```
Exit[];

n = 3; m = (3 * n + 7) / 2;

x[i_] := 1 / (n - 1) * (i - 1)

Table[x[i], {i, n}]
```

$$\left\{0, \frac{1}{2}, 1\right\}$$

Transpose[A[i,j]] beinhaltet den j-ten Kooeffizienten der Gleichung an der Stelle x_i
i=1 .. n+2
j=1 .. m
M[j,i] beinhaltet den j-ten Koeffizient des i-ten Polynom
M1 ist der quadratische Anteil von M. M2 ist der Rest.
Die Gleichung M*A=1 wird nach M1(M2) aufgelöst

```
M2 = Table[m2[j, i], {j, m - n - 2}, {i, n + 2}];

Transpose[A].M // MatrixForm
```

Dot::dotsh : Tensors

$$\left\{\{1, 0, 0, 0, 0, 0, 0, 0\}, \left\{1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \frac{1}{64}, \frac{1}{128}\right\}, \{1, 1, 1, 1, 1, 1, 1, 1\}, \{0, 1, 0, 0, 0, 0, 0, 0\}, \{0, 1, 2, 3, 4, 5, 6, 7\}\right\}$$ and

{{m1z1s1, m1z1s2, m1z1s3}, {m1z2s1, m1z2s2, m1z2s3}, ≪1≫, {m2z1s1, m2z1s2, m2z1s3}, {m2z2s1, m2z2s2, m2z2s3}} have incompatible shapes. ≫

$$\left\{\{1, 0, 0, 0, 0, 0, 0, 0\}, \left\{1, \frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \frac{1}{64}, \frac{1}{128}\right\}, \{1, 1, 1, 1, 1, 1, 1, 1\}, \{0, 1, 0, 0, 0, 0, 0, 0\}, \{0, 1, 2, 3, 4, 5, 6, 7\}\right\}.$$
$$\{\{m1z1s1, m1z1s2, m1z1s3\}, \{m1z2s1, m1z2s2, m1z2s3\}, \{m1z3s1, m1z3s2, m1z3s3\}, \{m2z1s1, m2z1s2, m2z1s3\}, \{m2z2s1, m2z2s2, m2z2s3\}\}$$

```
A = Transpose[Join[Table[Table[If[j == 0, 1, x[i]^j], {j, 0, m - 1}], {i, n}],
     Table[Table[If[j == 0, 0, If[j == 1, 1, j * i]], {j, 0, m - 1}], {i, 0, 1}]]];
M2 = Table[m2[j, i], {j, m - n - 2}, {i, n + 2}];
M1 = Inverse[Transpose[A[[1 ;; n + 2]]]].
    (IdentityMatrix[n + 2] - Transpose[A[[n + 3 ;; m]]].M2);
M = Join[M1, M2]; M // MatrixForm
```

$$\begin{pmatrix}
1 \\
0 \\
-11 - 5\,m2[1,1] - 6\,m2[2,1] - 7\,m2[3,1] - 5\,(-m2[1,1] - m2[2,1] - m2[3,1] - m2[4,1]) + 16\left(-\frac{1}{3}\right. \\
18 - 3\,(-5\,m2[1,1] - 6\,m2[2,1] - 7\,m2[3,1] - 8\,m2[4,1]) + 14\,(-m2[1,1] - m2[2,1] - m2[3,1] - m \\
-8 + 2\,(-5\,m2[1,1] - 6\,m2[2,1] - 7\,m2[3,1] - 8\,m2[4,1]) - 8\,(-m2[1,1] - m2[2,1] - m2[3,1] - m2 \\
m2[1,1] \\
m2[2,1] \\
m2[3,1] \\
m2[4,1]
\end{pmatrix}$$

```
Flatten[Simplify[Transpose[A].M - IdentityMatrix[n + 2]]] // MatrixForm
```

$$\begin{pmatrix}
-1 + m1z1s1 \\
m1z1s2 \\
m1z1s3 \\
m1z1s4 \\
m1z1s5 \\
\frac{1}{128}\,(128\,m1z1s1 + 64\,m1z2s1 + 32\,m1z3s1 + 16\,m1z4s1 + 8\,m1z5s1 + 4\,m2z1s1 + 2\,m2z2s1 + m2z3s1) \\
\frac{1}{128}\,(-128 + 128\,m1z1s2 + 64\,m1z2s2 + 32\,m1z3s2 + 16\,m1z4s2 + 8\,m1z5s2 + 4\,m2z1s2 + 2\,m2z2s2 + m2z3s2) \\
\frac{1}{128}\,(128\,m1z1s3 + 64\,m1z2s3 + 32\,m1z3s3 + 16\,m1z4s3 + 8\,m1z5s3 + 4\,m2z1s3 + 2\,m2z2s3 + m2z3s3) \\
\frac{1}{128}\,(128\,m1z1s4 + 64\,m1z2s4 + 32\,m1z3s4 + 16\,m1z4s4 + 8\,m1z5s4 + 4\,m2z1s4 + 2\,m2z2s4 + m2z3s4) \\
\frac{1}{128}\,(128\,m1z1s5 + 64\,m1z2s5 + 32\,m1z3s5 + 16\,m1z4s5 + 8\,m1z5s5 + 4\,m2z1s5 + 2\,m2z2s5 + m2z3s5) \\
m1z1s1 + m1z2s1 + m1z3s1 + m1z4s1 + m1z5s1 + m2z1s1 + m2z2s1 + m2z3s1 \\
m1z1s2 + m1z2s2 + m1z3s2 + m1z4s2 + m1z5s2 + m2z1s2 + m2z2s2 + m2z3s2 \\
-1 + m1z1s3 + m1z2s3 + m1z3s3 + m1z4s3 + m1z5s3 + m2z1s3 + m2z2s3 + m2z3s3 \\
m1z1s4 + m1z2s4 + m1z3s4 + m1z4s4 + m1z5s4 + m2z1s4 + m2z2s4 + m2z3s4 \\
m1z1s5 + m1z2s5 + m1z3s5 + m1z4s5 + m1z5s5 + m2z1s5 + m2z2s5 + m2z3s5 \\
m1z2s1 \\
m1z2s2 \\
m1z2s3 \\
-1 + m1z2s4 \\
m1z2s5 \\
m1z2s1 + 2\,m1z3s1 + 3\,m1z4s1 + 4\,m1z5s1 + 5\,m2z1s1 + 6\,m2z2s1 + 7\,m2z3s1 \\
m1z2s2 + 2\,m1z3s2 + 3\,m1z4s2 + 4\,m1z5s2 + 5\,m2z1s2 + 6\,m2z2s2 + 7\,m2z3s2 \\
m1z2s3 + 2\,m1z3s3 + 3\,m1z4s3 + 4\,m1z5s3 + 5\,m2z1s3 + 6\,m2z2s3 + 7\,m2z3s3 \\
m1z2s4 + 2\,m1z3s4 + 3\,m1z4s4 + 4\,m1z5s4 + 5\,m2z1s4 + 6\,m2z2s4 + 7\,m2z3s4 \\
-1 + m1z2s5 + 2\,m1z3s5 + 3\,m1z4s5 + 4\,m1z5s5 + 5\,m2z1s5 + 6\,m2z2s5 + 7\,m2z3s5
\end{pmatrix}$$

```
n = 1; m = (3 * n + 7) / 2;

p[i_] := Sum[x ^ k * i ^ k, {k, 0, m - 1}];
in = Integrate[p[i] * p[j], {x, 0, 1}];
c = CoefficientList[in, {i, j}]; c // MatrixForm
```

