

(\*该组实验是上次展示的最基础的实验\*)

(\*faces=[[1 2 5],[1 4 5],[3 4 5],[2 3 5],[1 2 6],[1 4 6],[2 3 6],[3 4 6]];\*)

Clear[x1, y1];

|清除

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x3 = 1; y3 = 0; z3 = 0;
x4 = 0; y4 = -1; z4 = 0;
x5 = 0; y5 = 0; z5 = 1;
```

x =

Solve[(x1 - x2)^2 + (y1 - y2)^2 + (z1 - z2)^2 == 2 && (x1 - x4)^2 + (y1 - y4)^2 + (z1 - z4)^2 == 2 && (x1 - x5)^2 + (y1 - y5)^2 + (z1 - z5)^2 == 2 && (x1 - x6)^2 + (y1 - y6)^2 + (z1 - z6)^2 == 2 && (x2 - x3)^2 + (y2 - y3)^2 + (z2 - z3)^2 == 2 && (x2 - x5)^2 + (y2 - y5)^2 + (z2 - z5)^2 == 2 && (x2 - x6)^2 + (y2 - y6)^2 + (z2 - z6)^2 == 2 && (x3 - x6)^2 + (y3 - y6)^2 + (z3 - z6)^2 == 2 && (x4 - x6)^2 + (y4 - y6)^2 + (z4 - z6)^2 == 2,

{x1, y1, z1, x2, y2, z2, x6, y6, z6}] // FullSimplify

|完全简化

N[x]

|数值运算

Solve: Equations may not give solutions for all "solve" variables.

In[4]:= Clear[x1, x2, x3, x4, x5, x6, y1, y2, y3, y4, y5, y6, z1, z2, z3, z4, z5, z6];

|清除

sol = {{x1 → 1, y1 → 0, z1 → 0, x2 → z2, y2 → -Sqrt[1 - 2 (-1 + z2) z2], x6 → 0, y6 → 0, z6 → 1}, {x1 → 1, y1 → 0, z1 → 0, x2 → z2, y2 → Sqrt[1 - 2 (-1 + z2) z2], x6 → 0, y6 → 0, z6 → 1},

{x1 → 1, y1 → 0, z1 → 0, x2 → z2, y2 → -(Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)])/(-2 + z2),

x6 → (2 (2 + z2 (-3 + 2 z2) + Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)])/(8 + z2 (-8 + 3 z2)),

y6 → -(2 (2 + z2 (-3 + 2 z2) + Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)])/(8 + z2 (-8 + 3 z2)),

z6 → (16 + z2 (-36 + 24 z2 - 5 z2^2 + 2 Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)]))/((-2 + z2) (8 + z2 (-8 + 3 z2))),

{x1 → 1, y1 → 0, z1 → 0, x2 → z2, y2 → -(Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)])/(-2 + z2),

x6 → (4 - 6 z2 + 4 z2^2 - 2 Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)])/(8 + z2 (-8 + 3 z2)),

y6 → (2 (-2 + (3 - 2 z2) z2 + Sqrt[-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)]))/(8 + z2 (-8 + 3 z2)),

$$\begin{aligned}
z6 &\rightarrow \frac{16 + 24 z2^2 - 5 z2^3 - 2 z2 \left( 18 + \sqrt{-(-2 + z2)^2 (-1 + 2 (-1 + z2) z2)} \right)}{(-2 + z2) (8 + z2 (-8 + 3 z2))} \}, \\
&\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow -y6, z6 \rightarrow -\sqrt{1 - 2 y6 (1 + y6)} \}, \\
&\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow -y6, z6 \rightarrow \sqrt{1 - 2 y6 (1 + y6)} \}, \\
&\{x1 \rightarrow -\sqrt{1 - 2 (-1 + z1) z1}, y1 \rightarrow -z1, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1 \}, \\
&\{x1 \rightarrow \sqrt{1 - 2 (-1 + z1) z1}, y1 \rightarrow -z1, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1 \}, \\
&\{x1 \rightarrow -\frac{\sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{-2 + z1}, y1 \rightarrow -z1, x2 \rightarrow 0, y2 \rightarrow -1, \\
z2 &\rightarrow 0, x6 \rightarrow \frac{2 \left( 2 + z1 (-3 + 2 z1) + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{8 + z1 (-8 + 3 z1)}, \\
y6 &\rightarrow -\frac{2 \left( 2 + z1 (-3 + 2 z1) + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{8 + z1 (-8 + 3 z1)}, \\
z6 &\rightarrow \frac{16 + z1 \left( -36 + 24 z1 - 5 z1^2 + 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{(-2 + z1) (8 + z1 (-8 + 3 z1))} \}, \\
&\{x1 \rightarrow \frac{\sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{-2 + z1}, y1 \rightarrow -z1, x2 \rightarrow 0, y2 \rightarrow -1, \\
z2 &\rightarrow 0, x6 \rightarrow \frac{4 - 6 z1 + 4 z1^2 - 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{8 + z1 (-8 + 3 z1)}, \\
y6 &\rightarrow \frac{2 \left( -2 + (3 - 2 z1) z1 + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{8 + z1 (-8 + 3 z1)}, \\
z6 &\rightarrow \frac{16 + 24 z1^2 - 5 z1^3 - 2 z1 \left( 18 + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{(-2 + z1) (8 + z1 (-8 + 3 z1))} \}, \\
&\{x1 \rightarrow \frac{\sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{-2 + z1}, y1 \rightarrow -z1, \\
x2 &\rightarrow \frac{4 - 6 z1 + 4 z1^2 - 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{8 + z1 (-8 + 3 z1)}, \\
y2 &\rightarrow \frac{-16 + z1 \left( 36 - 24 z1 + 5 z1^2 + 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)} \right)}{(-2 + z1) (8 + z1 (-8 + 3 z1))}, \\
z2 &\rightarrow \frac{4 - 6 z1 + 4 z1^2 - 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{8 + z1 (-8 + 3 z1)}, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1 \}, \\
&\{x1 \rightarrow -\frac{\sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}}{-2 + z1}, y1 \rightarrow -z1,
\end{aligned}$$

$$\begin{aligned}
x2 &\rightarrow \frac{2 \left(2 + z1 (-3 + 2 z1) + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}\right)}{8 + z1 (-8 + 3 z1)}, \\
y2 &\rightarrow \frac{-16 + z1 \left(36 + z1 (-24 + 5 z1) - 2 \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}\right)}{(-2 + z1) (8 + z1 (-8 + 3 z1))}, \\
z2 &\rightarrow \frac{2 \left(2 + z1 (-3 + 2 z1) + \sqrt{-(-2 + z1)^2 (-1 + 2 (-1 + z1) z1)}\right)}{8 + z1 (-8 + 3 z1)}, \quad x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow -1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow -1\}, \\
\{x1 \rightarrow -1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow -1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow 1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow -1\}, \\
\{x1 \rightarrow -1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow 1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow -1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow 1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow -1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 0, y2 \rightarrow 1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 1, y2 \rightarrow -1, z2 \rightarrow 1, x6 \rightarrow \frac{4}{3}, y6 \rightarrow -\frac{4}{3}, z6 \rightarrow -\frac{1}{3}\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{4}{3}, y2 \rightarrow -\frac{1}{3}, z2 \rightarrow \frac{4}{3}, x6 \rightarrow \frac{4}{3}, y6 \rightarrow -\frac{4}{3}, z6 \rightarrow \frac{1}{3}\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 2, y2 \rightarrow -\frac{i}{2} \sqrt{3}, z2 \rightarrow 2, x6 \rightarrow 2, y6 \rightarrow -2, z6 \rightarrow -\frac{i}{2} \sqrt{3}\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow 2, y2 \rightarrow \frac{i}{2} \sqrt{3}, z2 \rightarrow 2, x6 \rightarrow 2, y6 \rightarrow -2, z6 \rightarrow \frac{i}{2} \sqrt{3}\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), y2 \rightarrow \frac{1}{3} (-5 - 2 \frac{i}{2} \sqrt{2}), \\
z2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \quad \{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, \\
x2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), y2 \rightarrow \frac{1}{3} (5 + 2 \frac{i}{2} \sqrt{2}), z2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), y2 \rightarrow \frac{1}{3} (-5 - 2 \frac{i}{2} \sqrt{2}), z2 \rightarrow \frac{2}{3} (2 - \frac{i}{2} \sqrt{2}), \\
x6 \rightarrow \frac{2}{11} (8 - \frac{i}{2} \sqrt{2}), y6 \rightarrow \frac{2}{11} \frac{i}{2} (8 \frac{i}{2} + \sqrt{2}), z6 \rightarrow \frac{1}{11} (-7 - 6 \frac{i}{2} \sqrt{2})\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), y2 \rightarrow \frac{1}{3} (-5 + 2 \frac{i}{2} \sqrt{2}), z2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), \\
x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \quad \{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), \\
y2 \rightarrow \frac{1}{3} (5 - 2 \frac{i}{2} \sqrt{2}), z2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\}, \\
\{x1 \rightarrow 1, y1 \rightarrow 0, z1 \rightarrow 0, x2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), y2 \rightarrow \frac{1}{3} (-5 + 2 \frac{i}{2} \sqrt{2}), z2 \rightarrow \frac{2}{3} (2 + \frac{i}{2} \sqrt{2}), \\
x6 \rightarrow \frac{2}{11} (8 + \frac{i}{2} \sqrt{2}), y6 \rightarrow -\frac{2}{11} \frac{i}{2} (-8 \frac{i}{2} + \sqrt{2}), z6 \rightarrow \frac{1}{11} (-7 + 6 \frac{i}{2} \sqrt{2})\}, \\
\{x1 \rightarrow \frac{1}{3}, y1 \rightarrow -\frac{4}{3}, z1 \rightarrow \frac{4}{3}, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow \frac{4}{3}, y6 \rightarrow -\frac{4}{3}, z6 \rightarrow \frac{1}{3}\}, \\
\{x1 \rightarrow -\frac{1}{3}, y1 \rightarrow -\frac{4}{3}, z1 \rightarrow \frac{4}{3}, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 1, y6 \rightarrow -1, z6 \rightarrow 1\}, \\
\{x1 \rightarrow -\frac{1}{3}, y1 \rightarrow -\frac{4}{3}, z1 \rightarrow \frac{4}{3}, x2 \rightarrow 0, y2 \rightarrow -1, z2 \rightarrow 0, x6 \rightarrow 0, y6 \rightarrow 0, z6 \rightarrow 1\},
\end{aligned}$$

```
X1 = x1 /. sol;  
X2 = x2 /. sol;  
X3 = x3 /. sol;  
X4 = x4 /. sol;  
X5 = x5 /. sol;  
X6 = x6 /. sol;  
Y1 = y1 /. sol;  
Y2 = y2 /. sol;  
Y3 = y3 /. sol;
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Y4 = y4 /. sol;
Y5 = y5 /. sol;
Y6 = y6 /. sol;
Z1 = z1 /. sol;
Z2 = z2 /. sol;
Z3 = z3 /. sol;
Z4 = z4 /. sol;
Z5 = z5 /. sol;
Z6 = z6 /. sol;

(*将上面的点的位置进行微调保证任意四点不共面后进行实验。解得实根10 .
总根数16 . 组数明显也比上面少了。最主要的是没有了解变成离散的了*)
(*faces={[1 2 5],[1 4 5],[3 4 5],[2 3 5],[1 2 6],[1 4 6],[2 3 6],[3 4 6]];*)
Clear[x1, y1, x3, y3, z3, x4, y4, z4, x5, y5, z5];
 $\lfloor$ 清除

x3 = 10; y3 = 0; z3 = 2;
x4 = 0; y4 = -10; z4 = 3;
x5 = 0; y5 = 0; z5 = 9;

x = N[Solve[ (x1 - x2)^2 + (y1 - y2)^2 + (z1 - z2)^2 == 204 &&
 $\lfloor$ ... $\lfloor$ 解方程
(x1 - x4)^2 + (y1 - y4)^2 + (z1 - z4)^2 == 204 &&
(x1 - x5)^2 + (y1 - y5)^2 + (z1 - z5)^2 == 164 &&
(x1 - x6)^2 + (y1 - y6)^2 + (z1 - z6)^2 == 201 &&
(x2 - x3)^2 + (y2 - y3)^2 + (z2 - z3)^2 == 209 && (x2 - x5)^2 + (y2 - y5)^2 + (z2 - z5)^2 ==
200 && (x2 - x6)^2 + (y2 - y6)^2 + (z2 - z6)^2 == 145 &&
(x3 - x6)^2 + (y3 - y6)^2 + (z3 - z6)^2 == 222 &&
(x4 - x6)^2 + (y4 - y6)^2 + (z4 - z6)^2 == 265 ,
{x1, y1, z1, x2, y2, z2, x6, y6, z6}]] // FullSimplify
 $\lfloor$ 完全简化

N[x]
 $\lfloor$ 数值运算

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Out[=] = { {x1 → -10., y1 → 0., z1 → 1., x2 → 0., y2 → 10., z2 → -1., x6 → 0., y6 → 1., z6 → -9.},
{x1 → 10., y1 → 0., z1 → 1., x2 → 0., y2 → 10., z2 → -1., x6 → 0., y6 → 1., z6 → -9.},
{x1 → 10.7568, y1 → -0.648649, z1 → 2.08108, x2 → 12.1081,
y2 → -0.378378, z2 → 16.2973, x6 → 14.0757, y6 → -11.0649, z6 → 11.1081},
{x1 → 1.35135, y1 → -9.72973, z1 → 17.2162, x2 → 12.1081, y2 → -0.378378,
z2 → 16.2973, x6 → 14.0757, y6 → -11.0649, z6 → 11.1081},
{x1 → -4.48483, y1 → 2.26741, z1 → -2.77901, x2 → 3.11689, y2 → 12.6298,
z2 → 3.4527, x6 → -1.20607, y6 → 4.19396, z6 → 10.8789},
{x1 → 10.1074, y1 → -0.0818982, z1 → 1.1365, x2 → -0.547739, y2 → -9.13444,
z2 → -1.78248, x6 → 3.54623, y6 → -2.76049, z6 → -11.1426},
{x1 → 10.1564, y1 → -0.120269, z1 → 1.20045, x2 → -1.0329, y2 → -8.20026,
z2 → -2.47557, x6 → 7.0479, y6 → -6.26702, z6 → -11.1913},
{x1 → 10.624, y1 → -0.521074, z1 → 1.86846, x2 → 4.47511, y2 → -12.9214,
z2 → 5.39302, x6 → 15.7487, y6 → -13.7249, z6 → 1.23849},
{x1 → 10.6668, y1 → -0.56139, z1 → 1.93565, x2 → 3.7546, y2 → -12.8222,
z2 → 4.36372, x6 → 15.6573, y6 → -13.1414, z6 → 6.15896},
{x1 → -12.0199, y1 → -2.70293, z1 → 5.50488, x2 → -1.53682, y2 → -6.99349,
z2 → -3.19546, x6 → -3.27515, y6 → 4.90969, z6 → -2.65461},
{x1 → 7.83429, y1 → -8.29184, z1 → 14.8197, x2 → 11.3984, y2 → 5.53142,
z2 → 15.2834, x6 → -0.084753, y6 → 3.23283, z6 → 12.4808},
{x1 → -4.23492, y1 → -9.37577, z1 → 16.6263, x2 → 5.33085, y2 → -12.8801,
z2 → 6.6155, x6 → 9.50876, y6 → -6.04795, z6 → 15.6081},
{x1 → 10.4387 - 0.556023 i, y1 → -0.3057 + 0.476592 i, z1 → 1.5095 - 0.794319 i,
x2 → 9.0349 + 5.79524 i, y2 → 15.3857 - 4.96735 i, z2 → 11.907 + 8.27892 i,
x6 → -12.2232 + 17.956 i, y6 → 16.8924 - 15.3908 i, z6 → 27.6917 + 25.6514 i},
{x1 → 10.4387 + 0.556023 i, y1 → -0.3057 - 0.476592 i, z1 → 1.5095 + 0.794319 i,
x2 → 9.0349 - 5.79524 i, y2 → 15.3857 + 4.96735 i, z2 → 11.907 - 8.27892 i,
x6 → -12.2232 - 17.956 i, y6 → 16.8924 + 15.3908 i, z6 → 27.6917 - 25.6514 i},
{x1 → -21.5709 - 11.3444 i, y1 → -10.191 + 9.72379 i, z1 → 17.985 - 16.2063 i,
x2 → 1.35419 + 1.41925 i, y2 → -11.8625 - 1.2165 i, z2 → 0.934551 + 2.02751 i,
x6 → 97.2361 + 95.9874 i, y6 → -107.705 - 82.2749 i, z6 → -123.688 + 137.125 i},
{x1 → -21.5709 + 11.3444 i, y1 → -10.191 - 9.72379 i, z1 → 17.985 + 16.2063 i,
x2 → 1.35419 - 1.41925 i, y2 → -11.8625 + 1.2165 i, z2 → 0.934551 - 2.02751 i,
x6 → 97.2361 - 95.9874 i, y6 → -107.705 + 82.2749 i, z6 → -123.688 - 137.125 i}}

