No. 19 C_{3v} 3m1 (3m1 setting) [trigonal] (polar)

表 1 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	$\sqrt{3}xz$
7	$\sqrt{3}yz$
8	$-\sqrt{3}xy$
9	$-\frac{\sqrt{3}(x-y)(x+y)}{2}$

表 4 $\operatorname{rank} 3$

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

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	$\frac{\sqrt{70}yz\left(3x^2-y^2\right)}{4}$
19	$\frac{\sqrt{70}xz\left(x^2-3y^2\right)}{4}$
20	$-\frac{\sqrt{10}xz(3x^2+3y^2-4z^2)}{4}$
21	$-\frac{\sqrt{10}yz(3x^2+3y^2-4z^2)}{4}$
22	$\frac{\sqrt{35}xy(x-y)(x+y)}{2}$
23	$-\frac{\sqrt{35}(x^2-2xy-y^2)(x^2+2xy-y^2)}{8}$
24	$\frac{\sqrt{5}xy(x^2+y^2-6z^2)}{2}$
25	$\frac{\sqrt{5}(x-y)(x+y)(x^2+y^2-6z^2)}{4}$

表 6 rank 5

	20 Tank 9	
No.	expression	
26	$\frac{z(15x^4+30x^2y^2-40x^2z^2+15y^4-40y^2z^2+8z^4)}{8}$	
27	$-\frac{\sqrt{70}y(3x^2-y^2)(x^2+y^2-8z^2)}{16}$	
28	$-\frac{\sqrt{70}x(x^2-3y^2)(x^2+y^2-8z^2)}{16}$	
29	$\frac{3\sqrt{14}x\left(x^4 - 10x^2y^2 + 5y^4\right)}{16}$	
30	$-\frac{3\sqrt{14}y\left(5x^{4}-10x^{2}y^{2}+y^{4}\right)}{16}$	
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	$\frac{3\sqrt{35}xyz(x-y)(x+y)}{2}$	
34	$-\frac{3\sqrt{35}z(x^2-2xy-y^2)(x^2+2xy-y^2)}{8}$	
35	$\frac{\sqrt{105}xyz(x^2+y^2-2z^2)}{2}$	
36	$\frac{\sqrt{105}z(x-y)(x+y)(x^2+y^2-2z^2)}{4}$	

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

表 8 rank 7

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

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No. expression
                                                                    \frac{35x^8}{128} + \frac{35x^6y^2}{32} - \frac{35x^6z^2}{4} + \frac{105x^4y^4}{64} - \frac{105x^4y^2z^2}{4} + \frac{105x^4z^4}{4} + \frac{35x^2y^6}{4} - \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 + \frac{105x^2y^2z^4}{4} - \frac{105x^2y^2z
          65
                                                                                       \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}
          66
                                                                        \frac{\sqrt{1155}yz(3x^2-y^2)\left(3x^4+6x^2y^2-20x^2z^2+3y^4-20y^2z^2+16z^4\right)}{32} - \frac{\sqrt{858}xy(x^2-3y^2)\left(3x^2-y^2\right)\left(x^2+y^2-14z^2\right)}{32}
          67
          68
                                                                  \frac{32}{\sqrt{1155}xz(x^2 - 3y^2)(3x^4 + 6x^2y^2 - 20x^2z^2 + 3y^4 - 20y^2z^2 + 16z^4)}{32}
\frac{3\sqrt{715}xz(x^6 - 21x^4y^2 + 35x^2y^4 - 7y^6)}{32}
          69
          70

\frac{32}{3\sqrt{715}yz\left(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\right)} \frac{32}{32} - \frac{3\sqrt{1001}xz\left(x^2 + y^2 - 4z^2\right)\left(x^4 - 10x^2y^2 + 5y^4\right)}{32} \frac{32}{32} \frac{32}
          71
          72
                                                                  \frac{3\sqrt{1001}yz(x^2+y^2-4z^2)(5x^4-10x^2y^2+y^4)}{32}
          73
                                                                                     \frac{3xz \left(35x^6 + 105x^4y^{2} - 280x^4z^{2} + 105x^2y^{4} - 560x^2y^2z^{2} + 336x^2z^{4} + 35y^6 - 280y^4z^{2} + 336y^2z^{4} - 64z^6\right)}{32}
          74
                                                                                     \frac{3yz \left(35x^6 + 105x^4y^2 - 280x^4z^2 + 105x^2y^4 - 560x^2y^2z^2 + 336x^2z^4 + 35y^6 - 280y^4z^2 + 336y^2z^4 - 64z^6\right)}{25x^5 + 26x^5y^2 + 26x^2y^2 + 26
          75
                                                              -\frac{3\sqrt{715}xy(x-y)(x+y)\left(x^2-2xy-y^2\right)\left(x^2+2xy-y^2\right)}{16}
-\frac{3\sqrt{715}\left(x^4-4x^3y-6x^2y^2+4xy^3+y^4\right)\left(x^4+4x^3y-6x^2y^2-4xy^3+y^4\right)}{128}
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)}{16}
          76
          77
          78
                                                                                     \frac{3\sqrt{77} \left(x^2 - 2xy - y^2\right) \left(x^2 + 2xy - y^2\right) \left(x^4 + 2x^2y^2 - 24x^2z^2 + y^4 - 24y^2z^2 + 40z^4\right)}{64}
          79
                                                                    \frac{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)}{32}
          80
                                                                    \frac{3\sqrt{70}(x-y)(x+y)\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)}{64}
        81
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表 10 rank 9