$$\begin{pmatrix}
1 & \frac{1}{2} & \frac{1}{3} & \frac{1}{4} & \frac{1}{5} \\
\frac{1}{2} & \frac{1}{3} & \frac{1}{4} & \frac{1}{5} & \frac{1}{6} \\
\frac{1}{3} & \frac{1}{4} & \frac{1}{5} & \frac{1}{6} & \frac{1}{7} \\
\frac{1}{4} & \frac{1}{5} & \frac{1}{6} & \frac{1}{7} & \frac{1}{8} \\
\frac{1}{5} & \frac{1}{6} & \frac{1}{7} & \frac{1}{8} & \frac{1}{9}
\end{pmatrix}$$

```
B = Simplify[Transpose[M].c.M] - IdentityMatrix[n + 2] ;

lB = Flatten[B * Normal[SparseArray[{i_, j_} /; j >= i → 1, {n + 2, n + 2}]]];

Solve[lB == 0, Flatten[M2]] // MatrixForm
```

```
$Aborted
```

```
Solve[lB[[1]] == 0, m2[1, 1]]

Exit[]
```

```
n = 1; m = (3 * n + 7) / 2;

M1 = Table[Symbol["m1z" <> ToString[j] <> "s" <> ToString[i]], {j, n + 2}, {i, n + 2}];
M2 = Table[Symbol["m2z" <> ToString[j] <> "s" <> ToString[i]], {j, m - n - 2}, {i, n + 2}];
M = Join[M1, M2];

M // MatrixForm
```

$$\begin{pmatrix} m1z1s1 & m1z1s2 & m1z1s3 \\ m1z2s1 & m1z2s2 & m1z2s3 \\ m1z3s1 & m1z3s2 & m1z3s3 \\ m2z1s1 & m2z1s2 & m2z1s3 \\ m2z2s1 & m2z2s2 & m2z2s3 \end{pmatrix}$$

```
G = Flatten[(Expand[Transpose[M].c.M] - IdentityMatrix[n + 2]) *
    Normal[SparseArray[{i_, j_} /; j >= i → 1, {n + 2, n + 2}]]]; G // MatrixForm
```

$$\begin{pmatrix} -1 + m1z1s1^2 + m1z1s1\ m1z2s1 + \frac{m1z2s1^2}{3} + \frac{2\ m1z1s1\ m1z3s1}{3} + \frac{m1z2s1\ m1z3s1}{2} + \frac{m1z3s1^2}{5} + \frac{m1z1s1\ m2z1s1}{2} + \frac{2\ m1z2s1\ m2z} \\ m1z1s1\ m1z1s2 + \frac{m1z1s2\ m1z2s1}{2} + \frac{m1z1s1\ m1z2s2}{2} + \frac{m1z2s1\ m1z2s2}{3} + \frac{m1z1s2\ m1z3s1}{3} + \frac{m1z2s2\ m1z3s1}{4} + \frac{m1z1s1\ m1z3s2}{3} + \frac{m1z2} \\ m1z1s1\ m1z1s3 + \frac{m1z1s3\ m1z2s1}{2} + \frac{m1z1s1\ m1z2s3}{2} + \frac{m1z2s1\ m1z2s3}{3} + \frac{m1z1s3\ m1z3s1}{3} + \frac{m1z2s3\ m1z3s1}{4} + \frac{m1z1s1\ m1z3s3}{3} + \frac{m1z2} \\ 0 \\ -1 + m1z1s2^2 + m1z1s2\ m1z2s2 + \frac{m1z2s2^2}{3} + \frac{2\ m1z1s2\ m1z3s2}{3} + \frac{m1z2s2\ m1z3s2}{2} + \frac{m1z3s2^2}{5} + \frac{m1z1s2\ m2z1s2}{2} + \frac{2\ m1z2s2\ m2z1} \\ m1z1s2\ m1z1s3 + \frac{m1z1s3\ m1z2s2}{2} + \frac{m1z1s2\ m1z2s3}{2} + \frac{m1z2s2\ m1z2s3}{3} + \frac{m1z1s3\ m1z3s2}{3} + \frac{m1z2s3\ m1z3s2}{4} + \frac{m1z1s2\ m1z3s3}{3} + \frac{m1z2} \\ 0 \\ 0 \\ -1 + m1z1s3^2 + m1z1s3\ m1z2s3 + \frac{m1z2s3^2}{3} + \frac{2\ m1z1s3\ m1z3s3}{3} + \frac{m1z2s3\ m1z3s3}{2} + \frac{m1z3s3^2}{5} + \frac{m1z1s3\ m2z1s3}{2} + \frac{2\ m1z2s3\ m2z1} \end{pmatrix}$$

```
Solve[{G[[1]] == 0, G[[2]] == 0, G[[3]] == 0, G[[5]] == 0}, Flatten[M2]]
```

