表 1 rank 0

No.	expression
1	1

表 2 rank 1

No.	expression
2	X
3	Y
4	Z

表 3 rank 2

No.	expression
5	$-\frac{X^2}{2} - \frac{Y^2}{2} + Z^2$
6	$\frac{\sqrt{3}\left(X^2 - Y^2\right)}{2}$
7	$\sqrt{3}YZ$
8	$\sqrt{3}XZ$
9	$\sqrt{3}XY$

表 4 rank 3

No.	expression
10	$\sqrt{15}XYZ$
11	$\frac{X(2X^2-3Y^2-3Z^2)}{2}$
12	$-\frac{Y(3X^2-2Y^2+3Z^2)}{2}$
13	$-\frac{Z(3X^2+3Y^2-2Z^2)}{2}$
14	$\frac{\sqrt{15}X(Y-Z)(Y+Z)}{\sqrt{15}X(Y-Z)(Y+Z)}$
15	$-\frac{\sqrt{15}Y(X-Z)(X+Z)}{2}$
16	$\frac{2}{\sqrt{15}Z(X-Y)(X+Y)}$
===	2

表 5 rank 4

No.	expression
17	$\frac{\sqrt{21}\left(X^4 - 3X^2Y^2 - 3X^2Z^2 + Y^4 - 3Y^2Z^2 + Z^4\right)}{6}$
18	$\frac{\sqrt{15} \left(-X^4 + 12 X^2 Y^2 - 6 X^2 Z^2 - Y^4 - 6 Y^2 Z^2 + 2 Z^4\right)}{12}$
19	$\frac{\sqrt{5}\left(X^4 - 6X^2Z^2 - Y^4 + 6Y^2Z^2\right)}{4}$
20	$\frac{\sqrt{35}YZ(Y-Z)(Y+Z)}{2}$
21	$-\tfrac{\sqrt{35}XZ(X-Z)(X+Z)}{2}$
22	$\frac{\sqrt{35}XY(X-Y)(X+Y)}{2}$
23	$\frac{\sqrt{5}YZ\left(6X^2-Y^2-Z^2\right)}{2}$
24	$-\frac{\sqrt{5}XZ\left(X^{2}-6Y^{2}+Z^{2} ight)}{2}$
25	$-\frac{\sqrt{5}XY\left(X^2+Y^2-6Z^2\right)}{2}$

表 6 rank 5

No.	expression
26	$\frac{3\sqrt{35}XYZ(X^2-Y^2)}{2}$
27	$\frac{\sqrt{105}XYZ(X^2+Y^2-2Z^2)}{2}$
28	$X(8X^4-40X^2Y^2-40X^2Z^2+15Y^4+30Y^2Z^2+15Z^4)$
29	$\frac{Y(15X^4 - 40X^2Y^2 + 30X^2Z^2 + 8Y^4 - 40Y^2Z^2 + 15Z^4)}{9}$
30	$\frac{Z(15X^4 + 30X^2Y^2 - 40X^2Z^2 + 15Y^4 - 40Y^2Z^2 + 8Z^4)}{2}$
31	$3\sqrt{35}X(Y^2-2YZ-Z^2)(Y^2+2YZ-Z^2)$
32	$\frac{3\sqrt{35}Y(X^2-2XZ-Z^2)(X^2+2XZ-Z^2)}{2}$
33	$\frac{3\sqrt{35}Z(X^2-2XY-Y^2)(X^2+2XY-Y^2)}{2}$
34	$\frac{\sqrt{105}X(Y-Z)(Y+Z)(2X^2-Y^2-Z^2)}{(Y-Z)(Y+Z)(Y+Z)(Y+Z)(Y+Z^2)}$
35	$\frac{4}{\sqrt{105}Y(X-Z)(X+Z)(X^2-2Y^2+Z^2)}$
36	$-\frac{\sqrt{105}Z(X-Y)(X+Y)(X^2+Y^2-2Z^2)}{2}$