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sol = { {x1 → -10.^, y1 → 0.^, z1 → 1.^, x2 → 0.^, y2 → 10.^,
z2 → -1.^, x6 → 0.^, y6 → 1.^, z6 → -9.^}, {x1 → 10.^, y1 → 0.^,
z1 → 1.^, x2 → 0.^, y2 → 10.^, z2 → -1.^, x6 → 0.^, y6 → 1.^, z6 → -9.^},
{x1 → 10.756756756756756^, y1 → -0.6486486486486487^, z1 → 2.081081081081081^,
x2 → 12.108108108108109^, y2 → -0.3783783783783784^, z2 → 16.2972972972973^,
x6 → 14.075675675675676^, y6 → -11.064864864864864^, z6 → 11.108108108108109^},
{x1 → 1.3513513513513513^, y1 → -9.72972972972973^, z1 → 17.216216216216218^,
x2 → 12.108108108108109^, y2 → -0.3783783783783784^, z2 → 16.2972972972973^,
x6 → 14.075675675675676^, y6 → -11.064864864864864^, z6 → 11.108108108108109^},
{x1 → -4.484833051296986^, y1 → 2.2674075058400054^, z1 → -2.779012509733342^,
x2 → 3.116887212793836^, y2 → 12.62982314353932^, z2 → 3.4526960182769084^,
x6 → -1.2060743585623253^, y6 → 4.193962719655712^, z6 → 10.878883610933867^},
{x1 → 10.107354362949977^, y1 → -0.0818981602430666^, z1 → 1.1364969337381463^,
x2 → -0.5477390061168029^, y2 → -9.1344411115876^, z2 → -1.7824842944525756^,
x6 → 3.5462321260177005^, y6 → -2.7604944686171082^, z6 → -11.14262342599408^},
{x1 → 10.156403619379711^, y1 → -0.12026920627067064^, z1 → 1.2004486771180063^,
x2 → -1.0329018969049262^, y2 → -8.200262914360614^, z2 → -2.4755741384356087^,
x6 → 7.047895489762189^, y6 → -6.267022141883853^, z6 → -11.191266521216646^},
{x1 → 10.624009117636804^, y1 → -0.5210739190624643^, z1 → 1.86845653176834^,
x2 → 4.47511259212954^, y2 → -12.921418190675872^, z2 → 5.393017988756487^}

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x6 → 15.74872627384539` , y6 → -13.724877099669454` , z6 → 1.2384917417593557` },
{x1 → 10.666761153474855` , y1 → -0.5613896949786769` , z1 → 1.9356494916320102` ,
x2 → 3.7546024557721096` , y2 → -12.82216236463524` , z2 → 4.363717793960157` ,
x6 → 15.65734021210202` , y6 → -13.141444256689383` , z6 → 6.158959554126379` },
{x1 → -12.019912647777437` , y1 → -2.702925381363619` , z1 → 5.504875635606047` ,
x2 → -1.5368216674586697` , y2 → -6.993493128469953` , z2 → -3.1954595249409565` ,
x6 → -3.275148389817392` , y6 → 4.90968726119806` , z6 → -2.654611286193316` },
{x1 → 7.834289223731841` , y1 → -8.291840158470418` , z1 → 14.819733597450854` ,
x2 → 11.398361562224862` , y2 → 5.531416558312726` , z2 → 15.28337366032123` ,
x6 → -0.08475300688964284` , y6 → 3.2328301325076985` , z6 → 12.480771256180557` },
{x1 → -4.234922818248786` , y1 → -9.375773806673891` , z1 → 16.626289677789966` ,
x2 → 5.330850949358668` , y2 → -12.880069657170528` , z2 → 6.615501356226669` ,
x6 → 9.508764324830207` , y6 → -6.047952208499882` , z6 → 15.608121163303252` },
{x1 → 10.438687211182168` - 0.5560234777014725` i,
y1 → -0.3056995377231538` + 0.4765915523155479` i,
z1 → 1.5094992295385896` - 0.7943192538592465` i,
x2 → 9.034896737998887` + 5.795242787589347` i,
y2 → 15.385705094329381` - 4.967350960790869` i,
z2 → 11.906995339998408` + 8.27891826798478` i,
x6 → -12.223218003782145` + 17.95596004149201` i,
y6 → 16.89238645111372` - 15.390822892707439` i,
z6 → 27.691684473315732` + 25.65137148784573` i},
{x1 → 10.438687211182168` + 0.5560234777014725` i,
y1 → -0.3056995377231538` - 0.4765915523155479` i,
z1 → 1.5094992295385896` + 0.7943192538592465` i,
x2 → 9.034896737998887` - 5.795242787589347` i,
y2 → 15.385705094329381` + 4.967350960790869` i,
z2 → 11.906995339998408` - 8.27891826798478` i,
x6 → -12.223218003782145` - 17.95596004149201` i,
y6 → 16.89238645111372` + 15.390822892707439` i,
z6 → 27.691684473315732` - 25.65137148784573` i},
{x1 → -21.5709238410492` - 11.344419370192165` i,
y1 → -10.191020597971077` + 9.723788031593283` i,
z1 → 17.985034329951795` - 16.206313385988807` i,
x2 → 1.3541856329226785` + 1.4192548864447265` i,
y2 → -11.862531921298118` - 1.216504188381194` i,
z2 → 0.9345509041752549` + 2.0275069806353234` i,
x6 → 97.2360509924624` + 95.98741436480182` i,
y6 → -107.70486655524975` - 82.27492659840156` i,
z6 → -123.68815562787353` + 137.1248776640026` i},
{x1 → -21.5709238410492` + 11.344419370192165` i,
y1 → -10.191020597971077` - 9.723788031593283` i,
z1 → 17.985034329951795` + 16.206313385988807` i,
x2 → 1.3541856329226785` - 1.4192548864447265` i,
y2 → -11.862531921298118` + 1.216504188381194` i,
z2 → 0.9345509041752549` - 2.0275069806353234` i,
x6 → 97.2360509924624` - 95.98741436480182` i,
y6 → -107.70486655524975` + 82.27492659840156` i,
z6 → -123.68815562787353` - 137.1248776640026` i}}};

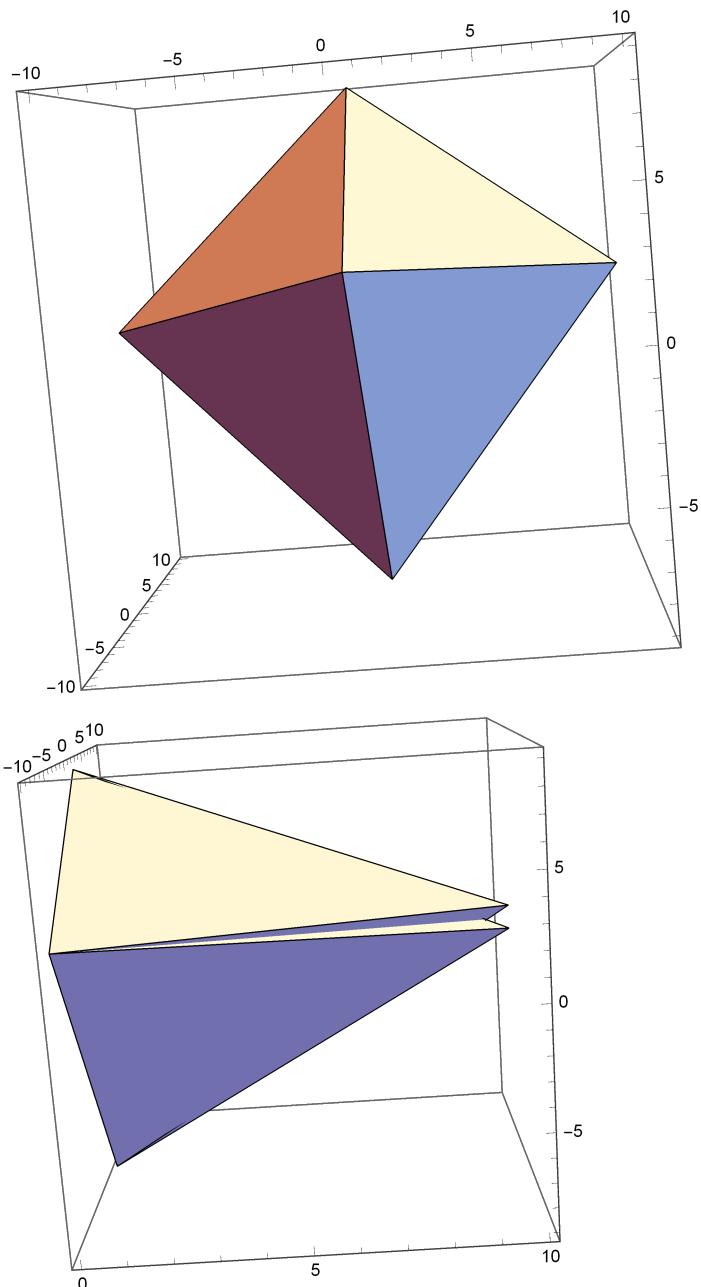
X1 = x1 /. sol;
X2 = x2 /. sol;
X3 = x3 /. sol;
X4 = x4 /. sol;
X5 = x5 /. sol;
X6 = x6 /. sol;

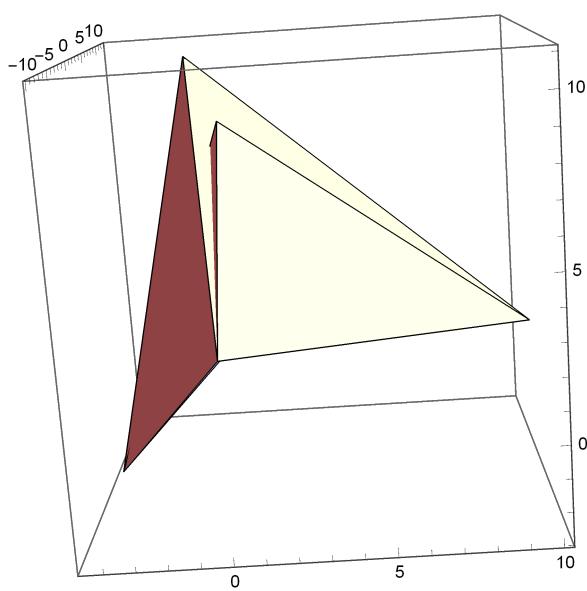
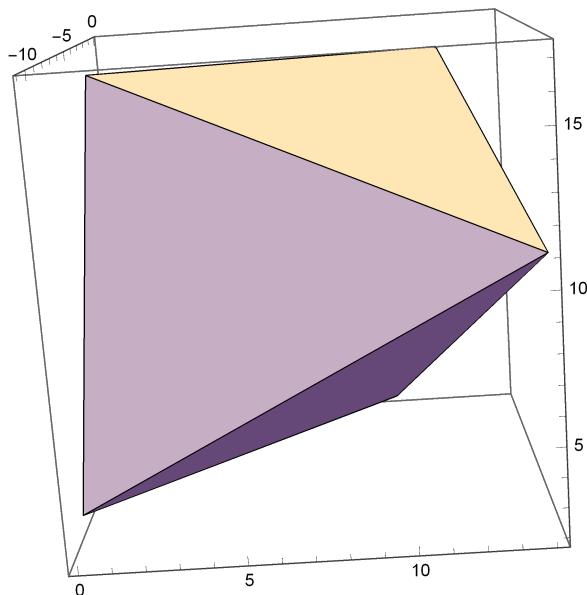
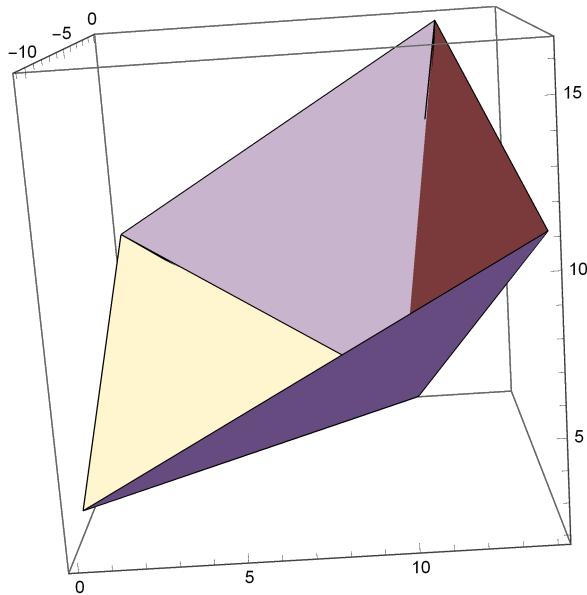
```

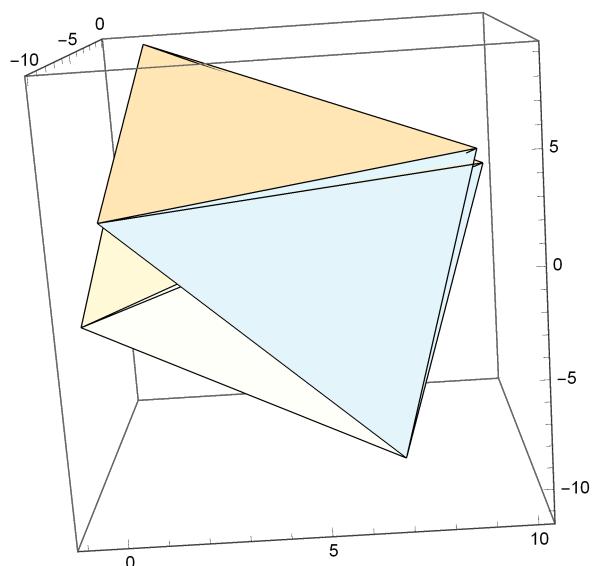
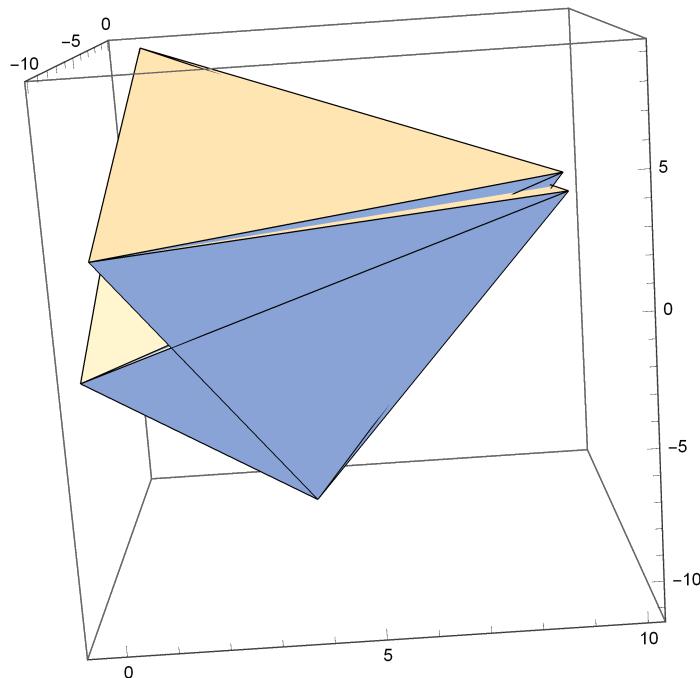
```

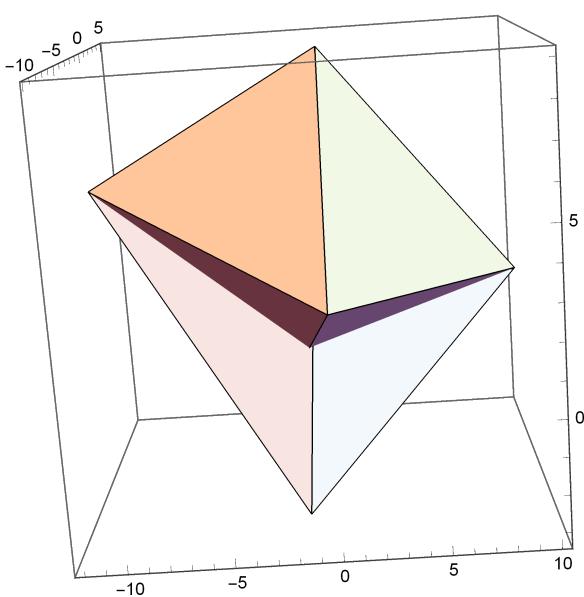
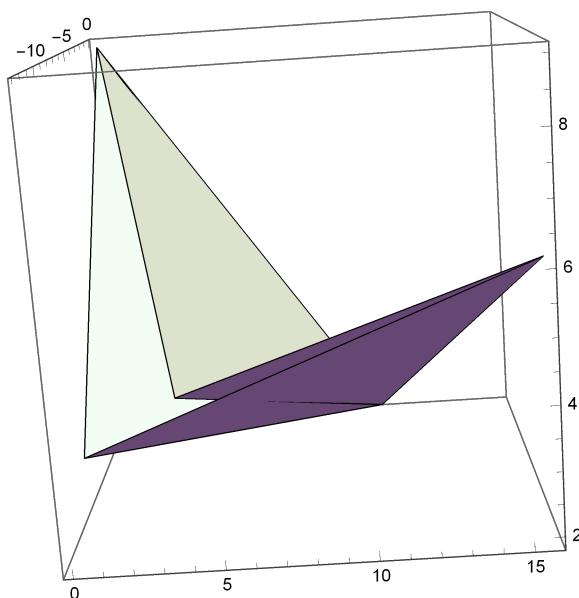
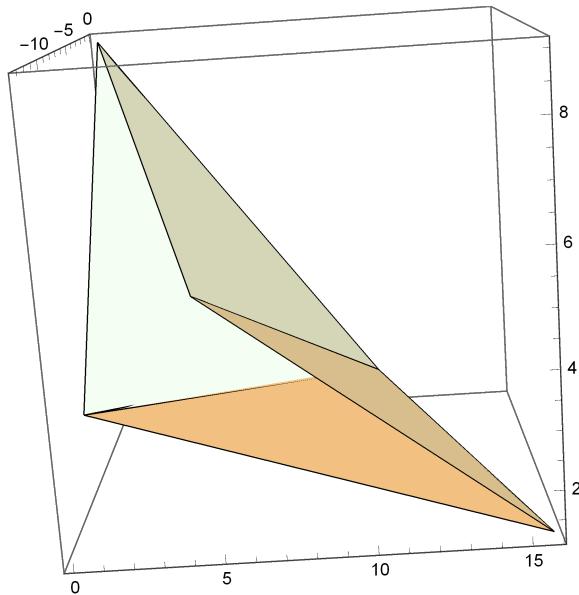
Y1 = y1 /. sol;
Y2 = y2 /. sol;
Y3 = y3 /. sol;
Y4 = y4 /. sol;
Y5 = y5 /. sol;
Y6 = y6 /. sol;
Z1 = z1 /. sol;
Z2 = z2 /. sol;
Z3 = z3 /. sol;
Z4 = z4 /. sol;
Z5 = z5 /. sol;
Z6 = z6 /. sol;
x3 = 10; y3 = 0; z3 = 2;
x4 = 0; y4 = -10; z4 = 3;
x5 = 0; y5 = 0; z5 = 9;
X = {X1, X2, Table[x3, Length[X1]], Table[x4, Length[X1]], Table[x5, Length[X1]], X6};
Y = {Y1, Y2, Table[y3, Length[X1]], Table[y4, Length[X1]], Table[y5, Length[X1]], Y6};
Z = {Z1, Z2, Table[z3, Length[X1]], Table[z4, Length[X1]], Table[z5, Length[X1]], Z6};
faces =
{{1, 2, 5}, {1, 4, 5}, {3, 4, 5}, {2, 3, 5}, {1, 2, 6}, {1, 4, 6}, {2, 3, 6}, {3, 4, 6}};
(*将结果画图*)
For[n = 1, n ≤ 10, n++,
For循环
Print[mesh = Table[{{X[[faces[[i, 1]], n]], Y[[faces[[i, 1]], n]], Z[[faces[[i, 1]], n]]}, {X[[faces[[i, 2]], n]], Y[[faces[[i, 2]], n]], Z[[faces[[i, 2]], n]]}, {X[[faces[[i, 3]], n]], Y[[faces[[i, 3]], n]], Z[[faces[[i, 3]], n]]}}, {i, 8}]];
Graphics3D[Polygon[mesh], Axes -> True, BoxRatios -> {1, 1, 1}]]];

```