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

$$\{\{m2z1s3 \to \left(158\,760\ m1z1s1\ m1z1s3\ m1z2s2 + 35\,280\ m1z1s3\ m1z2s1\ m1z2s2 - 158\,760\ m1z1s1\ m1z1s2\ m1z2s3 - \right.$$
$$35\,280\ m1z1s2\ m1z2s1\ m1z2s3 + 8820\ m1z1s3\ m1z2s2\ m1z3s1 - 8820\ m1z1s2\ m1z2s3\ m1z3s1 +$$
$$176\,400\ m1z1s1\ m1z1s3\ m1z3s2 + 44\,100\ m1z1s3\ m1z2s1\ m1z3s2 +$$
$$35\,280\ m1z1s1\ m1z2s3\ m1z3s2 + 11\,760\ m1z2s1\ m1z2s3\ m1z3s2 + 11\,760\ m1z1s3\ m1z3s1\ m1z3s2 +$$
$$3528\ m1z2s3\ m1z3s1\ m1z3s2 - 176\,400\ m1z1s1\ m1z1s2\ m1z3s3 - 44\,100\ m1z1s2\ m1z2s1\ m1z3s3 -$$
$$35\,280\ m1z1s1\ m1z2s2\ m1z3s3 - 11\,760\ m1z2s1\ m1z2s2\ m1z3s3 - 11\,760\ m1z1s2\ m1z3s1\ m1z3s3 -$$
$$3528\ m1z2s2\ m1z3s1\ m1z3s3 - 3528\ m1z1s3\ m1z2s2\ m2z2s1 + 3528\ m1z1s2\ m1z2s3\ m2z2s1 -$$
$$5040\ m1z1s3\ m1z3s2\ m2z2s1 - 1680\ m1z2s3\ m1z3s2\ m2z2s1 + 5040\ m1z1s2\ m1z3s3\ m2z2s1 +$$
$$1680\ m1z2s2\ m1z3s3\ m2z2s1 + 158\,760\ m1z1s1\ m1z1s3\ m2z2s2 + 44\,100\ m1z1s3\ m1z2s1\ m2z2s2 +$$
$$47\,628\ m1z1s1\ m1z2s3\ m2z2s2 + 17\,640\ m1z2s1\ m1z2s3\ m2z2s2 + 12\,600\ m1z1s3\ m1z3s1\ m2z2s2 +$$
$$5670\ m1z2s3\ m1z3s1\ m2z2s2 + 17\,640\ m1z1s1\ m1z3s3\ m2z2s2 + 7350\ m1z2s1\ m1z3s3\ m2z2s2 +$$
$$2520\ m1z3s1\ m1z3s3\ m2z2s2 - 5880\ m1z1s3\ m2z2s1\ m2z2s2 - 2940\ m1z2s3\ m2z2s1\ m2z2s2 -$$
$$1400\ m1z3s3\ m2z2s1\ m2z2s2 + \frac{2835}{2}\ m1z1s1\ m1z1s3\ \left(-210\ m1z1s2 - 168\ m1z2s2 - \right.$$
$$140\ m1z3s2 - 105\ m2z2s2 - \sqrt{\left(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - \right.$$
$$\left.\left.\left.5376\ m1z2s2^2 - 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + \right.\right.\right.$$
$$\left.\left.\left.3780\ m1z1s2\ m2z2s2 + 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\right)\right) +$$

$$
\begin{aligned}
&378\,\mathrm{m1z1s3}\,\mathrm{m1z2s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&378\,\mathrm{m1z1s1}\,\mathrm{m1z2s3}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&\frac{672}{5}\,\mathrm{m1z2s1}\,\mathrm{m1z2s3}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&105\,\mathrm{m1z1s3}\,\mathrm{m1z3s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&42\,\mathrm{m1z2s3}\,\mathrm{m1z3s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&105\,\mathrm{m1z1s1}\,\mathrm{m1z3s3}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&42\,\mathrm{m1z2s1}\,\mathrm{m1z3s3}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)+\\
&14\,\mathrm{m1z3s1}\,\mathrm{m1z3s3}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)-\\
&\frac{189}{4}\,\mathrm{m1z1s3}\,\mathrm{m2z2s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)-\\
&21\,\mathrm{m1z2s3}\,\mathrm{m2z2s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-\\
&\quad\sqrt{\big(100\,800-56\,700\,\mathrm{m1z1s2}^2-30\,240\,\mathrm{m1z1s2}\,\mathrm{m1z2s2}-5376\,\mathrm{m1z2s2}^2-\\
&\qquad 8400\,\mathrm{m1z1s2}\,\mathrm{m1z3s2}-3360\,\mathrm{m1z2s2}\,\mathrm{m1z3s2}-560\,\mathrm{m1z3s2}^2+3780\,\mathrm{m1z1s2}\,\mathrm{m2z2s2}+\\
&\qquad 1680\,\mathrm{m1z2s2}\,\mathrm{m2z2s2}+600\,\mathrm{m1z3s2}\,\mathrm{m2z2s2}-175\,\mathrm{m2z2s2}^2\big)}\Big)-\\
&\frac{15}{2}\,\mathrm{m1z3s3}\,\mathrm{m2z2s1}\,\Big(-210\,\mathrm{m1z1s2}-168\,\mathrm{m1z2s2}-140\,\mathrm{m1z3s2}-105\,\mathrm{m2z2s2}-
\end{aligned}
$$

