表 1 
$$\operatorname{rank} 0$$

No.	expression
1	1

表 2 rank 1

No.	expression
2	z
3	x
4	y

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	$-\sqrt{3}xy$
8	$\sqrt{3}xz$
9	$\sqrt{3}yz$

表 4 rank 3

No.	expression
10	$\frac{\sqrt{10}y\left(3x^2-y^2\right)}{4}$
11	$\frac{\sqrt{10}x\left(x^2-3y^2\right)}{4}$
12	$-\frac{z\left(3x^2+3y^2-2z^2\right)}{2}$
13	$\frac{\sqrt{6}x(-x^2-y^2+4z^2)}{4}$
14	$\frac{\sqrt{6}y(-x^2-y^2+4z^2)}{4}$
15	$\frac{\sqrt{15}z\left(x^2-y^2\right)}{2}$
16	$-\sqrt{15}xyz$

表 5 rank 4

No.	expression
17	$\frac{3x^4}{8} + \frac{3x^2y^2}{4} - 3x^2z^2 + \frac{3y^4}{8} - 3y^2z^2 + z^4$
18	$\frac{\sqrt{70}xz(x^2-3y^2)}{4}$
19	$\frac{\sqrt{70}yz\left(3x^2-y^2\right)}{4}$
20	$\frac{\sqrt{35}\left(x^4 - 6x^2y^2 + y^4\right)}{8}$
21	$\frac{\sqrt{35}xy(x^2-y^2)}{2}$
22	$\frac{\sqrt{5}(-x^2+y^2)(x^2+y^2-6z^2)}{4}$
23	$\frac{\sqrt{5}xy(x^2+y^2-6z^2)}{2}$
24	$\frac{\sqrt{10}xz(-3x^2-3y^2+4z^2)}{4}$
25	$\frac{\sqrt{10}yz(-3x^2-3y^2+4z^2)}{4}$

表 6 rank 5

No.	expression
26	$-\frac{\sqrt{70}y(3x^2-y^2)(x^2+y^2-8z^2)}{16}$
27	$-\frac{\sqrt{70}x(x^2-3y^2)(x^2+y^2-8z^2)}{16}$
28	$\frac{z\left(15x^4 + 30x^2y^2 - 40x^2z^2 + 15y^4 - 40y^2z^2 + 8z^4\right)}{8}$
29	$\frac{3\sqrt{14}x\left(x^4 - 10x^2y^2 + 5y^4\right)}{16}$
30	$\frac{3\sqrt{14}y\left(-5x^4+10x^2y^2-y^4\right)}{16}$
31	$\frac{\sqrt{15}x\left(x^4+2x^2y^2-12x^2z^2+y^4-12y^2z^2+8z^4\right)}{8}$
32	$\frac{\sqrt{15}y\left(x^4 + 2x^2y^2 - 12x^2z^2 + y^4 - 12y^2z^2 + 8z^4\right)}{8}$
33	$\frac{3\sqrt{35}z\left(x^4 - 6x^2y^2 + y^4\right)}{8}$
34	$\frac{3\sqrt{35}xyz\left(x^2-y^2\right)}{2}$
35	$\frac{\sqrt{105}z\left(-x^2+y^2\right)\left(x^2+y^2-2z^2\right)}{4}$
36	$\frac{\sqrt{105}xyz\left(x^2+y^2-2z^2\right)}{2}$

