No. 31 T_d -43m [cubic] (axial)

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	$\frac{\sqrt{3}(X-Y)(X+Y)}{2}$
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	$\sqrt{15}X(Y-Z)(Y+Z)$
15	$-\frac{\sqrt{15}Y(X-Z)(X+Z)}{2}$
16	$\frac{2}{\sqrt{15}Z(X-Y)(X+Y)}$
	-

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	$\frac{\sqrt{5}(X-Y)(X+Y)(X^2+Y^2-6Z^2)}{4}$
20	$\frac{\sqrt{5}YZ\left(6X^2-Y^2-Z^2\right)}{2}$
21	$-rac{\sqrt{5}XZig(X^2-6Y^2+Z^2ig)}{2}$
22	$-\frac{\sqrt{5}XY(X^2+Y^2-6Z^2)}{2}$
23	$\frac{\sqrt{35}YZ(Y-Z)(Y+Z)}{2}$
24	$-\frac{\sqrt{35}XZ(X\!-\!Z)(X\!+\!Z)}{2}$
25	$\frac{\sqrt{35}XY(X-Y)(X+Y)}{2}$

表 6 rank 5

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

表 7 rank 6

No.	expression
37	$\frac{\sqrt{2310}(X-Y)(X+Y)(X-Z)(X+Z)(Y-Z)(Y+Z)}{8}$
38	$\frac{\sqrt{2} \cdot \left(2 X^6 - 15 X^4 Y^2 - 15 X^4 Z^2 - 15 X^2 Y^4 + 180 X^2 Y^2 Z^2 - 15 X^2 Z^4 + 2 Y^6 - 15 Y^4 Z^2 - 15 Y^2 Z^4 + 2 Z^6\right)}{2 \cdot \left(2 X^6 - 15 X^4 Y^2 - 15 X^4 Z^2 - 15 X^2 Y^4 + 180 X^2 Y^2 Z^2 - 15 X^2 Z^4 + 2 Y^6 - 15 Y^4 Z^2 - 15 Y^2 Z^4 + 2 Z^6\right)}$
39	$-\frac{\sqrt{14} \left(X^6 - 15X^4Z^2 + 15X^2Z^4 + Y^6 - 15Y^4Z^2 + 15Y^2Z^4 - 2Z^6\right)}{2}$
40	$\sqrt{42}(X-Y)(X+Y)\left(X^4-9X^2Y^2-5X^2Z^2+Y^4-5Y^2Z^2+5Z^4\right)$
	$\frac{8}{\sqrt{462}YZ(Y^2 - 3Z^2)(3Y^2 - Z^2)}$
41	$\frac{16}{\sqrt{462}XZ(X^2-3Z^2)(3X^2-Z^2)}$
42	16
43	$\frac{\sqrt{462}XY(X^2 - 3Y^2)(3X^2 - Y^2)}{16}$
44	$\frac{\sqrt{210}YZ\left(16X^4 - 16X^2Y^2 - 16X^2Z^2 + Y^4 + 2Y^2Z^2 + Z^4\right)}{16}$
45	$\frac{\sqrt{210}XZ(X^4 - 16X^2Y^2 + 2X^2Z^2 + 16Y^4 - 16Y^2Z^2 + Z^4)}{16}$
46	$\frac{\sqrt{210}XY\left(X^4 + 2X^2Y^2 - 16X^2Z^2 + Y^4 - 16Y^2Z^2 + 16Z^4\right)}{16}$
47	$\frac{3\sqrt{7}YZ(Y-Z)(Y+Z)\left(10X^2-Y^2-Z^2\right)}{2}$
48	$ \frac{4}{3\sqrt{7}XZ(X-Z)(X+Z)(X^2-10Y^2+Z^2)} $
49	$\frac{4}{3\sqrt{7}XY(X-Y)(X+Y)(X^2+Y^2-10Z^2)}$
49	4

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	$-\frac{\sqrt{77}XYZ\left(3X^4-20X^2Y^2+10X^2Z^2+3Y^4+10Y^2Z^2-6Z^4\right)}{4}$
52	$\frac{\sqrt{231}XYZ(X-Y)(X+Y)(3X^2+3Y^2-10Z^2)}{4}$
