table[odcinek[a], {a, krawedziew}]], Boxed → False])
```

```
momentpolyk[1, 1, 1]
```



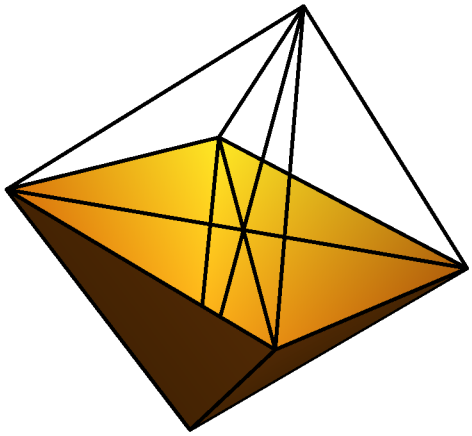
In[30]:=
```
momentpolyp[x0_, y0_, z0_] := (
  f[a_] := a /. {x → x0, y → y0, z → z0};
  odcinek[a_] := Graphics3D[{Thick, Line[{f[a][[1]], f[a][[2]]}]}];
  podpis[nr_] := Graphics3D[
    Text[Style[wierzcholki[[nr]], Medium, Black], 1.1 f[wierzcholkiw[[nr]]]]];
  Show[Union[Table[odcinek[a], {a, krawedziew}],
    {ListPlot3D[Union[Table[f[wi], {wi, wierzcholkiw}]], Mesh → None]}],
   Boxed → False, PlotRange → All])
momentpolyp[
 1,
 1.5,
 2]
```

Out[31]=



