

List: [3]

6 sets

2 symmetry classes

1 Wilf class

[3]-sets, arranged by common generating function

GENERATING FUNCTION: (n/a)

sequence to 30 terms: 1, 2, 5, 14, 42, 132, 429, 1430, 4862, 16796, 58786, 208012, 742900, 2674440, 9694845, 35357670, 129644790, 477638700, 1767263190, 6564120420, 24466267020, 91482563640, 343059613650, 1289904147324, 4861946401452, 18367353072152, 69533550916004, 263747951750360, 1002242216651368, 3814986502092304

(A000108: Catalan numbers: $C(n) = \text{binomial}(2n, n)/(n+1) = (2n)!/(n!(n+1)!)$)

RECURRENCE: $-\frac{2(1+2n)}{2+n} + N$

ASYMPTOTIC EXPANSION: $\frac{4^n(1-\frac{9}{8n}+145128n^2)}{n^{3/2}}$

ZINN: $a(n)$ asymptotic to $n^{-1.499011783}3.996563696^n$

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 2, 3]\}, \{[3, 2, 1]\}$

$\{[1, 3, 2]\}, \{[2, 1, 3]\}, \{[2, 3, 1]\}, \{[3, 1, 2]\}$

summarizing results for [3] pattern sets

there are 2 symmetry classes in all.

0/2 (0 %) can be counted by FINLABEL.

2/2 (100 %) can be counted by WILF.

thus 100 % of the symmetry classes can be counted by either FINLABEL or WILF.

List: [3,3]

15 sets

5 symmetry classes

3 Wilf classes

[3,3]-sets, arranged by common generating function

GENERATING FUNCTION: $x(1+2x+4x^3+4x^2)$

sequence to 30 terms: 1, 2, 4, 4, 0

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3], [3, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(x^2-x+1)}{(x-1)^3}$

sequence to 30 terms: 1, 2, 4, 7, 11, 16, 22, 29, 37, 46, 56, 67, 79, 92, 106, 121, 137, 154, 172, 191, 211, 232, 254, 277, 301, 326, 352, 379, 407, 436

(A000124: Central polygonal numbers)

RECURRENCE: $-\frac{2+n+n^2}{2-n+n^2} + N$

ASYMPTOTIC EXPANSION: $n^2(1 - \frac{1}{n} + \frac{2}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.040542696}1.002773049^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [2, 3, 1]}, {[1, 2, 3], [3, 1, 2]}, {[1, 3, 2], [3, 2, 1]}, {[2, 1, 3], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{x}{2x-1}$

sequence to 30 terms: 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 1048576, 2097152, 4194304, 8388608, 16777216, 33554432, 67108864, 134217728, 268435456, 536870912

(A000079: Powers of 2: $a(n) = 2^n$.)

RECURRENCE: $-2 + N$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 3 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 2, 3], [1, 3, 2]}, {[1, 2, 3], [2, 1, 3]}, {[2, 3, 1], [3, 2, 1]}, {[3, 1, 2], [3, 2, 1]}

{[1, 3, 2], [2, 1, 3]}, {[2, 3, 1], [3, 1, 2]}

{[1, 3, 2], [2, 3, 1]}, {[1, 3, 2], [3, 1, 2]}, {[2, 1, 3], [2, 3, 1]}, {[2, 1, 3], [3, 1, 2]}

summarizing results for [3,3] pattern sets

there are 5 symmetry classes in all.

5/5 (100 %) can be counted by FINLABEL.

thus 100 % of the symmetry classes can be counted by either FINLABEL or WILF.

List: [3,3,3]

20 sets

5 symmetry classes

3 Wilf classes

[3,3,3]-sets, arranged by common generating function

GENERATING FUNCTION: $x(1 + 2x + 3x^2 + x^3)$

sequence to 30 terms: 1, 2, 3, 1, 0
(not in online encyclopedia of integer sequences)

RECURRENCE: N^4

ASYMPTOTIC EXPANSION: (no unique dominant root)

ZINN: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [3, 1, 2], [3, 2, 1]}, {[1, 2, 3], [2, 1, 3], [3, 2, 1]}, {[1, 2, 3], [1, 3, 2], [3, 2, 1]},
{[1, 2, 3], [2, 3, 1], [3, 2, 1]}

GENERATING FUNCTION: $\frac{x}{(x-1)^2}$

sequence to 30 terms: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23,
24, 25, 26, 27, 28, 29, 30

(A000027: The natural numbers)

RECURRENCE: $-\frac{-1+n}{n} + N$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.9996908788}1.000598686^n$

THERE ARE 3 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 3, 2], [2, 1, 3], [3, 2, 1]}, {[1, 2, 3], [2, 3, 1], [3, 1, 2]}

{[2, 1, 3], [2, 3, 1], [3, 2, 1]}, {[1, 2, 3], [2, 1, 3], [2, 3, 1]}, {[1, 3, 2], [3, 1, 2], [3, 2, 1]},
{[1, 2, 3], [2, 1, 3], [3, 1, 2]}, {[1, 2, 3], [1, 3, 2], [2, 3, 1]}, {[1, 2, 3], [1, 3, 2], [3, 1, 2]},
{[1, 3, 2], [2, 3, 1], [3, 2, 1]}, {[2, 1, 3], [3, 1, 2], [3, 2, 1]}

{[1, 3, 2], [2, 1, 3], [2, 3, 1]}, {[1, 3, 2], [2, 1, 3], [3, 1, 2]}, {[1, 3, 2], [2, 3, 1], [3, 1, 2]},
{[2, 1, 3], [2, 3, 1], [3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(1+x)}{x^2+x-1}$

sequence to 30 terms: 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181,
6765, 10946, 17711, 28657, 46368, 75025, 121393, 196418, 317811, 514229, 832040, 1346269

(A000045: Fibonacci numbers: $F(n) = F(n-1) + F(n-2)$, $F(0) = 0$, $F(1) = 1$, $F(2) = 1$, ...)

RECURRENCE: $-1 - N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{-6.643070440e-7}1.618034360^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 1], [3, 1, 2], [3, 2, 1]}, {[1, 2, 3], [1, 3, 2], [2, 1, 3]}

summarizing results for [3,3,3] pattern sets

there are 5 symmetry classes in all.

5/5 (100 %) can be counted by FINLABEL.

thus 100 % of the symmetry classes can be counted by either FINLABEL or WILF.

List: [3,3,3,3]

15 sets
 5 symmetry classes
 3 Wilf classes

[3,3,3,3]-sets, arranged by common generating function

GENERATING FUNCTION: $x(1 + 2x + 2x^2)$
 sequence to 30 terms: 1, 2, 2, 0
 (not in online encyclopedia of integer sequences)
 RECURRENCE: (no result)

textscthere is 1 symmetry class with this sequence are.
 $\{[1, 2, 3], [2, 1, 3], [3, 1, 2], [3, 2, 1]\}, \{[1, 2, 3], [1, 3, 2], [3, 1, 2], [3, 2, 1]\},$
 $\{[1, 2, 3], [2, 1, 3], [2, 3, 1], [3, 2, 1]\}, \{[1, 2, 3], [1, 3, 2], [2, 3, 1], [3, 2, 1]\}$

GENERATING FUNCTION: $x(1 + x)(x^2 + x + 1)$
 sequence to 30 terms: 1, 2, 2, 1, 0
 (not in online encyclopedia of integer sequences)
 RECURRENCE: (no result)

textscthere is 1 symmetry class with this sequence:
 $\{[1, 2, 3], [2, 3, 1], [3, 1, 2], [3, 2, 1]\}, \{[1, 2, 3], [1, 3, 2], [2, 1, 3], [3, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(1+x)}{x-1}$
 sequence to 30 terms: 1, 2
 (not in online encyclopedia of integer sequences)
 RECURRENCE: (no result)

textscthere are 3 symmetry classes with this sequence:
 $\{[1, 3, 2], [2, 1, 3], [3, 1, 2], [3, 2, 1]\}, \{[1, 2, 3], [2, 1, 3], [2, 3, 1], [3, 1, 2]\},$
 $\{[1, 2, 3], [1, 3, 2], [2, 3, 1], [3, 1, 2]\}, \{[1, 3, 2], [2, 1, 3], [2, 3, 1], [3, 2, 1]\}$

$\{[1, 3, 2], [2, 1, 3], [2, 3, 1], [3, 1, 2]\}$

$\{[1, 3, 2], [2, 3, 1], [3, 1, 2], [3, 2, 1]\}, \{[1, 2, 3], [1, 3, 2], [2, 1, 3], [3, 1, 2]\},$
 $\{[2, 1, 3], [2, 3, 1], [3, 1, 2], [3, 2, 1]\}, \{[1, 2, 3], [1, 3, 2], [2, 1, 3], [2, 3, 1]\}$

summarizing results for [3,3,3,3] pattern sets
 there are 5 symmetry classes in all.
 5/5 (100 %) can be counted by FINLABEL.
 thus 100 % of the symmetry classes can be counted by either FINLABEL or WILF..