53	$\frac{X \left(16 X^{6}-168 X^{4} Y^{2}-168 X^{4} Z^{2}+210 X^{2} Y^{4}+420 X^{2} Y^{2} Z^{2}+210 X^{2} Z^{4}-35 Y^{6}-105 Y^{4} Z^{2}-105 Y^{2} Z^{4}-35 Z^{6}\right)}{16} + \frac{16}{16} \left(16 X^{6}-168 X^{4} Y^{2}-168 X^{4} Z^{2}+210 X^{2} Y^{4}+420 X^{2} Y^{2} Z^{2}+210 X^{2} Z^{4}-35 Y^{6}-105 Y^{4} Z^{2}-105 Y^{2} Z^{4}-35 Z^{6}\right)}{16} + \frac{16}{16} \left(16 X^{6}-168 X^{4} Y^{2}-168 X^{4} Z^{2}+210 X^{2} Y^{4}+420 X^{2} Y^{2} Z^{2}+210 X^{2} Z^{4}-35 Y^{6}-105 Y^{4} Z^{2}-105 Y^{2} Z^{4}-35 Z^{6}\right)}{16} + \frac{16}{16} \left(16 X^{6}-168 X^{4} Y^{2}-168 X^{4} Z^{2}+210 X^{2} Y^{4}+420 X^{2} Y^{2} Z^{2}+210 X^{2} Z^{4}-35 Y^{6}-105 Y^{4} Z^{2}-105 Y^{2} Z^{4}-35 Z^{6}\right)}{16} + \frac{16}{16} \left(16 X^{6}-168 X^{4} Y^{2}-168 X^{4} Z^{2}+10 X^{2} Y^{4}+420 X^{2} Y^{2} Z^{2}+10 X^{2} Z^{4}-105 Y^{2} Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-105 Z^{4}-1$
54	$-\frac{Y \left(35 X^6-210 X^4 Y^2+105 X^4 Z^2+168 X^2 Y^4-420 X^2 Y^2 Z^2+105 X^2 Z^4-16 Y^6+168 Y^4 Z^2-210 Y^2 Z^4+35 Z^6\right)}{16}$
55	$-\frac{Z\big(35X^6 + 105X^4Y^2 - 210X^4Z^2 + 105X^2Y^4 - 420X^2Y^2Z^2 + 168X^2Z^4 + 35Y^6 - 210Y^4Z^2 + 168Y^2Z^4 - 16Z^6\big)}{16}$
56	$\frac{\sqrt{231}X \left(10X^2 - 3Y^2 - 3Z^2\right) \left(Y^2 - 2YZ - Z^2\right) \left(Y^2 + 2YZ - Z^2\right)}{2}$
57	$-\frac{\sqrt{231}Y(X^2-2XZ-Z^2)(X^2+2XZ-Z^2)(3X^2-10Y^2+3Z^2)}{2(X^2-2XZ-Z^2)(3X^2-10Y^2+3Z^2)}$
58	$-\frac{\sqrt{231}Z\left(X^2-2XY-Y^2\right)\left(X^2+2XY-Y^2\right)\left(3X^2+3Y^2-10Z^2\right)}{2}$
59	$\frac{16}{\sqrt{6006}X(Y-Z)(Y+Z)(Y^2-4YZ+Z^2)(Y^2+4YZ+Z^2)}$
60	$\frac{32}{\sqrt{6006}Y(X-Z)(X+Z)(X^2-4XZ+Z^2)(X^2+4XZ+Z^2)}$
	$-\frac{32}{\sqrt{6006}Z(X-Y)(X+Y)\left(X^2-4XY+Y^2\right)\left(X^2+4XY+Y^2\right)}$
61	$\frac{32}{\sqrt{42}X(Y-Z)(Y+Z)\left(48X^4-80X^2Y^2-80X^2Z^2+15Y^4+30Y^2Z^2+15Z^4\right)}$
62	$\frac{32}{\sqrt{42}Y(X-Z)(X+Z)\left(15X^4-80X^2Y^2+30X^2Z^2+48Y^4-80Y^2Z^2+15Z^4\right)}$
63	$\frac{-\frac{1}{\sqrt{42}Z(X-Y)(X+Y)(15X^4+30X^2Y^2-80X^2Z^2+15Y^4-80Y^2Z^2+48Z^4)}}{32}$
64	$\frac{\sqrt{42Z(X-I)(X+I)(15X+50X-I-60X-Z+15I-60I-Z+46Z)}}{32}$