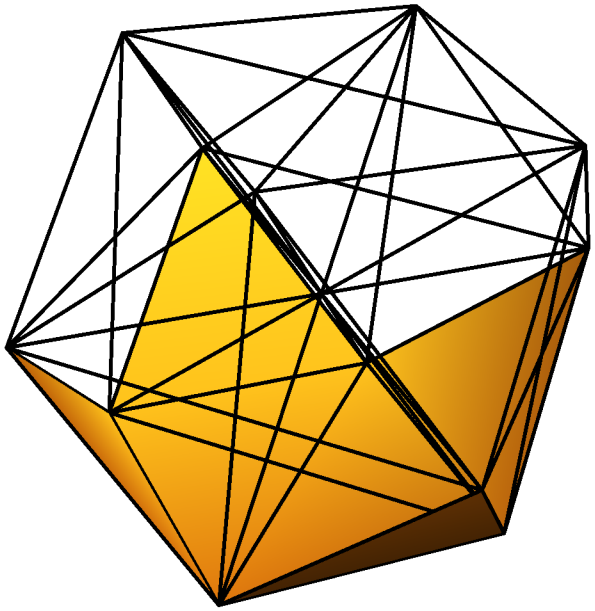
In[32]:=
```
momentpolyp[1, 0, 0]
```

Out[32]=



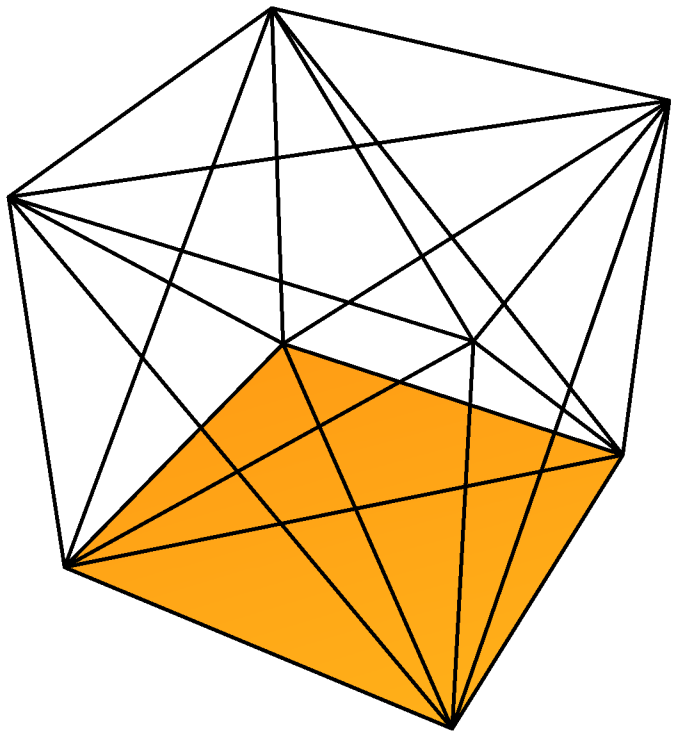
In[33]:=
```
momentpolyp[0, 1, 0]
```

Out[33]=



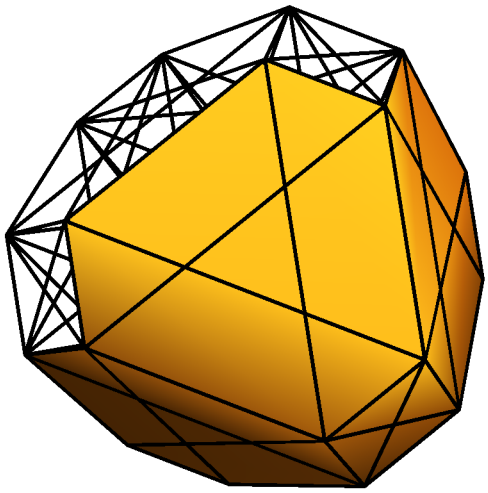
In[34]:=
```
momentpolyp[0, 0, 1]
```

Out[34]=



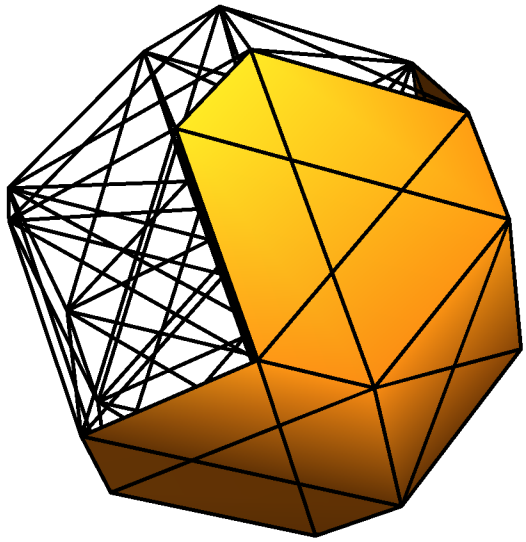
In[42]:=
```
momentpolyp[2, 1, 0]
```

Out[42]=



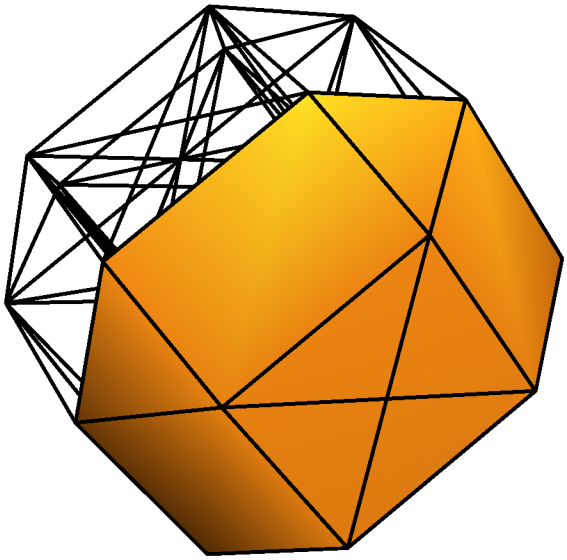
In[41]:=
```
momentpolyp[1, 2, 0]
```

Out[41]=



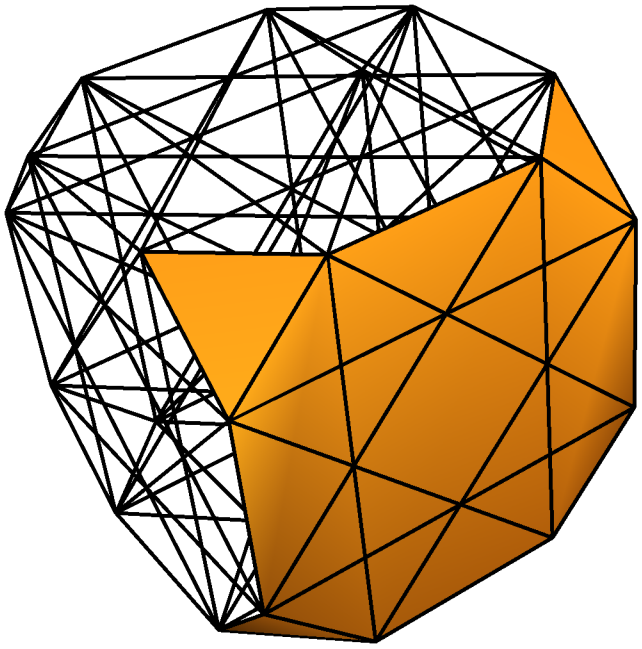
In[36]:=
```
momentpolyp[1, 0, 1]
```

Out[36]=



In[37]:= momentpolyp[0, 1, 1]

Out[37]=



In[43]:= momentpolyp[1, 1, 1]

Out[43]=