```
(*增加一个点。实解数边为20·总解数变为48*)
(*faces=[[1 2 5];[1 7 5];[3 4 5];[2 3 5];[1 2 6];[1 7 6];[2 3 6];[3 4 6];[5 7 4];[7 4 6]];*)
Clear[x1, y1, x3, y3, z3, x4, y4, z4, x5, y5, z5];
清除
x3 = 10; y3 = 0; z3 = 2;
x4 = 0; y4 = -10; z4 = 3;
x5 = 0; y5 = 0; z5 = 9;

x = Solve[(x1 - x2)^2 + (y1 - y2)^2 + (z1 - z2)^2 == 204 &&
解方程
(x1 - x7)^2 + (y1 - y7)^2 + (z1 - z7)^2 == 104 &&
(x6 - x7)^2 + (y6 - y7)^2 + (z6 - z7)^2 == 285 &&
(x5 - x7)^2 + (y5 - y7)^2 + (z5 - z7)^2 == 300 && (x4 - x7)^2 + (y4 - y7)^2 + (z4 - z7)^2 ==
116 && (x1 - x5)^2 + (y1 - y5)^2 + (z1 - z5)^2 == 164 &&
(x1 - x6)^2 + (y1 - y6)^2 + (z1 - z6)^2 == 201 && (x2 - x3)^2 + (y2 - y3)^2 + (z2 - z3)^2 ==
209 && (x2 - x5)^2 + (y2 - y5)^2 + (z2 - z5)^2 == 200 &&
(x2 - x6)^2 + (y2 - y6)^2 + (z2 - z6)^2 == 145 && (x3 - x6)^2 + (y3 - y6)^2 + (z3 - z6)^2 ==
222 && (x4 - x6)^2 + (y4 - y6)^2 + (z4 - z6)^2 == 265,
{x1, y1, z1, x2, y2, z2, x6, y6, z6, x7, y7, z7}] // FullSimplify
完全简化