$$
\begin{aligned}
&\sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big) -\\
&158\,760\ \mathrm{m1z1s1}\ \mathrm{m1z1s2}\ \mathrm{m2z2s3} - 44\,100\ \mathrm{m1z1s2}\ \mathrm{m1z2s1}\ \mathrm{m2z2s3} -\\
&47\,628\ \mathrm{m1z1s1}\ \mathrm{m1z2s2}\ \mathrm{m2z2s3} -\\
&17\,640\ \mathrm{m1z2s1}\ \mathrm{m1z2s2}\ \mathrm{m2z2s3} -\\
&12\,600\ \mathrm{m1z1s2}\ \mathrm{m1z3s1}\ \mathrm{m2z2s3} -\\
&5670\ \mathrm{m1z2s2}\ \mathrm{m1z3s1}\ \mathrm{m2z2s3} -\\
&17\,640\ \mathrm{m1z1s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} -\\
&7350\ \mathrm{m1z2s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} -\\
&2520\ \mathrm{m1z3s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} +\\
&5880\ \mathrm{m1z1s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} +\\
&2940\ \mathrm{m1z2s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} +\\
&1400\ \mathrm{m1z3s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} -\\
&\frac{189}{4}\ \mathrm{m1z1s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} - \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} -\\
&21\ \mathrm{m1z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} - \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} -\\
&\frac{15}{2}\ \mathrm{m1z3s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} - \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} +\\
&\frac{35}{8}\ \mathrm{m2z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} - \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3}\Bigg)\Big/\\
&\left(170\,100\ \mathrm{m1z1s1}\ \mathrm{m1z1s2} + 45\,360\ \mathrm{m1z1s2}\ \mathrm{m1z2s1} + 45\,360\ \mathrm{m1z1s1}\ \mathrm{m1z2s2} + \right.\\
&\quad 16\,128\ \mathrm{m1z2s1}\ \mathrm{m1z2s2} +\\
&\quad 12\,600\ \mathrm{m1z1s2}\ \mathrm{m1z3s1} + 5040\ \mathrm{m1z2s2}\ \mathrm{m1z3s1} +\\
&\quad 12\,600\ \mathrm{m1z1s1}\ \mathrm{m1z3s2} + 5040\ \mathrm{m1z2s1}\ \mathrm{m1z3s2} +\\
&\quad 1680\ \mathrm{m1z3s1}\ \mathrm{m1z3s2} - 5670\ \mathrm{m1z1s2}\ \mathrm{m2z2s1} -\\
&\quad 2520\ \mathrm{m1z2s2}\ \mathrm{m2z2s1} - 900\ \mathrm{m1z3s2}\ \mathrm{m2z2s1} -\\
&\quad 5670\ \mathrm{m1z1s1}\ \mathrm{m2z2s2} - 2520\ \mathrm{m1z2s1}\ \mathrm{m2z2s2} -\\
&\quad \left. 900\ \mathrm{m1z3s1}\ \mathrm{m2z2s2} + 525\ \mathrm{m2z2s1}\ \mathrm{m2z2s2}\right),\\
&\mathrm{m2z1s1} \to \left(529\,200\ \mathrm{m1z1s1} + 423\,360\ \mathrm{m1z2s1} - 158\,760\ \mathrm{m1z1s2}^2\ \mathrm{m1z2s1} + \right.\\
&\quad 158\,760\ \mathrm{m1z1s1}\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} -\\
&\quad 35\,280\ \mathrm{m1z1s2}\ \mathrm{m1z2s1}\ \mathrm{m1z2s2} + 35\,280\ \mathrm{m1z1s1}\ \mathrm{m1z2s2}^2 +\\
&\quad 352\,800\ \mathrm{m1z3s1} - 176\,400\ \mathrm{m1z1s2}^2\ \mathrm{m1z3s1} -
\end{aligned}
$$

$$
\begin{aligned}
&79\,380\ m1z1s2\ m1z2s2\ m1z3s1 - 11\,760\ m1z2s2^2\ m1z3s1 + \\
&176\,400\ m1z1s1\ m1z1s2\ m1z3s2 + \\
&26\,460\ m1z1s2\ m1z2s1\ m1z3s2 + 52\,920\ m1z1s1\ m1z2s2\ m1z3s2 + \\
&11\,760\ m1z2s1\ m1z2s2\ m1z3s2 - 11\,760\ m1z1s2\ m1z3s1\ m1z3s2 - \\
&3528\ m1z2s2\ m1z3s1\ m1z3s2 + 11\,760\ m1z1s1\ m1z3s2^2 + \\
&3528\ m1z2s1\ m1z3s2^2 + 264\,600\ m2z2s1 - \\
&158\,760\ m1z1s2^2\ m2z2s1 - 91\,728\ m1z1s2\ m1z2s2\ m2z2s1 - \\
&17\,640\ m1z2s2^2\ m2z2s1 - 30\,240\ m1z1s2\ m1z3s2\ m2z2s1 - \\
&13\,020\ m1z2s2\ m1z3s2\ m2z2s1 - 2520\ m1z3s2^2\ m2z2s1 + \\
&158\,760\ m1z1s1\ m1z1s2\ m2z2s2 + \\
&51\,156\ m1z1s2\ m1z2s1\ m2z2s2 + 40\,572\ m1z1s1\ m1z2s2\ m2z2s2 + \\
&17\,640\ m1z2s1\ m1z2s2\ m2z2s2 + 22\,680\ m1z1s2\ m1z3s1\ m2z2s2 + \\
&9030\ m1z2s2\ m1z3s1\ m2z2s2 + 7560\ m1z1s1\ m1z3s2\ m2z2s2 + \\
&3990\ m1z2s1\ m1z3s2\ m2z2s2 + 2520\ m1z3s1\ m1z3s2\ m2z2s2 + \\
&5880\ m1z1s2\ m2z2s1\ m2z2s2 + 2940\ m1z2s2\ m2z2s1\ m2z2s2 + \\
&1400\ m1z3s2\ m2z2s1\ m2z2s2 - 5880\ m1z1s1\ m2z2s2^2 - \\
&2940\ m1z2s1\ m2z2s2^2 - 1400\ m1z3s1\ m2z2s2^2 + \\
&\frac{2835}{2}\ m1z1s1\ m1z1s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&378\ m1z1s2\ m1z2s1\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&378\ m1z1s1\ m1z2s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&\frac{672}{5}\ m1z2s1\ m1z2s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&105\ m1z1s2\ m1z3s1\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&42\ m1z2s2\ m1z3s1\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)}\Big) + \\
&105\ m1z1s1\ m1z3s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 - \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 +
\end{aligned}
$$