## 表7 rank 6

```
No. expression
           \frac{\sqrt{2} \cdot \left(2 X^6 - 15 X^4 Y^2 - 15 X^4 Z^2 - 15 X^2 Y^4 + 180 X^2 Y^2 Z^2 - 15 X^2 Z^4 + 2 Y^6 - 15 Y^4 Z^2 - 15 Y^2 Z^4 + 2 Z^6\right)}{2 X^6 + 15 X^4 Y^2 - 15 X^4 Z^2 - 15 X^2 Y^4 + 180 X^2 Y^2 Z^2 - 15 X^2 Z^4 + 2 Y^6 - 15 Y^4 Z^2 - 15 Y^2 Z^4 + 2 Z^6\right)}
 37
            \sqrt{2310}(X-Y)(X+Y)(X-Z)(X+Z)(Y-Z)(Y+Z)
 38
           \frac{8}{\sqrt{14}\left(-X^6+15X^4Z^2-15X^2Z^4-Y^6+15Y^4Z^2-15Y^2Z^4+2Z^6\right)}
 39
           \sqrt{42} \left( X^6 - 10X^4Y^2 - 5X^4Z^2 + 10X^2Y^4 + 5X^2Z^4 - Y^6 + 5Y^4Z^2 - 5Y^2Z^4 \right)
 40
           3\sqrt{7}YZ(Y-Z)(Y+Z)(10X^2-Y^2-Z^2)
 41
           3\sqrt{7}XZ(X-Z)(X+Z)(X^2-10Y^2+Z^2)
 42
           -\frac{3\sqrt{7}XY(X-Y)(X+Y)(X+Y)(X^2+Y^2-10Z^2)}{4}
          \frac{\sqrt{462}YZ(Y^2 - 3Z^2)(3Y^2 - Z^2)}{16}
\sqrt{462}XZ(Y^2 - 3Z^2)(3Y^2 - Z^2)
 43
 44
           \sqrt{462}XZ(X^2-3Z^2)(3X^2-Z^2)
 45
           \sqrt{462}XY(X^2-3Y^2)(3X^2-Y^2)
 46
           \sqrt{210}YZ\left(16X^4-16X^2Y^2-16X^2Z^2+Y^4+2Y^2Z^2+Z^4\right)
 47
            \sqrt{210}XZ \Big(X^4 - 16X^2Y^2 + 2X^2Z^2 + 16Y^4 - 16Y^2Z^2 + Z^4\Big)
           \sqrt{210}XY(X^4+2X^2Y^2-16X^2Z^2+Y^4-16Y^2Z^2+16Z^4)
 49
```

表 8 rank 7

No.	expression
50	$\frac{\sqrt{91}XYZ(3X^4-5X^2Y^2-5X^2Z^2+3Y^4-5Y^2Z^2+3Z^4)}{2}$
51	$\frac{\sqrt{231}XYZ\left(-3X^4+10X^2Z^2+3Y^4-10Y^2Z^2\right)}{4}$
52	$\frac{\sqrt{77}XYZ\left(-3X^4+20X^2Y^2-10X^2Z^2-3Y^4-10Y^2Z^2+6Z^4\right)}{2}$
53	$\frac{4}{X \left(16 X^6 - 168 X^4 Y^2 - 168 X^4 Z^2 + 210 X^2 Y^4 + 420 X^2 Y^2 Z^2 + 210 X^2 Z^4 - 35 Y^6 - 105 Y^4 Z^2 - 105 Y^2 Z^4 - 35 Z^6\right)}$
54	$Y\left(35X^{6} - 210X^{4}Y^{2} + 105X^{4}Z^{2} + 168X^{2}Y^{4} - 420X^{2}Y^{2}Z^{2} + 105X^{2}Z^{4} - 16Y^{6} + 168Y^{4}Z^{2} - 210Y^{2}Z^{4} + 35Z^{6}\right)$
	$-\frac{16}{Z\left(35X^{6}+105X^{4}Y^{2}-210X^{4}Z^{2}+105X^{2}Y^{4}-420X^{2}Y^{2}Z^{2}+168X^{2}Z^{4}+35Y^{6}-210Y^{4}Z^{2}+168Y^{2}Z^{4}-16Z^{6}\right)}$
55	$\frac{16}{\sqrt{231}X(10X^2 - 3Y^2 - 3Z^2)(Y^2 - 2YZ - Z^2)(Y^2 + 2YZ - Z^2)}$
56	16
57	$-\frac{\sqrt{231}Y(X^2 - 2XZ - Z^2)(X^2 + 2XZ - Z^2)(3X^2 - 10Y^2 + 3Z^2)}{16}$ $-\frac{\sqrt{231}Z(X^2 - 2XY - X^2)(X^2 + 2XY - X^2)(2X^2 + 2Y^2 - 10Z^2)}{16}$
58	$-\frac{\sqrt{231}Z(X^2 - 2XY - Y^2)(X^2 + 2XY - Y^2)(3X^2 + 3Y^2 - 10Z^2)}{16}$
59	$\frac{\sqrt{6006}X(Y-Z)(Y+Z)(Y^2-4YZ+Z^2)(Y^2+4YZ+Z^2)}{32}$
60	$-\frac{\sqrt{6006}Y(X-Z)(X+Z)\left(X^2-4XZ+Z^2\right)\left(X^2+4XZ+Z^2\right)}{32}$
61	$\frac{\sqrt{6006}Z(X-Y)(X+Y)(X^2-4XY+Y^2)(X^2+4XY+Y^2)}{32}$
62	$\frac{\sqrt{42}X(Y-Z)(Y+Z)\left(48X^4-80X^2Y^2-80X^2Z^2+15Y^4+30Y^2Z^2+15Z^4\right)}{32}$
63	$-\frac{\sqrt{42}Y(X-Z)(X+Z)\left(15X^4-80X^2Y^2+30X^2Z^2+48Y^4-80Y^2Z^2+15Z^4\right)}{32}$
64	$\frac{\sqrt{42}Z(X-Y)(X+Y)\left(15X^4+30X^2Y^2-80X^2Z^2+15Y^4-80Y^2Z^2+48Z^4\right)}{32}$