sol = {{x1 → -10., y1 → 0., z1 → 1., x2 → 0., y2 → 10., z2 → -1., x6 → 0., y6 → 1.,
z6 → -9., x7 → -10., y7 → -10., z7 → -1.}, {x1 → 10., y1 → 0., z1 → 1., x2 → 0.,
y2 → 10., z2 → -1., x6 → 0., y6 → 1., z6 → -9., x7 → 10., y7 → -10., z7 → -1.},
{x1 → 10.756756756756756`, y1 → -0.6486486486486487`, z1 → 2.081081081081081`,
x2 → 12.108108108109`, y2 → -0.3783783783783784`, z2 → 16.2972972972973`,
x6 → 14.075675675675676`, y6 → -11.064864864864864`, z6 → 11.108108108109`,
x7 → 7.72972972972973`, y7 → -8.054054054054054`, z7 → -4.243243243243243`},
{x1 → 1.3513513513513513`, y1 → -9.72972972972973`, z1 → 17.216216216216218`,
x2 → 12.108108108109`, y2 → -0.3783783783783784`, z2 → 16.2972972972973`,
x6 → 14.075675675675676`, y6 → -11.064864864864864`, z6 → 11.108108108109`,
x7 → -1.6756756756756757`, y7 → -17.135135135135137`, z7 → 10.891891891891891`},
{x1 → 0.68504457447174`, y1 → -9.874657133335873`, z1 → 0.8746162902884519`,
x2 → -2.523886951223201`, y2 → 2.918720268377563`, z2 → -4.605552787461716`,
x6 → 4.708248636546307`, y6 → -3.944069301356823`, z6 → -11.358206648105153`,
x7 → 10.564107300143807`, y7 → -11.973278447001`, z7 → 2.288797411668334`},
{x1 → 0.47960242694206173`, y1 → -9.840769683887538`, z1 → 0.8189711196725852`,
x2 → -2.507458028198474`, y2 → 3.0396839316383764`, z2 → -4.582082897426392`,
x6 → 4.649371445886726`, y6 → -3.884589548357987`, z6 → -11.352181024712614`,
x7 → -9.009172406380795`, y7 → -8.918678383053475`, z7 → -2.802202694910875`},
{x1 → 10.464638197917274`, y1 → -3.1526375191078806`, z1 → 2.325254756936112`,
x2 → -2.1750124039188297`, y2 → -4.844756201382181`, z2 → -4.1071605770268995`,
x6 → 7.471912738272158`, y6 → -6.679553149545408`, z6 → -11.076404112733059`,
x7 → 10.217678200627342`, y7 → -13.160854183056996`, z7 → 4.268090305094992`},
{x1 → 9.98434700181547`, y1 → 0.15521389150980844`, z1 → 0.9819750814043486`,
x2 → -0.7941911611751942`, y2 → -8.682791065749957`, z2 → -2.134558801678849`,
x6 → -0.5199057082181648`, y6 → 1.5766134484736047`, z6 → -8.432922597445597`,
x7 → 9.826983813748141`, y7 → -9.75915582534082`, z7 → -1.4014069577652994`},
{x1 → -11.897169066595051`, y1 → -1.5973059284162132`, z1 → 4.538387962641723`,
x2 → -1.2652048821484883`, y2 → -7.680086095544834`, z2 → -2.8074355459264115`,
x6 → -2.700543997923172`, y6 → 4.140608037090621`, z6 → -4.599359608325513`}
```

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x7 → -10.21993092318738` , y7 → -10.372928978866298` , z7 → -0.3784517018895031` },
{x1 → 9.838601904225298` , y1 → 0.5924518354338262` , z1 → 0.8237592138645141` ,
x2 → -1.4043080736191496` , y2 → -7.340311681162656` , z2 → -3.0061543908844994` ,
x6 → -3.0346694914486037` , y6 → 4.576522239946121` , z6 → -3.581472515024824` ,
x7 → 7.98917773141859` , y7 → -8.202487061567382` , z7 → -3.9958548973876966` },
{x1 → 9.629808845196168` , y1 → 0.3965870872476655` , z1 → 0.5673550835333958` ,
x2 → 3.8990697764318747` , y2 → 12.851974091121004` , z2 → 4.570099680616964` ,
x6 → -3.547262797361628` , y6 → 5.330052996927124` , z6 → -1.1720980043450382` ,
x7 → 6.649805236275269` , y7 → -7.536289526672113` , z7 → -5.106184122213144` },
{x1 → 8.54089894941992` , y1 → -1.5037181632530052` , z1 → -0.4229441694886802` ,
x2 → 6.6963074633877` , y2 → -12.448744659073492` , z2 → 8.566153519125287` ,
x6 → 15.673894699731965` , y6 → -13.709823402225242` , z6 → 0.6407129750672238` ,
x7 → 2.4102357262945526` , y7 → -6.46876063362889` , z7 → -6.8853989439518495` },
{x1 → -11.116217812459354` , y1 → -5.815438984880343` , z1 → 6.428935831392908` ,
x2 → -2.524248002217358` , y2 → -2.9160023948355573` , z2 → -4.606068574596226` ,
x6 → -3.6077024337748425` , y6 → 5.86402432086033` , z6 → 3.5632188708570944` ,
x7 → -8.818250415282098` , y7 → -8.764566231379955` , z7 → -3.0590562810334085` },
{x1 → 1.9874670169645667` , y1 → -10.991019226901152` , z1 → 2.7352197795639186` ,
x2 → 10.434441773145606` , y2 → -8.18841863822427` , z2 → 13.906345390208008` ,
x6 → 15.829539139460957` , y6 → -13.476604018140808` , z6 → 4.5293512132014895` ,
x7 → 4.610217880707354` , y7 → -6.869944658912612` , z7 → -6.216758901812313` },
{x1 → 1.9483502753688875` , y1 → -11.099696411110532` , z1 → 2.9171823317109076` ,
x2 → 10.479330851048925` , y2 → -8.091849393430824` , z2 → 13.970472644355608` ,
x6 → 15.824298038864` , y6 → -13.463098056624222` , z6 → 4.611999822397779` ,
x7 → 0.6450886148967644` , y7 → -17.19375925843424` , z7 → 10.989598764057067` },
{x1 → 10.833511592692762` , y1 → -0.5726414720992987` , z1 → 2.195067354086194` ,
x2 → 4.110211630755678` , y2 → -12.88656488740499` , z2 → 4.871730901079541` ,
x6 → 13.663853495671278` , y6 → -10.58089444057449` , z6 → 11.82959055096789` ,
x7 → 8.061489062457303` , y7 → -8.245874609948675` , z7 → -3.9235423167522088` },
{x1 → -2.943793089462554` , y1 → -9.271628194529782` , z1 → 17.328925072831005` ,
x2 → 4.853194160308179` , y2 → -12.924428131936263` , z2 → 5.93313451472597` ,
x6 → 10.901481580874961` , y6 → -7.518271030450637` , z6 → 14.83210550424325` ,
x7 → -2.418793439338058` , y7 → -17.059618250737145` , z7 → 10.766030417895243` },
{x1 → 11.083232594070326` , y1 → -0.4743744701476265` , z1 → 2.6018030565002688` ,
x2 → 5.092435843790815` , y2 → -12.908949324656911` , z2 → 6.274908348272593` ,
x6 → 10.17198797028606` , y6 → -6.743469870112161` , z6 → 15.28518100173898` ,
x7 → 9.86740129041059` , y7 → -9.812392933512008` , z7 → -1.3126784441466521` },
{x1 → 11.090145800898352` , y1 → -0.8551303033542065` , z1 → 2.6535507345365157` ,
x2 → 11.021464534688446` , y2 → 6.747064298329657` , z2 → 14.744949335269208` ,
x6 → 8.449763832322823` , y6 → -4.953112685659548` , z6 → 15.966511466632749` ,
x7 → 10.380273040136926` , y7 → -10.733833358553532` , z7 → 0.2230555975892212` },
{x1 → -5.9224802205887555` , y1 → -10.26721406362657` , z1 → 13.84856096263662` ,
x2 → 7.785382827483106` , y2 → -11.752828820293098` , z2 → 10.121975467833009` ,
x6 → 5.080309671860401` , y6 → -1.582843198255593` , z6 → 15.974664736048078` ,
x7 → 0.9992244852930736` , y7 → -17.179544717587245` , z7 → 10.965907862645405` },
{x1 → 14.855397839974163` + 85.01734074055507` i,
y1 → 145.8868125482603` - 72.8720063490472` i,
z1 → 86.13330904097427` + 121.45334391507866` i,
x2 → 14.514400191797096` + 18.82999896208581` i,
y2 → 34.824895918518266` - 16.139999110359266` i,
z2 → 19.734857416852993` + 26.89999851726544` i,
x6 → 29.71263508002959` - 23.92697076449092` i,
y6 → -30.84310588896985` + 20.508832083849363` i,
z6 → -30.30470808940262` - 34.1813868064156` i,
x7 → 14.37758557799602` - 6.698928491816156` i,

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y7 → - 7.324569159736523` + 5.74193870727099` i,
z7 → - 5.459051400439129` - 9.569897845451651` i},
{x1 → 14.855397839974163` - 85.01734074055507` i,
y1 → 145.8868125482603` + 72.8720063490472` i,
z1 → 86.13330904097427` - 121.45334391507866` i,
x2 → 14.514400191797096` - 18.82999896208581` i,
y2 → 34.824895918518266` + 16.139999110359266` i,
z2 → 19.734857416852993` - 26.89999851726544` i,
x6 → 29.71263508002959` + 23.92697076449092` i,
y6 → - 30.84310588896985` - 20.508832083849363` i,
z6 → - 30.30470808940262` + 34.1813868064156` i,
x7 → 14.37758557799602` + 6.698928491816156` i,
y7 → - 7.324569159736523` - 5.74193870727099` i,
z7 → - 5.459051400439129` + 9.569897845451651` i},
{x1 → - 77.60242409855066` + 46.602276207237004` i,
y1 → - 35.200621870224886` - 39.94480817763172` i,
z1 → 42.201323746850534` + 66.57468029605286` i,
x2 → 1.4252088960893177` - 0.2632341499089319` i,
y2 → - 11.610568440064087` + 0.22562927135051303` i,
z2 → 1.0360127086990252` - 0.3760487855841884` i,
x6 → 18.656015206968995` - 11.225067508138107` i,
y6 → - 18.25737901218811` + 9.621486435546949` i,
z6 → - 15.013638052191164` - 16.03581072591158` i,
x7 → - 293.9508813654947` + 176.35865374654728` i,
y7 → - 102.54365453934395` - 151.16456035418338` i,
z7 → 153.2394242322399` + 251.94093392363897` i},
{x1 → - 77.60242409855066` - 46.602276207237004` i,
y1 → - 35.200621870224886` + 39.94480817763172` i,
z1 → 42.201323746850534` - 66.57468029605286` i,
x2 → 1.4252088960893177` + 0.2632341499089319` i,
y2 → - 11.610568440064087` - 0.22562927135051303` i,
z2 → 1.0360127086990252` + 0.3760487855841884` i,
x6 → 18.656015206968995` + 11.225067508138107` i,
y6 → - 18.25737901218811` - 9.621486435546949` i,
z6 → - 15.013638052191164` + 16.03581072591158` i,
x7 → - 293.9508813654947` - 176.35865374654728` i,
y7 → - 102.54365453934395` + 151.16456035418338` i,
z7 → 153.2394242322399` - 251.94093392363897` i},
{x1 → - 79.38620005192966` + 47.69313019256757` i,
y1 → - 35.992110039649766` - 40.879825879343635` i,
z1 → 42.97507401256091` + 68.1330431322394` i,
x2 → 1.4253727550561075` - 0.2546628596009144` i,
y2 → - 11.60998713087238` + 0.21828245108649785` i,
z2 → 1.0362467929372965` - 0.36380408514416346` i,
x6 → 18.582635337415134` - 11.133247629103925` i,
y6 → - 18.173850862802333` + 9.542783682089079` i,
z6 → - 14.912155253871994` - 15.904639470148465` i,
x7 → 197.98984088076833` - 118.71781085592832` i,
y7 → 49.37921556611963` + 101.7581235907957` i,
z7 → - 99.96535927686605` - 169.59687265132618` i},
{x1 → - 79.38620005192966` - 47.69313019256757` i,
y1 → - 35.992110039649766` + 40.879825879343635` i,
z1 → 42.97507401256091` - 68.1330431322394` i,
x2 → 1.4253727550561075` + 0.2546628596009144` i,
y2 → - 11.60998713087238` - 0.21828245108649785` i,

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z2 → 1.0362467929372965` + 0.36380408514416346` i,
x6 → 18.582635337415134` + 11.133247629103925` i,
y6 → -18.173850862802333` - 9.542783682089079` i,
z6 → -14.912155253871994` + 15.904639470148465` i,
x7 → 197.98984088076833` + 118.71781085592832` i,
y7 → 49.37921556611963` - 101.7581235907957` i,
z7 → -99.96535927686605` + 169.59687265132618` i},
{x1 → 8.199163890407721` - 4.506814778026838` i,
y1 → -7.86377371707092` + 3.989219586851124` i,
z1 → -1.6118695106291803` - 6.438303171653594` i,
x2 → -279.1814359268988` - 558.3408575712335` i,
y2 → -973.6994388157315` + 494.9924684985059` i,
z2 → -399.8306227527126` - 797.6297965303336` i,
x6 → 17.27670587313958` - 9.462365668838192` i,
y6 → -16.688137760497867` + 8.111222718401166` i,
z6 → -13.114318873582867` - 13.511429504370264` i,
x7 → -8.129856033789704` - 22.3205474982921` i,
y7 → 0.8258630660041102` - 3.8151000784492415` i,
z7 → -19.04310511000685` + 6.358500130748736` i},
{x1 → 8.199163890407721` + 4.506814778026838` i,
y1 → -7.86377371707092` - 3.989219586851124` i,
z1 → -1.6118695106291803` + 6.438303171653594` i,
x2 → -279.1814359268988` + 558.3408575712335` i,
y2 → -973.6994388157315` - 494.9924684985059` i,
z2 → -399.8306227527126` + 797.6297965303336` i,
x6 → 17.27670587313958` + 9.462365668838192` i,
y6 → -16.688137760497867` - 8.111222718401166` i,
z6 → -13.114318873582867` + 13.511429504370264` i,
x7 → -8.129856033789704` + 22.3205474982921` i,
y7 → 0.8258630660041102` + 3.8151000784492415` i,
z7 → -19.04310511000685` - 6.358500130748736` i},
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y1 → -7.963789213569011` + 3.7858757223703168` i,
z1 → -1.4451770164656956` - 6.520189010382141` i,
x2 → -264.0175708150372` - 565.7939689698588` i,
y2 → -986.6970374830414` + 468.55166853671614` i,
z2 → -378.16795830719593` - 808.2770985283697` i,
x6 → 17.28256476423202` - 9.457929869019525` i,
y6 → -16.69315966714853` + 8.106173456905449` i,
z6 → -13.105949029165096` - 13.517564121140762` i,
x7 → 17.773566151381623` + 17.040789498626875` i,
y7 → -21.377070235571313` + 8.340606935305148` i,
z7 → 17.961783725952188` - 13.901011558841914` i},
{x1 → 8.31584863632216` + 4.564129749398177` i,
y1 → -7.963789213569011` - 3.7858757223703168` i,
z1 → -1.4451770164656956` + 6.520189010382141` i,
x2 → -264.0175708150372` + 565.7939689698588` i,
y2 → -986.6970374830414` - 468.55166853671614` i,
z2 → -378.16795830719593` + 808.2770985283697` i,
x6 → 17.28256476423202` + 9.457929869019525` i,
y6 → -16.69315966714853` - 8.106173456905449` i,
z6 → -13.105949029165096` + 13.517564121140762` i,
x7 → 17.773566151381623` - 17.040789498626875` i,
y7 → -21.377070235571313` - 8.340606935305148` i,
z7 → 17.961783725952188` + 13.901011558841914` i},

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{x1 → - 9.643005084443843` - 3.603135926959399` i,
y1 → - 8.04481098839282` - 9.805030792200734` i,
z1 → - 4.60685000612937` + 8.350549720990132` i,
x2 → - 3.52095716572881` - 5.131365352001112` i,
y2 → 12.28087166130228` - 10.442631207657115` i,
z2 → - 6.029938808184014` - 7.330521931430161` i,
x6 → - 1.9463112050976463` - 1.2228978338178833` i,
y6 → 4.846938861349158` + 0.9810358552229056` i,
z6 → 10.006276562515119` - 2.418619785949776` i,
x7 → - 19.718430270356123` - 0.4411209052505031` i,
y7 → - 11.495880766318253` - 8.564928256259787` i,
z7 → 1.4931346105304217` + 14.274880427099644` i},
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y1 → - 8.04481098839282` + 9.805030792200734` i,
z1 → - 4.60685000612937` - 8.350549720990132` i,
x2 → - 3.52095716572881` + 5.131365352001112` i,
y2 → 12.28087166130228` + 10.442631207657115` i,
z2 → - 6.029938808184014` + 7.330521931430161` i,
x6 → - 1.9463112050976463` + 1.2228978338178833` i,
y6 → 4.846938861349158` - 0.9810358552229056` i,
z6 → 10.006276562515119` + 2.418619785949776` i,
x7 → - 19.718430270356123` + 0.4411209052505031` i,
y7 → - 11.495880766318253` + 8.564928256259787` i,
z7 → 1.4931346105304217` - 14.274880427099644` i},
{x1 → 24.874161380747115` + 11.730866748394535` i,
y1 → - 16.064540873518833` - 9.201867406189624` i,
z1 → - 7.06703445657067` + 27.361567492951753` i,
x2 → 8.05215082021157` - 1.6355256769226243` i,
y2 → 11.957583648298483` + 1.3950457562757648` i,
z2 → 10.503072600302245` - 2.3364652527466063` i,
x6 → - 1.030178270762299` - 2.1492111365048743` i,
y6 → 4.134878332178693` + 1.837630002404723` i,
z6 → 12.04700061416394` - 3.1158113410015136` i,
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z7 → - 11.665559603983521` + 19.916127073190847` i},
{x1 → 24.874161380747115` - 11.730866748394535` i,
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x2 → 8.05215082021157` + 1.6355256769226243` i,
y2 → 11.957583648298483` - 1.3950457562757648` i,
z2 → 10.503072600302245` + 2.3364652527466063` i,
x6 → - 1.030178270762299` + 2.1492111365048743` i,
y6 → 4.134878332178693` - 1.837630002404723` i,
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x7 → 24.877503190663127` - 14.814635391037886` i,
y7 → - 3.6006642376098874` + 11.949676243914508` i,
z7 → - 11.665559603983521` - 19.916127073190847` i},
{x1 → 16.56224557118546` + 19.367518400123508` i,
y1 → - 8.940041608180277` - 17.453891292540128` i,
z1 → - 18.9411998988016` + 17.06469700493117` i,
x2 → 8.078616128503596` - 1.6324229460509232` i,
y2 → 11.934899098333892` + 1.4060530634158475` i,
z2 → 10.540880183576563` - 2.3320327800727476` i,
x6 → - 0.9128422466824937` - 2.18158453549343` i,

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y6 → 4.034304597253145` + 1.874480573593824` i,
z6 → 12.214623505706518` - 3.071039618996064` i,
x7 → 25.703055817222456` + 13.53058008494725` i,
y7 → -4.308280774660741` - 12.346222735501323` i,
z7 → -10.486198708898765` + 20.577037892502204` i},
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y1 → -8.940041608180277` + 17.453891292540128` i,
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x2 → 8.078616128503596` + 1.6324229460509232` i,
y2 → 11.934899098333892` - 1.4060530634158475` i,
z2 → 10.540880183576563` + 2.3320327800727476` i,
x6 → -0.9128422466824937` + 2.18158453549343` i,
y6 → 4.034304597253145` - 1.874480573593824` i,
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y7 → -4.308280774660741` + 12.346222735501323` i,
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y1 → -54.55281822162037` - 26.938861945808494` i,
z1 → -21.042152744888256` + 44.898103243014155` i,
x2 → -29.75874225366147` + 69.7832363321752` i,
y2 → -122.23934751894188` - 59.81420257043589` i,
z2 → -43.5124889338021` + 99.69033761739314` i,
x6 → -1.1077026398936198` - 2.616152808989859` i,
y6 → 4.2396189624320995` + 2.2424166934198793` i,
z6 → 12.319163225384793` - 3.737361155699799` i,
x7 → -13.854398185575011` + 6.289187242445186` i,
y7 → -16.043270027898167` - 5.390731922095874` i,
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{x1 → -3.842197411548524` - 31.42867227010991` i,
y1 → -54.55281822162037` + 26.938861945808494` i,
z1 → -21.042152744888256` - 44.898103243014155` i,
x2 → -29.75874225366147` - 69.7832363321752` i,
y2 → -122.23934751894188` + 59.81420257043589` i,
z2 → -43.5124889338021` - 99.69033761739314` i,
x6 → -1.1077026398936198` + 2.616152808989859` i,
y6 → 4.2396189624320995` - 2.2424166934198793` i,
z6 → 12.319163225384793` + 3.737361155699799` i,
x7 → -13.854398185575011` - 6.289187242445186` i,
y7 → -16.043270027898167` + 5.390731922095874` i,
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{x1 → -15.710698069413343` - 53.15526400077139` i,
y1 → 82.99780629824956` + 45.56165485780405` i,
z1 → 69.79617242753908` - 75.93609142967341` i,
x2 → -7.76276510079795` + 24.461888756780123` i,
y2 → -44.20600000044987` - 20.96733322009725` i,
z2 → -12.089664429711357` + 34.94555536682875` i,
x6 → -1.2842311901097005` - 3.1150469823010063` i,
y6 → 4.440561035550404` + 2.6700402705437196` i,
z6 → 12.563298454407033` - 4.450067117572867` i,
x7 → 18.828416948612638` + 9.905809721633144` i,
y7 → -5.950047707046097` - 8.490694047114124` i,
z7 → -7.749920488256505` + 14.151156745190205` i},
{x1 → -15.710698069413343` + 53.15526400077139` i,
y1 → 82.99780629824956` - 45.56165485780405` i,

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z1 → 69.79617242753908` + 75.93609142967341` i,
x2 → -7.76276510079795` - 24.461888756780123` i,
y2 → -44.20600000044987` + 20.96733322009725` i,
z2 → -12.089664429711357` - 34.94555536682875` i,
x6 → -1.2842311901097005` + 3.1150469823010063` i,
y6 → 4.440561035550404` - 2.6700402705437196` i,
z6 → 12.563298454407033` + 4.450067117572867` i,
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{x1 → -20.0941013935585` - 24.60275165671146` i,
y1 → 31.172200758543426` + 21.088072848609823` i,
z1 → 41.769191430617006` - 35.146788081016375` i,
x2 → 8.114570647893052` - 2.0126578007998255` i,
y2 → 12.120738727049158` + 1.7251352578284218` i,
z2 → 10.59224378270436` - 2.8752254297140363` i,
x6 → -1.3827931628220085` - 3.3660309246090345` i,
y6 → 4.552753919382499` + 2.885169363950601` i,
z6 → 12.699607565604905` - 4.808615606584335` i,
x7 → -12.103557866305557` + 4.814472355321753` i,
y7 → -15.502569341064952` - 4.126690590275788` i,
z7 → 8.170948901774919` + 6.877817650459646` i},
{x1 → -20.0941013935585` + 24.60275165671146` i,
y1 → 31.172200758543426` - 21.088072848609823` i,
z1 → 41.769191430617006` + 35.146788081016375` i,
x2 → 8.114570647893052` + 2.0126578007998255` i,
y2 → 12.120738727049158` - 1.7251352578284218` i,
z2 → 10.59224378270436` + 2.8752254297140363` i,
x6 → -1.3827931628220085` + 3.3660309246090345` i,
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x7 → -12.103557866305557` - 4.814472355321753` i,
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{x1 → 7.991206665814149` + 6.4078902517856235` i,
y1 → -10.597542440915609` - 5.4924773586733915` i,
z1 → -2.9523701306192693` + 9.154128931122319` i,
x2 → -5.032049431992655` + 18.643520650871857` i,
y2 → -34.518461080164414` - 15.980160557890162` i,
z2 → -8.188642045703793` + 26.63360092981694` i,
x6 → -1.3911751776370311` - 3.386664790703303` i,
y6 → 4.562295149012365` + 2.902855534888545` i,
z6 → 12.711199713753341` - 4.838092558147576` i,
x7 → 17.81297547591122` + 9.204321524992297` i,
y7 → -6.263639926556829` - 7.889418449993398` i,
z7 → -7.227266789071952` + 13.149030749988997` i},
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y1 → -10.597542440915609` + 5.4924773586733915` i,
z1 → -2.9523701306192693` - 9.154128931122319` i,
x2 → -5.032049431992655` - 18.643520650871857` i,
y2 → -34.518461080164414` + 15.980160557890162` i,
z2 → -8.188642045703793` - 26.63360092981694` i,
x6 → -1.3911751776370311` + 3.386664790703303` i,
y6 → 4.562295149012365` - 2.902855534888545` i,
z6 → 12.711199713753341` + 4.838092558147576` i,

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x7 → 17.81297547591122` - 9.204321524992297` i,
y7 → -6.2636399265556829` + 7.889418449993398` i,
z7 → -7.227266789071952` - 13.149030749988997` i},
{x1 → 2.10947802965676` + 12.465796611507827` i,
y1 → -18.118367943336192` + 2.208464491159225` i,
z1 → 12.182411585442921` + 4.31039411407905` i,
x2 → 15.294385833928363` + 1.6072256036057944` i,
y2 → -3.8465651955467255` + 13.463322420567387` i,
z2 → 20.84912261989766` + 2.296036576579706` i,
x6 → 0.5239733554471215` - 1.7006576774569562` i,
y6 → 2.7295520951679286` + 1.5248688687269567` i,
z6 → 13.535254506150501` - 1.7578880872999945` i,
x7 → -8.811871693870135` + 14.89899865987333` i,
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y1 → -18.118367943336192` - 2.208464491159225` i,
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x2 → 15.294385833928363` - 1.6072256036057944` i,
y2 → -3.8465651955467255` - 13.463322420567387` i,
z2 → 20.84912261989766` - 2.296036576579706` i,
x6 → 0.5239733554471215` + 1.7006576774569562` i,
y6 → 2.7295520951679286` - 1.5248688687269567` i,
z6 → 13.535254506150501` + 1.7578880872999945` i,
x7 → -8.811871693870135` - 14.89899865987333` i,
y7 → -20.844359546163385` + 3.8275383905597793` i,
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y1 → 3.7035405155176364` + 6.864613147145127` i,
z1 → 21.803682405553513` - 11.441021911908544` i,
x2 → -0.9836807391550734` + 9.452314107671896` i,
y2 → -20.15639119366919` - 8.101983520861626` i,
z2 → -2.405258198792962` + 13.503305868102709` i,
x6 → -2.011877986688902` - 4.714093844842731` i,
y6 → 5.268839835911835` + 4.040651867008055` i,
z6 → 13.569618492229331` - 6.7344197783467585` i,
x7 → -10.53283165681194` + 3.2200436685021905` i,
y7 → -15.01749212930957` - 2.760037430144735` i,
z7 → 7.362486882182616` + 4.600062383574558` i},
{x1 → -15.116511566061329` + 8.00871533833598` i,
y1 → 3.7035405155176364` - 6.864613147145127` i,
z1 → 21.803682405553513` + 11.441021911908544` i,
x2 → -0.9836807391550734` - 9.452314107671896` i,
y2 → -20.15639119366919` + 8.101983520861626` i,
z2 → -2.405258198792962` - 13.503305868102709` i,
x6 → -2.011877986688902` + 4.714093844842731` i,
y6 → 5.268839835911835` - 4.040651867008055` i,
z6 → 13.569618492229331` + 6.7344197783467585` i,
x7 → -10.53283165681194` - 3.2200436685021905` i,
y7 → -15.01749212930957` + 2.760037430144735` i,
z7 → 7.362486882182616` - 4.600062383574558` i}}};

X1 = x1 /. sol;
X2 = x2 /. sol;
X3 = x3 /. sol;
X4 = x4 /. sol;

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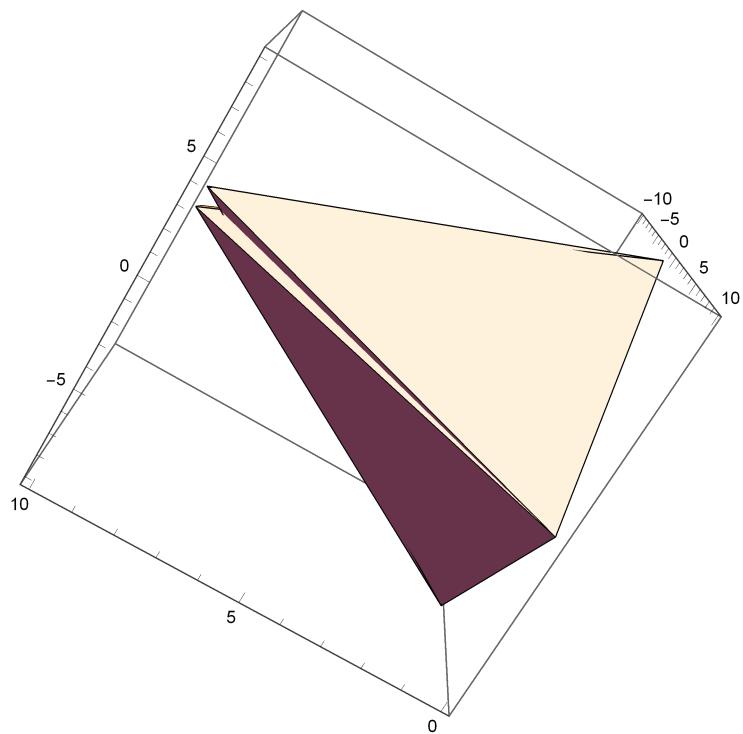
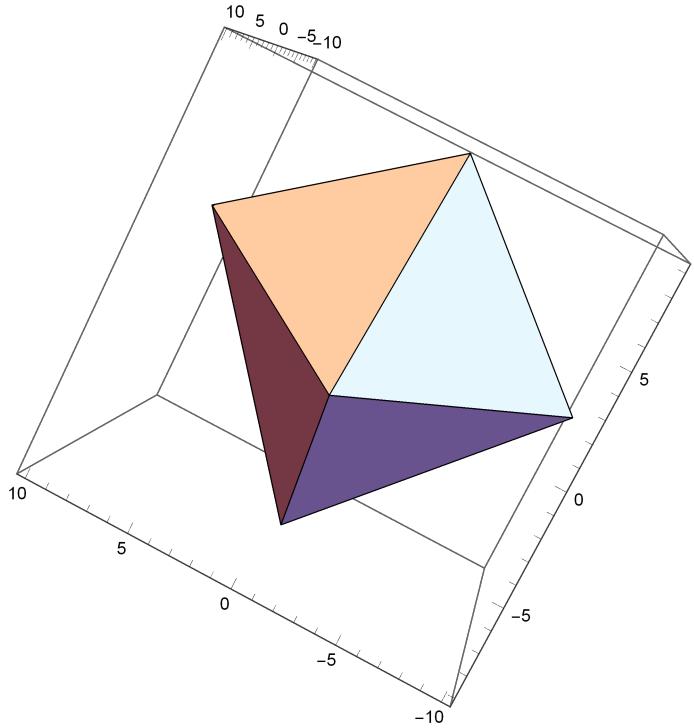
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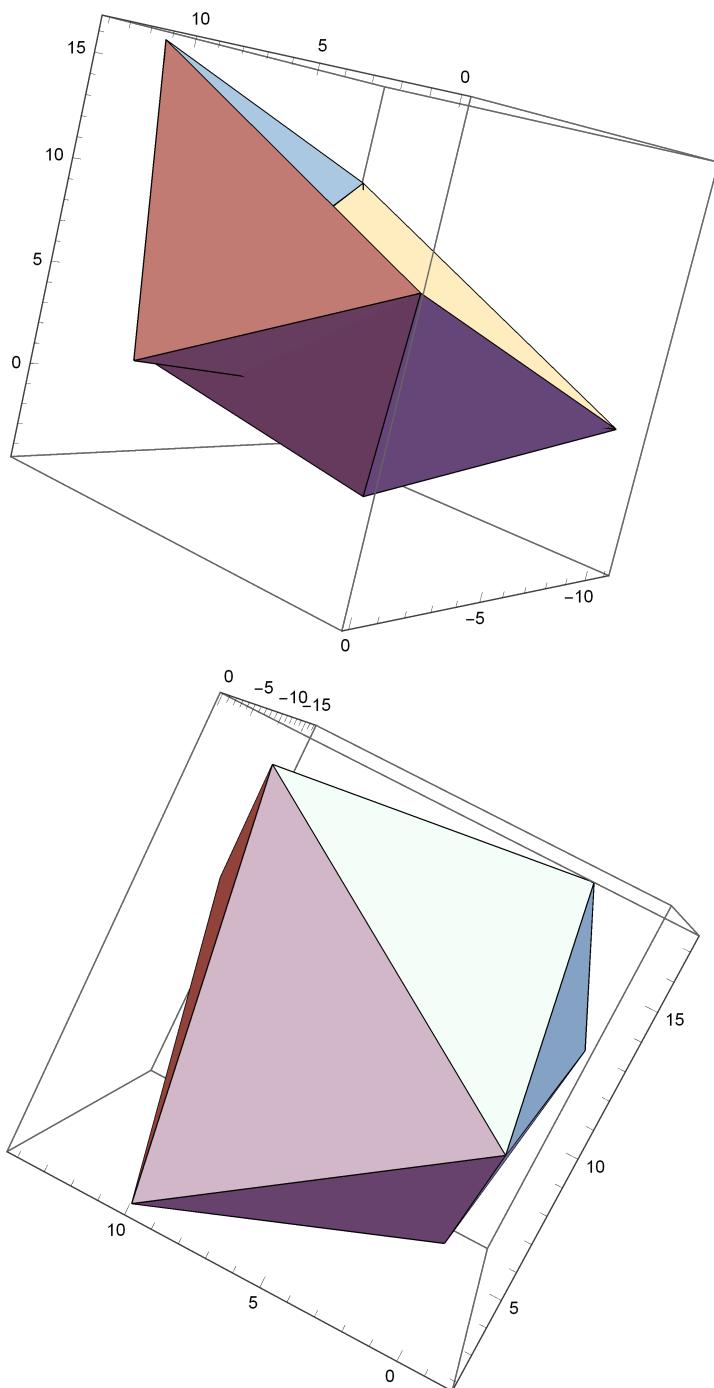
X5 = x5 /. sol;
X6 = x6 /. sol;
X7 = x7 /. sol;
Y1 = y1 /. sol;
Y2 = y2 /. sol;
Y3 = y3 /. sol;
Y4 = y4 /. sol;
Y5 = y5 /. sol;
Y6 = y6 /. sol;
Y7 = y7 /. sol;
Z1 = z1 /. sol;
Z2 = z2 /. sol;
Z3 = z3 /. sol;
Z4 = z4 /. sol;
Z5 = z5 /. sol;
Z6 = z6 /. sol;
Z7 = z7 /. sol;
x3 = 10; y3 = 0; z3 = 2;
x4 = 0; y4 = -10; z4 = 3;
x5 = 0; y5 = 0; z5 = 9;

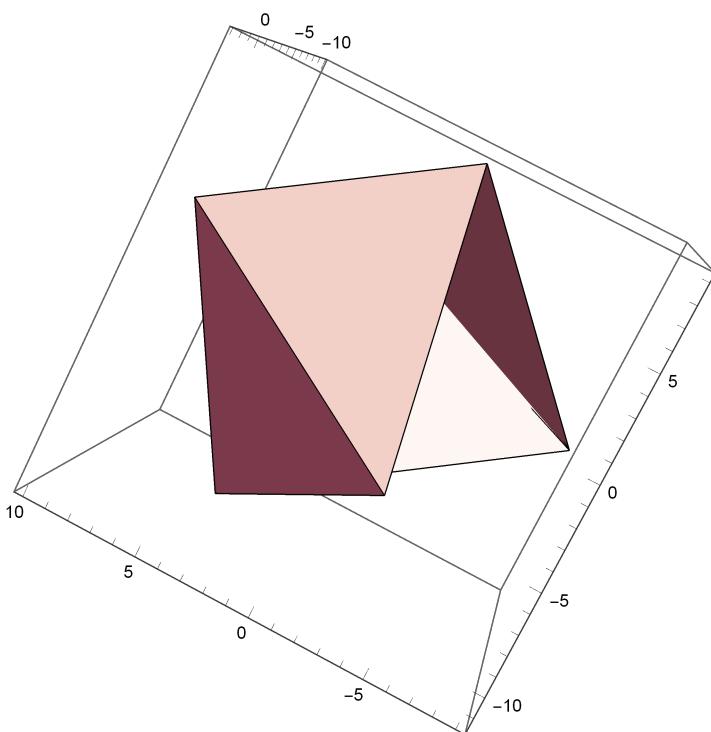
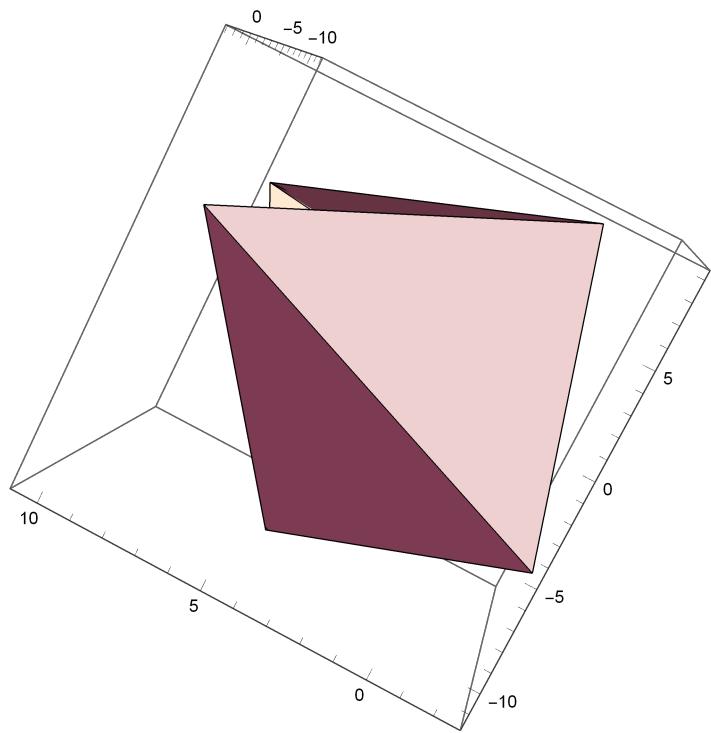
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      表格      长度      表格      长度
Y = {Y1, Y2, Table[y3, Length[X1]], Table[y4, Length[X1]],
      表格      长度      表格      长度
      Table[y5, Length[X1]], Y6, Y7};
      表格      长度
Z = {Z1, Z2, Table[z3, Length[X1]], Table[z4, Length[X1]],
      表格      长度      表格      长度
      Table[z5, Length[X1]], Z6, Z7};
      表格      长度
faces = {{1, 2, 5}, {1, 7, 5}, {3, 4, 5}, {2, 3, 5}, {1, 2, 6},
          {1, 7, 6}, {2, 3, 6}, {3, 4, 6}, {5, 7, 4}, {7, 4, 6}};

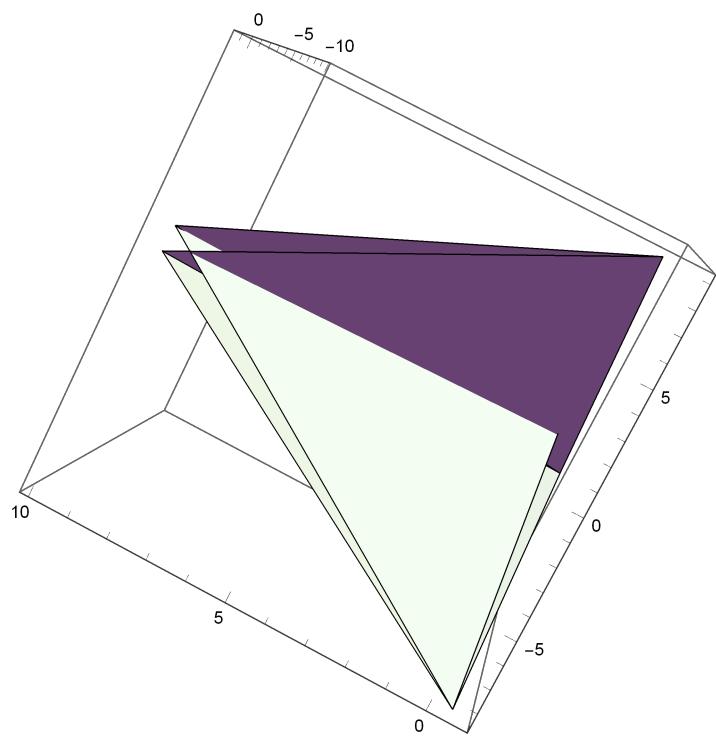
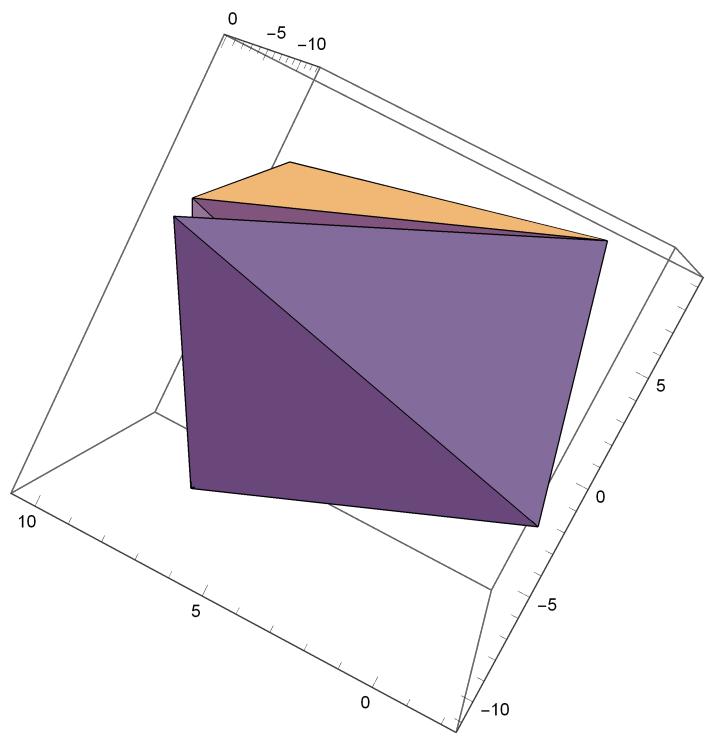
For[n = 1, n ≤ 20, n++, {Print[mesh =
      For循环      打印
      Table[{{X[[faces[[i, 1]], n]], Y[[faces[[i, 1]], n]], Z[[faces[[i, 1]], n]]},
            表格
            {X[[faces[[i, 2]], n]], Y[[faces[[i, 2]], n]], Z[[faces[[i, 2]], n]]}, {X[[faces[[i, 3]], n]], Y[[faces[[i, 3]], n]], Z[[faces[[i, 3]], n]]}}, {i, 10}];
      Graphics3D[Polygon[mesh], Axes -> True, BoxRatios -> {1, 1, 1}]}}];
      三维图形      多边形      坐标轴      真      边界框比例

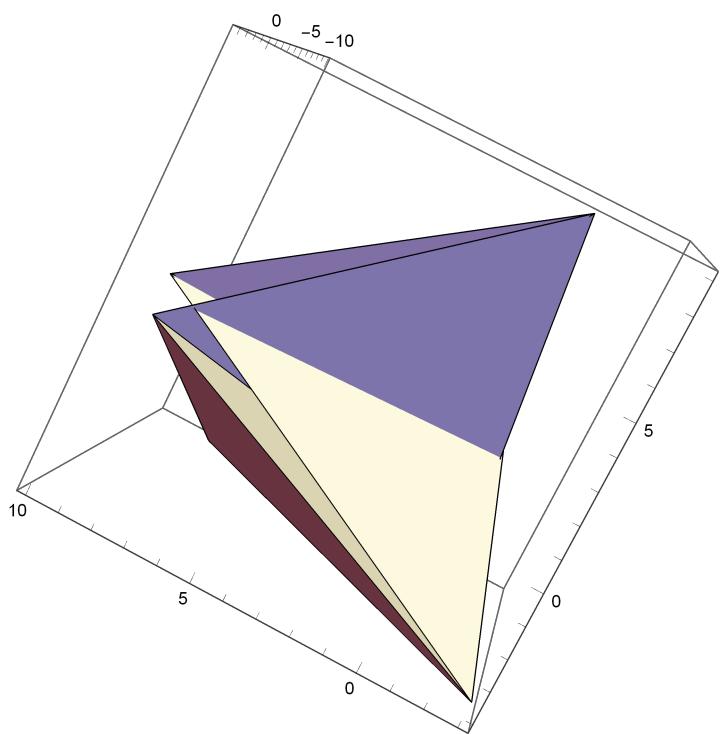
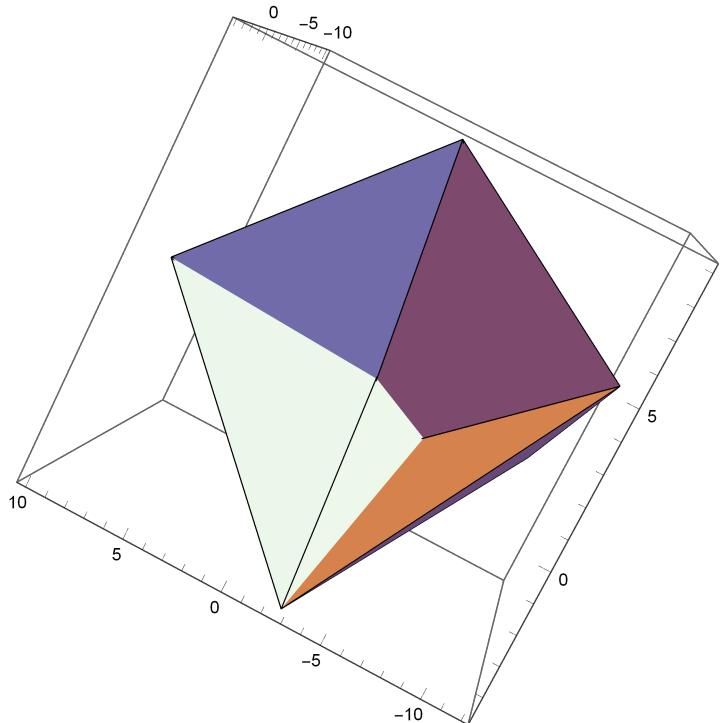
```