$$
\begin{aligned}
&1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) + \\
&42\,m1z2s1\,m1z3s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) + \\
&14\,m1z3s1\,m1z3s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&\frac{189}{4}\,m1z1s2\,m2z2s1\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&21\,m1z2s2\,m2z2s1\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&\frac{15}{2}\,m1z3s2\,m2z2s1\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&\frac{189}{4}\,m1z1s1\,m2z2s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&21\,m1z2s1\,m2z2s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) - \\
&\frac{15}{2}\,m1z3s1\,m2z2s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big) + \\
&\frac{35}{8}\,m2z2s1\,m2z2s2\,\Big(-210\,m1z1s2 - 168\,m1z2s2 - 140\,m1z3s2 - 105\,m2z2s2 - \\
&\quad\sqrt{\Big(100\,800 - 56\,700\,m1z1s2^2 - 30\,240\,m1z1s2\,m1z2s2 - 5376\,m1z2s2^2 - \\
&\qquad 8400\,m1z1s2\,m1z3s2 - 3360\,m1z2s2\,m1z3s2 - 560\,m1z3s2^2 + 3780\,m1z1s2\,m2z2s2 + \\
&\qquad 1680\,m1z2s2\,m2z2s2 + 600\,m1z3s2\,m2z2s2 - 175\,m2z2s2^2\Big)\Big)\Big)\Big/ \\
&\Big(-302\,400 + 170\,100\,m1z1s2^2 + 90\,720\,m1z1s2\,m1z2s2 + 16\,128\,m1z2s2^2 +
\end{aligned}
$$

$$
\begin{aligned}
&25\,200\ \text{m1z1s2}\ \text{m1z3s2} + \\
&10\,080\ \text{m1z2s2}\ \text{m1z3s2} + 1680\ \text{m1z3s2}^2 - \\
&11\,340\ \text{m1z1s2}\ \text{m2z2s2} - 5040\ \text{m1z2s2}\ \text{m2z2s2} - \\
&1800\ \text{m1z3s2}\ \text{m2z2s2} + 525\ \text{m2z2s2}^2\Big),
\end{aligned}
$$

$$
\begin{aligned}
\text{m2z1s2} \to \frac{1}{120}\Big(&-210\ \text{m1z1s2} - 168\ \text{m1z2s2} - 140\ \text{m1z3s2} - 105\ \text{m2z2s2} - \\
&\sqrt{\Big(100\,800 - 56\,700\ \text{m1z1s2}^2 - 30\,240\ \text{m1z1s2}\ \text{m1z2s2} - 5376\ \text{m1z2s2}^2 - \\
&\quad 8400\ \text{m1z1s2}\ \text{m1z3s2} - 3360\ \text{m1z2s2}\ \text{m1z3s2} - 560\ \text{m1z3s2}^2 + 3780\ \text{m1z1s2}\ \text{m2z2s2} + \\
&\quad 1680\ \text{m1z2s2}\ \text{m2z2s2} + 600\ \text{m1z3s2}\ \text{m2z2s2} - 175\ \text{m2z2s2}^2\Big)}\Big)\Big\},
\end{aligned}
$$