表 9 rank 8

```
No. expression
           \sqrt{33} \left(X^8 - 14X^6Y^2 - 14X^6Z^2 + 35X^4Y^4 + 35X^4Z^4 - 14X^2Y^6 - 14X^2Z^6 + Y^8 - 14Y^6Z^2 + 35Y^4Z^4 - 14Y^2Z^6 + Z^8\right)
65
           \sqrt{286} \left(X^8 - 14X^6Y^2 - 14X^6Z^2 + 210X^4Y^2Z^2 - 14X^2Y^6 + 210X^2Y^4Z^2 - 420X^2Y^2Z^4 + 28X^2Z^6 + Y^8 - 14Y^6Z^2 + 28Y^2Z^6 - 2Z^8\right)
 66
           \sqrt{858} \left(-X^8 + 14X^6Y^2 + 14X^6Z^2 - 210X^4Y^2Z^2 - 14X^2Y^6 + 210X^2Y^4Z^2 + Y^8 - 14Y^6Z^2\right)
 67
           \sqrt{210} \left(X^8 - 62 X^6 Y^2 + 34 X^6 Z^2 + 160 X^4 Y^4 - 30 X^4 Y^2 Z^2 - 80 X^4 Z^4 - 62 X^2 Y^6 - 30 X^2 Y^4 Z^2 + 60 X^2 Y^2 Z^4 + 28 X^2 Z^6 + Y^8 + 34 Y^6 Z^2 - 80 Y^4 Z^4 + 28 Y^2 Z^6 - 2Z^8\right)
 68
          3\sqrt{70}\left(-X^8 - 2X^6Y^2 + 30X^6Z^2 + 30X^4Y^2Z^2 - 80X^4Z^4 + 2X^2Y^6 - 30X^2Y^4Z^2 + 32X^2Z^6 + Y^8 - 30Y^6Z^2 + 80Y^4Z^4 - 32Y^2Z^6\right)
 69
           3\sqrt{715}YZ(Y\!-\!Z)(Y\!+\!Z)\!\left(Y^2\!-\!2YZ\!-\!Z^2\right)\!\left(Y^2\!+\!2YZ\!-\!Z^2\right)
 70
             3\sqrt{715}XZ(X-Z)(X+Z)\Big(X^2-2XZ-Z^2\Big)\Big(X^2+2XZ-Z^2\Big)
 71
           3\sqrt{715}XY(X\!-\!Y)(X\!+\!Y)\!\left(X^2\!-\!2XY\!-\!Y^2\right)\!\left(X^2\!+\!2XY\!-\!Y^2\right)
 72
          3\sqrt{77}YZ(Y-Z)(Y+Z)\left(40X^{4}-24X^{2}Y^{2}-24X^{2}Z^{2}+Y^{4}+2Y^{2}Z^{2}+Z^{4}\right)
 73
             3\sqrt{77}XZ(X-Z)(X+Z)\left(X^4-24X^2Y^2+2X^2Z^2+40Y^4-24Y^2Z^2+Z^4\right)
 74
          3\sqrt{77}XY(X-Y)(X+Y)\left(X^4+2X^2Y^2-24X^2Z^2+Y^4-24Y^2Z^2+40Z^4\right)
 75
           \sqrt{858}YZ \Big(Y^2 - 3Z^2\Big) \Big(3Y^2 - Z^2\Big) \Big(14X^2 - Y^2 - Z^2\Big)
 76
              \sqrt{858}XZ(X^2-3Z^2)(3X^2-Z^2)(X^2-14Y^2+Z^2)
 77
              \sqrt{858}XY \left(X^2\!-\!3Y^2\right) \! \left(3X^2\!-\!Y^2\right) \! \left(X^2\!+\!Y^2\!-\!14Z^2\right)
 78
          3\sqrt{70}YZ \Big(32X^6 - 80X^4Y^2 - 80X^4Z^2 + 30X^2Y^4 + 60X^2Y^2Z^2 + 30X^2Z^4 - Y^6 - 3Y^4Z^2 - 3Y^2Z^4 - Z^6\Big)
 79
             \frac{3\sqrt{70}XZ\left(X^{6}-30X^{4}Y^{2}+3X^{4}Z^{2}+80X^{2}Y^{4}-60X^{2}Y^{2}Z^{2}+3X^{2}Z^{4}-32Y^{6}+80Y^{4}Z^{2}-30Y^{2}Z^{4}+Z^{6}\right)}{32}
             3\sqrt{70}XY\left(X^{6}+3X^{4}Y^{2}-30X^{4}Z^{2}+3X^{2}Y^{4}-60X^{2}Y^{2}Z^{2}+80X^{2}Z^{4}+Y^{6}-30Y^{4}Z^{2}+80Y^{2}Z^{4}-32Z^{6}\right)
81
```