No.	expression
37	$-\frac{5x^6}{16} - \frac{15x^4y^2}{16} + \frac{45x^4z^2}{8} - \frac{15x^2y^4}{16} + \frac{45x^2y^2z^2}{4} - \frac{15x^2z^4}{2} - \frac{5y^6}{16} + \frac{45y^4z^2}{8} - \frac{15y^2z^4}{2} + z^6$
38	$\frac{\sqrt{462}(x-y)(x+y)(x^2-4xy+y^2)(x^2+4xy+y^2)}{32}$
39	$\sqrt{462}xy(x^2-3y^2)(3x^2-y^2)$
40	$-\frac{\sqrt{210}xz(x^2-3y^2)(3x^2+3y^2-8z^2)}{16}$
41	$-\frac{\sqrt{210}yz(3x^2-y^2)(3x^2+3y^2-8z^2)}{16}$
42	$\frac{3\sqrt{7}(x^2+y^2-10z^2)(-x^4+6x^2y^2-y^4)}{16}$
43	$-\frac{3\sqrt{7}xy(x^2-y^2)(x^2+y^2-10z^2)}{4}$
44	$\sqrt{210}(x^2-y^2)(x^4+2x^2y^2-16x^2z^2+y^4-16y^2z^2+16z^4)$
45	$\frac{32}{\sqrt{210}xy\left(-x^4-2x^2y^2+16x^2z^2-y^4+16y^2z^2-16z^4\right)}$
46	$\frac{3\sqrt{154}xz(x^4-10x^2y^2+5y^4)}{16}$
47	$3\sqrt{154}yz(-5x^4+10x^2y^2-y^4)$
48	$\frac{16}{\sqrt{21}xz\left(5x^4+10x^2y^2-20x^2z^2+5y^4-20y^2z^2+8z^4\right)}$
49	$\frac{8}{\sqrt{21}yz\left(5x^4+10x^2y^2-20x^2z^2+5y^4-20y^2z^2+8z^4\right)}{8}$

表 8 rank 7

No.	expression
50	$\frac{\sqrt{21}y(3x^2-y^2)(3x^4+6x^2y^2-60x^2z^2+3y^4-60y^2z^2+80z^4)}{32}$
51	$\frac{\sqrt{21}x(x^2-3y^2)(3x^4+6x^2y^2-60x^2z^2+3y^4-60y^2z^2+80z^4)}{32}$
52	$\frac{\sqrt{6006}xyz(x^2-3y^2)(3x^2-y^2)}{16}$
53	$-\frac{z \left(35 x^6+105 x^4 y^2-210 x^4 z^2+105 x^2 y^4-420 x^2 y^2 z^2+168 x^2 z^4+35 y^6-210 y^4 z^2+168 y^2 z^4-16 z^6\right)}{2 \left(35 x^6+105 x^4 y^2-210 x^4 z^2+105 x^2 y^4-420 x^2 y^2 z^2+168 x^2 z^4+35 y^6-210 y^4 z^2+168 y^2 z^4-16 z^6\right)}$
54	$\frac{\sqrt{6006}z(x-y)(x+y)\left(x^2-4xy+y^2\right)\left(x^2+4xy+y^2\right)}{32}$
55	$\frac{32}{\sqrt{429}x\left(x^6 - 21x^4y^2 + 35x^2y^4 - 7y^6\right)}$
56	$\frac{32}{\sqrt{429}y\left(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\right)}$
	$\frac{32}{\sqrt{231}x(x^2+y^2-12z^2)(-x^4+10x^2y^2-5y^4)}$ 32
57	$\frac{32}{\sqrt{231}y(x^2+y^2-12z^2)(5x^4-10x^2y^2+y^4)}$
58	$\frac{32}{\sqrt{7}x\left(-5x^6 - 15x^4y^2 + 120x^4z^2 - 15x^2y^4 + 240x^2y^2z^2 - 240x^2z^4 - 5y^6 + 120y^4z^2 - 240y^2z^4 + 64z^6\right)}$
59	32
60	$\frac{\sqrt{7}y\left(-5x^6 - 15x^4y^2 + 120x^4z^2 - 15x^2y^4 + 240x^2y^2z^2 - 240x^2z^4 - 5y^6 + 120y^4z^2 - 240y^2z^4 + 64z^6\right)}{32}$
61	$\frac{\sqrt{231}z(3x^2+3y^2-10z^2)(-x^4+6x^2y^2-y^4)}{16}$
62	$-\frac{\sqrt{231}xyz(x^2-y^2)(3x^2+3y^2-10z^2)}{4x^2+3y^2-10z^2}$
63	$\frac{\sqrt{42}z(x^2-y^2)\left(15x^4+30x^2y^2-80x^2z^2+15y^4-80y^2z^2+48z^4\right)}{22}$
64	$\frac{32}{\sqrt{42}xyz\left(-15x^4 - 30x^2y^2 + 80x^2z^2 - 15y^4 + 80y^2z^2 - 48z^4\right)}$
	16