List: [4]

24 sets
 7 symmetry classes
 3 Wilf classes

[4]-sets, arranged by common generating function

GENERATING FUNCTION: (n/a)
 sequence to 30 terms: 1, 2, 6, 23, 103, 513, 2761, 15767, 94359, 586590, 3763290, 24792705,
 167078577, 1148208090, 8026793118, 56963722223, 409687815151, 2981863943718, 21937062144834,

162958355218089, 1221225517285209, 9225729232653663, 70209849031116183, 537935616492552297,
 4147342550996290153, 32159907636432567578, 250717538500344886206, 1964347085978431234383,
 15462159345628498316319, 122238900487877503161969

(A005802: Number of permutations in S_n with longest increasing subsequence of length $j=3$ (i.e. 1234-avoiding permutations); vexillary permutations (i.e. 2143-avoiding).)

RECURRENCE: $\frac{9(n+1)^2}{(n+4)^2} - \frac{(41+42n+10n^2)N}{(n+4)^2} + N^2$

ASYMPTOTIC EXPANSION: $\frac{9^n(1-\frac{11}{2n}+\frac{20}{n^2})}{n^4}$

ZINN: $a(n)$ asymptotic to $n^{-3.990767318}8.979528508^n$

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 2, 3, 4]\}, \{[4, 3, 2, 1]\}$

$\{[2, 1, 3, 4]\}, \{[1, 2, 4, 3]\}, \{[3, 4, 2, 1]\}, \{[4, 3, 1, 2]\}$

SYMMETRY CLASSES UNCOUNTED FINLABEL AND WILF (THERE ARE 5):

$\{[2, 4, 1, 3]\}, \{[3, 1, 4, 2]\}$

$\{[2, 1, 4, 3]\}, \{[3, 4, 1, 2]\}$

$\{[1, 3, 2, 4]\}, \{[4, 2, 3, 1]\}$

$\{[1, 4, 2, 3]\}, \{[1, 3, 4, 2]\}, \{[2, 3, 1, 4]\}, \{[2, 4, 3, 1]\},$
 $\{[3, 1, 2, 4]\}, \{[3, 2, 4, 1]\}, \{[4, 1, 3, 2]\}, \{[4, 2, 1, 3]\}$

$\{[1, 4, 3, 2]\}, \{[2, 3, 4, 1]\}, \{[3, 2, 1, 4]\}, \{[4, 1, 2, 3]\}$

summarizing results for [4] pattern sets

there are 7 symmetry classes in all.

0/7 (0 %) can be counted by FINLABEL.

2/7 (29 %) can be counted by WILF.

thus 29 % of the symmetry classes can be counted by either FINLABEL or WILF.

List: [4,3]

144 sets

30 symmetry classes

(at least) 8 Wilf classes

[4,3]-sets, arranged by common generating function

GENERATING FUNCTION: $\frac{x(2x^3-5x^2+3x-1)}{(x-1)^5}$

sequence to 30 terms: 1, 2, 5, 13, 30, 61, 112, 190, 303, 460, 671, 947, 1300, 1743, 2290, 2956, 3757, 4710, 5833, 7145, 8666, 10417, 12420, 14698, 17275, 20176, 23427, 27055, 31088, 35555

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{1}{2}(n+1)(n^3+5n^2-6n+24) + \frac{1}{2}n(34-13n+2n^2+n^3)N$

ASYMPTOTIC EXPANSION: $n^4(1 + \frac{2}{n} - \frac{13}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{3.939051976}1.002997833^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [4, 3, 1, 2]}, {[2, 1, 3, 4], [3, 2, 1]}, {[1, 2, 4, 3], [3, 2, 1]}, {[1, 2, 3], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{x(3x^2-3x+1)}{(x-1)(2x-1)^2}$

sequence to 30 terms: 1, 2, 5, 13, 33, 81, 193, 449, 1025, 2305, 5121, 11265, 24577, 53249, 114689, 245761, 524289, 1114113, 2359297, 4980737, 10485761, 22020097, 46137345, 96468993, 201326593, 419430401, 872415233, 1811939329, 3758096385, 7784628225

(not in online encyclopedia of integer sequences)

RECURRENCE: $4 + 2n + (-5 - 3n)N + (n + 1)N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.9996728378}2.001284628^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 2], [4, 3, 1, 2]}, {[2, 1, 3], [4, 3, 1, 2]}, {[2, 1, 3, 4], [2, 3, 1]}, {[2, 1, 3, 4], [3, 1, 2]},

{[2, 1, 3], [3, 4, 2, 1]}, {[1, 2, 4, 3], [2, 3, 1]}, {[1, 2, 4, 3], [3, 1, 2]}, {[1, 3, 2], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{x(x-1)}{x^2-3x+1}$

sequence to 30 terms: 1, 2, 5, 13, 34, 89, 233, 610, 1597, 4181, 10946, 28657, 75025, 196418, 514229, 1346269, 3524578, 9227465, 24157817, 63245986, 165580141, 433494437, 1134903170, 2971215073, 7778742049, 20365011074, 53316291173, 139583862445, 365435296162, 956722026041

(A099496: $(-1)^n Fib(2n+1)$)

RECURRENCE: $1 - 3N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 6 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[2, 3, 1], [3, 2, 1, 4]}, {[3, 1, 2], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 3, 1]}, {[1, 4, 3, 2], [3, 1, 2]},

{[4, 1, 2, 3], [1, 3, 2]}, {[4, 1, 2, 3], [2, 1, 3]}, {[1, 3, 2], [2, 3, 4, 1]}, {[2, 1, 3], [2, 3, 4, 1]}

{[1, 3, 2], [3, 2, 4, 1]}, {[2, 3, 1, 4], [3, 1, 2]}, {[1, 3, 4, 2], [3, 1, 2]}, {[1, 4, 2, 3], [2, 3, 1]},

{[2, 1, 3], [2, 4, 3, 1]}, {[4, 1, 3, 2], [2, 1, 3]}, {[2, 3, 1], [3, 1, 2, 4]}, {[4, 2, 1, 3], [1, 3, 2]}

{[1, 2, 3, 4], [1, 3, 2]}, {[1, 2, 3, 4], [2, 1, 3]}, {[4, 3, 2, 1], [2, 3, 1]}, {[4, 3, 2, 1], [3, 1, 2]}

{[2, 1, 3, 4], [1, 3, 2]}, {[3, 1, 2], [3, 4, 2, 1]}, {[1, 2, 4, 3], [2, 1, 3]}, {[2, 3, 1], [4, 3, 1, 2]}

sequence to 30 terms: 1, 2, 5, 14, 42, 132, 429, 1430, 4862, 16796, 58786, 208012, 742900, 2674440, 9694845, 35357670, 129644790, 477638700, 1767263190, 6564120420, 24466267020, 91482563640, 343059613650, 1289904147324, 4861946401452, 18367353072152, 69533550916004, 263747951750360, 1002242216651368, 3814986502092304

(A005802: Catalan numbers: $C(n) = \text{binomial}(2n, n)/(n+1) = (2n)!/(n!(n+1)!)$)

(A000108: Catalan numbers: $C(n) = \text{binomial}(2n, n)/(n+1) = (2n)!/(n!(n+1)!)$)

RECURRENCE: $-\frac{2(1+2n)}{2+n} + N$

ASYMPTOTIC EXPANSION: $\frac{4^n(1-\frac{9}{8n}+145128n^2)}{n^{3/2}}$

ZINN: $a(n)$ asymptotic to $n^{-1.499011783}3.996563696^n$

THERE ARE 10 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[2, 1, 3], [2, 1, 3, 4]\}$, $\{[1, 3, 2], [1, 2, 4, 3]\}$, $\{[2, 3, 1], [3, 4, 2, 1]\}$,
 $\{[3, 1, 2], [4, 3, 1, 2]\}$