表 10 rank 9

```
expression
No.
         \sqrt{510510}XYZ(X-Y)(X+Y)(X-Z)(X+Z)(Y-Z)(Y+Z)
         \sqrt{330}XYZ \left(6X^{6} - 21X^{4}Y^{2} - 21X^{4}Z^{2} - 21X^{2}Y^{4} + 140X^{2}Y^{2}Z^{2} - 21X^{2}Z^{4} + 6Y^{6} - 21Y^{4}Z^{2} - 21Y^{2}Z^{4} + 6Z^{6}\right)
         \sqrt{4290}XYZ\big(3X^6 - 14X^4Y^2 - 7X^4Z^2 + 14X^2Y^4 + 7X^2Z^4 - 3Y^6 + 7Y^4Z^2 - 7Y^2Z^4\big)
         3\sqrt{1430}XYZ\big(X^{6}-7X^{4}Z^{2}+7X^{2}Z^{4}+Y^{6}-7Y^{4}Z^{2}+7Y^{2}Z^{4}-2Z^{6}\big)
         X \left(128X^8 - 2304X^6Y^2 - 2304X^6Z^2 + 6048X^4Y^4 + 12096X^4Y^2Z^2 + 6048X^4Z^4 - 3360X^2Y^6 - 10080X^2Y^4Z^2 - 10080X^2Y^2Z^4 - 3360X^2Z^6 + 315Y^8 + 1260Y^6Z^2 + 1890Y^4Z^4 + 1260Y^2Z^6 + 315Z^8\right)
         Y \left(315X^8 - 3360X^6Y^2 + 1260X^6Z^2 + 6048X^4Y^4 - 10080X^4Y^2Z^2 + 1890X^4Z^4 - 2304X^2Y^6 + 12096X^2Y^4Z^2 - 10080X^2Y^2Z^4 + 1260X^2Z^6 + 128Y^8 - 2304Y^6Z^2 + 6048Y^4Z^4 - 3360Y^2Z^6 + 315Z^8\right)
87
         Z\big(315X^8 + 1260X^6Y^2 - 3360X^6Z^2 + 1890X^4Y^4 - 10080X^4Y^2Z^2 + 6048X^4Z^4 + 1260X^2Y^6 - 10080X^2Y^4Z^2 + 12096X^2Y^2Z^4 - 2304X^2Z^6 + 315Y^8 - 3360Y^6Z^2 + 6048Y^4Z^4 - 2304Y^2Z^6 + 128Z^8\big)
         3\sqrt{12155}X(Y^4-4Y^3Z-6Y^2Z^2+4YZ^3+Z^4)(Y^4+4Y^3Z-6Y^2Z^2-4YZ^3+Z^4)
         3\sqrt{12155}Y\left(X^4-4X^3Z-6X^2Z^2+4XZ^3+Z^4\right)\left(X^4+4X^3Z-6X^2Z^2-4XZ^3+Z^4\right)
90
         3\sqrt{12155}Z\big(X^4-4X^3Y-6X^2Y^2+4XY^3+Y^4\big)\big(X^4+4X^3Y-6X^2Y^2-4XY^3+Y^4\big)
91
         3\sqrt{5005}X\big(Y^2-2YZ-Z^2\big)\big(Y^2+2YZ-Z^2\big)\big(8X^4-8X^2Y^2-8X^2Z^2+Y^4+2Y^2Z^2+Z^4\big)
92
         3\sqrt{5005}Y(X^2-2XZ-Z^2)(X^2+2XZ-Z^2)(X^4-8X^2Y^2+2X^2Z^2+8Y^4-8Y^2Z^2+Z^4)
93
         3\sqrt{5005}Z\big(X^2-2XY-Y^2\big)\big(X^2+2XY-Y^2\big)\big(X^4+2X^2Y^2-8X^2Z^2+Y^4-8Y^2Z^2+8Z^4\big)
94
         \sqrt{4290}X(Y-Z)(Y+Z)\left(14X^2-3Y^2-3Z^2\right)\left(Y^2-4YZ+Z^2\right)\left(Y^2+4YZ+Z^2\right)
95
         \sqrt{4290}Y(X-Z)(X+Z)\left(X^2-4XZ+Z^2\right)\left(X^2+4XZ+Z^2\right)\left(3X^2-14Y^2+3Z^2\right)
96
            \sqrt{4290}Z(X-Y)(X+Y)\left(X^2-4XY+Y^2\right)\left(X^2+4XY+Y^2\right)\left(3X^2+3Y^2-14Z^2\right)
97
         3\sqrt{110}X(Y-Z)(Y+Z)\left(32X^6-112X^4Y^2-112X^4Z^2+70X^2Y^4+140X^2Y^2Z^2+70X^2Z^4-7Y^6-21Y^4Z^2-21Y^2Z^4-7Z^6\right)
         3\sqrt{110}Y(X-Z)(X+Z)\left(7X^6-70X^4Y^2+21X^4Z^2+112X^2Y^4-140X^2Y^2Z^2+21X^2Z^4-32Y^6+112Y^4Z^2-70Y^2Z^4+7Z^6\right)
99
           3\sqrt{110}Z(X-Y)(X+Y)\left(7X^{6}+21X^{4}Y^{2}-70X^{4}Z^{2}+21X^{2}Y^{4}-140X^{2}Y^{2}Z^{2}+112X^{2}Z^{4}+7Y^{6}-70Y^{4}Z^{2}+112Y^{2}Z^{4}-32Z^{6}\right)