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expression
No.
           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)
 82
               \sqrt{4290}z(x-y)(x+y)(x^2-4xy+y^2)(x^2+4xy+y^2)(3x^2+3y^2-14z^2)
 83
            \sqrt{24310}y(3x^2-y^2)(3x^6-27x^4y^2+33x^2y^4-y^6)
               \sqrt{2310}y \left(3 x^2-y^2\right) \left(x^6+3 x^4 y^2-36 x^4 z^2+3 x^2 y^4-72 x^2 y^2 z^2+120 x^2 z^4+y^6-36 y^4 z^2+120 y^2 z^4-64 z^6\right)
               \frac{\sqrt{4290}xyz\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^2+3y^2-14z^2\right)}{32}
 86
             \sqrt{24310}x(x^2-3y^2)(x^6-33x^4y^2+27x^2y^4-3y^6)
 87
               \sqrt{2310}x \left(x^2 - 3y^2\right) \left(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\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)
 89
              3\sqrt{1430}y(x^2+y^2-16z^2)(7x^6-35x^4y^2+21x^2y^4-y^6)
           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
              3\sqrt{286}y\left(5x^4-10x^2y^2+y^4\right)\left(x^4+2x^2y^2-28x^2z^2+y^4-28y^2z^2+56z^4\right)
 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}xyz(x-y)(x+y)(x^2-2xy-y^2)(x^2+2xy-y^2)
 95
              \frac{3\sqrt{12155}z\left(x^{4}-4x^{3}y-6x^{2}y^{2}+4xy^{3}+y^{4}\right)\left(x^{4}+4x^{3}y-6x^{2}y^{2}-4xy^{3}+y^{4}\right)}{2}
           3\sqrt{5005}xyz(x-y)(x+y)\left(x^4+2x^2y^2-8x^2z^2+y^4-8y^2z^2+8z^4\right)
 97
              \left.\frac{3\sqrt{5005}z\left(x^2-2xy-y^2\right)\left(x^2+2xy-y^2\right)\left(x^4+2x^2y^2-8x^2z^2+y^4-8y^2z^2+8z^4\right)}{64}\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)
           \underbrace{3\sqrt{110}z(x-y)(x+y)\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)}_{}
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^2z^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}{
                                  \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{461890}yz(3x^2-y^2)(3x^6-27x^4y^2+33x^2y^4-y^6)}{256}
  103
                                 -\frac{\sqrt{4290}yz\left(3x^2-y^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} \\ -\frac{\sqrt{4290}xy\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^4+6x^2y^2-96x^2z^2+3y^4-96y^2z^2+224z^4\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^2+y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)\left(3x^2+y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-y^2\right)\left(3x^2-y^2\right)\left(3x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-y^2\right)\left(3x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-y^2\right)}{256} \\ -\frac{\sqrt{4290}xy\left(x^2-y
  104
  105
                                    \frac{\sqrt{461890}xz(x^2-3y^2)(x^6-33x^4y^2+27x^2y^4-3y^6)}{256}
   106
                                           \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}
  107
                                            \frac{\sqrt{72930}xz\big(3x^2+3y^2-16z^2\big)\big(x^6-21x^4y^2+35x^2y^4-7y^6\big)}{256}
  108
                                            \sqrt{72930}yz \Big(3x^2 + 3y^2 - 16z^2\Big) \Big(7x^6 - 35x^4y^2 + 21x^2y^4 - y^6\Big)
   109
                                    \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)
 110
                                           \frac{\sqrt{858}yz\left(5x^4-10x^2y^2+y^4\right)\left(15x^4+30x^2y^2-140x^2z^2+15y^4-140y^2z^2+168z^4\right)}{128}
  111
                                    \sqrt{55}xz \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)
 112
                                  \frac{\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)}{128}
 113
                                    \sqrt{92378}xy(x^4-10x^2y^2+5y^4)(5x^4-10x^2y^2+y^4)
  114
                                 -\frac{\sqrt{92378}(x-y)(x+y)\left(x^4-4x^3y-14x^2y^2-4xy^3+y^4\right)\left(x^4+4x^3y-14x^2y^2+4xy^3+y^4\right)}{512}