$\{[1, 2, 3], [1, 4, 2, 3]\}$, $\{[1, 2, 3], [1, 3, 4, 2]\}$, $\{[1, 2, 3], [2, 3, 1, 4]\}$,
 $\{[3, 2, 1], [2, 4, 3, 1]\}$, $\{[1, 2, 3], [3, 1, 2, 4]\}$, $\{[3, 2, 1], [3, 2, 4, 1]\}$,
 $\{[3, 2, 1], [4, 1, 3, 2]\}$, $\{[3, 2, 1], [4, 2, 1, 3]\}$

$\{[1, 2, 3], [2, 1, 3, 4]\}$, $\{[1, 2, 3], [1, 2, 4, 3]\}$, $\{[3, 2, 1], [3, 4, 2, 1]\}$,
 $\{[3, 2, 1], [4, 3, 1, 2]\}$

$\{[1, 3, 2], [1, 4, 3, 2]\}$, $\{[2, 3, 1], [2, 3, 4, 1]\}$, $\{[2, 1, 3], [3, 2, 1, 4]\}$,
 $\{[3, 1, 2], [4, 1, 2, 3]\}$

$\{[3, 2, 1], [1, 4, 3, 2]\}$, $\{[1, 2, 3], [2, 3, 4, 1]\}$, $\{[3, 2, 1], [3, 2, 1, 4]\}$,
 $\{[1, 2, 3], [4, 1, 2, 3]\}$

$\{[1, 2, 3, 4], [1, 2, 3]\}$, $\{[4, 3, 2, 1], [3, 2, 1]\}$

$\{[1, 3, 2], [1, 4, 2, 3]\}$, $\{[1, 3, 2], [1, 3, 4, 2]\}$, $\{[2, 1, 3], [2, 3, 1, 4]\}$,
 $\{[2, 3, 1], [2, 4, 3, 1]\}$, $\{[2, 1, 3], [3, 1, 2, 4]\}$, $\{[2, 3, 1], [3, 2, 4, 1]\}$,
 $\{[3, 1, 2], [4, 1, 3, 2]\}$, $\{[3, 1, 2], [4, 2, 1, 3]\}$

$\{[3, 1, 2], [1, 4, 2, 3]\}$, $\{[2, 3, 1], [1, 3, 4, 2]\}$, $\{[2, 3, 1], [2, 3, 1, 4]\}$,
 $\{[1, 3, 2], [2, 4, 3, 1]\}$, $\{[3, 1, 2], [3, 1, 2, 4]\}$, $\{[2, 1, 3], [3, 2, 4, 1]\}$,
 $\{[1, 3, 2], [4, 1, 3, 2]\}$, $\{[2, 1, 3], [4, 2, 1, 3]\}$

$\{[1, 3, 2], [1, 3, 2, 4]\}$, $\{[2, 1, 3], [1, 3, 2, 4]\}$, $\{[2, 3, 1], [4, 2, 3, 1]\}$,
 $\{[3, 1, 2], [4, 2, 3, 1]\}$

$\{[1, 2, 3], [1, 3, 2, 4]\}$, $\{[3, 2, 1], [4, 2, 3, 1]\}$

SYMMETRY CLASSES UNCOUNTED FINLABEL AND WILF (THERE ARE 8):

$\{[3, 2, 1], [2, 1, 4, 3]\}$, $\{[1, 2, 3], [3, 4, 1, 2]\}$

$\{[1, 2, 3], [2, 1, 4, 3]\}$, $\{[3, 2, 1], [3, 4, 1, 2]\}$

$\{[2, 3, 1], [2, 4, 1, 3]\}$, $\{[2, 1, 3], [2, 4, 1, 3]\}$, $\{[1, 3, 2], [2, 4, 1, 3]\}$,

$\{[3, 1, 2], [2, 4, 1, 3]\}$, $\{[3, 1, 2], [3, 1, 4, 2]\}$, $\{[2, 1, 3], [3, 1, 4, 2]\}$,
 $\{[2, 3, 1], [3, 1, 4, 2]\}$, $\{[1, 3, 2], [3, 1, 4, 2]\}$

$\{[1, 2, 3], [2, 4, 1, 3]\}$, $\{[3, 2, 1], [2, 4, 1, 3]\}$, $\{[3, 2, 1], [3, 1, 4, 2]\}$,
 $\{[1, 2, 3], [3, 1, 4, 2]\}$

$\{[3, 2, 1], [1, 3, 2, 4]\}$, $\{[1, 2, 3], [4, 2, 3, 1]\}$

$\{[2, 3, 1], [2, 1, 4, 3]\}$, $\{[3, 1, 2], [2, 1, 4, 3]\}$, $\{[1, 3, 2], [3, 4, 1, 2]\}$,
 $\{[2, 1, 3], [3, 4, 1, 2]\}$

$\{[2, 1, 3], [2, 1, 4, 3]\}$, $\{[1, 3, 2], [2, 1, 4, 3]\}$, $\{[2, 3, 1], [3, 4, 1, 2]\}$,
 $\{[3, 1, 2], [3, 4, 1, 2]\}$

$\{[2, 3, 1], [1, 3, 2, 4]\}$, $\{[3, 1, 2], [1, 3, 2, 4]\}$, $\{[2, 1, 3], [4, 2, 3, 1]\}$,
 $\{[1, 3, 2], [4, 2, 3, 1]\}$

summarizing results for [4,3] pattern sets

there are 30 symmetry classes in all.

12/30 (40 %) can be counted by FINLABEL.

10/30 (33 %) can be counted by WILF.

thus 73 % of the symmetry classes can be counted by either FINLABEL or WILF.

List: [4,4]

276 sets

56 symmetry classes

(at least) 8 Wilf classes

[4,4]-sets, arranged by common generating function

GENERATING FUNCTION: $-\frac{(x-1)(3x^3-5x^2+4x+1)x}{-1+7x-17x^2+22x^3-13x^4+4x^5}$

sequence to 30 terms: 1, 2, 6, 22, 86, 338, 1318, 5110, 19770, 76466, 295810, 1144530, 4428622, 17136186, 66306722, 256565926, 992749334, 3841316550, 14863484902, 57512368162, 222536820262, 861078033110, 3331832349354, 12892103081874, 49884359171762, 193021206346882, 746871097900286, 2889923068516826, 11182191098038914, 43268071429470230

(not in online encyclopedia of integer sequences)

RECURRENCE: $-4 + 13N - 22N^2 + 17N^3 - 7N^4 + N^5$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 1, 2], [2, 3, 4, 1]}, {[1, 2, 4, 3], [3, 2, 1, 4]}, {[2, 1, 3, 4], [1, 4, 3, 2]},
{[4, 1, 2, 3], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{x(4x^8-19x^7+32x^6-39x^5+62x^4-44x^3+24x^2-7x+1)}{(x-1)^9}$

sequence to 30 terms: 1, 2, 6, 22, 86, 321, 1085, 3266, 8797, 21478, 48206, 100728, 198046, 369617, 659505, 1131656, 1876481, 3018946, 4728382, 7230242, 10820046, 15879769, 22896941, 32486742, 45417389, 62639126, 85317142, 114868756, 153005222, 201778521

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{-6465702348-58586784149n+2334115169n^2}{8(16902771474-154210694n+865629581n^2)} - \frac{3(99650727408+13901914867n+10165036615n^2)N}{8(16902771474-154210694n+865629581n^2)} + \frac{9(-13514389976-891606993778276070122724783712851)}{4(16902771474-154210694n+865629581n^2)} \sqrt{5}$

ASYMPTOTIC EXPANSION: $(-\frac{7040248669}{3462518324} - \frac{3}{3462518324} \sqrt{5956228843650077771})^n n^{(\frac{60993778276070122724783712851}{12034436106330738082339208746444692719} \sqrt{5})}$
 $(1 + \frac{A}{n} + \frac{A}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{7.896861732} 1.005877072^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [4, 3, 1, 2]}, {[4, 3, 2, 1], [1, 2, 4, 3]}, {[4, 3, 2, 1], [2, 1, 3, 4]},
{[1, 2, 3, 4], [3, 4, 2, 1]}

GENERATING FUNCTION: $\frac{4x^6-28x^5+64x^4-64x^3+34x^2-9x+1)x}{(x-1)(2x-1)^5}$

sequence to 30 terms: 1, 2, 6, 22, 86, 330, 1206, 4174, 13726, 43134, 130302, 380414, 1078270, 2978814, 8046590, 21311486, 55468030, 142147582, 359268350, 896794622, 2213543934, 5408292862, 13091995646, 31424774142, 74845257726, 176991240190, 415789744126, 970830381054, 2253985415166, 5205567471614