表 9 rank 8

No.	expression
65	$\frac{35x^8}{128} + \frac{35x^6y^2}{32} - \frac{35x^6z^2}{4} + \frac{105x^4y^4}{64} - \frac{105x^4y^2}{64} - \frac{105x^4y^2z^2}{4} + \frac{105x^4z^4}{4} + \frac{35x^2y^6}{32} - \frac{105x^2y^4z^2}{4} + \frac{105x^2y^2z^4}{2} - 14x^2z^6 + \frac{35y^8}{128} - \frac{35y^6z^2}{4} + \frac{105y^4z^4}{4} - 14y^2z^6 + z^8$
66	$-\frac{\sqrt{858}(x-y)(x+y)\left(x^2+y^2-14z^2\right)\left(x^2-4xy+y^2\right)\left(x^2+4xy+y^2\right)}{64}$
67	$-\frac{\sqrt{858}xy(x^2-3y^2)(3x^2-y^2)(x^2+y^2-14z^2)}{32}$
68	$\frac{\sqrt{1155}xz(x^2-3y^2)(3x^4+6x^2y^2-20x^2z^2+3y^4-20y^2z^2+16z^4)}{32}$
69	$\frac{\sqrt{1155}yz(3x^2-y^2)(3x^4+6x^2y^2-20x^2z^2+3y^4-20y^2z^2+16z^4)}{23}$
70	$\frac{3\sqrt{715}(x^8 - 28x^6y^2 + 70x^4y^4 - 28x^2y^6 + y^8)}{3\sqrt{715}(x^8 - 28x^6y^2 + 70x^4y^4 - 28x^2y^6 + y^8)}$
71	$\frac{128}{3\sqrt{715}xy\left(-x^{6}+7x^{4}y^{2}-7x^{2}y^{4}+y^{6}\right)}$
72	$\frac{3\sqrt{77}\left(x^4 - 6x^2y^2 + y^4\right)\left(x^4 + 2x^2y^2 - 24x^2z^2 + y^4 - 24y^2z^2 + 40z^4\right)}{64}$
73	$\frac{3\sqrt{77}xy(x^2-y^2)(x^4+2x^2y^2-24x^2z^2+y^4-24y^2z^2+40z^4)}{16}$
74	$\frac{3\sqrt{70}\left(-x^2+y^2\right)\left(x^6+3x^4y^2-30x^4z^2+3x^2y^4-60x^2y^2z^2+80x^2z^4+y^6-30y^4z^2+80y^2z^4-32z^6\right)}{2x^4+3x^4y^2-30x^4z^2+3x^2y^4-60x^2y^2z^2+80x^2z^4+y^6-30y^4z^2+80y^2z^4-32z^6\right)}$
75	$\frac{64}{3\sqrt{70}xy\left(x^{6}+3x^{4}y^{2}-30x^{4}z^{2}+3x^{2}y^{4}-60x^{2}y^{2}z^{2}+80x^{2}z^{4}+y^{6}-30y^{4}z^{2}+80y^{2}z^{4}-32z^{6}\right)}{3\sqrt{70}xy\left(x^{6}+3x^{4}y^{2}-30x^{4}z^{2}+3x^{2}y^{4}-60x^{2}y^{2}z^{2}+80x^{2}z^{4}+y^{6}-30y^{4}z^{2}+80y^{2}z^{4}-32z^{6}\right)}$
76	$\frac{3\sqrt{715}xz\left(x^6 - 21x^4y^2 + 35x^2y^4 - 7y^6\right)}{32}$
77	$\frac{32}{3\sqrt{715}yz\left(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\right)}$
78	$\frac{32}{3\sqrt{1001}xz(x^2+y^2-4z^2)(-x^4+10x^2y^2-5y^4)}$
79	$\frac{3\sqrt{1001}yz(x^2+y^2-4z^2)(5x^4-10x^2y^2+y^4)}{3\sqrt{1001}yz(x^2+y^2-4z^2)(5x^4-10x^2y^2+y^4)}$
80	$\frac{32}{3xz\left(-35x^{6} - 105x^{4}y^{2} + 280x^{4}z^{2} - 105x^{2}y^{4} + 560x^{2}y^{2}z^{2} - 336x^{2}z^{4} - 35y^{6} + 280y^{4}z^{2} - 336y^{2}z^{4} + 64z^{6}\right)}$
	$\frac{32}{3yz\left(-35x^{6}-105x^{4}y^{2}+280x^{4}z^{2}-105x^{2}y^{4}+560x^{2}y^{2}z^{2}-336x^{2}z^{4}-35y^{6}+280y^{4}z^{2}-336y^{2}z^{4}+64z^{6}\right)}$
81	32