100
```

```
No.
               expression
                     \sqrt{390} \cdot \left(2X^{10} - 45X^8Y^2 - 45X^8Z^2 + 42X^6Y^4 + 1008X^6Y^2Z^2 + 42X^6Z^4 + 42X^4Y^6 - 1260X^4Y^4Z^2 - 1260X^4Y^2Z^4 + 42X^4Z^6 - 45X^2Y^8 + 1008X^2Y^6Z^2 - 1260X^2Y^4Z^4 + 1008X^2Y^2Z^6 - 45X^2Z^8 + 2Y^{10} - 45Y^8Z^2 + 42Y^6Z^4 + 42Y^4Z^6 - 45Y^2Z^8 + 2Y^{10} - 45Y^8Z^2 + 42Y^6Z^4 + 42Y^4Z^6 - 45Y^2Z^8 + 2Y^{10} - 45Y^8Z^2 + 42Y^6Z^4 + 42Y^4Z^6 - 45Y^2Z^8 + 2Y^{10} - 45Y^8Z^2 + 42Y^6Z^4 + 42Y^4Z^6 - 45Y^2Z^8 + 2Y^{10} - 45Y^8Z^4 + 2Y^{10} - 47Y^8Z^4 + 2Y^8Z^4 + 2Y^{10} - 47Y^8Z^4 + 2Y^8Z^4 + 2Y^8
101
                    \sqrt{27170}(X-Y)(X+Y)(X-Z)(X+Z)(Y-Z)(Y+Z)(3X^4-11X^2Y^2-11X^2Z^2+3Y^4-11Y^2Z^2+3Z^4)
102
                     \sqrt{420189} \left(-22 X^{10}-45 X^8 Y^2+103 X^8 Z^2+105 X^6 Y^4+630 X^6 Y^2 Z^2-4935 X^6 Z^4+105 X^4 Y^6-3150 X^4 Y^4 Z^2+1575 X^4 Y^2 Z^4+4830 X^4 Z^6-45 X^2 Y^8+630 X^2 Y^6 Z^2+1575 X^2 Y^2 Z^4-1260 X^2 Y^2 Z^6-990 X^2 Z^8-22 Y^{10}+1035 Y^8 Z^2-4935 Y^6 Z^4+4830 Y^4 Z^6-990 Y^2 Z^8+44 Z^{10}\right)
103
                                                                                                                                                                                                                                                                                                                              35952
                    \sqrt{140003} \cdot \left(22X^{10} - 675X^8Y^2 - 315X^8Z^2 + 3255X^6Y^4 - 630X^6Y^2Z^2 + 1575X^6Z^4 - 3255X^4Y^6 + 1575X^4Y^2Z^4 - 1680X^4Z^6 + 675X^2Y^5 + 630X^2Y^6Z^2 - 1575X^2Y^4Z^4 + 360X^2Z^8 - 22Y^{10} + 315Y^8Z^2 - 1575Y^6Z^4 + 1680Y^4Z^6 - 360Y^2Z^8 \right)
104
                     \sqrt{3213210} \left(-3 X^{10}+96 X^8 Y^2+39 X^8 Z^2-224 X^6 Y^4-1344 X^6 Y^2 Z^2+42 X^6 Z^4-224 X^4 Y^6+6720 X^4 Y^4 Z^2-3360 X^4 Y^2 Z^4+182 X^4 Z^6+96 X^2 Y^8-1344 X^2 Y^6 Z^2-3360 X^2 Y^2 Z^4+268 X^2 Y^2 Z^6-135 Y^2 Z^8-3 Y^{10}+39 Y^8 Z^2+42 Y^6 Z^4+182 Y^4 Z^6-135 Y^2 Z^8+6 Z^{10}\right)
105
                                                                                                                                                                                                                                                                                                                23968
                     \sqrt{1071070} \cdot \left(9X^{10} - 174X^8Y^2 - 231X^8Z^2 + 140X^6Y^4 + 4032X^6Y^2Z^2 + 406X^6Z^4 - 140X^4Y^6 - 10080X^4Y^2Z^4 + 266X^4Z^6 + 174X^2Y^8 - 4032X^2Y^6Z^2 + 10080X^2Y^4Z^4 - 57X^2Z^8 - 9Y^{10} + 231Y^8Z^2 - 406Y^6Z^4 - 266Y^4Z^6 + 57Y^2Z^8\right)