$$
\begin{aligned}
\Big\{\text{m2z1s3} \to \Big(&158\,760\ \text{m1z1s1}\ \text{m1z1s3}\ \text{m1z2s2} + 35\,280\ \text{m1z1s3}\ \text{m1z2s1}\ \text{m1z2s2} - \\
&158\,760\ \text{m1z1s1}\ \text{m1z1s2}\ \text{m1z2s3} - \\
&35\,280\ \text{m1z1s2}\ \text{m1z2s1}\ \text{m1z2s3} + \\
&8820\ \text{m1z1s3}\ \text{m1z2s2}\ \text{m1z3s1} - \\
&8820\ \text{m1z1s2}\ \text{m1z2s3}\ \text{m1z3s1} + \\
&176\,400\ \text{m1z1s1}\ \text{m1z1s3}\ \text{m1z3s2} + \\
&44\,100\ \text{m1z1s3}\ \text{m1z2s1}\ \text{m1z3s2} + \\
&35\,280\ \text{m1z1s1}\ \text{m1z2s3}\ \text{m1z3s2} + \\
&11\,760\ \text{m1z2s1}\ \text{m1z2s3}\ \text{m1z3s2} + \\
&11\,760\ \text{m1z1s3}\ \text{m1z3s1}\ \text{m1z3s2} + \\
&3528\ \text{m1z2s3}\ \text{m1z3s1}\ \text{m1z3s2} - \\
&176\,400\ \text{m1z1s1}\ \text{m1z1s2}\ \text{m1z3s3} - \\
&44\,100\ \text{m1z1s2}\ \text{m1z2s1}\ \text{m1z3s3} - \\
&35\,280\ \text{m1z1s1}\ \text{m1z2s2}\ \text{m1z3s3} - \\
&11\,760\ \text{m1z2s1}\ \text{m1z2s2}\ \text{m1z3s3} - \\
&11\,760\ \text{m1z1s2}\ \text{m1z3s1}\ \text{m1z3s3} - \\
&3528\ \text{m1z2s2}\ \text{m1z3s1}\ \text{m1z3s3} - \\
&3528\ \text{m1z1s3}\ \text{m1z2s2}\ \text{m2z2s1} + \\
&3528\ \text{m1z1s2}\ \text{m1z2s3}\ \text{m2z2s1} - \\
&5040\ \text{m1z1s3}\ \text{m1z3s2}\ \text{m2z2s1} - \\
&1680\ \text{m1z2s3}\ \text{m1z3s2}\ \text{m2z2s1} + \\
&5040\ \text{m1z1s2}\ \text{m1z3s3}\ \text{m2z2s1} + \\
&1680\ \text{m1z2s2}\ \text{m1z3s3}\ \text{m2z2s1} + \\
&158\,760\ \text{m1z1s1}\ \text{m1z1s3}\ \text{m2z2s2} + \\
&44\,100\ \text{m1z1s3}\ \text{m1z2s1}\ \text{m2z2s2} + \\
&47\,628\ \text{m1z1s1}\ \text{m1z2s3}\ \text{m2z2s2} + \\
&17\,640\ \text{m1z2s1}\ \text{m1z2s3}\ \text{m2z2s2} + \\
&12\,600\ \text{m1z1s3}\ \text{m1z3s1}\ \text{m2z2s2} + \\
&5670\ \text{m1z2s3}\ \text{m1z3s1}\ \text{m2z2s2} + \\
&17\,640\ \text{m1z1s1}\ \text{m1z3s3}\ \text{m2z2s2} + \\
&7350\ \text{m1z2s1}\ \text{m1z3s3}\ \text{m2z2s2} + \\
&2520\ \text{m1z3s1}\ \text{m1z3s3}\ \text{m2z2s2} - 5880\ \text{m1z1s3}\ \text{m2z2s1}\ \text{m2z2s2} - \\
&2940\ \text{m1z2s3}\ \text{m2z2s1}\ \text{m2z2s2} - 1400\ \text{m1z3s3}\ \text{m2z2s1}\ \text{m2z2s2} + \\
&\frac{2835}{2}\ \text{m1z1s1}\ \text{m1z1s3}\ \Big(-210\ \text{m1z1s2} - 168\ \text{m1z2s2} - 140\ \text{m1z3s2} - 105\ \text{m2z2s2} + \\
&\quad\sqrt{\Big(100\,800 - 56\,700\ \text{m1z1s2}^2 - 30\,240\ \text{m1z1s2}\ \text{m1z2s2} - 5376\ \text{m1z2s2}^2 - \\
&\qquad 8400\ \text{m1z1s2}\ \text{m1z3s2} - 3360\ \text{m1z2s2}\ \text{m1z3s2} - 560\ \text{m1z3s2}^2 + 3780\ \text{m1z1s2}\ \text{m2z2s2} + \\
&\qquad 1680\ \text{m1z2s2}\ \text{m2z2s2} + 600\ \text{m1z3s2}\ \text{m2z2s2} - 175\ \text{m2z2s2}^2\Big)}\Big) +
\end{aligned}
$$

$$
\begin{aligned}
&378\, m1z1s3\, m1z2s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&378\, m1z1s1\, m1z2s3 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&\frac{672}{5}\, m1z2s1\, m1z2s3 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&105\, m1z1s3\, m1z3s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&42\, m1z2s3\, m1z3s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&105\, m1z1s1\, m1z3s3 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&42\, m1z2s1\, m1z3s3 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) + \\
&14\, m1z3s1\, m1z3s3 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) - \\
&\frac{189}{4}\, m1z1s3\, m2z2s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) - \\
&21\, m1z2s3\, m2z2s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\, m1z1s2^2 - 30\,240\, m1z1s2\, m1z2s2 - 5376\, m1z2s2^2 - \right.}\\
&\qquad 8400\, m1z1s2\, m1z3s2 - 3360\, m1z2s2\, m1z3s2 - 560\, m1z3s2^2 + 3780\, m1z1s2\, m2z2s2 + \\
&\qquad \left.\left.1680\, m1z2s2\, m2z2s2 + 600\, m1z3s2\, m2z2s2 - 175\, m2z2s2^2\right)\right) - \\
&\frac{15}{2}\, m1z3s3\, m2z2s1 \left(-210\, m1z1s2 - 168\, m1z2s2 - 140\, m1z3s2 - 105\, m2z2s2 + \right.
\end{aligned}
$$