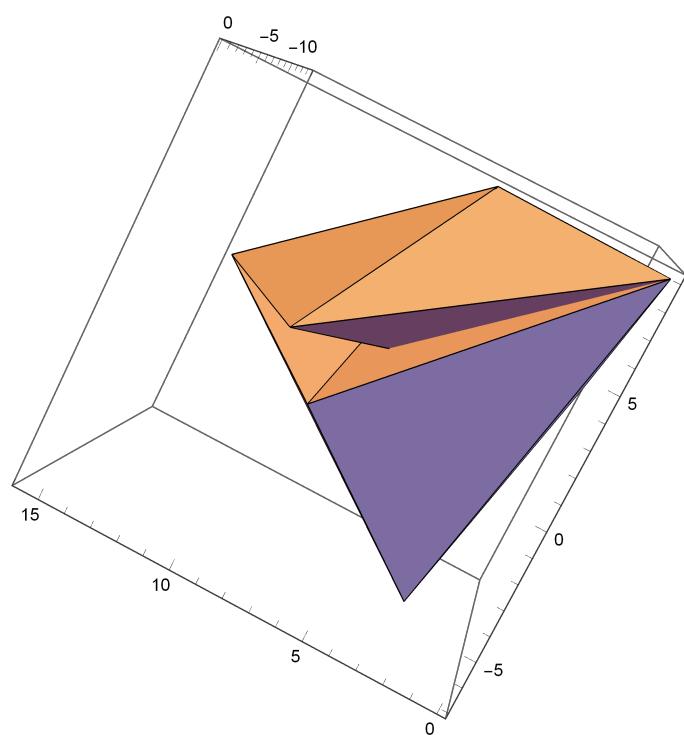
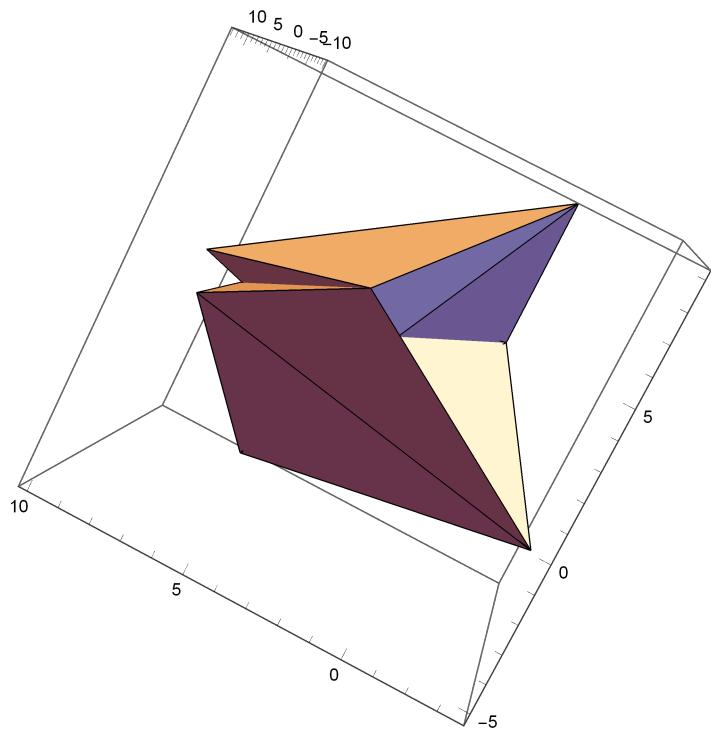