106
                                                                                                                                                                                                                                                                            23968
                     \sqrt{12155}YZ(Y-Z)(Y+Z)(18X^2-Y^2-Z^2)(Y^2-2YZ-Z^2)(Y^2+2YZ-Z^2)
107
                     \sqrt{12155}XZ(X-Z)(X+Z)(X^2-18Y^2+Z^2)(X^2-2XZ-Z^2)(X^2+2XZ-Z^2)
108
                        \sqrt{12155}XY(X-Y)(X+Y)\left(X^2+Y^2-18Z^2\right)\left(X^2-2XY-Y^2\right)\left(X^2+2XY-Y^2\right)
109
                    \sqrt{2145}YZ(Y-Z)(Y+Z)\left(112X^{6}-168X^{4}Y^{2}-168X^{4}Z^{2}+42X^{2}Y^{4}+84X^{2}Y^{2}Z^{2}+42X^{2}Z^{4}-Y^{6}-3Y^{4}Z^{2}-3Y^{2}Z^{4}-Z^{6}\right)
110
                     \sqrt{2145}XZ(X-Z)(X+Z)\left(X^{6}-42X^{4}Y^{2}+3X^{4}Z^{2}+168X^{2}Y^{4}-84X^{2}Y^{2}Z^{2}+3X^{2}Z^{4}-112Y^{6}+168Y^{4}Z^{2}-42Y^{2}Z^{4}+Z^{6}\right)
111
                        \sqrt{2145}XY(X-Y)(X+Y)\left(X^{6}+3X^{4}Y^{2}-42X^{4}Z^{2}+3X^{2}Y^{4}-84X^{2}Y^{2}Z^{2}+168X^{2}Z^{4}+Y^{6}-42Y^{4}Z^{2}+168Y^{2}Z^{4}-112Z^{6}\right)
112
                     \sqrt{92378}YZ(Y^4-10Y^2Z^2+5Z^4)(5Y^4-10Y^2Z^2+Z^4)
113
                     \sqrt{92378}XZ(X^4-10X^2Z^2+5Z^4)(5X^4-10X^2Z^2+Z^4)
114
                      \sqrt{92378}XY(X^4-10X^2Y^2+5Y^4)(5X^4-10X^2Y^2+Y^4)
115
                     \sqrt{4290}YZ(Y^2-3Z^2)(3Y^2-Z^2)(224X^4-96X^2Y^2-96X^2Z^2+3Y^4+6Y^2Z^2+3Z^4)
116
                     \sqrt{4290}XZ(X^2-3Z^2)(3X^2-Z^2)(3X^4-96X^2Y^2+6X^2Z^2+224Y^4-96Y^2Z^2+3Z^4)
117
                     \sqrt{4290}XY(X^2-3Y^2)(3X^2-Y^2)(3X^4+6X^2Y^2-96X^2Z^2+3Y^4-96Y^2Z^2+224Z^4)
118
                    \sqrt{165}YZ(384X^8 - 1792X^6Y^2 - 1792X^6Z^2 + 1680X^4Y^4 + 3360X^4Y^2Z^2 + 1680X^4Z^4 - 336X^2Y^6 - 1008X^2Y^4Z^2 - 1008X^2Y^2Z^4 - 336X^2Z^6 + 7Y^8 + 28Y^6Z^2 + 42Y^4Z^4 + 28Y^2Z^6 + 7Z^8)
119
                    \sqrt{165}XZ(7X^8 - 336X^6Y^2 + 28X^6Z^2 + 1680X^4Y^4 - 1008X^4Y^2Z^2 + 42X^4Z^4 - 1792X^2Y^6 + 3360X^2Y^4Z^2 - 1008X^2Y^2Z^4 + 28X^2Z^6 + 384Y^8 - 1792Y^6Z^2 + 1680Y^4Z^4 - 336Y^2Z^6 + 7Z^8)
120
                                                                                                                                                                                                                             128