表 10 rank 9

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No.
                      expression
                         \sqrt{24310}y(3x^2-y^2)(3x^6-27x^4y^2+33x^2y^4-y^6)
   82
                               \sqrt{2310}y(3x^2-y^2)(x^6+3x^4y^2-36x^4z^2+3x^2y^4-72x^2y^2z^2+120x^2z^4+y^6-36y^4z^2+120y^2z^4-64z^6)
                           \sqrt{24310}x(x^2-3y^2)(x^6-33x^4y^2+27x^2y^4-3y^6)
                               \frac{256}{\sqrt{2310}x(x^2-3y^2)(x^6+3x^4y^2-36x^4z^2+3x^2y^4-72x^2y^2z^2+120x^2z^4+y^6-36y^4z^2+120y^2z^4-64z^6)}
                                \frac{\sqrt{4290}xyz(x^2-3y^2)(3x^2-y^2)(3x^2+3y^2-14z^2)}{32}
                           z\left(315x^{8} + 1260x^{6}y^{2} - 3360x^{6}z^{2} + 1890x^{4}y^{4} - 10080x^{4}y^{2}z^{2} + 6048x^{4}z^{4} + 1260x^{2}y^{6} - 10080x^{2}y^{4}z^{2} + 12096x^{2}y^{2}z^{4} - 2304x^{2}z^{6} + 315y^{8} - 3360y^{6}z^{2} + 6048y^{4}z^{4} - 2304y^{2}z^{6} + 128z^{8}\right)
   87
                                \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)
                         3\sqrt{1430}x\left(x^2+y^2-16z^2\right)\left(-x^6+21x^4y^2-35x^2y^4+7y^6\right)
                               3\sqrt{1430}y\left(x^2+y^2-16z^2\right)\left(7x^6-35x^4y^2+21x^2y^4-y^6\right)
                         3\sqrt{286}x\left(x^4-10x^2y^2+5y^4\right)\left(x^4+2x^2y^2-28x^2z^2+y^4-28y^2z^2+56z^4\right)
  91
                                                                                                                        128
                               \left. \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} \right) + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} \right) + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 + 2 x^2 y^2 - 28 x^2 z^2 + y^4 - 28 y^2 z^2 + 56 z^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 10 x^2 y^2 + y^4\right)}{2} + \frac{3\sqrt{286}y \left(5 x^4 - 
   92
                         3\sqrt{5}x\left(7x^{8} + 28x^{6}y^{2} - 280x^{6}z^{2} + 42x^{4}y^{4} - 840x^{4}y^{2}z^{2} + 1120x^{4}z^{4} + 28x^{2}y^{6} - 840x^{2}y^{4}z^{2} + 2240x^{2}y^{2}z^{4} - 896x^{2}z^{6} + 7y^{8} - 280y^{6}z^{2} + 1120y^{4}z^{4} - 896y^{2}z^{6} + 128z^{8}\right)
   93
                         3\sqrt{5}y(7x^8 + 28x^6y^2 - 280x^6z^2 + 42x^4y^4 - 840x^4y^2z^2 + 1120x^4z^4 + 28x^2y^6 - 840x^2y^4z^2 + 2240x^2y^2z^4 - 896x^2z^6 + 7y^8 - 280y^6z^2 + 1120y^4z^4 - 896y^2z^6 + 128z^8)
   94
                         3\sqrt{12155}z\left(x^{8}-28x^{6}y^{2}+70x^{4}y^{4}-28x^{2}y^{6}+y^{8}\right)
   95
                                                                                       128
                         3\sqrt{12155}xyz\Bigl(-x^6+7x^4y^2-7x^2y^4+y^6\Bigr)
                         3\sqrt{5005}z\left(x^{4}-6x^{2}y^{2}+y^{4}\right)\left(x^{4}+2x^{2}y^{2}-8x^{2}z^{2}+y^{4}-8y^{2}z^{2}+8z^{4}\right)
  97
                        \frac{3\sqrt{5005}xyz(x^2-y^2)(x^4+2x^2y^2-8x^2z^2+y^4-8y^2z^2+8z^4)}{2}