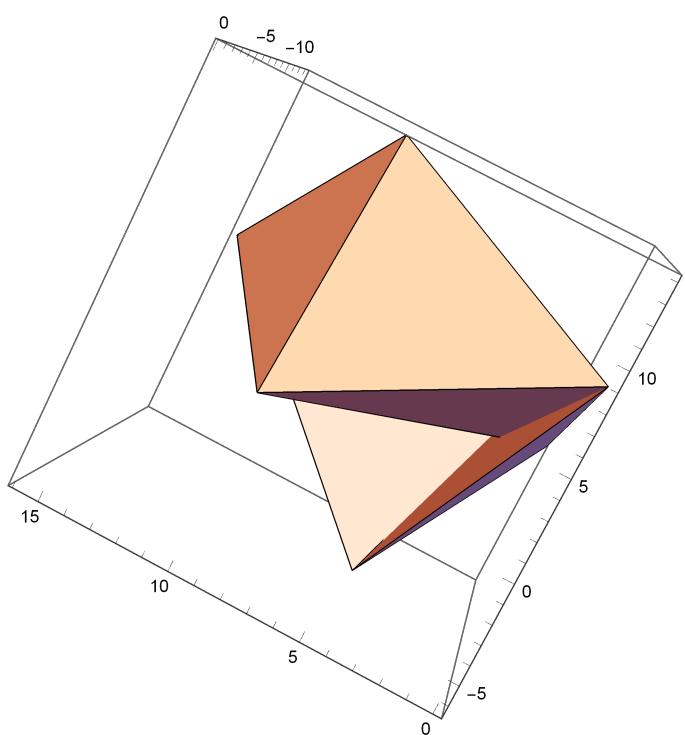
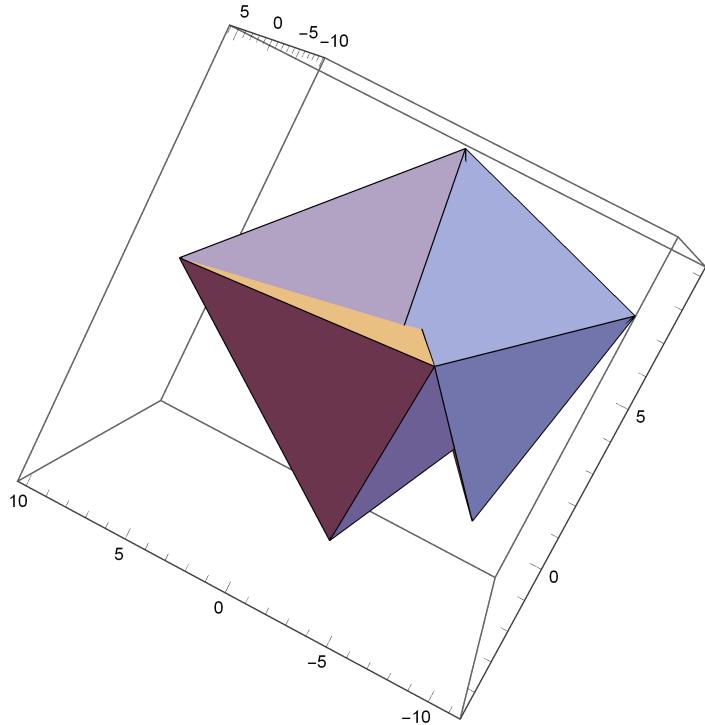


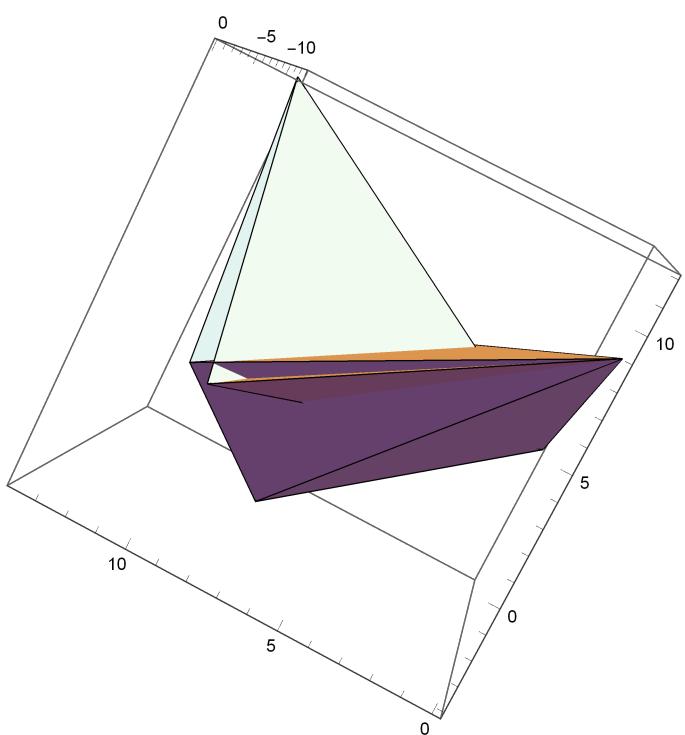
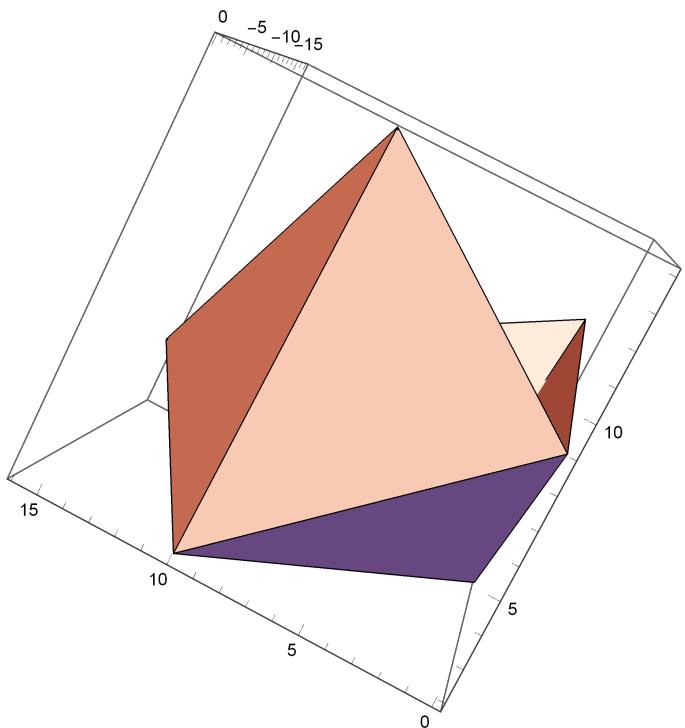


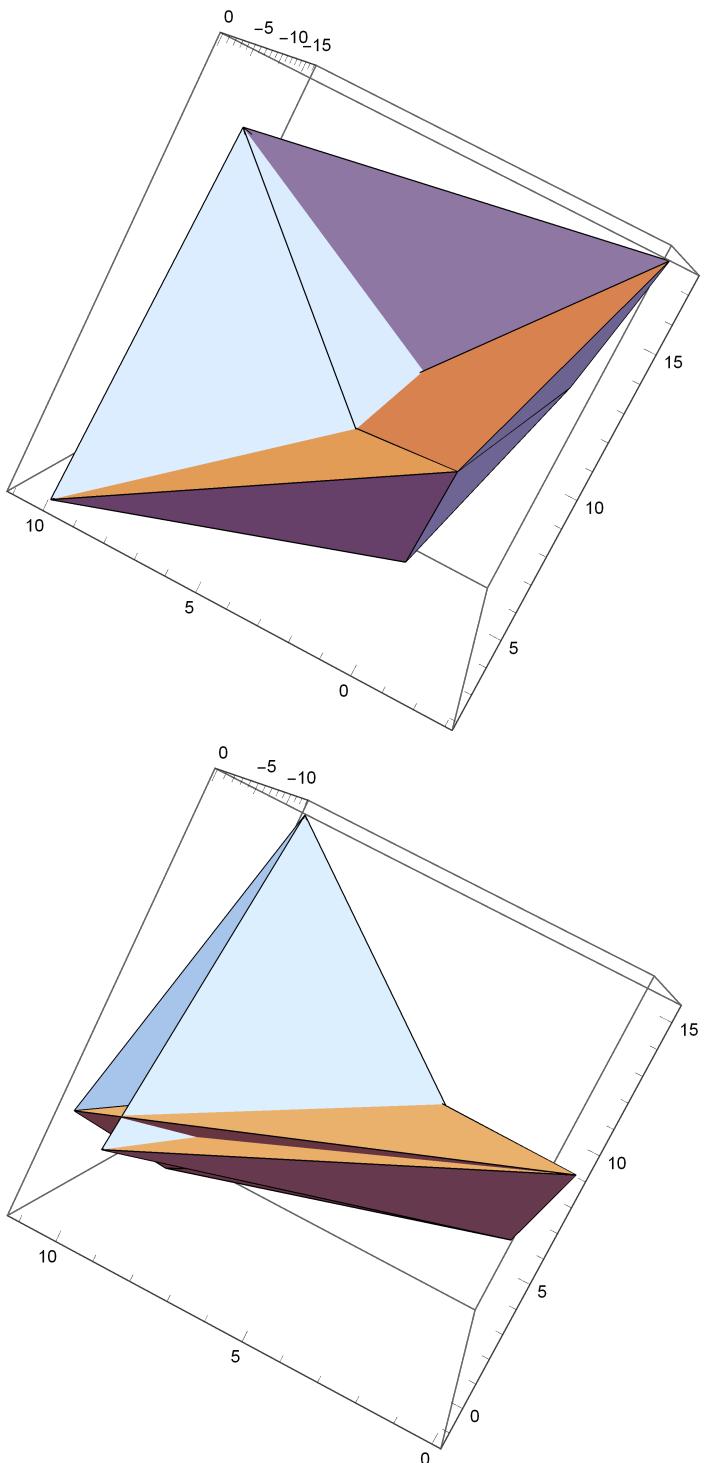


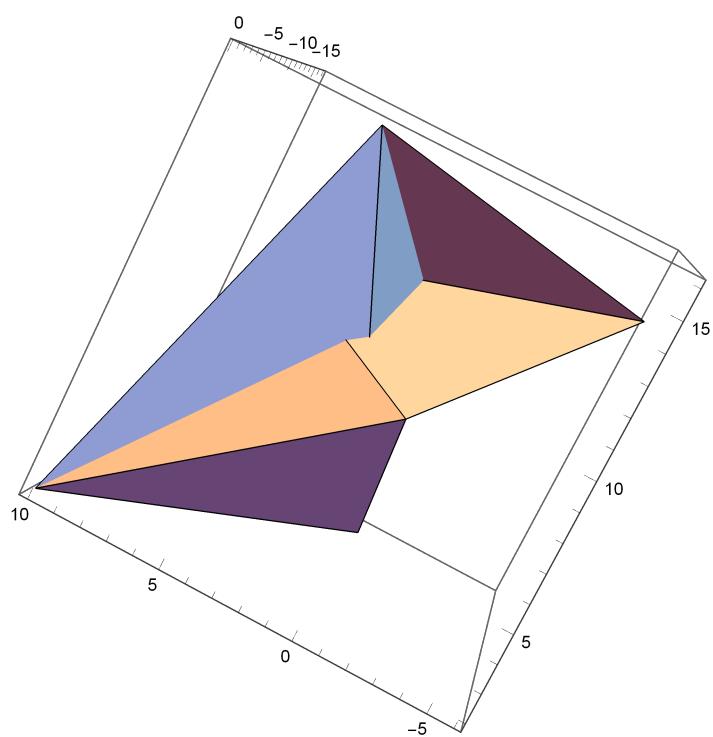
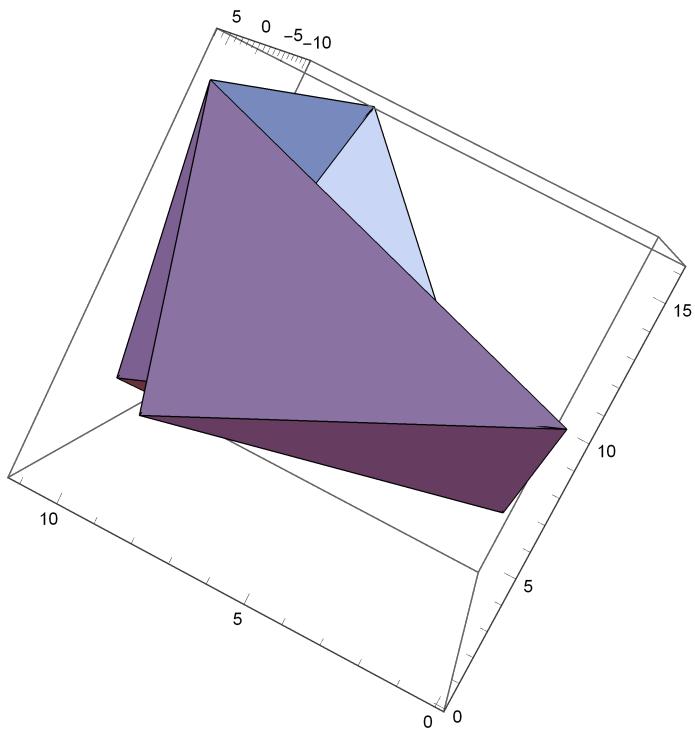