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{2(9*n+46)(n-1)}{(238+23*n+21*n^2)} + \frac{(974+139*n+15*n^2)*N}{(238+23*n+21*n^2)} - \frac{2(560+118*n+27*n^2)*N^2}{(238+23*n+21*n^2)} + N^3$

ASYMPTOTIC EXPANSION: $2^n n^4 (1 - \frac{26}{3n} + \frac{55}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{4.217236512} 1.999973620^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 2, 1]}, {[1, 2, 4, 3], [3, 4, 2, 1]}, {[2, 1, 3, 4], [4, 3, 1, 2]},
{[1, 2, 4, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x-1)(2x-1)^2}{4x^4-16x^3+16x^2-7x+1}$

sequence to 30 terms: 1, 2, 6, 22, 86, 338, 1318, 5106, 19718, 76066, 293398, 1131794, 4366374,

16846018, 64995254, 250765298, 967503814, 3732821922, 14401956182, 55565542354, 214382633062, 827129764994, 3191227078902, 12312373271986, 47503525349126, 183277819294562, 707121393512086, 2728211558369682, 10525969619710886, 40611233423076418

(not in online encyclopedia of integer sequences)

RECURRENCE: $4 - 16N + 16N^2 - 7N^3 + N^4$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{1.200000000e-9}3.858194056^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 2, 1, 3], [1, 3, 4, 2]\}$, $\{[4, 1, 3, 2], [2, 3, 1, 4]\}$, $\{[3, 1, 2, 4], [2, 4, 3, 1]\}$,
 $\{[1, 4, 2, 3], [3, 2, 4, 1]\}$

GENERATING FUNCTION: $-\frac{x(4x^9-29x^8+108x^7-234x^6+313x^5-268x^4+151x^3-54x^2+11x-1)}{(x-1)^6(2x-1)^2(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 22, 86, 330, 1198, 4087, 13185, 40619, 120636, 348197, 983073, 2728722,

7475575, 20274288, 54558291, 145933414, 388520823, 1030601705, 2726043970, 7194657991, 18955376065,

49872709551, 131077883030, 344216450494, 903332924312, 2369406020786, 6212334009004, 16282896577058

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.02464420254}2.614544736^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 3, 2, 1], [2, 3, 1, 4]\}$, $\{[4, 3, 2, 1], [1, 3, 4, 2]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4]\}$,
 $\{[4, 3, 2, 1], [1, 4, 2, 3]\}$, $\{[1, 2, 3, 4], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [4, 2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [3, 2, 4, 1]\}$, $\{[1, 2, 3, 4], [2, 4, 3, 1]\}$

GENERATING FUNCTION: $-\frac{x(3x-1)}{(4x-1)(x-1)}$

sequence to 30 terms: 1, 2, 6, 22, 86, 342, 1366, 5462, 21846, 87382, 349526, 1398102, 5592406,

22369622, 89478486, 357913942, 1431655766, 5726623062, 22906492246, 91625968982, 366503875926,

1466015503702, 5864062014806, 23456248059222, 93824992236886, 375299968947542, 1501199875790166,

6004799503160662, 24019198012642646, 96076792050570582

(A047849: $a(n) = T(1, n)$, array T given by A047848).

RECURRENCE: $4 - 5N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[4, 1, 2, 3], [1, 4, 3, 2]\}$, $\{[3, 2, 1, 4], [2, 3, 4, 1]\}$, $\{[1, 4, 3, 2], [2, 3, 4, 1]\}$,
 $\{[4, 1, 2, 3], [3, 2, 1, 4]\}$

$\{[4, 3, 2, 1], [2, 3, 4, 1]\}$, $\{[1, 2, 3, 4], [1, 4, 3, 2]\}$, $\{[4, 3, 2, 1], [4, 1, 2, 3]\}$,
 $\{[1, 2, 3, 4], [3, 2, 1, 4]\}$

GENERATING FUNCTION: $-\frac{(2x^4-7x^3+12x^2-6x+1)x}{2x^5-10x^4+25x^3-22x^2+8x-1}$

sequence to 30 terms: 1, 2, 6, 22, 86, 336, 1290, 4870, 18164, 67234, 247786, 911120, 3346618,

12286942, 45104548, 165573482, 607817410, 2231360192, 8191763970, 30074097062, 110410946820,

405353571346, 1488185247962, 5463619641904, 20058759689642, 73642362774478, 270365534734372,

992601463154394, 3644168652828306, 13378949293223584

(not in online encyclopedia of integer sequences)

RECURRENCE: $-2 + 10N - 25N^2 + 22N^3 - 8N^4 + N^5$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.000001224195101}3.671330320^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 2, 1, 3], [2, 3, 4, 1]\}$, $\{[1, 4, 3, 2], [3, 1, 2, 4]\}$, $\{[1, 3, 4, 2], [3, 2, 1, 4]\}$,
 $\{[2, 3, 1, 4], [1, 4, 3, 2]\}$, $\{[1, 4, 2, 3], [3, 2, 1, 4]\}$, $\{[4, 1, 2, 3], [3, 2, 4, 1]\}$,
 $\{[4, 1, 2, 3], [2, 4, 3, 1]\}$, $\{[4, 1, 3, 2], [2, 3, 4, 1]\}$

GENERATING FUNCTION: $-\frac{x(2x^6-14x^5+37x^4-49x^3+31x^2-9x+1)}{(x-1)(x^2-3x+1)^2(2x^2-4x+1)}$

sequence to 30 terms: 1, 2, 6, 22, 86, 337, 1299, 4910, 18228, 66640, 240550, 859295, 3043525,
10705182, 37441618, 130351650, 452119862, 1563402141, 5392828631, 18564966510, 63807048144,
219015409556, 750968486726, 2572756726459, 8808011192329, 30138217809470, 103077794599470,
352418479793638, 1204561546553558, 4116241406917369

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{2(5+n)}{3+n} + \frac{6(9+2n)N}{3+n} - \frac{(103+25n)N^2}{3+n} + \frac{(83+22n)N^3}{3+n} - \frac{(27+8n)N^4}{3+n} + N^5$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.02022117946}3.410664892^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 4, 2, 3], [3, 4, 2, 1]\}$, $\{[2, 1, 3, 4], [2, 4, 3, 1]\}$, $\{[1, 2, 4, 3], [3, 2, 4, 1]\}$,
 $\{[4, 1, 3, 2], [2, 1, 3, 4]\}$, $\{[2, 3, 1, 4], [4, 3, 1, 2]\}$, $\{[1, 3, 4, 2], [4, 3, 1, 2]\}$,
 $\{[3, 1, 2, 4], [3, 4, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 2, 4, 3]\}$

SYMMETRY CLASSES WITH NO GENERATING FUNCTION FROM FINLABEL (THERE ARE 47):

$\{[1, 2, 3, 4], [2, 4, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 4, 1, 3]\}$, $\{[1, 2, 3, 4], [3, 1, 4, 2]\}$,
 $\{[4, 3, 2, 1], [3, 1, 4, 2]\}$

$\{[4, 3, 2, 1], [3, 4, 2, 1]\}$, $\{[4, 3, 2, 1], [4, 3, 1, 2]\}$, $\{[1, 2, 3, 4], [1, 2, 4, 3]\}$,
 $\{[1, 2, 3, 4], [2, 1, 3, 4]\}$

$\{[2, 1, 3, 4], [3, 4, 1, 2]\}$, $\{[1, 2, 4, 3], [3, 4, 1, 2]\}$, $\{[2, 1, 4, 3], [4, 3, 1, 2]\}$,
 $\{[2, 1, 4, 3], [3, 4, 2, 1]\}$

$\{[1, 3, 4, 2], [2, 4, 3, 1]\}$, $\{[2, 3, 1, 4], [3, 2, 4, 1]\}$, $\{[4, 2, 1, 3], [3, 1, 2, 4]\}$,
 $\{[4, 1, 3, 2], [1, 4, 2, 3]\}$