                   \sqrt{165}XY \left(7X^8 + 28X^6Y^2 - 336X^6Z^2 + 42X^4Y^4 - 1008X^4Y^2Z^2 + 1680X^4Z^4 + 28X^2Y^6 - 1008X^2Y^4Z^2 + 3360X^2Y^2Z^4 - 1792X^2Z^6 + 7Y^8 - 336Y^6Z^2 + 1680Y^4Z^4 - 1792Y^2Z^6 + 384Z^8 + 1008X^4Y^4Z^4 - 1792Y^2Z^6 + 1008X^4Y^4Z^4 - 1008X^4Z^4 -
121
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No.
                           expression
                                \sqrt{2431}XYZ\left(5X^{8} - 30X^{6}Y^{2} - 30X^{6}Z^{2} + 63X^{4}Y^{4} + 63X^{4}Z^{4} - 30X^{2}Y^{6} - 30X^{2}Z^{6} + 5Y^{8} - 30Y^{6}Z^{2} + 63Y^{4}Z^{4} - 30Y^{2}Z^{6} + 5Z^{8}\right)
  122
                                 \sqrt{692835}XYZ(-X^8+6X^6Y^2+6X^6Z^2-42X^4Y^2Z^2-6X^2Y^6+42X^2Y^4Z^2+Y^8-6Y^6Z^2)
  123
                                 \sqrt{230945}XYZ\left(-X^8+6X^6Y^2+6X^6Z^2-42X^4Y^2Z^2+6X^2Y^6-42X^2Y^4Z^2+84X^2Y^2Z^4-12X^2Z^6-Y^8+6Y^6Z^2-12Y^2Z^6+2Z^8\right)
  124
                                3\sqrt{1001}XYZ\left(-5X^8-10X^6Y^2+70X^6Z^2+70X^4Y^2Z^2-168X^4Z^4+10X^2Y^6-70X^2Y^4Z^2+80X^2Z^6+5Y^8-70Y^6Z^2+168Y^4Z^4-80Y^2Z^6\right)
  125
                                \sqrt{3003}XYZ\left(-5X^8+150X^6Y^2-90X^6Z^2-336X^4Y^4+70X^4Y^2Z^2+168X^4Z^4+150X^2Y^6+70X^2Y^4Z^2-140X^2Y^2Z^4-60X^2Z^6-5Y^8-90Y^6Z^2+168Y^4Z^4-60Y^2Z^6+10Z^8\right)
  126
                                X \left(256X^{10} - 7040X^8Y^2 - 7040X^8Y^2 - 7040X^8Y^2 - 7040X^8Y^2 + 31680X^6Y^4 + 63360X^6Y^2Z^2 + 31680X^6Y^4 - 6930Y^4Z^4 - 6930Y^4
  127
                                      Y \left(693X^{10} - 11550X^8Y^2 + 3465X^8Z^2 + 36960X^6Y^4 - 46200X^6Y^2Z^2 + 6930X^4Y^2Z^4 + 69
  128
                                       Z \Big( 693X^{10} + 3465X^8Y^2 - 11550X^8Z^2 + 6930X^6Y^4 - 46200X^6Y^2Z^2 + 36960X^6Z^4 + 6930X^4Y^6 - 69300X^4Y^4Z^2 + 110880X^4Y^2Z^4 - 31680X^4Z^6 + 2465X^2Y^8 - 46200X^2Y^6Z^2 + 110880X^2Y^2Z^6 + 7040X^2Z^8 + 693Y^{10} - 11550Y^8Z^2 + 36960Y^6Z^4 - 31680Y^4Z^6 + 7040Y^2Z^8 - 256Z^{10} + 7040Y^2Z^8 - 24620X^2Y^6Z^2 + 110880X^2Y^4Z^4 - 110880X^2Y^4 - 11088
  129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              256
                                 \sqrt{692835}X(6X^2-Y^2-Z^2)(Y^4-4Y^3Z-6Y^2Z^2+4YZ^3+Z^4)(Y^4+4Y^3Z-6Y^2Z^2-4YZ^3+Z^4)
  130
                                        \sqrt{692835}Y(X^2-6Y^2+Z^2)(X^4-4X^3Z-6X^2Z^2+4XZ^3+Z^4)(X^4+4X^3Z-6X^2Z^2-4XZ^3+Z^4)
  131
                                        \sqrt{692835}Z\big(X^2+Y^2-6Z^2\big)\big(X^4-4X^3Y-6X^2Y^2+4XY^3+Y^4\big)\big(X^4+4X^3Y-6X^2Y^2-4XY^3+Y^4\big)
  132