                        3\sqrt{110}z\left(-x^2+y^2\right)\left(7x^6+21x^4y^2-70x^4z^2+21x^2y^4-140x^2y^2z^2+112x^2z^4+7y^6-70y^4z^2+112y^2z^4-32z^6\right)
                         3\sqrt{110}xyz\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
                            -\frac{63x^{10}}{256} - \frac{315x^8y^2}{256} + \frac{1575x^8z^2}{128} - \frac{315x^6y^4}{128} + \frac{1575x^6y^2z^2}{128} - \frac{525x^6y^4}{32} - \frac{525x^6z^4}{8} - \frac{315x^4y^6}{128} + \frac{4725x^4y^4z^2}{64} - \frac{1575x^4y^2z^4}{8} + \frac{315x^4z^6}{4} - \frac{315x^2y^8}{256} + \frac{1575x^2y^6z^2}{32} - \frac{1575x^2y^4z^4}{8} + \frac{315x^2y^2z^6}{2} - \frac{1575x^2y^4z^4}{2} - \frac{1575x^2y^4z^4}{
101
                               \sqrt{4290}(x-y)(x+y)\left(x^2-4xy+y^2\right)\left(x^2+4xy+y^2\right)\left(3x^4+6x^2y^2-96x^2z^2+3y^4-96y^2z^2+224z^4\right)
                               \frac{\sqrt{4290}xy\left(x^{2}-3y^{2}\right)\left(3x^{2}-y^{2}\right)\left(3x^{4}+6x^{2}y^{2}-96x^{2}z^{2}+3y^{4}-96y^{2}z^{2}+224z^{4}\right)}{2}
 103
                             \frac{\sqrt{461890}xz\left(x^2-3y^2\right)\left(x^6-33x^4y^2+27x^2y^4-3y^6\right)}{256}\\ -\frac{\sqrt{4290}xz\left(x^2-3y^2\right)\left(7x^6+21x^4y^2-84x^4z^2+21x^2y^4-168x^2y^2z^2+168x^2z^4+7y^6-84y^4z^2+168y^2z^4-64z^6\right)}{128}
 104
  105
                               \frac{\sqrt{461890}yz \Big(3 x^2-y^2\Big) \Big(3 x^6-27 x^4 y^2+33 x^2 y^4-y^6\Big)}{256}
 106
                                       \sqrt{4290}yz \Big(3x^2 - y^2\Big) \Big(7x^6 + 21x^4y^2 - 84x^4z^2 + 21x^2y^4 - 168x^2y^2z^2 + 168x^2z^4 + 7y^6 - 84y^4z^2 + 168y^2z^4 - 64z^6\Big)
 107
                               \frac{\sqrt{92378} \left(x^{10} - 45 x^8 y^2 + 210 x^6 y^4 - 210 x^4 y^6 + 45 x^2 y^8 - y^{10}\right)}{2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 + 2000 
 108
                             \frac{\sqrt{92378}xy\left(5x^{8}-60x^{6}y^{2}+126x^{4}y^{4}-60x^{2}y^{6}+5y^{8}\right)}{256}
\frac{\sqrt{12155}\left(x^{2}+y^{2}-18z^{2}\right)\left(-x^{8}+28x^{6}y^{2}-70x^{4}y^{4}+28x^{2}y^{6}-y^{8}\right)}{256}
  109
110
                               \frac{\sqrt{12155}xy\left(x^2+y^2-18z^2\right)\left(x^6-7x^4y^2+7x^2y^4-y^6\right)}{32}
111
                               \frac{\sqrt{2145} \left(-x^4+6x^2y^2-y^4\right) \left(x^6+3x^4y^2-42x^4z^2+3x^2y^4-84x^2y^2z^2+168x^2z^4+y^6-42y^4z^2+168y^2z^4-112z^6\right)}{128}
112
                                       \sqrt{2145}xy \left(x^2-y^2\right) \left(x^6+3 x^4 y^2-42 x^4 z^2+3 x^2 y^4-84 x^2 y^2 z^2+168 x^2 z^4+y^6-42 y^4 z^2+168 y^2 z^4-112 z^6\right)
113
                                 \sqrt{165} \left(x^2 - y^2\right) \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)
114
                               \sqrt{165}xy\left(-7x^{8}-28x^{6}y^{2}+336x^{6}z^{2}-42x^{4}y^{4}+1008x^{4}y^{2}z^{2}-1680x^{4}z^{4}-28x^{2}y^{6}+1008x^{2}y^{4}z^{2}-3360x^{2}y^{2}z^{4}+1792x^{2}z^{6}-7y^{8}+336y^{6}z^{2}-1680y^{4}z^{4}+1792y^{2}z^{6}-384z^{8}\right)