$\{[1, 3, 4, 2], [2, 3, 4, 1]\}$, $\{[4, 1, 3, 2], [1, 4, 3, 2]\}$, $\{[3, 2, 1, 4], [3, 2, 4, 1]\}$,
 $\{[4, 2, 1, 3], [3, 2, 1, 4]\}$, $\{[2, 3, 1, 4], [2, 3, 4, 1]\}$, $\{[4, 1, 2, 3], [3, 1, 2, 4]\}$,
 $\{[4, 1, 2, 3], [1, 4, 2, 3]\}$, $\{[1, 4, 3, 2], [2, 4, 3, 1]\}$

$\{[1, 3, 4, 2], [3, 1, 4, 2]\}$, $\{[2, 4, 1, 3], [2, 4, 3, 1]\}$, $\{[2, 3, 1, 4], [2, 4, 1, 3]\}$,
 $\{[4, 2, 1, 3], [2, 4, 1, 3]\}$, $\{[2, 4, 1, 3], [1, 4, 2, 3]\}$, $\{[3, 1, 2, 4], [3, 1, 4, 2]\}$,
 $\{[4, 1, 3, 2], [3, 1, 4, 2]\}$, $\{[3, 1, 4, 2], [3, 2, 4, 1]\}$

$\{[2, 4, 1, 3], [1, 2, 4, 3]\}$, $\{[2, 4, 1, 3], [3, 4, 2, 1]\}$, $\{[4, 3, 1, 2], [3, 1, 4, 2]\}$,
 $\{[1, 2, 4, 3], [3, 1, 4, 2]\}$, $\{[2, 4, 1, 3], [2, 1, 3, 4]\}$, $\{[2, 1, 3, 4], [3, 1, 4, 2]\}$,
 $\{[2, 4, 1, 3], [4, 3, 1, 2]\}$, $\{[3, 1, 4, 2], [3, 4, 2, 1]\}$

$\{[4, 2, 3, 1], [2, 4, 3, 1]\}$, $\{[4, 2, 3, 1], [3, 2, 4, 1]\}$, $\{[1, 3, 2, 4], [3, 1, 2, 4]\}$,
 $\{[4, 1, 3, 2], [4, 2, 3, 1]\}$, $\{[2, 3, 1, 4], [1, 3, 2, 4]\}$, $\{[1, 3, 2, 4], [1, 3, 4, 2]\}$,
 $\{[1, 3, 2, 4], [1, 4, 2, 3]\}$, $\{[4, 2, 1, 3], [4, 2, 3, 1]\}$

{[4, 1, 2, 3], [1, 3, 4, 2]}, {[4, 2, 1, 3], [1, 4, 3, 2]}, {[4, 1, 2, 3], [2, 3, 1, 4]},
{[3, 2, 1, 4], [2, 4, 3, 1]}, {[4, 1, 3, 2], [3, 2, 1, 4]}, {[1, 4, 2, 3], [2, 3, 4, 1]},
{[3, 1, 2, 4], [2, 3, 4, 1]}, {[1, 4, 3, 2], [3, 2, 4, 1]}

{[4, 3, 2, 1], [3, 2, 1, 4]}, {[4, 3, 2, 1], [1, 4, 3, 2]}, {[1, 2, 3, 4], [4, 1, 2, 3]},
{[1, 2, 3, 4], [2, 3, 4, 1]}

{[4, 2, 3, 1], [2, 1, 3, 4]}, {[1, 3, 2, 4], [4, 3, 1, 2]}, {[1, 3, 2, 4], [3, 4, 2, 1]},
{[4, 2, 3, 1], [1, 2, 4, 3]}

{[4, 2, 3, 1], [2, 3, 4, 1]}, {[1, 3, 2, 4], [1, 4, 3, 2]}, {[1, 3, 2, 4], [3, 2, 1, 4]},
{[4, 1, 2, 3], [4, 2, 3, 1]}

{[4, 3, 2, 1], [4, 1, 3, 2]}, {[4, 3, 2, 1], [3, 2, 4, 1]}, {[1, 2, 3, 4], [1, 3, 4, 2]},
{[4, 3, 2, 1], [4, 2, 1, 3]}, {[1, 2, 3, 4], [2, 3, 1, 4]}, {[1, 2, 3, 4], [3, 1, 2, 4]},
{[4, 3, 2, 1], [2, 4, 3, 1]}, {[1, 2, 3, 4], [1, 4, 2, 3]}

{[2, 1, 4, 3], [3, 4, 1, 2]}

{[4, 3, 1, 2], [3, 4, 2, 1]}, {[2, 1, 3, 4], [1, 2, 4, 3]}

{[4, 1, 3, 2], [1, 3, 2, 4]}, {[4, 2, 1, 3], [1, 3, 2, 4]}, {[1, 3, 2, 4], [2, 4, 3, 1]},
{[4, 2, 3, 1], [2, 3, 1, 4]}, {[4, 2, 3, 1], [1, 3, 4, 2]}, {[4, 2, 3, 1], [3, 1, 2, 4]},
{[1, 3, 2, 4], [3, 2, 4, 1]}, {[4, 2, 3, 1], [1, 4, 2, 3]}

{[1, 3, 4, 2], [3, 2, 4, 1]}, {[4, 1, 3, 2], [1, 3, 4, 2]}, {[4, 2, 1, 3], [2, 3, 1, 4]},
{[1, 4, 2, 3], [2, 4, 3, 1]}, {[2, 3, 1, 4], [2, 4, 3, 1]}, {[4, 1, 3, 2], [3, 1, 2, 4]},
{[3, 1, 2, 4], [3, 2, 4, 1]}, {[4, 2, 1, 3], [1, 4, 2, 3]}

{[4, 2, 3, 1], [3, 4, 1, 2]}, {[2, 1, 4, 3], [1, 3, 2, 4]}

{[4, 1, 2, 3], [4, 3, 1, 2]}, {[1, 2, 4, 3], [1, 4, 3, 2]}, {[2, 1, 3, 4], [3, 2, 1, 4]},
{[3, 4, 2, 1], [2, 3, 4, 1]}

{[4, 2, 1, 3], [3, 2, 4, 1]}, {[1, 4, 2, 3], [3, 1, 2, 4]}, {[2, 3, 1, 4], [1, 3, 4, 2]},
{[4, 1, 3, 2], [2, 4, 3, 1]}

{[1, 3, 4, 2], [3, 4, 2, 1]}, {[2, 1, 3, 4], [3, 2, 4, 1]}, {[4, 2, 1, 3], [2, 1, 3, 4]},
{[2, 3, 1, 4], [3, 4, 2, 1]}, {[4, 3, 1, 2], [3, 1, 2, 4]}, {[1, 4, 2, 3], [4, 3, 1, 2]},
{[4, 1, 3, 2], [1, 2, 4, 3]}, {[1, 2, 4, 3], [2, 4, 3, 1]}

{[1, 3, 2, 4], [2, 3, 4, 1]}, {[4, 2, 3, 1], [3, 2, 1, 4]}, {[4, 1, 2, 3], [1, 3, 2, 4]},
{[4, 2, 3, 1], [1, 4, 3, 2]}

{[1, 3, 4, 2], [3, 1, 2, 4]}, {[4, 2, 1, 3], [2, 4, 3, 1]}, {[4, 1, 3, 2], [3, 2, 4, 1]},
{[2, 3, 1, 4], [1, 4, 2, 3]}

$\{[4, 3, 2, 1], [4, 2, 3, 1]\}, \{[1, 2, 3, 4], [1, 3, 2, 4]\}$

$\{[2, 3, 1, 4], [3, 1, 4, 2]\}, \{[4, 1, 3, 2], [2, 4, 1, 3]\}, \{[2, 4, 1, 3], [1, 3, 4, 2]\},$
 $\{[2, 4, 1, 3], [3, 1, 2, 4]\}, \{[2, 4, 1, 3], [3, 2, 4, 1]\}, \{[1, 4, 2, 3], [3, 1, 4, 2]\},$
 $\{[4, 2, 1, 3], [3, 1, 4, 2]\}, \{[3, 1, 4, 2], [2, 4, 3, 1]\}$

$\{[4, 1, 3, 2], [4, 2, 1, 3]\}, \{[2, 3, 1, 4], [3, 1, 2, 4]\}, \{[1, 3, 4, 2], [1, 4, 2, 3]\},$
 $\{[3, 2, 4, 1], [2, 4, 3, 1]\}$