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}(X-Y)(X+Y)(X^2+Y^2-14Z^2)(X^2-4XY+Y^2)(X^2+4XY+Y^2)
 67
           \frac{\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)}{64}
 68
             3\sqrt{70}(X-Y)(X+Y)\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)
 69
           \frac{\sqrt{858}YZ\!\left(Y^2\!-\!3Z^2\right)\!\left(3Y^2\!-\!Z^2\right)\!\left(14X^2\!-\!Y^2\!-\!Z^2\right)}{32}
 70
             \sqrt{858}XZ(X^2-3Z^2)(3X^2-Z^2)(X^2-14Y^2+Z^2)
 71
             \sqrt{858}XY(X^2-3Y^2)(3X^2-Y^2)(X^2+Y^2-14Z^2)
 72
          3\sqrt{70}YZ \Big(32X^{6} - 80X^{4}Y^{2} - 80X^{4}Z^{2} + 30X^{2}Y^{4} + 60X^{2}Y^{2}Z^{2} + 30X^{2}Z^{4} - Y^{6} - 3Y^{4}Z^{2} - 3Y^{2}Z^{4} - Z^{6}\Big)
 73
             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)
 74
             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)
 75
          3\sqrt{715}YZ(Y-Z)(Y+Z)\!\left(Y^2-2YZ\!-\!Z^2\right)\!\left(Y^2+2YZ\!-\!Z^2\right)
 76
             3\sqrt{715}XZ(X\!-\!Z)(X\!+\!Z)\!\left(X^2\!-\!2XZ\!-\!Z^2\right)\!\left(X^2\!+\!2XZ\!-\!Z^2\right)
 77
          3\sqrt{715}XY(X-Y)(X+Y)\!\left(X^2\!-\!2XY\!-\!Y^2\right)\!\left(X^2\!+\!2XY\!-\!Y^2\right)
 78
          3\sqrt{77}YZ(Y-Z)(Y+Z)\left(40X^4-24X^2Y^2-24X^2Z^2+Y^4+2Y^2Z^2+Z^4\right)
 79
             3\sqrt{77}XZ(X-Z)(X+Z)(X^4-24X^2Y^2+2X^2Z^2+40Y^4-24Y^2Z^2+Z^4)
 80
          3\sqrt{77}XY(X-Y)(X+Y)(X^4+2X^2Y^2-24X^2Z^2+Y^4-24Y^2Z^2+40Z^4)
81
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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)
         3\sqrt{1430}XYZ(X^6-7X^4Z^2+7X^2Z^4+Y^6-7Y^4Z^2+7Y^2Z^4-2Z^6)
            \sqrt{4290}XYZ(X-Y)(X+Y)\left(3X^4-11X^2Y^2-7X^2Z^2+3Y^4-7Y^2Z^2+7Z^4\right)
         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\left( {{Y}^{4}}-4{{Y}^{3}}Z-6{{Y}^{2}}{{Z}^{2}}+4Y{{Z}^{3}}+{{Z}^{4}} \right)\left( {{Y}^{4}}+4{{Y}^{3}}Z-6{{Y}^{2}}{{Z}^{2}}-4Y{{Z}^{3}}+{{Z}^{4}} \right)
         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
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No.