                                3\sqrt{1001}X\left(Y^2-2YZ-Z^2\right)\left(Y^2+2YZ-Z^2\right)\left(80X^6-168X^4Y^2-168X^4Z^2+70X^2Y^4+140X^2Y^2Z^2+70X^2Z^4-5Y^6-15Y^4Z^2-15Y^2Z^4-5Z^6\right)
  133
                                      3\sqrt{1001}Y\left(X^2 - 2XZ - Z^2\right)\left(X^2 + 2XZ - Z^2\right)\left(5X^6 - 70X^4Y^2 + 15X^4Z^2 + 168X^2Y^4 - 140X^2Y^2Z^2 + 15X^2Z^4 - 80Y^6 + 168Y^4Z^2 - 70Y^2Z^4 + 5Z^6\right)
  134
                                      3\sqrt{1001}Z\big(X^2 - 2XY - Y^2\big)\big(X^2 + 2XY - Y^2\big)\big(5X^6 + 15X^4Y^2 - 70X^4Z^2 + 15X^2Y^4 - 140X^2Y^2Z^2 + 168X^2Z^4 + 5Y^6 - 70Y^4Z^2 + 168Y^2Z^4 - 80Z^6\big)
  135
                                \sqrt{1939938}X(Y-Z)(Y+Z)(Y^4-4Y^3Z-14Y^2Z^2-4YZ^3+Z^4)(Y^4+4Y^3Z-14Y^2Z^2+4YZ^3+Z^4)
  136
                                        \sqrt{1939938}Y(X-Z)(X+Z)\left(X^{4}-4X^{3}Z-14X^{2}Z^{2}-4XZ^{3}+Z^{4}\right)\left(X^{4}+4X^{3}Z-14X^{2}Z^{2}+4XZ^{3}+Z^{4}\right)
  137
                                 \sqrt{1939938}Z(X-Y)(X+Y)(X^4-4X^3Y-14X^2Y^2-4XY^3+Y^4)(X^4+4X^3Y-14X^2Y^2+4XY^3+Y^4)
  138
                                 \sqrt{14586}X(Y-Z)(Y+Z)(Y^2-4YZ+Z^2)(Y^2+4YZ+Z^2)(224X^4-160X^2Y^2-160X^2Z^2+15Y^4+30Y^2Z^2+15Z^4)
  139
                                        \sqrt{14586}Y(X-Z)(X+Z)\left(X^2-4XZ+Z^2\right)\left(X^2+4XZ+Z^2\right)\left(15X^4-160X^2Y^2+30X^2Z^2+224Y^4-160Y^2Z^2+15Z^4\right)
  140
                                \sqrt{14586}Z(X-Y)(X+Y)(X^2-4XY+Y^2)(X^2+4XY+Y^2)(15X^4+30X^2Y^2-160X^2Z^2+15Y^4-160Y^2Z^2+224Z^4)
                                 \sqrt{2145}X(Y-Z)(Y+Z)\left(128X^8-768X^6Y^2-768X^6Z^2+1008X^4Y^4+2016X^4Y^2Z^2+1008X^4Z^4-336X^2Y^6-1008X^2Y^4Z^2-1008X^2Y^2Z^4-336X^2Z^6+21Y^8+84Y^6Z^2+126Y^4Z^4+84Y^2Z^6+21Z^8\right)
  142
                                        \sqrt{2145}Y(X-Z)(X+Z)\left(21X^8-336X^6Y^2+84X^6Z^2+1008X^4Y^4-1008X^4Y^2Z^2+126X^4Z^4-768X^2Y^6+2016X^2Y^4Z^2-1008X^2Y^2Z^4+84X^2Z^6+128Y^8-768Y^6Z^2+1008Y^4Z^4-336Y^2Z^6+21Z^8+212X^8+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X^6+212X
  143
                                \sqrt{2145}Z(X-Y)(X+Y)\left(21X^8+84X^6Y^2-336X^6Z^2+126X^4Y^4-1008X^4Y^2Z^2+1008X^4Z^4+84X^2Y^6-1008X^2Y^4Z^2+2016X^2Y^2Z^4-768X^2Z^6+21Y^8-336Y^6Z^2+1008Y^4Z^4-768Y^2Z^6+128Z^8Y^2Z^6+21Y^8-336Y^6Z^2+1008Y^4Z^4-768Y^2Z^6+128Z^8Y^2Z^6+126X^2Y^2Z^4-768X^2Z^6+21Y^8-336Y^6Z^2+1008Y^4Z^4-768Y^2Z^6+128Z^8Y^2Z^4+1008Y^4Z^4+84X^2Y^6-1008X^2Y^4Z^2+1016X^2Y^2Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+1008Y^4Z^4+10
144
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