$\{[4, 2, 1, 3], [3, 4, 2, 1]\}, \{[4, 1, 3, 2], [3, 4, 2, 1]\}, \{[4, 3, 1, 2], [3, 2, 4, 1]\},$
 $\{[4, 3, 1, 2], [2, 4, 3, 1]\}, \{[1, 2, 4, 3], [3, 1, 2, 4]\}, \{[2, 1, 3, 4], [1, 3, 4, 2]\},$
 $\{[2, 1, 3, 4], [1, 4, 2, 3]\}, \{[2, 3, 1, 4], [1, 2, 4, 3]\}$

$\{[4, 2, 3, 1], [4, 3, 1, 2]\}, \{[4, 2, 3, 1], [3, 4, 2, 1]\}, \{[1, 2, 4, 3], [1, 3, 2, 4]\},$
 $\{[2, 1, 3, 4], [1, 3, 2, 4]\}$

$\{[4, 3, 2, 1], [2, 1, 4, 3]\}, \{[1, 2, 3, 4], [3, 4, 1, 2]\}$

$\{[2, 3, 1, 4], [3, 2, 1, 4]\}, \{[1, 3, 4, 2], [1, 4, 3, 2]\}, \{[3, 1, 2, 4], [3, 2, 1, 4]\},$
 $\{[1, 4, 2, 3], [1, 4, 3, 2]\}, \{[4, 1, 2, 3], [4, 1, 3, 2]\}, \{[4, 1, 2, 3], [4, 2, 1, 3]\},$
 $\{[3, 2, 4, 1], [2, 3, 4, 1]\}, \{[2, 4, 3, 1], [2, 3, 4, 1]\}$

$\{[4, 2, 1, 3], [4, 3, 1, 2]\}, \{[4, 1, 3, 2], [4, 3, 1, 2]\}, \{[1, 2, 4, 3], [1, 4, 2, 3]\},$
 $\{[2, 3, 1, 4], [2, 1, 3, 4]\}, \{[2, 1, 3, 4], [3, 1, 2, 4]\}, \{[1, 2, 4, 3], [1, 3, 4, 2]\},$
 $\{[3, 2, 4, 1], [3, 4, 2, 1]\}, \{[3, 4, 2, 1], [2, 4, 3, 1]\}$

$\{[4, 3, 1, 2], [3, 4, 1, 2]\}, \{[2, 1, 3, 4], [2, 1, 4, 3]\}, \{[2, 1, 4, 3], [1, 2, 4, 3]\},$
 $\{[3, 4, 1, 2], [3, 4, 2, 1]\}$

$\{[4, 1, 2, 3], [1, 2, 4, 3]\}, \{[2, 1, 3, 4], [2, 3, 4, 1]\}, \{[4, 3, 1, 2], [3, 2, 1, 4]\},$
 $\{[3, 2, 1, 4], [3, 4, 2, 1]\}, \{[4, 1, 2, 3], [2, 1, 3, 4]\}, \{[1, 4, 3, 2], [4, 3, 1, 2]\},$
 $\{[1, 2, 4, 3], [2, 3, 4, 1]\}, \{[1, 4, 3, 2], [3, 4, 2, 1]\}$

$\{[1, 4, 3, 2], [3, 2, 1, 4]\}, \{[4, 1, 2, 3], [2, 3, 4, 1]\}$

$\{[2, 4, 1, 3], [2, 3, 4, 1]\}, \{[4, 1, 2, 3], [2, 4, 1, 3]\}, \{[2, 4, 1, 3], [1, 4, 3, 2]\},$
 $\{[2, 4, 1, 3], [3, 2, 1, 4]\}, \{[1, 4, 3, 2], [3, 1, 4, 2]\}, \{[4, 1, 2, 3], [3, 1, 4, 2]\},$
 $\{[3, 1, 4, 2], [3, 2, 1, 4]\}, \{[3, 1, 4, 2], [2, 3, 4, 1]\}$

$\{[4, 1, 3, 2], [2, 1, 4, 3]\}, \{[4, 2, 1, 3], [2, 1, 4, 3]\}, \{[2, 3, 1, 4], [3, 4, 1, 2]\},$
 $\{[1, 3, 4, 2], [3, 4, 1, 2]\}, \{[2, 1, 4, 3], [3, 2, 4, 1]\}, \{[2, 1, 4, 3], [2, 4, 3, 1]\},$
 $\{[3, 1, 2, 4], [3, 4, 1, 2]\}, \{[1, 4, 2, 3], [3, 4, 1, 2]\}$

$\{[2, 4, 1, 3], [3, 1, 4, 2]\}$

$\{[4, 2, 3, 1], [2, 1, 4, 3]\}, \{[1, 3, 2, 4], [3, 4, 1, 2]\}$

$\{[2, 4, 1, 3], [1, 3, 2, 4]\}$, $\{[4, 2, 3, 1], [3, 1, 4, 2]\}$, $\{[4, 2, 3, 1], [2, 4, 1, 3]\}$,
 $\{[1, 3, 2, 4], [3, 1, 4, 2]\}$

$\{[4, 2, 1, 3], [3, 4, 1, 2]\}$, $\{[2, 3, 1, 4], [2, 1, 4, 3]\}$, $\{[4, 1, 3, 2], [3, 4, 1, 2]\}$,
 $\{[2, 1, 4, 3], [1, 3, 4, 2]\}$, $\{[2, 1, 4, 3], [1, 4, 2, 3]\}$, $\{[2, 1, 4, 3], [3, 1, 2, 4]\}$,
 $\{[3, 2, 4, 1], [3, 4, 1, 2]\}$, $\{[3, 4, 1, 2], [2, 4, 3, 1]\}$

$\{[4, 3, 2, 1], [3, 4, 1, 2]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3]\}$

$\{[4, 2, 3, 1], [1, 3, 2, 4]\}$

$\{[1, 2, 3, 4], [4, 3, 2, 1]\}$

$\{[2, 4, 1, 3], [2, 1, 4, 3]\}$, $\{[2, 1, 4, 3], [3, 1, 4, 2]\}$, $\{[2, 4, 1, 3], [3, 4, 1, 2]\}$,
 $\{[3, 1, 4, 2], [3, 4, 1, 2]\}$

$\{[4, 3, 2, 1], [1, 3, 2, 4]\}$, $\{[1, 2, 3, 4], [4, 2, 3, 1]\}$

$\{[2, 1, 4, 3], [3, 2, 1, 4]\}$, $\{[2, 1, 4, 3], [1, 4, 3, 2]\}$, $\{[4, 1, 2, 3], [3, 4, 1, 2]\}$,
 $\{[3, 4, 1, 2], [2, 3, 4, 1]\}$

$\{[3, 2, 1, 4], [3, 4, 1, 2]\}$, $\{[4, 1, 2, 3], [2, 1, 4, 3]\}$, $\{[2, 1, 4, 3], [2, 3, 4, 1]\}$,
 $\{[1, 4, 3, 2], [3, 4, 1, 2]\}$

summarizing results for [4,4] pattern sets

there are 56 symmetry classes in all.

9 of them can be counted by FINLABEL.

that's 16 %.

List: [4,3,3]

360 sets

66 symmetry classes

10 Wilf classes

[4,3,3]-sets, arranged by common generating function

GENERATING FUNCTION: $x(x+1)(3x^2+x+1)$

sequence to 30 terms: 1, 2, 4, 3, 0
(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{\{[2, 4, 1, 3], [1, 2, 3], [3, 2, 1]\}, \{[1, 2, 3], [3, 1, 4, 2], [3, 2, 1]\}\}$

$\{\{[1, 2, 3], [3, 4, 1, 2], [3, 2, 1]\}, \{[2, 1, 4, 3], [1, 2, 3], [3, 2, 1]\}\}$

GENERATING FUNCTION: $-\frac{x}{2x-1}$

sequence to 30 terms: 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096, 8192, 16384, 32768, 65536, 131072, 262144, 524288, 1048576, 2097152, 4194304, 8388608, 16777216, 33554432, 67108864, 134217728, 268435456, 536870912

(A000079: Powers of 2: $a(n) = 2^n$)

RECURRENCE: $-2 + N$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 26 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[4, 1, 2, 3], [1, 3, 2], [3, 1, 2]\}, \{[1, 4, 3, 2], [2, 3, 1], [1, 3, 2]\}, \{[1, 4, 3, 2], [1, 3, 2], [3, 1, 2]\},$
 $\{[3, 2, 1, 4], [2, 3, 1], [2, 1, 3]\}, \{[3, 2, 1, 4], [2, 1, 3], [3, 1, 2]\}, \{[2, 3, 4, 1], [2, 3, 1], [2, 1, 3]\},$
 $\{[2, 3, 4, 1], [2, 3, 1], [1, 3, 2]\}, \{[4, 1, 2, 3], [2, 1, 3], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [1, 2, 3], [2, 1, 3]\}, \{[1, 2, 4, 3], [1, 2, 3], [1, 3, 2]\}, \{[3, 4, 2, 1], [2, 3, 1], [3, 2, 1]\},$
 $\{[4, 3, 1, 2], [3, 1, 2], [3, 2, 1]\}$