                expression
                    \sqrt{27170}(X-Y)(X+Y)(X-Z)(X+Z)(Y-Z)(Y+Z)\left(3X^4-11X^2Y^2-11X^2Z^2+3Y^4-11Y^2Z^2+3Z^4\right)
101
                    \sqrt{390} \cdot \left(2X^{10} - 45X^8Y^2 - 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^4 + 42Y^4Z^6 - 45Y^2Z^8 + 2Y^{10} + 2Y^2Z^8 + 2
 102
                         \sqrt{420189} \cdot \left(22X^{10} + 45X^8Y^2 - 1035X^8Z^2 - 105X^6Y^4 - 630X^6Y^2Z^2 + 4935Y^6Z^4 - 105X^4Y^6 + 3150X^4Y^4Z^2 - 1575X^4Y^2Z^4 - 4830X^4Z^6 + 45X^2Y^8 - 630X^2Y^6Z^2 - 1575X^2Y^4Z^4 + 1260X^2Y^2Z^6 + 990X^2Z^8 + 22Y^{10} - 1035Y^8Z^2 + 4935Y^6Z^4 - 4830Y^4Z^6 + 990Y^2Z^8 - 44Z^{10}\right)
 103
                                                                                                                                                                                                                                                                                                                              35952
                    \sqrt{140063}(X-Y)(X+Y)\left(22X^8-653X^6Y^2-315X^6Z^2+2602X^4Y^4-945X^4Y^2Z^2+1575X^4Z^4-653X^2Y^6-945X^2Y^4Z^2+3150X^2Y^2Z^4-1680X^2Z^6+22Y^8-315Y^6Z^2+1575Y^4Z^4-1680Y^2Z^6+360Z^8\right)
 104
                          \sqrt{3213210} \cdot \left(3X^{10} - 96X^8Y^2 - 39X^8Z^2 + 224X^6Y^4 + 1344X^6Y^2Z^2 - 42X^6Z^4 + 224X^4Y^6 - 6720X^4Y^4Z^2 + 3360X^4Y^2Z^4 - 182X^4Z^6 - 96X^2Y^8 + 1344X^2Y^6Z^2 + 3360X^2Y^2Z^6 + 135X^2Z^8 + 3Y^{10} - 39Y^8Z^2 - 42Y^6Z^4 - 182Y^4Z^6 + 135Y^2Z^8 - 6Z^{10}\right)
 105
                                                                                                                                                                                                                                                                                                                 23968
                    \sqrt{1071070}(X-Y)(X+Y)\left(9X^8-165X^6Y^2-231X^6Z^2-25X^4Y^4+3801X^4Y^2Z^2+406X^4Z^4-165X^2Y^6+3801X^2Y^4Z^2-9674X^2Y^2Z^4+266X^2Z^6+9Y^8-231Y^6Z^2+406Y^4Z^4+266Y^2Z^6-57Z^8\right)
 106
                                                                                                                                                                                                                                      23968
                    \sqrt{92378}YZ(Y^4-10Y^2Z^2+5Z^4)(5Y^4-10Y^2Z^2+Z^4)
 107
                    \sqrt{92378}XZ(X^4-10X^2Z^2+5Z^4)(5X^4-10X^2Z^2+Z^4)
 108
                                                                            256
                    \sqrt{92378}XY(X^4-10X^2Y^2+5Y^4)(5X^4-10X^2Y^2+Y^4)
 109
                    \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)
110
                    \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)
111
                    \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)
112
                    \sqrt{165}YZ\left(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\right)
113
                    \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 + 728Y^6 + 128Y^6Z^4 + 128Y^
 114
                    \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\right)
115
                    \sqrt{12155}YZ(Y-Z)(Y+Z)(18X^2-Y^2-Z^2)(Y^2-2YZ-Z^2)(Y^2+2YZ-Z^2)
116
                    \sqrt{12155}XZ(X-Z)(X+Z)(X^2-18Y^2+Z^2)(X^2-2XZ-Z^2)(X^2+2XZ-Z^2)
117
                          \sqrt{12155}XY(X-Y)(X+Y)(X^2+Y^2-18Z^2)(X^2-2XY-Y^2)(X^2+2XY-Y^2)
118
                    \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)
 119
                    \sqrt{2145}XZ(X-Z)(X+Z)\left(X^6-42X^4Y^2+3X^4Z^2+168X^2Y^4-84X^2Y^2Z^2+3X^2Z^4-112Y^6+168Y^4Z^2-42Y^2Z^4+Z^6\right)
 120
                         \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)
 121
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No.