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\begin{aligned}
&\sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big) -\\
&158\,760\ \mathrm{m1z1s1}\ \mathrm{m1z1s2}\ \mathrm{m2z2s3} - 44\,100\ \mathrm{m1z1s2}\ \mathrm{m1z2s1}\ \mathrm{m2z2s3} -\\
&47\,628\ \mathrm{m1z1s1}\ \mathrm{m1z2s2}\ \mathrm{m2z2s3} -\\
&17\,640\ \mathrm{m1z2s1}\ \mathrm{m1z2s2}\ \mathrm{m2z2s3} -\\
&12\,600\ \mathrm{m1z1s2}\ \mathrm{m1z3s1}\ \mathrm{m2z2s3} -\\
&5670\ \mathrm{m1z2s2}\ \mathrm{m1z3s1}\ \mathrm{m2z2s3} -\\
&17\,640\ \mathrm{m1z1s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} -\\
&7350\ \mathrm{m1z2s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} -\\
&2520\ \mathrm{m1z3s1}\ \mathrm{m1z3s2}\ \mathrm{m2z2s3} +\\
&5880\ \mathrm{m1z1s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} +\\
&2940\ \mathrm{m1z2s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} +\\
&1400\ \mathrm{m1z3s2}\ \mathrm{m2z2s1}\ \mathrm{m2z2s3} -\\
&\frac{189}{4}\ \mathrm{m1z1s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} -\\
&21\ \mathrm{m1z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} -\\
&\frac{15}{2}\ \mathrm{m1z3s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3} +\\
&\frac{35}{8}\ \mathrm{m2z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \right.\\
&\quad \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - \right.}\\
&\quad\quad \left. 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + \right.\\
&\quad\quad \left. 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)\Big)\ \mathrm{m2z2s3}\Bigg)\Big/\\
&\left(170\,100\ \mathrm{m1z1s1}\ \mathrm{m1z1s2} + 45\,360\ \mathrm{m1z1s2}\ \mathrm{m1z2s1} + 45\,360\ \mathrm{m1z1s1}\ \mathrm{m1z2s2} + \right.\\
&16\,128\ \mathrm{m1z2s1}\ \mathrm{m1z2s2} +\\
&12\,600\ \mathrm{m1z1s2}\ \mathrm{m1z3s1} + 5040\ \mathrm{m1z2s2}\ \mathrm{m1z3s1} +\\
&12\,600\ \mathrm{m1z1s1}\ \mathrm{m1z3s2} + 5040\ \mathrm{m1z2s1}\ \mathrm{m1z3s2} +\\
&1680\ \mathrm{m1z3s1}\ \mathrm{m1z3s2} - 5670\ \mathrm{m1z1s2}\ \mathrm{m2z2s1} -\\
&2520\ \mathrm{m1z2s2}\ \mathrm{m2z2s1} - 900\ \mathrm{m1z3s2}\ \mathrm{m2z2s1} -\\
&5670\ \mathrm{m1z1s1}\ \mathrm{m2z2s2} - 2520\ \mathrm{m1z2s1}\ \mathrm{m2z2s2} -\\
&\left.900\ \mathrm{m1z3s1}\ \mathrm{m2z2s2} + 525\ \mathrm{m2z2s1}\ \mathrm{m2z2s2}\right),\\
&\mathrm{m2z1s1} \to \left(529\,200\ \mathrm{m1z1s1} + 423\,360\ \mathrm{m1z2s1} - 158\,760\ \mathrm{m1z1s2}^2\ \mathrm{m1z2s1} + \right.\\
&158\,760\ \mathrm{m1z1s1}\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} -\\
&35\,280\ \mathrm{m1z1s2}\ \mathrm{m1z2s1}\ \mathrm{m1z2s2} +\\
&35\,280\ \mathrm{m1z1s1}\ \mathrm{m1z2s2}^2 + 352\,800\ \mathrm{m1z3s1} -
\end{aligned}
$$

$$
\begin{aligned}
&176\,400\ m1z1s2^2\ m1z3s1 - \\
&79\,380\ m1z1s2\ m1z2s2\ m1z3s1 - \\
&11\,760\ m1z2s2^2\ m1z3s1 + \\
&176\,400\ m1z1s1\ m1z1s2\ m1z3s2 + \\
&26\,460\ m1z1s2\ m1z2s1\ m1z3s2 + \\
&52\,920\ m1z1s1\ m1z2s2\ m1z3s2 + \\
&11\,760\ m1z2s1\ m1z2s2\ m1z3s2 - \\
&11\,760\ m1z1s2\ m1z3s1\ m1z3s2 - \\
&3528\ m1z2s2\ m1z3s1\ m1z3s2 + \\
&11\,760\ m1z1s1\ m1z3s2^2 + 3528\ m1z2s1\ m1z3s2^2 + \\
&264\,600\ m2z2s1 - 158\,760\ m1z1s2^2\ m2z2s1 - \\
&91\,728\ m1z1s2\ m1z2s2\ m2z2s1 - \\
&17\,640\ m1z2s2^2\ m2z2s1 - \\
&30\,240\ m1z1s2\ m1z3s2\ m2z2s1 - \\
&13\,020\ m1z2s2\ m1z3s2\ m2z2s1 - 2520\ m1z3s2^2\ m2z2s1 + \\
&158\,760\ m1z1s1\ m1z1s2\ m2z2s2 + \\
&51\,156\ m1z1s2\ m1z2s1\ m2z2s2 + \\
&40\,572\ m1z1s1\ m1z2s2\ m2z2s2 + \\
&17\,640\ m1z2s1\ m1z2s2\ m2z2s2 + \\
&22\,680\ m1z1s2\ m1z3s1\ m2z2s2 + \\
&9030\ m1z2s2\ m1z3s1\ m2z2s2 + \\
&7560\ m1z1s1\ m1z3s2\ m2z2s2 + \\
&3990\ m1z2s1\ m1z3s2\ m2z2s2 + \\
&2520\ m1z3s1\ m1z3s2\ m2z2s2 + \\
&5880\ m1z1s2\ m2z2s1\ m2z2s2 + \\
&2940\ m1z2s2\ m2z2s1\ m2z2s2 + \\
&1400\ m1z3s2\ m2z2s1\ m2z2s2 - 5880\ m1z1s1\ m2z2s2^2 - \\
&2940\ m1z2s1\ m2z2s2^2 - 1400\ m1z3s1\ m2z2s2^2 + \\
&\frac{2835}{2}\ m1z1s1\ m1z1s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 + \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)\Big) + \\
&378\ m1z1s2\ m1z2s1\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 + \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)\Big) + \\
&378\ m1z1s1\ m1z2s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 + \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)\Big) + \\
&\frac{672}{5}\ m1z2s1\ m1z2s2\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 + \\
&\quad \sqrt{\big(100\,800 - 56\,700\ m1z1s2^2 - 30\,240\ m1z1s2\ m1z2s2 - 5376\ m1z2s2^2 - \\
&\qquad 8400\ m1z1s2\ m1z3s2 - 3360\ m1z2s2\ m1z3s2 - 560\ m1z3s2^2 + 3780\ m1z1s2\ m2z2s2 + \\
&\qquad 1680\ m1z2s2\ m2z2s2 + 600\ m1z3s2\ m2z2s2 - 175\ m2z2s2^2\big)\Big) + \\
&105\ m1z1s2\ m1z3s1\ \Big(-210\ m1z1s2 - 168\ m1z2s2 - 140\ m1z3s2 - 105\ m2z2s2 +
\end{aligned}
$$