(\*只改变上面的一条边的边长·至于是否存在的对应的模型就不得而知了。一直在解。最后系统放弃了。\*)  
(\*faces=[[1 2 5];[1 7 5];[3 4 5];[2 3 5];[1 2 6];[1 7 6];[2 3 6];[3 4 6];[5 7 4];[7 4 6]];\*)  
Clear[x1, y1, x3, y3, z3, x4, y4, z4, x5, y5, z5];  
[清除]  
x3 = 10; y3 = 0; z3 = 2;  
x4 = 0; y4 = -10; z4 = 3;  
x5 = 0; y5 = 0; z5 = 9;  
x = Solve[(x1 - x2)^2 + (y1 - y2)^2 + (z1 - z2)^2 == 204 &&  
[解方程]  
(x1 - x7)^2 + (y1 - y7)^2 + (z1 - z7)^2 == 104 &&  
(x6 - x7)^2 + (y6 - y7)^2 + (z6 - z7)^2 == 285 &&  
(x5 - x7)^2 + (y5 - y7)^2 + (z5 - z7)^2 == 300 && (x4 - x7)^2 + (y4 - y7)^2 + (z4 - z7)^2 ==  
116 && (x1 - x5)^2 + (y1 - y5)^2 + (z1 - z5)^2 == 164 &&  
(x1 - x6)^2 + (y1 - y6)^2 + (z1 - z6)^2 == 201 && (x2 - x3)^2 + (y2 - y3)^2 + (z2 - z3)^2 ==  
209 && (x2 - x5)^2 + (y2 - y5)^2 + (z2 - z5)^2 == 200 &&  
(x2 - x6)^2 + (y2 - y6)^2 + (z2 - z6)^2 == 165 && (x3 - x6)^2 + (y3 - y6)^2 + (z3 - z6)^2 ==  
222 && (x4 - x6)^2 + (y4 - y6)^2 + (z4 - z6)^2 == 265,  
{x1, y1, z1, x2, y2, z2, x6, y6, z6, x7, y7, z7}] // FullSimplify  
[完全简化]  
N[x]  
[数值运算]  
Out[1]= \$Aborted  
(\*在上上的实验的基础上改变了一个点的位置。实解数依然为20·总解数依然为48。\*)  
(\*faces=[[1 2 5];[1 7 5];[3 4 5];[2 3 5];[1 2 6];[1 7 6];[2 3 6];[3 4 6];[5 7 4];[7 4 6]];\*)  
Clear[x1, y1, x3, y3, z3, x4, y4, z4, x5, y5, z5];  
[清除]  
x3 = 10; y3 = 0; z3 = 2;  
x4 = 0; y4 = -10; z4 = 3;  
x5 = 0; y5 = 0; z5 = 9;  
x = Solve[(x1 - x2)^2 + (y1 - y2)^2 + (z1 - z2)^2 == 281 &&  
[解方程]  
(x1 - x7)^2 + (y1 - y7)^2 + (z1 - z7)^2 == 104 &&  
(x6 - x7)^2 + (y6 - y7)^2 + (z6 - z7)^2 == 285 && (x5 - x7)^2 + (y5 - y7)^2 + (z5 - z7)^2 ==  
300 && (x4 - x7)^2 + (y4 - y7)^2 + (z4 - z7)^2 == 116 &&  
(x1 - x5)^2 + (y1 - y5)^2 + (z1 - z5)^2 == 164 && (x1 - x6)^2 + (y1 - y6)^2 + (z1 - z6)^2 ==  
201 && (x2 - x3)^2 + (y2 - y3)^2 + (z2 - z3)^2 == 264 &&  
(x2 - x5)^2 + (y2 - y5)^2 + (z2 - z5)^2 == 101 &&  
(x2 - x6)^2 + (y2 - y6)^2 + (z2 - z6)^2 == 442 && (x3 - x6)^2 + (y3 - y6)^2 + (z3 - z6)^2 ==  
222 && (x4 - x6)^2 + (y4 - y6)^2 + (z4 - z6)^2 == 265,  
{x1, y1, z1, x2, y2, z2, x6, y6, z6, x7, y7, z7}] // FullSimplify  
[完全简化]  
N[x]  
[数值运算]  
sol = {{x1 → -10.`, y1 → 0.`, z1 → 1.`, x2 → 0.`, y2 → 10.`, z2 → 10.`, x6 → 0.`, y6 → 1.`,  
z6 → -9.`, x7 → -10.`, y7 → -10.`, z7 → -1.`}, {x1 → 10.`, y1 → 0.`, z1 → 1.`, x2 → 0.`,  
y2 → 10.`, z2 → 10.`, x6 → 0.`, y6 → 1.`, z6 → -9.`, x7 → 10.`, y7 → -10.`, z7 → -1.`},  
{x1 → 10.756756756756756`, y1 → -0.6486486486486487`, z1 → 2.081081081081081`,  
x2 → 3.7837837837837838`, y2 → 6.756756756756757`, z2 → 15.405405405405405`,  
x6 → 14.075675675675676`, y6 → -11.064864864864864`, z6 → 11.108108108108109`,  
x7 → 7.72972972972973`, y7 → -8.054054054054054`, z7 → -4.243243243243243`},

```

{x1 → 1.3513513513513513` , y1 → -9.72972972972973` , z1 → 17.216216216216218` ,
x2 → 3.7837837837837838` , y2 → 6.756756756756757` , z2 → 15.405405405405405` ,
x6 → 14.075675675675676` , y6 → -11.064864864864864` , z6 → 11.108108108109` ,
x7 → -1.6756756756756757` , y7 → -17.135135135135137` , z7 → 10.891891891891891` },
{x1 → 0.6207984388717255` , y1 → -9.898590306527794` , z1 → 0.8986100426032811` ,
x2 → -5.191459502999972` , y2 → 5.7340156112946685` , z2 → 2.5836292814286117` ,
x6 → 6.045214087759098` , y6 → -5.2811379275729236` , z6 → -11.359238398135549` ,
x7 → -8.505915429995635` , y7 → -8.534667741888653` , z7 → -3.4422204301855794` },
{x1 → 0.8738121620573988` , y1 → -9.955111436693747` , z1 → 0.9917412261809417` ,
x2 → -5.253531129568874` , y2 → 5.575375063921729` , z2 → 2.4949555291873238` ,
x6 → 6.154667857943914` , y6 → -5.389460487425187` , z6 → -11.347926294813691` ,
x7 → 10.451161664724218` , y7 → -12.584342309308903` , z7 → 3.307237182181507` },
{x1 → 9.990068384001656` , y1 → 0.09890436821324872` , z1 → 0.9882117096793639` ,
x2 → -0.6894742567140533` , y2 → -10.026185672761722` , z2 → 9.01503677612278` ,
x6 → -0.32661845481299934` , y6 → 1.3612169354630208` , z6 → -8.654015193499864` ,
x7 → 9.89524307826819` , y7 → -9.850057759720132` , z7 → -1.2499037337997791` },
{x1 → 10.754429321069477` , y1 → -5.471855864691563` , z1 → 4.710356264890796` ,
x2 → -5.708758909789797` , y2 → -4.1485845438227775` , z2 → 1.8446301288717182` ,
x6 → 11.4529326012629` , y6 → -10.409059778215227` , z6 → -8.56127176952305` ,
x7 → 8.446117735167999` , y7 → -15.036017050381396` , z7 → 7.393361750635662` },
{x1 → 9.928423886522278` , y1 → 0.5317573188500113` , z1 → 0.9288394091442275` ,
x2 → 2.725578305343058` , y2 → 8.344044985848141` , z2 → 13.893683293347227` ,
x6 → -2.118908423714517` , y6 → 3.4225530426970567` , z6 → -5.963553810174606` ,
x7 → 8.98717152897559` , y7 → -8.900324807022852` , z7 → -2.8327919882952473` },
{x1 → 5.819186925482388` , y1 → -1.2416480970454862` , z1 → -2.339990014519332` ,
x2 → 0.8465332709466691` , y2 → -9.767406413025462` , z2 → 11.209333244209526` ,
x6 → 13.949308987421905` , y6 → -12.548810966351517` , z6 → -4.99501978929613` ,
x7 → -1.639372077629265` , y7 → -6.39131149655517` , z7 → -7.014480839074716` },
{x1 → -12.154787382433332` , y1 → -2.833667046395823` , z1 → 6.13094531979437` ,
x2 → 1.908521466793558` , y2 → -9.136249085716294` , z2 → 12.726459238276512` ,
x6 → -3.4689363631480616` , y6 → 5.201005768599868` , z6 → -1.679305945481943` ,
x7 → -10.158743173927547` , y7 → -10.25901289086637` , z7 → -0.5683118485560505` },
{x1 → -2.7154242536900797` , y1 → -8.55800064390133` , z1 → -0.13165352504441483` ,
x2 → 3.6911444997523906` , y2 → -6.929944135070745` , z2 → 15.273063571074843` ,
x6 → -3.6780349095058162` , y6 → 5.5852594459189415` , z6 → 0.0722453641312512` ,
x7 → 5.7362568478251665` , y7 → -7.1958195161634135` , z7 → -5.6736341397276435` },
{x1 → -0.006988909665062145` , y1 → -8.064187280087221` , z1 → -0.9483081308743728` ,
x2 → 3.7409972771095243` , y2 → -6.837764803260767` , z2 → 15.344281824442177` ,
x6 → -3.679733436810204` , y6 → 5.589369542890586` , z6 → 0.0963610608038195` ,
x7 → -10.01515035680608` , y7 → -10.022891219116046` , z7 → -0.9618479681399228` },
{x1 → 1.9510731121696598` , y1 → -10.8784779653614` , z1 → 2.530685440627029` ,
x2 → 4.983678502760584` , y2 → -3.1993760495035195` , z2 → 17.119540718229405` ,
x6 → 15.845681643087495` , y6 → -13.69604373183397` , z6 → 2.4963791125352532` ,
x7 → 3.5089357045602596` , y7 → -6.633862914882654` , z7 → -6.610228475195576` },
{x1 → 1.9282295809137622` , y1 → -11.019245571135254` , z1 → 2.766368816949048` ,
x2 → 5.017795865879724` , y2 → -3.0167747048879283` , z2 → 17.168279808399607` ,
x6 → 15.851953597071741` , y6 → -13.686914649840904` , z6 → 2.6503894723083583` ,
x7 → 1.5404547432308866` , y7 → -17.145842176082812` , z7 → 10.909736960138023` },
{x1 → 10.805915010718628` , y1 → -0.6003927404012975` , z1 → 2.153706890703608` ,
x2 → -4.888048678396198` , y2 → -6.42740759703417` , z2 → 3.0170733165768597` ,
x6 → 13.824262400541258` , y6 → -10.768109511983484` , z6 → 11.561528885577726` ,
x7 → 7.937663884998976` , y7 → -8.172132736917948` , z7 → -4.046445438470086` },
{x1 → 11.018394462868365` , y1 → -0.40250317516091916` , z1 → 2.485940232495778` ,
x2 → 1.367078001662045` , y2 → 9.508473817574725` , z2 → 11.952968573802922` ,
x6 → 11.881334898096402` , y6 → -8.577655518855158` , z6 → 14.036793792412423` ,

```

$x7 \rightarrow 9.139716311309684`$ ,  $y7 \rightarrow -9.03107747759493`$ ,  $z7 \rightarrow -2.6148708706751145`$ },  
{ $x1 \rightarrow -4.831496642919789`$ ,  $y1 \rightarrow -9.11077339455029`$ ,  $z1 \rightarrow 16.592789233385147`$ ,  
 $x2 \rightarrow -6.0708532375558955`$ ,  $y2 \rightarrow -2.2967850534167615`$ ,  $z2 \rightarrow 1.3273525177772918`$ ,  
 $x6 \rightarrow 8.811837045059349`$ ,  $y6 \rightarrow -5.325371438435056`$ ,  $z6 \rightarrow 15.86465606624293`$ ,  
 $x7 \rightarrow -2.1946166495493222`$ ,  $y7 \rightarrow -17.085407054619136`$ ,  $z7 \rightarrow 10.809011757698558`$ },  
{ $x1 \rightarrow 1.7476623207971318`$ ,  $y1 \rightarrow -12.383503422033225`$ ,  $z1 \rightarrow 6.244184438508745`$ ,  
 $x2 \rightarrow -6.157916950367365`$ ,  $y2 \rightarrow 1.5121085364604754`$ ,  $z2 \rightarrow 1.2029757851894776`$ ,  
 $x6 \rightarrow 7.56247786676654`$ ,  $y6 \rightarrow -4.049465790885935`$ ,  $z6 \rightarrow 16.130120758806047`$ ,  
 $x7 \rightarrow 10.534671816026664`$ ,  $y7 \rightarrow -11.308746631764697`$ ,  $z7 \rightarrow 1.1812443862744957`$ },  
{ $x1 \rightarrow 3.8635857927255417`$ ,  $y1 \rightarrow -11.381822739279167`$ ,  $z1 \rightarrow 4.581084301112204`$ ,  
 $x2 \rightarrow -6.1465131664177335`$ ,  $y2 \rightarrow 1.6372441483340254`$ ,  $z2 \rightarrow 1.2192669051175236`$ ,  
 $x6 \rightarrow 7.545295589663712`$ ,  $y6 \rightarrow -4.032083908372771`$ ,  $z6 \rightarrow 16.132116812909413`$ ,  
 $x7 \rightarrow -1.7220660968015549`$ ,  $y7 \rightarrow -17.131249156262783`$ ,  $z7 \rightarrow 10.88541526043797`$ },  
{ $x1 \rightarrow 20.38316099715815` + 236.75760169562423`i$ ,  
 $y1 \rightarrow 400.39830083357003` - 202.93508716767792`i$ ,  
 $z1 \rightarrow 234.97076780213132` + 338.22514527946316`i$ ,  
 $x2 \rightarrow 10.615283225313526` + 21.952640995008785`i$ ,  
 $y2 \rightarrow 39.32564763265989` - 18.816549424293246`i$ ,  
 $z2 \rightarrow 25.164690321876467` + 31.36091570715541`i$ ,  
 $x6 \rightarrow 28.92530809032674` - 23.0584734491298`i$ ,  
 $y6 \rightarrow -29.946893251754908` + 19.764405813539828`i$ ,  
 $z6 \rightarrow -29.21585161428166` - 32.94067635589971`i$ ,  
 $x7 \rightarrow 14.515650646769398` - 6.805358845029148`i$ ,  
 $y7 \rightarrow -7.281931417909451` + 5.8331647243106985`i$ ,  
 $z7 \rightarrow -5.530114303484249` - 9.721941207184496`i$ },  
{ $x1 \rightarrow 20.38316099715815` - 236.75760169562423`i$ ,  
 $y1 \rightarrow 400.39830083357003` + 202.93508716767792`i$ ,  
 $z1 \rightarrow 234.97076780213132` - 338.22514527946316`i$ ,  
 $x2 \rightarrow 10.615283225313526` - 21.952640995008785`i$ ,  
 $y2 \rightarrow 39.32564763265989` + 18.816549424293246`i$ ,  
 $z2 \rightarrow 25.164690321876467` - 31.36091570715541`i$ ,  
 $x6 \rightarrow 28.92530809032674` + 23.0584734491298`i$ ,  
 $y6 \rightarrow -29.946893251754908` - 19.764405813539828`i$ ,  
 $z6 \rightarrow -29.21585161428166` + 32.94067635589971`i$ ,  
 $x7 \rightarrow 14.515650646769398` + 6.805358845029148`i$ ,  
 $y7 \rightarrow -7.281931417909451` - 5.8331647243106985`i$ ,  
 $z7 \rightarrow -5.530114303484249` + 9.721941207184496`i$ },  
{ $x1 \rightarrow 58.99902034317488` - 35.55063150101045`i$ ,  
 $y1 \rightarrow 6.074051103098641` + 30.471969858008958`i$ ,  
 $z1 \rightarrow -28.65488357836323` - 50.78661643001493`i$ ,  
 $x2 \rightarrow -3.034643026999896` + 0.7504190697635449`i$ ,  
 $y2 \rightarrow -9.099090738642488` - 0.6432163455116099`i$ ,  
 $z2 \rightarrow 5.664795675714434` + 1.0720272425193498`i$ ,  
 $x6 \rightarrow 18.83374229278244` - 11.446577216101787`i$ ,  
 $y6 \rightarrow -18.45968537582682` + 9.811351899515817`i$ ,  
 $z6 \rightarrow -15.259430830443799` - 16.352253165859697`i$ ,  
 $x7 \rightarrow -82.91412167791863` + 49.47049634418687`i$ ,  
 $y7 \rightarrow -37.370537577004285` - 42.403282580731606`i$ ,  
 $z7 \rightarrow 44.61756262834047` + 70.67213763455267`i$ },  
{ $x1 \rightarrow 58.99902034317488` + 35.55063150101045`i$ ,  
 $y1 \rightarrow 6.074051103098641` - 30.471969858008958`i$ ,  
 $z1 \rightarrow -28.65488357836323` + 50.78661643001493`i$ ,  
 $x2 \rightarrow -3.034643026999896` - 0.7504190697635449`i$ ,  
 $y2 \rightarrow -9.099090738642488` + 0.6432163455116099`i$ ,  
 $z2 \rightarrow 5.664795675714434` - 1.0720272425193498`i$ ,

```

x6 → 18.83374229278244` + 11.446577216101787` i,
y6 → -18.45968537582682` - 9.811351899515817` i,
z6 → -15.259430830443799` + 16.352253165859697` i,
x7 → -82.91412167791863` - 49.47049634418687` i,
y7 → -37.370537577004285` + 42.403282580731606` i,
z7 → 44.61756262834047` - 70.67213763455267` i},
{x1 → 54.35455214603209` - 32.67744467276525` i,
y1 → 5.388358621804569` + 28.00923829094164` i,
z1 → -25.81517132913972` - 46.68206381823607` i,
x2 → -3.0330852284061014` + 0.7280555421737579` i,
y2 → -9.093564262678788` - 0.6240476075775068` i,
z2 → 5.6670211022769985` + 1.0400793459625113` i,
x6 → 18.580893563733632` - 11.131065504750062` i,
y6 → -18.171868205526582` + 9.540913289785767` i,
z6 → -14.909746417929494` - 15.901522149642943` i,
x7 → 172.13006028844342` - 103.17686054795273` i,
y7 → 41.39310685378399` + 88.43730904110234` i,
z7 → -86.65517808963999` - 147.3955150685039` i},
{x1 → 54.35455214603209` + 32.67744467276525` i,
y1 → 5.388358621804569` - 28.00923829094164` i,
z1 → -25.81517132913972` + 46.68206381823607` i,
x2 → -3.0330852284061014` - 0.7280555421737579` i,
y2 → -9.093564262678788` + 0.6240476075775068` i,
z2 → 5.6670211022769985` - 1.0400793459625113` i,
x6 → 18.580893563733632` + 11.131065504750062` i,
y6 → -18.171868205526582` - 9.540913289785767` i,
z6 → -14.909746417929494` + 15.901522149642943` i,
x7 → 172.13006028844342` + 103.17686054795273` i,
y7 → 41.39310685378399` - 88.43730904110234` i,
z7 → -86.65517808963999` + 147.3955150685039` i},
{x1 → 8.203282912763463` - 4.509107912106419` i,
y1 → -7.8619218138133675` + 3.991478791451892` i,
z1 → -1.613874025543672` - 6.4415859753504146` i,
x2 → -250.91500579418582` - 491.328264293212` i,
y2 → -856.8217452003632` + 436.70099511549944` i,
z2 → -348.4500082774083` - 701.8975204188743` i,
x6 → 17.276527385010606` - 9.462546440223196` i,
y6 → -16.687990942128135` + 8.11142033219371` i,
z6 → -13.114635571175292` - 13.511261080294881` i,
x7 → -8.131597430587131` - 22.320427845515237` i,
y7 → 0.8257601381220556` - 3.815928003653756` i,
z7 → -19.04293356353676` + 6.359880006089593` i},
{x1 → 8.203282912763463` + 4.509107912106419` i,
y1 → -7.8619218138133675` - 3.991478791451892` i,
z1 → -1.613874025543672` + 6.4415859753504146` i,
x2 → -250.91500579418582` + 491.328264293212` i,
y2 → -856.8217452003632` - 436.70099511549944` i,
z2 → -348.4500082774083` + 701.8975204188743` i,
x6 → 17.276527385010606` + 9.462546440223196` i,
y6 → -16.687990942128135` - 8.11142033219371` i,
z6 → -13.114635571175292` + 13.511261080294881` i,
x7 → -8.131597430587131` + 22.320427845515237` i,
y7 → 0.8257601381220556` + 3.815928003653756` i,
z7 → -19.04293356353676` - 6.359880006089593` i},
{x1 → 8.320143484466014` - 4.566561441501397` i,