                           expression
                                \overline{\sqrt{2431}XYZ\big(5X^8-30X^6Y^2-30X^6Z^2+63X^4Y^4+63X^4Z^4-30X^2Y^6-30X^2Z^6+5Y^8-30Y^6Z^2+63Y^4Z^4-30Y^2Z^6+5Z^8\big)}
  122
                                        \sqrt{230945}XYZ\big(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\big)
  123
                                 \sqrt{692835}XYZ(X-Y)(X+Y)(X^2+Y^2-6Z^2)(X^2-2XY-Y^2)(X^2+2XY-Y^2)
  124
                                        \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)
  125
                                                                                                                                                                                                                                                                                                                                              32
                                3\sqrt{1001}XYZ(X-Y)(X+Y)\left(5X^{6}+15X^{4}Y^{2}-70X^{4}Z^{2}+15X^{2}Y^{4}-140X^{2}Y^{2}Z^{2}+168X^{2}Z^{4}+5Y^{6}-70Y^{4}Z^{2}+168Y^{2}Z^{4}-80Z^{6}\right)
  126
                                X \left(256X^{10} - 7040X^8Y^2 - 7040X^8Z^2 + 31680X^6Y^4 + 63360X^6Y^4 + 63360X^6Y^4 - 36960X^4Y^6 - 110880X^4Y^4Z^2 - 110880X^4Y^2Z^4 - 36960X^4Z^6 + 11550X^2Y^8 + 46200X^2Y^6Z^2 + 69300X^2Y^4Z^4 + 46200X^2Y^2Z^6 + 11550X^2Z^8 - 693Y^{10} - 3465Y^8Z^2 - 6930Y^6Z^4 - 6930Y^4Z^6 - 3465Y^2Z^8 - 693Z^{10}\right) + 365Y^6Z^2 - 36960X^4Y^6 - 110880X^4Y^4Z^2 - 110880X^4Y^4Z^4 - 36960X^4Z^6 + 11550X^2Y^8 + 46200X^2Y^6Z^2 + 6930X^2Y^4Z^4 + 46200X^2Y^2Z^6 + 11550X^2Z^8 - 693Y^{10} - 3465Y^8Z^2 - 6930Y^6Z^4 - 6930Y^4Z^6 + 11550X^2Z^8 - 693Y^{10} - 3465Y^8Z^2 - 6930Y^6Z^4 - 6930Y^4Z^6 + 11550X^2Z^8 - 693Y^{10} - 3465Y^8Z^2 - 6930Y^6Z^4 - 6930Y^4Z^6 - 3465Y^2Z^8 - 693Y^{10} - 3465Y^8Z^2 - 6930Y^6Z^4 - 6930Y^4Z^6 - 3465Y^2Z^8 - 693Y^{10} - 3465Y^2Z^8 - 69
  127
                                      Y \left(693X^{10} - 11550X^8Y^2 + 3465X^8Z^2 + 36960X^6Y^4 - 46200X^6Y^2Z^2 + 6930X^6Z^4 - 31680X^4Y^6Z^4 - 6930X^4Y^2Z^4 + 6930
  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)(X^4-4X^3Z-14X^2Z^2-4XZ^3+Z^4)(X^4+4X^3Z-14X^2Z^2+4XZ^3+Z^4)
  137
                                                                                                                                                                                                               512
                                 \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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