$$\sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)} +$$
$$42\ \mathrm{m1z2s2}\ \mathrm{m1z3s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) +$$
$$105\ \mathrm{m1z1s1}\ \mathrm{m1z3s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) +$$
$$42\ \mathrm{m1z2s1}\ \mathrm{m1z3s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) +$$
$$14\ \mathrm{m1z3s1}\ \mathrm{m1z3s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$\frac{189}{4}\ \mathrm{m1z1s2}\ \mathrm{m2z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$21\ \mathrm{m1z2s2}\ \mathrm{m2z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$\frac{15}{2}\ \mathrm{m1z3s2}\ \mathrm{m2z2s1}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$\frac{189}{4}\ \mathrm{m1z1s1}\ \mathrm{m2z2s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$21\ \mathrm{m1z2s1}\ \mathrm{m2z2s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \mathrm{m1z1s2}^2 - 30\,240\ \mathrm{m1z1s2}\ \mathrm{m1z2s2} - 5376\ \mathrm{m1z2s2}^2 - 8400\ \mathrm{m1z1s2}\ \mathrm{m1z3s2} - 3360\ \mathrm{m1z2s2}\ \mathrm{m1z3s2} - 560\ \mathrm{m1z3s2}^2 + 3780\ \mathrm{m1z1s2}\ \mathrm{m2z2s2} + 1680\ \mathrm{m1z2s2}\ \mathrm{m2z2s2} + 600\ \mathrm{m1z3s2}\ \mathrm{m2z2s2} - 175\ \mathrm{m2z2s2}^2\right)}\right) -$$
$$\frac{15}{2}\ \mathrm{m1z3s1}\ \mathrm{m2z2s2}\ \left(-210\ \mathrm{m1z1s2} - 168\ \mathrm{m1z2s2} - 140\ \mathrm{m1z3s2} - 105\ \mathrm{m2z2s2} +\right.$$

$$\sqrt{\left(100\,800 - 56\,700\ \text{m1z1s2}^2 - 30\,240\ \text{m1z1s2}\ \text{m1z2s2} - 5376\ \text{m1z2s2}^2 - 8400\ \text{m1z1s2}\ \text{m1z3s2} - 3360\ \text{m1z2s2}\ \text{m1z3s2} - 560\ \text{m1z3s2}^2 + 3780\ \text{m1z1s2}\ \text{m2z2s2} + 1680\ \text{m1z2s2}\ \text{m2z2s2} + 600\ \text{m1z3s2}\ \text{m2z2s2} - 175\ \text{m2z2s2}^2\right)}\Big) +$$

$$\frac{35}{8}\ \text{m2z2s1}\ \text{m2z2s2}\left(-210\ \text{m1z1s2} - 168\ \text{m1z2s2} - 140\ \text{m1z3s2} - 105\ \text{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \text{m1z1s2}^2 - 30\,240\ \text{m1z1s2}\ \text{m1z2s2} - 5376\ \text{m1z2s2}^2 - 8400\ \text{m1z1s2}\ \text{m1z3s2} - 3360\ \text{m1z2s2}\ \text{m1z3s2} - 560\ \text{m1z3s2}^2 + 3780\ \text{m1z1s2}\ \text{m2z2s2} + 1680\ \text{m1z2s2}\ \text{m2z2s2} + 600\ \text{m1z3s2}\ \text{m2z2s2} - 175\ \text{m2z2s2}^2\right)}\right)\Big/$$

$$\left(-302\,400 + 170\,100\ \text{m1z1s2}^2 + 90\,720\ \text{m1z1s2}\ \text{m1z2s2} + 16\,128\ \text{m1z2s2}^2 + 25\,200\ \text{m1z1s2}\ \text{m1z3s2} + 10\,080\ \text{m1z2s2}\ \text{m1z3s2} + 1680\ \text{m1z3s2}^2 - 11\,340\ \text{m1z1s2}\ \text{m2z2s2} - 5040\ \text{m1z2s2}\ \text{m2z2s2} - 1800\ \text{m1z3s2}\ \text{m2z2s2} + 525\ \text{m2z2s2}^2\right),$$

$$\text{m2z1s2} \to \frac{1}{120}\left(-210\ \text{m1z1s2} - 168\ \text{m1z2s2} - 140\ \text{m1z3s2} - 105\ \text{m2z2s2} + \sqrt{\left(100\,800 - 56\,700\ \text{m1z1s2}^2 - 30\,240\ \text{m1z1s2}\ \text{m1z2s2} - 5376\ \text{m1z2s2}^2 - 8400\ \text{m1z1s2}\ \text{m1z3s2} - 3360\ \text{m1z2s2}\ \text{m1z3s2} - 560\ \text{m1z3s2}^2 + 3780\ \text{m1z1s2}\ \text{m2z2s2} + 1680\ \text{m1z2s2}\ \text{m2z2s2} + 600\ \text{m1z3s2}\ \text{m2z2s2} - 175\ \text{m2z2s2}^2\right)}\right)\Big\}\Big\}$$

```
Table[x_i, {i, 10}]
```

```
{x : Blank[1], x : Blank[2], x : Blank[3], x : Blank[4], x : Blank[5],
 x : Blank[6], x : Blank[7], x : Blank[8], x : Blank[9], x : Blank[10]}
```

```
Table[Symbol["m" <> ToString[i]], {i, 10}]
```

```
{m1, m2, m3, m4, m5, m6, m7, m8, m9, m10}
```