$\{[3, 4, 1, 2], [2, 3, 1], [1, 3, 2]\}, \{[3, 4, 1, 2], [1, 3, 2], [3, 1, 2]\}, \{[3, 4, 1, 2], [2, 1, 3], [3, 1, 2]\},$
 $\{[3, 4, 1, 2], [2, 3, 1], [2, 1, 3]\}, \{[2, 1, 4, 3], [2, 3, 1], [2, 1, 3]\}, \{[2, 1, 4, 3], [2, 3, 1], [1, 3, 2]\},$
 $\{[2, 1, 4, 3], [2, 1, 3], [3, 1, 2]\}, \{[2, 1, 4, 3], [1, 3, 2], [3, 1, 2]\}$

$\{[4, 2, 3, 1], [2, 3, 1], [3, 2, 1]\}, \{[4, 2, 3, 1], [3, 1, 2], [3, 2, 1]\}, \{[1, 3, 2, 4], [1, 2, 3], [2, 1, 3]\},$
 $\{[1, 3, 2, 4], [1, 2, 3], [1, 3, 2]\}$

$\{[4, 1, 3, 2], [1, 2, 3], [1, 3, 2]\}, \{[4, 2, 1, 3], [1, 2, 3], [2, 1, 3]\}, \{[2, 3, 1, 4], [2, 3, 1], [3, 2, 1]\},$
 $\{[1, 3, 4, 2], [2, 3, 1], [3, 2, 1]\}, \{[1, 4, 2, 3], [3, 1, 2], [3, 2, 1]\}, \{[3, 1, 2, 4], [3, 1, 2], [3, 2, 1]\},$
 $\{[1, 2, 3], [3, 2, 4, 1], [2, 1, 3]\}, \{[1, 2, 3], [2, 4, 3, 1], [1, 3, 2]\}$

$\{[2, 1, 3, 4], [2, 1, 3], [1, 3, 2]\}, \{[1, 2, 4, 3], [2, 1, 3], [1, 3, 2]\}, \{[4, 3, 1, 2], [2, 3, 1], [3, 1, 2]\}$

2]],

{[3, 4, 2, 1], [2, 3, 1], [3, 1, 2]}

{[4, 1, 3, 2], [2, 3, 1], [3, 1, 2]}, {[4, 2, 1, 3], [2, 3, 1], [3, 1, 2]}, {[2, 3, 1, 4], [2, 1, 3], [1, 3, 2]},

{[1, 3, 4, 2], [2, 1, 3], [1, 3, 2]}, {[1, 4, 2, 3], [2, 1, 3], [1, 3, 2]}, {[3, 1, 2, 4], [2, 1, 3], [1, 3, 2]},

{[3, 2, 4, 1], [2, 3, 1], [3, 1, 2]}, {[2, 4, 3, 1], [2, 3, 1], [3, 1, 2]}

{[2, 4, 1, 3], [1, 2, 3], [1, 3, 2]}, {[2, 4, 1, 3], [1, 2, 3], [2, 1, 3]}, {[2, 4, 1, 3], [2, 3, 1], [3, 2, 1]},

{[2, 4, 1, 3], [3, 1, 2], [3, 2, 1]}, {[1, 2, 3], [3, 1, 4, 2], [2, 1, 3]}, {[1, 2, 3], [3, 1, 4, 2], [1, 3, 2]},

{[3, 1, 4, 2], [2, 3, 1], [3, 2, 1]}, {[3, 1, 4, 2], [3, 1, 2], [3, 2, 1]}

{[2, 1, 3, 4], [1, 2, 3], [1, 3, 2]}, {[1, 2, 4, 3], [1, 2, 3], [2, 1, 3]}, {[3, 4, 2, 1], [3, 1, 2], [3, 2, 1]},

{[4, 3, 1, 2], [2, 3, 1], [3, 2, 1]}

{[4, 1, 2, 3], [3, 1, 2], [3, 2, 1]}, {[1, 4, 3, 2], [1, 2, 3], [1, 3, 2]}, {[1, 2, 3], [3, 2, 1, 4], [2, 1, 3]},

{[2, 3, 4, 1], [2, 3, 1], [3, 2, 1]}

{[4, 1, 3, 2], [2, 3, 1], [1, 3, 2]}, {[4, 2, 1, 3], [2, 3, 1], [2, 1, 3]}, {[2, 3, 1, 4], [2, 3, 1], [1, 3, 2]},

{[1, 3, 4, 2], [2, 3, 1], [2, 1, 3]}, {[1, 4, 2, 3], [2, 1, 3], [3, 1, 2]}, {[3, 1, 2, 4], [1, 3, 2], [3, 1, 2]},

{[3, 2, 4, 1], [2, 1, 3], [3, 1, 2]}, {[2, 4, 3, 1], [1, 3, 2], [3, 1, 2]}

{[3, 4, 1, 2], [2, 3, 1], [3, 1, 2]}, {[2, 1, 4, 3], [2, 1, 3], [1, 3, 2]}

{[3, 2, 4, 1], [3, 1, 2], [3, 2, 1]}, {[4, 1, 3, 2], [2, 3, 1], [3, 2, 1]}, {[4, 2, 1, 3], [2, 3, 1], [3, 2, 1]},

{[2, 3, 1, 4], [1, 2, 3], [1, 3, 2]}, {[1, 3, 4, 2], [1, 2, 3], [2, 1, 3]}, {[1, 4, 2, 3], [1, 2, 3], [2, 1, 3]},

{[1, 2, 3], [3, 1, 2, 4], [1, 3, 2]}, {[2, 4, 3, 1], [3, 1, 2], [3, 2, 1]}

{[4, 1, 3, 2], [3, 1, 2], [3, 2, 1]}, {[4, 2, 1, 3], [3, 1, 2], [3, 2, 1]}, {[2, 3, 1, 4], [1, 2, 3], [2, 1, 3]},

{[1, 3, 4, 2], [1, 2, 3], [1, 3, 2]}, {[1, 4, 2, 3], [1, 2, 3], [1, 3, 2]}, {[1, 2, 3], [3, 1, 2, 4], [2, 1, 3]},

{[3, 2, 4, 1], [2, 3, 1], [3, 2, 1]}, {[2, 4, 3, 1], [2, 3, 1], [3, 2, 1]}

{[2, 1, 3, 4], [2, 3, 1], [2, 1, 3]}, {[2, 1, 3, 4], [2, 1, 3], [3, 1, 2]}, {[1, 2, 4, 3], [2, 3, 1], [1, 3, 2]},

{[1, 2, 4, 3], [1, 3, 2], [3, 1, 2]}, {[3, 4, 2, 1], [2, 3, 1], [2, 1, 3]}, {[3, 4, 2, 1], [2, 3, 1], [1, 3, 2]},

{[4, 3, 1, 2], [2, 1, 3], [3, 1, 2]}, {[4, 3, 1, 2], [1, 3, 2], [3, 1, 2]}

{[2, 4, 1, 3], [1, 3, 2], [3, 1, 2]}, {[2, 4, 1, 3], [2, 1, 3], [3, 1, 2]}, {[2, 4, 1, 3], [2, 3, 1], [2, 1, 3]},

{[2, 4, 1, 3], [2, 3, 1], [1, 3, 2]}, {[3, 1, 4, 2], [2, 3, 1], [2, 1, 3]}, {[3, 1, 4, 2], [2, 3, 1], [1, 3, 2]},

{[3, 1, 4, 2], [2, 1, 3], [3, 1, 2]}, {[3, 1, 4, 2], [1, 3, 2], [3, 1, 2]}

{[4, 2, 3, 1], [2, 3, 1], [2, 1, 3]}, {[4, 2, 3, 1], [2, 3, 1], [1, 3, 2]}, {[4, 2, 3, 1], [2, 1, 3], [3, 1, 2]},
 {[4, 2, 3, 1], [1, 3, 2], [3, 1, 2]}, {[1, 3, 2, 4], [2, 3, 1], [1, 3, 2]}, {[1, 3, 2, 4], [2, 3, 1], [2, 1, 3]},
 {[1, 3, 2, 4], [2, 1, 3], [3, 1, 2]}, {[1, 3, 2, 4], [1, 3, 2], [3, 1, 2]}