115
                               \frac{\sqrt{72930}xz\left(3x^2+3y^2-16z^2\right)\left(-x^6+21x^4y^2-35x^2y^4+7y^6\right)}{256}
 116
                                       \frac{\sqrt{72930}yz \Big(3x^2 + 3y^2 - 16z^2\Big) \Big(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\Big)}{256}
117
                               \frac{\sqrt{858}xz\left(x^{4}-10x^{2}y^{2}+5y^{4}\right)\left(15x^{4}+30x^{2}y^{2}-140x^{2}z^{2}+15y^{4}-140y^{2}z^{2}+168z^{4}\right)}{128}
118
                                       \frac{\sqrt{858}yz \left(5 x^4 - 10 x^2 y^2 + y^4\right) \left(15 x^4 + 30 x^2 y^2 - 140 x^2 z^2 + 15 y^4 - 140 y^2 z^2 + 168 z^4\right)}{128}
 119
                                 \sqrt{55}xz\left(63x^8 + 252x^6y^2 - 840x^6z^2 + 378x^4y^4 - 2520x^4y^2z^2 + 2016x^4z^4 + 252x^2y^6 - 2520x^2y^4z^2 + 4032x^2y^2z^4 - 1152x^2z^6 + 63y^8 - 840y^6z^2 + 2016y^4z^4 - 1152y^2z^6 + 128z^8\right)
 120
                                                                                                                                                                                                                                                                                                                          128
                                 \sqrt{55}yz\left(63x^{8} + 252x^{6}y^{2} - 840x^{6}z^{2} + 378x^{4}y^{4} - 2520x^{4}y^{2}z^{2} + 2016x^{4}z^{4} + 252x^{2}y^{6} - 2520x^{2}y^{4}z^{2} + 4032x^{2}y^{2}z^{4} - 1152x^{2}z^{6} + 63y^{8} - 840y^{6}z^{2} + 2016y^{4}z^{4} - 1152y^{2}z^{6} + 128z^{8}\right)
121
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No.
        expression
             \sqrt{46189}y(3x^2-y^2)(x^2+y^2-20z^2)(3x^6-27x^4y^2+33x^2y^4-y^6)
122
           \sqrt{30030}y \left(3x^2 - y^2\right) \left(x^8 + 4x^6y^2 - 56x^6z^2 + 6x^4y^4 - 168x^4y^2z^2 + 336x^4z^4 + 4x^2y^6 - 168x^2y^4z^2 + 672x^2y^2z^4 - 448x^2z^6 + y^8 - 56y^6z^2 + 336y^4z^4 - 448y^2z^6 + 128z^8\right)
123
             \sqrt{46189}x \left(x^2 - 3y^2\right) \left(x^2 + y^2 - 20z^2\right) \left(x^6 - 33x^4y^2 + 27x^2y^4 - 3y^6\right)
124
           \sqrt{30030}x(x^2 - 3y^2)(x^8 + 4x^6y^2 - 56x^6z^2 + 6x^4y^4 - 168x^4y^2z^2 + 336x^4z^4 + 4x^2y^6 - 168x^2y^4z^2 + 672x^2y^2z^4 - 448x^2z^6 + y^8 - 56y^6z^2 + 336y^4z^4 - 448y^2z^6 + 128z^8)
125
           \sqrt{14586}xyz\big(x^2-3y^2\big)\big(3x^2-y^2\big)\big(15x^4+30x^2y^2-160x^2z^2+15y^4-160y^2z^2+224z^4\big)
126
             z\left(693x^{10} + 3465x^8y^2 - 11550x^8z^2 + 6930x^6y^4 - 46200x^6y^2z^2 + 36960x^6z^4 + 6930x^4y^6 - 6930x^4y^6z^2 + 110880x^4y^2z^4 - 31680x^4z^6 + 3465x^2y^8 - 46200x^2y^6z^2 + 110880x^2y^4z^4 - 63360x^2y^2z^6 + 7040x^2z^8 + 693y^{10} - 11550y^8z^2 + 36960y^6z^4 - 31680y^4z^6 + 7040y^2z^8 - 256z^{10}\right)
127
           \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)
128
           \sqrt{88179}x\left(x^{10}-55x^8y^2+330x^6y^4-462x^4y^6+165x^2y^8-11y^{10}\right)