\frac{\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)}{32}
 115
  116
                                  \frac{\sqrt{12155} \left(x^2 + y^2 - 18z^2\right) \left(x^4 - 4x^3y - 6x^2y^2 + 4xy^3 + y^4\right) \left(x^4 + 4x^3y - 6x^2y^2 - 4xy^3 + y^4\right)}{256}
 117
                                           \frac{\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}-1112z^{6}\right)}{32}
 118
                                  \frac{\sqrt{2145} \left(x^2 - 2xy - y^2\right) \left(x^2 + 2xy - y^2\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}
   119
                                           \frac{\sqrt{165}xy \left(7 x^8+28 x^6 y^2-336 x^6 z^2+42 x^4 y^4-1008 x^4 y^2 z^2+1680 x^4 z^4+28 x^2 y^6-1008 x^2 y^4 z^2+3360 x^2 y^2 z^4-1792 x^2 z^6+7 y^8-336 y^6 z^2+1680 y^4 z^4-1792 y^2 z^6+384 z^8\right)}{128}
  120
                                            \sqrt{165}(x-y)(x+y)\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)
 121
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No.
                     expression
                                  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)
122
                            \sqrt{14586}z(x-y)(x+y)\left(x^2-4xy+y^2\right)\left(x^2+4xy+y^2\right)\left(15x^4+30x^2y^2-160x^2z^2+15y^4-160y^2z^2+224z^4\right)
123
                                  \sqrt{46189}y \left(3 x^2-y^2\right) \! \left(x^2+y^2-20 z^2\right) \! \left(3 x^6-27 x^4 y^2+33 x^2 y^4-y^6\right)
124
                            \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)
125
                           \frac{\sqrt{14586}xyz\left(x^2-3y^2\right)\left(3x^2-y^2\right)\left(15x^4+30x^2y^2-160x^2z^2+15y^4-160y^2z^2+224z^4\right)}{(x^2-3y^2)\left(3x^2-y^2\right)\left(15x^4+30x^2y^2-160x^2z^2+15y^4-160y^2z^2+224z^4\right)}
126
                                 \sqrt{46189}x(x^2-3y^2)(x^2+y^2-20z^2)(x^6-33x^4y^2+27x^2y^4-3y^6)
127
                             \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)
128
                             \sqrt{88179}x\left(x^{10}-55x^{8}y^{2}+330x^{6}y^{4}-462x^{4}y^{6}+165x^{2}y^{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^{2}y^{2}+5y^{4}\right)\left(5x^{6}+15x^{4}y^{2}-240x^{4}z^{2}+15x^{2}y^{4}-480x^{2}y^{2}z^{2}+1120x^{2}z^{4}+5y^{6}-240y^{4}z^{2}+1120y^{2}z^{4}-896z^{6}\right)
133
                           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) + 25x^2y^2 + 25x^2y^2
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 - 26880x^2y^2z^6 + 5760x^2z^8 + 21y^{10} - 1260y^8z^2 + 8400y^6z^4 - 13440y^4z^6 + 5760y^2z^8 - 512z^{10}x^2y^8 - 510z^{10}x^2y^8 
136
                             \sqrt{1939938}xyz(x^4-10x^2y^2+5y^4)(5x^4-10x^2y^2+y^4)
137
                                  \frac{\sqrt{1939938}z(x-y)(x+y)\left(x^{4}-4x^{3}y-14x^{2}y^{2}-4xy^{3}+y^{4}\right)\left(x^{4}+4x^{3}y-14x^{2}y^{2}+4xy^{3}+y^{4}\right)}{}
138
                             \sqrt{692835}xyz(x-y)(x+y)\left(x^2+y^2-6z^2\right)\left(x^2-2xy-y^2\right)\left(x^2+2xy-y^2\right)
139
                            \frac{\sqrt{692835}z\left(x^2+y^2-6z^2\right)\left(x^4-4x^3y-6x^2y^2+4xy^3+y^4\right)\left(x^4+4x^3y-6x^2y^2-4xy^3+y^4\right)}{256}
140
                                 \frac{3\sqrt{1001}xyz(x-y)(x+y)\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}z\left(x^{2}-2xy-y^{2}\right)\left(x^{2}+2xy-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}xyz \Big(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\Big)
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^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+1008y^4z^4-768y^2z^6+128z^8+36y^6z^2+126y^6z^6+128z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^6z^6+126y^
144
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