```

```

y1 → - 7.9620880181298395` + 3.7876663687833796` i,
z1 → - 1.446930351682886` - 6.523655958375038` i,
x2 → - 236.53854563290548` - 498.3944727288373` i,
y2 → - 869.1444253386036` + 411.6327794748285` i,
z2 → - 327.9122080470078` - 711.992103898339` i,
x6 → 17.282787153090272` - 9.457807128898036` i,
y6 → - 16.69335645762499` + 8.10602558419592` i,
z6 → - 13.105693045347198` - 13.517815447021167` i,
x7 → 17.772570670466585` + 17.042153382266402` i,
y7 → - 21.37781251992399` + 8.340163257867044` i,
z7 → 17.96302086653998` - 13.900272096445073` i},
{x1 → 8.320143484466014` + 4.566561441501397` i,
y1 → - 7.9620880181298395` - 3.7876663687833796` i,
z1 → - 1.446930351682886` + 6.523655958375038` i,
x2 → - 236.53854563290548` + 498.3944727288373` i,
y2 → - 869.1444253386036` - 411.6327794748285` i,
z2 → - 327.9122080470078` + 711.992103898339` i,
x6 → 17.282787153090272` + 9.457807128898036` i,
y6 → - 16.69335645762499` - 8.10602558419592` i,
z6 → - 13.105693045347198` + 13.517815447021167` i,
x7 → 17.772570670466585` - 17.042153382266402` i,
y7 → - 21.37781251992399` - 8.340163257867044` i,
z7 → 17.96302086653998` + 13.900272096445073` i},
{x1 → - 17.560441775546835` - 0.32237930772882234` i,
y1 → - 0.5681086317891179` + 5.5975312327320506` i,
z1 → 9.233084474978183` - 10.64471262284225` i,
x2 → - 1.7730838809782057` - 2.5532086644297793` i,
y2 → - 10.780068711679` + 0.9386300201923506` i,
z2 → 7.467023027173992` - 3.6474409491853987` i,
x6 → - 10.624820553695612` + 2.7131061081214174` i,
y6 → 12.133146739184507` - 4.602705071436097` i,
z6 → - 3.9167381451110477` - 18.8959896331468` i,
x7 → - 10.546261892239785` - 0.09910806300716332` i,
y7 → - 12.363899799308896` + 0.4617466324220927` i,
z7 → 2.9398329988481597` - 0.7695777207034878` i},
{x1 → - 17.560441775546835` + 0.32237930772882234` i,
y1 → - 0.5681086317891179` - 5.5975312327320506` i,
z1 → 9.233084474978183` + 10.64471262284225` i,
x2 → - 1.7730838809782057` + 2.5532086644297793` i,
y2 → - 10.780068711679` - 0.9386300201923506` i,
z2 → 7.467023027173992` + 3.6474409491853987` i,
x6 → - 10.624820553695612` - 2.7131061081214174` i,
y6 → 12.133146739184507` + 4.602705071436097` i,
z6 → - 3.9167381451110477` + 18.8959896331468` i,
x7 → - 10.546261892239785` + 0.09910806300716332` i,
y7 → - 12.363899799308896` - 0.4617466324220927` i,
z7 → 2.9398329988481597` + 0.7695777207034878` i},
{x1 → 9.840794741543823` + 0.7950500304844016` i,
y1 → 0.4581383544917974` + 0.9774097308895278` i,
z1 → 0.662105151997139` + 0.9920625284702937` i,
x2 → 1.808865618671306` - 3.2214740613349813` i,
y2 → - 10.980526665123227` - 2.03283439415847` i,
z2 → 12.584093740959009` - 4.602105801907117` i,
x6 → - 4.100679602413564` + 0.023556594277242965` i,
y6 → 6.127000823166374` - 0.40755534835120316` i,

```

$z_6 \rightarrow 1.2632122075280998` - 3.8399875407396022` i,$   
 $x_7 \rightarrow 6.064240547758782` + 3.3110183574474212` i,$   
 $y_7 \rightarrow -6.872620107028398` - 1.0864444803887998` i,$   
 $z_7 \rightarrow -6.212299821619337` + 1.8107408006479995` i},$   
{ $x_1 \rightarrow 9.840794741543823` - 0.7950500304844016` i,$   
 $y_1 \rightarrow 0.4581383544917974` - 0.9774097308895278` i,$   
 $z_1 \rightarrow 0.662105151997139` - 0.9920625284702937` i,$   
 $x_2 \rightarrow 1.808865618671306` + 3.2214740613349813` i,$   
 $y_2 \rightarrow -10.980526665123227` + 2.03283439415847` i,$   
 $z_2 \rightarrow 12.584093740959009` + 4.602105801907117` i,$   
 $x_6 \rightarrow -4.100679602413564` - 0.023556594277242965` i,$   
 $y_6 \rightarrow 6.127000823166374` + 0.40755534835120316` i,$   
 $z_6 \rightarrow 1.2632122075280998` + 3.8399875407396022` i,$   
 $x_7 \rightarrow 6.064240547758782` - 3.3110183574474212` i,$   
 $y_7 \rightarrow -6.872620107028398` + 1.0864444803887998` i,$   
 $z_7 \rightarrow -6.212299821619337` - 1.8107408006479995` i},$   
{ $x_1 \rightarrow -11.425811239400275` + 12.015892934187532` i,$   
 $y_1 \rightarrow -20.551479888037075` - 0.8843330271446972` i,$   
 $z_1 \rightarrow 15.96730891680501` + 17.096553854512077` i,$   
 $x_2 \rightarrow -4.783760320532177` + 46.521339160116064` i,$   
 $y_2 \rightarrow -81.73656880989638` - 7.466245651864932` i,$   
 $z_2 \rightarrow 3.166056684954033` + 66.45905594302295` i,$   
 $x_6 \rightarrow -1.1534678683154533` - 1.1909015930782871` i,$   
 $y_6 \rightarrow 4.181300871004861` + 1.0025627528577568` i,$   
 $z_6 \rightarrow 11.27833002689408` - 1.8833884022053036` i,$   
 $x_7 \rightarrow -24.228290062222563` + 7.071872562276715` i,$   
 $y_7 \rightarrow -15.764743579452528` - 11.338528565363555` i,$   
 $z_7 \rightarrow 8.607905965754211` + 18.897547608939256` i},$   
{ $x_1 \rightarrow -11.425811239400275` - 12.015892934187532` i,$   
 $y_1 \rightarrow -20.551479888037075` + 0.8843330271446972` i,$   
 $z_1 \rightarrow 15.96730891680501` - 17.096553854512077` i,$   
 $x_2 \rightarrow -4.783760320532177` - 46.521339160116064` i,$   
 $y_2 \rightarrow -81.73656880989638` + 7.466245651864932` i,$   
 $z_2 \rightarrow 3.166056684954033` - 66.45905594302295` i,$   
 $x_6 \rightarrow -1.1534678683154533` + 1.1909015930782871` i,$   
 $y_6 \rightarrow 4.181300871004861` - 1.0025627528577568` i,$   
 $z_6 \rightarrow 11.27833002689408` + 1.8833884022053036` i,$   
 $x_7 \rightarrow -24.228290062222563` - 7.071872562276715` i,$   
 $y_7 \rightarrow -15.764743579452528` + 11.338528565363555` i,$   
 $z_7 \rightarrow 8.607905965754211` - 18.897547608939256` i},$   
{ $x_1 \rightarrow -4.231195563099739` + 30.035689242470955` i,$   
 $y_1 \rightarrow -52.36674484415475` - 25.744876493546535` i,$   
 $z_1 \rightarrow -19.458210012323033` + 42.90812748924422` i,$   
 $x_2 \rightarrow 126.7689686729348` - 258.8063395415744` i,$   
 $y_2 \rightarrow 451.3946745777925` + 221.83400532134948` i,$   
 $z_2 \rightarrow 191.09852667562114` - 369.72334220224917` i,$   
 $x_6 \rightarrow -1.1033085236165028` - 2.6026850419575926` i,$   
 $y_6 \rightarrow 4.23461714922304` + 2.230872893106508` i,$   
 $z_6 \rightarrow 12.313086256065377` - 3.718121488510847` i,$   
 $x_7 \rightarrow -13.896087034682585` + 6.322238157158063` i,$   
 $y_7 \rightarrow -16.05614452541668` - 5.4190612775640545` i,$   
 $z_7 \rightarrow 9.093574209027802` + 9.03176879594009` i},$   
{ $x_1 \rightarrow -4.231195563099739` - 30.035689242470955` i,$   
 $y_1 \rightarrow -52.36674484415475` + 25.744876493546535` i,$   
 $z_1 \rightarrow -19.458210012323033` - 42.90812748924422` i,$

```

x2 → 126.7689686729348` + 258.8063395415744` i,
y2 → 451.3946745777925` - 221.83400532134948` i,
z2 → 191.09852667562114` + 369.72334220224917` i,
x6 → -1.1033085236165028` + 2.6026850419575926` i,
y6 → 4.23461714922304` - 2.230872893106508` i,
z6 → 12.313086256065377` + 3.718121488510847` i,
x7 → -13.896087034682585` - 6.322238157158063` i,
y7 → -16.05614452541668` + 5.4190612775640545` i,
z7 → 9.093574209027802` - 9.03176879594009` i},
{x1 → -19.97726019878724` + 7.688750425067731` i,
y1 → -13.221666494276818` - 16.005361280788385` i,
z1 → 3.7509532605379157` + 11.052936658709726` i,
x2 → -34.947604669249515` + 31.805815999187942` i,
y2 → -55.881845082424384` - 59.67131591325279` i,
z2 → -39.92514952749931` + 45.43687999883992` i,
x6 → -0.3680466764551744` - 1.3204389673026113` i,
y6 → 3.5080827065531937` + 1.1500148703258704` i,
z6 → 12.400360300980193` - 1.7042409697674086` i,
x7 → -18.25517043942143` + 16.123460280129517` i,
y7 → -20.884560398996353` - 8.543185299556072` i,
z7 → 17.140933998327256` + 14.238642165926786` i},
{x1 → -19.97726019878724` - 7.688750425067731` i,
y1 → -13.221666494276818` + 16.005361280788385` i,
z1 → 3.7509532605379157` - 11.052936658709726` i,
x2 → -34.947604669249515` - 31.805815999187942` i,
y2 → -55.881845082424384` + 59.67131591325279` i,
z2 → -39.92514952749931` - 45.43687999883992` i,
x6 → -0.3680466764551744` + 1.3204389673026113` i,
y6 → 3.5080827065531937` - 1.1500148703258704` i,
z6 → 12.400360300980193` + 1.7042409697674086` i,
x7 → -18.25517043942143` - 16.123460280129517` i,
y7 → -20.884560398996353` + 8.543185299556072` i,
z7 → 17.140933998327256` - 14.238642165926786` i},
{x1 → 0.16375086642530115` - 23.367308147178896` i,
y1 → 40.50306110770937` + 20.029121269010485` i,
z1 → 33.187211058127914` - 33.38186878168414` i,
x2 → 31.21615431823711` - 64.25557257504882` i,
y2 → 112.40969031946022` + 55.07620506432756` i,
z2 → 54.59450616891016` - 91.79367510721261` i,
x6 → -1.3695681811521219` - 3.333263243112406` i,
y6 → 4.537699950885926` + 2.8570827798106335` i,
z6 → 12.681317697338041` - 4.761804633017722` i,
x7 → 17.995264504835713` + 9.33120229762247` i,
y7 → -6.2073447852713235` - 7.998173397962118` i,
z7 → -7.321092024547794` + 13.33028899660353` i},
{x1 → 0.16375086642530115` + 23.367308147178896` i,
y1 → 40.50306110770937` - 20.029121269010485` i,
z1 → 33.187211058127914` + 33.38186878168414` i,
x2 → 31.21615431823711` + 64.25557257504882` i,
y2 → 112.40969031946022` - 55.07620506432756` i,
z2 → 54.59450616891016` + 91.79367510721261` i,
x6 → -1.3695681811521219` + 3.333263243112406` i,
y6 → 4.537699950885926` - 2.8570827798106335` i,
z6 → 12.681317697338041` + 4.761804633017722` i,
x7 → 17.995264504835713` - 9.33120229762247` i,

```

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y7 → - 6.2073447852713235` + 7.998173397962118` i,
z7 → - 7.321092024547794` - 13.33028899660353` i},
{x1 → 7.541475725784281` + 6.09589490044473` i,
y1 → - 10.588528623860626` - 5.225052771809769` i,
z1 → - 2.6321501823653715` + 8.708421286349614` i,
x2 → 26.624244550978116` - 54.878420292989176` i,
y2 → 96.11934376418426` + 47.0386459654193` i,
z2 → 48.03463507282588` - 78.39774327569883` i,
x6 → - 1.4450002243168052` - 3.516811657422815` i,
y6 → 4.623564085126576` + 3.0144099920766982` i,
z6 → 12.78563860809771` - 5.024016653461164` i,
x7 → 17.399467612985134` + 8.914787055622424` i,
y7 → - 6.391340884225179` - 7.641246047676364` i,
z7 → - 7.014431859624702` + 12.735410079460607` i},
{x1 → 7.541475725784281` - 6.09589490044473` i,
y1 → - 10.588528623860626` + 5.225052771809769` i,
z1 → - 2.6321501823653715` - 8.708421286349614` i,
x2 → 26.624244550978116` + 54.878420292989176` i,
y2 → 96.11934376418426` - 47.0386459654193` i,
z2 → 48.03463507282588` + 78.39774327569883` i,
x6 → - 1.4450002243168052` + 3.516811657422815` i,
y6 → 4.623564085126576` - 3.0144099920766982` i,
z6 → 12.78563860809771` + 5.024016653461164` i,
x7 → 17.399467612985134` - 8.914787055622424` i,
y7 → - 6.391340884225179` + 7.641246047676364` i,
z7 → - 7.014431859624702` - 12.735410079460607` i},
{x1 → 11.145611043308238` - 0.06693522195147104` i,
y1 → - 0.6602756184491302` - 1.6015081382034682` i,
z1 → 2.5261284402320183` + 0.048101483719607` i,
x2 → - 6.847384079893019` - 1.0446944855218456` i,
y2 → - 3.560884066353805` + 5.689550291464322` i,
z2 → 0.21802274300997224` - 1.4924206936026365` i,
x6 → 6.7084282955787105` - 2.7319623251035856` i,
y6 → - 3.1379488036841465` + 2.7290459747737827` i,
z6 → 16.704794918945634` - 0.02916350329803046` i,
x7 → 11.243301695628842` + 0.3065213586240728` i,
y7 → - 11.311815376631307` - 2.014303847672481` i,
z7 → 1.1863589610521772` + 3.357173079454135` i},
{x1 → 11.145611043308238` + 0.06693522195147104` i,
y1 → - 0.6602756184491302` + 1.6015081382034682` i,
z1 → 2.5261284402320183` - 0.048101483719607` i,
x2 → - 6.847384079893019` + 1.0446944855218456` i,
y2 → - 3.560884066353805` - 5.689550291464322` i,
z2 → 0.21802274300997224` + 1.4924206936026365` i,
x6 → 6.7084282955787105` + 2.7319623251035856` i,
y6 → - 3.1379488036841465` - 2.7290459747737827` i,
z6 → 16.704794918945634` + 0.02916350329803046` i,
x7 → 11.243301695628842` - 0.3065213586240728` i,
y7 → - 11.311815376631307` + 2.014303847672481` i,
z7 → 1.1863589610521772` - 3.357173079454135` i},
{x1 → - 8.692493978593546` + 10.445434545810809` i,
y1 → - 8.169206743463365` - 3.632023498873348` i,
z1 → 21.901581327768596` + 4.737878596500081` i,
x2 → - 4.568471855299993` + 1.9857162204147163` i,
y2 → - 8.38402187654604` - 2.951877023960074` i,

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z2 → 3.4736116352857236` + 2.836737457735309` i,
x6 → 10.287396098570417` + 13.485684075926939` i,
y6 → -5.791610391329232` - 13.836343329555115` i,
z6 → 25.95785707241185` - 3.5065925362817736` i,
x7 → -5.987399933002978` + 0.7454334948125453` i,
y7 → -16.271495764369018` - 0.2621461314233718` i,
z7 → 9.452492940615027` + 0.436910219038953` i},
{x1 → -8.692493978593546` - 10.445434545810809` i,
y1 → -8.169206743463365` + 3.632023498873348` i,
z1 → 21.901581327768596` - 4.737878596500081` i,
x2 → -4.568471855299993` - 1.9857162204147163` i,
y2 → -8.38402187654604` + 2.951877023960074` i,
z2 → 3.4736116352857236` - 2.836737457735309` i,
x6 → 10.287396098570417` - 13.485684075926939` i,
y6 → -5.791610391329232` + 13.836343329555115` i,
z6 → 25.95785707241185` + 3.5065925362817736` i,
x7 → -5.987399933002978` - 0.7454334948125453` i,
y7 → -16.271495764369018` + 0.2621461314233718` i,
z7 → 9.452492940615027` - 0.436910219038953` i}}};

X1 = x1 /. sol;
X2 = x2 /. sol;
X3 = x3 /. sol;
X4 = x4 /. sol;
X5 = x5 /. sol;
X6 = x6 /. sol;
X7 = x7 /. sol;
Y1 = y1 /. sol;
Y2 = y2 /. sol;
Y3 = y3 /. sol;
Y4 = y4 /. sol;
Y5 = y5 /. sol;
Y6 = y6 /. sol;
Y7 = y7 /. sol;
Z1 = z1 /. sol;
Z2 = z2 /. sol;
Z3 = z3 /. sol;
Z4 = z4 /. sol;
Z5 = z5 /. sol;
Z6 = z6 /. sol;
Z7 = z7 /. sol;
x3 = 10; y3 = 0; z3 = 2;
x4 = 0; y4 = -10; z4 = 3;
x5 = 0; y5 = 0; z5 = 9;
X = {X1, X2, Table[x3, Length[X1]],
      [表格] [长度]
Table[x4, Length[X1]], Table[x5, Length[X1]], X6, X7};
      [表格] [长度] [表格] [长度]
Y = {Y1, Y2, Table[y3, Length[X1]], Table[y4, Length[X1]],
      [表格] [长度] [表格] [长度]
Table[y5, Length[X1]], Y6, Y7};
      [表格] [长度]
Z = {Z1, Z2, Table[z3, Length[X1]], Table[z4, Length[X1]],
      [表格] [长度] [表格] [长度]
Table[z5, Length[X1]], Z6, Z7};
      [表格] [长度]

```

```

faces = {{1, 2, 5}, {1, 7, 5}, {3, 4, 5}, {2, 3, 5}, {1, 2, 6},
{1, 7, 6}, {2, 3, 6}, {3, 4, 6}, {5, 7, 4}, {7, 4, 6}};
(*将结果画图*)
For[n = 1, n <= 20, n++, {Print[mesh =
 $\text{For 循环}$ 
 $\text{打印}$ 
Table[{{X[[faces[[i, 1]], n]], Y[[faces[[i, 1]], n]], Z[[faces[[i, 1]], n]]}, {X[[faces[[i, 2]], n]], Y[[faces[[i, 2]], n]], Z[[faces[[i, 2]], n]]}, {X[[faces[[i, 3]], n]], Y[[faces[[i, 3]], n]], Z[[faces[[i, 3]], n]]}}, {i, 10}]];
Graphics3D[Polygon[mesh], Axes -> True, BoxRatios -> {1, 1, 1}]]}];
 $\text{三维图形}$ 
 $\text{多边形}$ 
 $\text{坐标轴}$ 
 $\text{真}$ 
 $\text{边界框比例}$ 

```