129
           \sqrt{88179}y\left(-11x^{10}+165x^8y^2-462x^6y^4+330x^4y^6-55x^2y^8+y^{10}\right)
130
                                                512
           \sqrt{36465}x(x^6-21x^4y^2+35x^2y^4-7y^6)(x^4+2x^2y^2-36x^2z^2+y^4-36y^2z^2+96z^4)
131
           \sqrt{36465}y\left(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\right)\left(x^4 + 2x^2y^2 - 36x^2z^2 + y^4 - 36y^2z^2 + 96z^4\right)
132
                                                         512
          3\sqrt{143}x\left(-x^4+10x^2y^2-5y^4\right)\left(5x^6+15x^4y^2-240x^4z^2+15x^2y^4-480x^2y^2z^2+1120x^2z^4+5y^6-240y^4z^2+1120y^2z^4-896z^6\right)
133
                                                                                    512
          3\sqrt{143}y\left(5x^4 - 10x^2y^2 + y^4\right)\left(5x^6 + 15x^4y^2 - 240x^4z^2 + 15x^2y^4 - 480x^2y^2z^2 + 1120x^2z^4 + 5y^6 - 240y^4z^2 + 1120y^2z^4 - 896z^6\right)
134
           \sqrt{66}x \left(-21x^{10} - 105x^8y^2 + 1260x^8z^2 - 210x^6y^4 + 5040x^6y^2z^2 - 8400x^6z^4 - 210x^4y^6 + 7560x^4y^4z^2 - 25200x^4y^2z^4 + 13440x^4z^6 - 105x^2y^8 + 5040x^2y^6z^2 - 25200x^2y^4z^4 + 26880x^2y^2z^6 - 5760x^2z^8 - 21y^{10} + 1260y^8z^2 - 8400y^6z^4 + 13440y^4z^6 - 5760y^2z^8 + 512z^{10}\right)
135
           \sqrt{66}y(-21x^{10} - 105x^8y^2 + 1260x^8z^2 - 210x^6y^4 + 5040x^6y^2z^2 - 8400x^6z^4 - 210x^4y^6 + 7560x^4y^4z^2 - 25200x^4y^2z^4 + 13440x^4z^6 - 105x^2y^8 + 5040x^2y^6z^2 - 25200x^2y^4z^4 + 2680x^2y^2z^6 - 5760x^2z^8 - 21y^{10} + 1260y^8z^2 - 8400y^6z^4 + 13440y^4z^6 - 5760y^2z^8 + 512z^{10})
136
                                                                                                                                                                      512
           \sqrt{1939938}z(x^{10}-45x^8y^2+210x^6y^4-210x^4y^6+45x^2y^8-y^{10})
137
                                              512
           \sqrt{1939938}xyz\left(5x^8-60x^6y^2+126x^4y^4-60x^2y^6+5y^8\right)
138
           \sqrt{692835}z(x^2+y^2-6z^2)(-x^8+28x^6y^2-70x^4y^4+28x^2y^6-y^8)
139
                                               256
           \sqrt{692835}xyz(x^2+y^2-6z^2)(x^6-7x^4y^2+7x^2y^4-y^6)
140
          \frac{3\sqrt{1001}z\left(-x^4+6x^2y^2-y^4\right)\left(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\right)}{2x^6+15x^4y^2-70x^4z^2+16x^2y^4-140x^2y^2z^2+168x^2z^4+5y^6-70y^4z^2+168y^2z^4-80z^6\right)}
141
             3\sqrt{1001}xyz\left(x^{2}-y^{2}\right)\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)
142
           \sqrt{2145}z\left(x^{2}-y^{2}\right)\left(21x^{8}+84x^{6}y^{2}-336x^{6}z^{2}+126x^{4}y^{4}-1008x^{4}y^{2}z^{2}+1008x^{4}z^{4}+84x^{2}y^{6}-1008x^{2}y^{4}z^{2}+2016x^{2}y^{2}z^{4}-768x^{2}z^{6}+21y^{8}-336y^{6}z^{2}+1008y^{4}z^{4}-768y^{2}z^{6}+128z^{8}\right)
143
           \sqrt{2145}xyz\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^8\right)
144
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