{[2, 4, 1, 3], [2, 3, 1], [3, 1, 2]}, {[2, 4, 1, 3], [2, 1, 3], [1, 3, 2]}, {[3, 1, 4, 2], [2, 3, 1], [3, 1, 2]},
 {[3, 1, 4, 2], [2, 1, 3], [1, 3, 2]}

{[3, 4, 1, 2], [2, 3, 1], [3, 2, 1]}, {[3, 4, 1, 2], [3, 1, 2], [3, 2, 1]}, {[2, 1, 4, 3], [1, 2, 3], [1, 3, 2]},
 {[2, 1, 4, 3], [1, 2, 3], [2, 1, 3]}

{[4, 1, 2, 3], [1, 2, 3], [2, 1, 3]}, {[4, 1, 2, 3], [1, 2, 3], [1, 3, 2]}, {[1, 4, 3, 2], [2, 3, 1], [3, 2, 1]},
 {[1, 4, 3, 2], [3, 1, 2], [3, 2, 1]}, {[3, 2, 1, 4], [2, 3, 1], [3, 2, 1]}, {[3, 2, 1, 4], [3, 1, 2], [3, 2, 1]},
 {[1, 2, 3], [2, 3, 4, 1], [2, 1, 3]}, {[1, 2, 3], [2, 3, 4, 1], [1, 3, 2]}

{[4, 1, 2, 3], [2, 3, 1], [3, 1, 2]}, {[1, 4, 3, 2], [2, 1, 3], [1, 3, 2]}, {[3, 2, 1, 4], [2, 1, 3], [1, 3, 2]},
 {[2, 3, 4, 1], [2, 3, 1], [3, 1, 2]}

{[4, 2, 3, 1], [2, 3, 1], [3, 1, 2]}, {[1, 3, 2, 4], [2, 1, 3], [1, 3, 2]}

{[1, 2, 3, 4], [1, 2, 3], [1, 3, 2]}, {[1, 2, 3, 4], [1, 2, 3], [2, 1, 3]}, {[4, 3, 2, 1], [3, 1, 2], [3, 2, 1]},
 {[4, 3, 2, 1], [2, 3, 1], [3, 2, 1]}

{[4, 1, 3, 2], [2, 1, 3], [3, 1, 2]}, {[4, 2, 1, 3], [1, 3, 2], [3, 1, 2]}, {[2, 3, 1, 4], [2, 1, 3], [3, 1, 2]},
 {[1, 3, 4, 2], [1, 3, 2], [3, 1, 2]}, {[1, 4, 2, 3], [2, 3, 1], [1, 3, 2]}, {[3, 1, 2, 4], [2, 3, 1], [2, 1, 3]},
 {[3, 2, 4, 1], [2, 3, 1], [1, 3, 2]}, {[2, 4, 3, 1], [2, 3, 1], [2, 1, 3]}

{[4, 1, 3, 2], [2, 1, 3], [1, 3, 2]}, {[2, 3, 1, 4], [2, 3, 1], [3, 1, 2]}, {[1, 3, 4, 2], [2, 3, 1], [3, 1, 2]},
 {[1, 4, 2, 3], [2, 3, 1], [3, 1, 2]}, {[3, 1, 2, 4], [2, 3, 1], [3, 1, 2]}, {[3, 2, 4, 1], [2, 1, 3], [1, 3, 2]},
 {[2, 4, 3, 1], [2, 1, 3], [1, 3, 2]}, {[4, 2, 1, 3], [2, 1, 3], [1, 3, 2]}

{[4, 1, 3, 2], [1, 3, 2], [3, 1, 2]}, {[2, 3, 1, 4], [2, 3, 1], [2, 1, 3]}, {[1, 3, 4, 2], [2, 3, 1], [1, 3, 2]},
 {[1, 4, 2, 3], [1, 3, 2], [3, 1, 2]}, {[3, 1, 2, 4], [2, 1, 3], [3, 1, 2]}, {[3, 2, 4, 1], [2, 3, 1], [2, 1, 3]},
 {[2, 4, 3, 1], [2, 3, 1], [1, 3, 2]}, {[4, 2, 1, 3], [2, 1, 3], [3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x^2-x+1)}{(x-1)^3}$

sequence to 30 terms: 1, 2, 4, 7, 11, 16, 22, 29, 37, 46, 56, 67, 79, 92, 106, 121, 137, 154, 172, 191, 211, 232, 254, 277, 301, 326, 352, 379, 407, 436

(A000124: Central polygonal numbers)

RECURRENCE: $-\frac{2+n+n^2}{2-n+n^2} + N$

ASYMPTOTIC EXPANSION: $n^2(1 - \frac{1}{n} + \frac{2}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.012909340}1.001071116^n$

THERE ARE 22 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[4, 2, 3, 1], [1, 2, 3], [2, 3, 1]\}$, $\{[4, 2, 3, 1], [1, 2, 3], [3, 1, 2]\}$, $\{[1, 3, 2, 4], [2, 1, 3], [3, 2, 1]\}$,
 $\{[1, 3, 2, 4], [1, 3, 2], [3, 2, 1]\}$

$\{[4, 2, 3, 1], [1, 2, 3], [2, 1, 3]\}$, $\{[4, 2, 3, 1], [1, 2, 3], [1, 3, 2]\}$, $\{[1, 3, 2, 4], [2, 3, 1], [3, 2, 1]\}$,
 $\{[1, 3, 2, 4], [3, 1, 2], [3, 2, 1]\}$

$\{[3, 2, 4, 1], [1, 3, 2], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [2, 1, 3], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 3, 2], [3, 2, 1]\}$,
 $\{[2, 3, 1, 4], [1, 2, 3], [3, 1, 2]\}$, $\{[1, 3, 4, 2], [1, 2, 3], [3, 1, 2]\}$, $\{[1, 4, 2, 3], [1, 2, 3], [2, 3, 1]\}$,
 $\{[1, 2, 3], [3, 1, 2, 4], [2, 3, 1]\}$, $\{[2, 4, 3, 1], [2, 1, 3], [3, 2, 1]\}$

$\{[3, 4, 1, 2], [2, 1, 3], [1, 3, 2]\}$, $\{[2, 1, 4, 3], [2, 3, 1], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [2, 3, 1], [3, 1, 2]\}$, $\{[1, 2, 4, 3], [2, 3, 1], [3, 1, 2]\}$, $\{[3, 4, 2, 1], [2, 1, 3], [1, 3, 2]\}$,
 $\{[4, 3, 1, 2], [2, 1, 3], [1, 3, 2]\}$

$\{[1, 2, 3], [3, 4, 1, 2], [3, 1, 2]\}$, $\{[1, 2, 3], [3, 4, 1, 2], [2, 3, 1]\}$, $\{[2, 1, 4, 3], [2, 1, 3], [3, 2, 1]\}$,
 $\{[2, 1, 4, 3], [1, 3, 2], [3, 2, 1]\}$

$\{[4, 1, 2, 3], [1, 2, 3], [2, 3, 1]\}$, $\{[1, 4, 3, 2], [2, 1, 3], [3, 2, 1]\}$, $\{[3, 2, 1, 4], [1, 3, 2], [3, 2, 1]\}$,
 $\{[1, 2, 3], [2, 3, 4, 1], [3, 1, 2]\}$

$\{[1, 2, 3, 4], [1, 3, 2], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [2, 3, 1], [1, 3, 2]\}$, $\{[1, 2, 3, 4], [2, 1, 3], [3, 1, 2]\}$,
 $\{[1, 2, 3, 4], [2, 3, 1], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 3, 1], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 1, 3], [3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [2, 3, 1], [1, 3, 2]\}$, $\{[4, 3, 2, 1], [1, 3, 2], [3, 1, 2]\}$

$\{[4, 1, 2, 3], [1, 2, 3], [3, 1, 2]\}$, $\{[1, 4, 3, 2], [1, 3, 2], [3, 2, 1]\}$, $\{[3, 2, 1, 4], [2, 1, 3], [3, 2, 1]\}$,
 $\{[1, 2, 3], [2, 3, 4, 1], [2, 3, 1]\}$

$\{[4, 1, 2, 3], [2, 3, 1], [2, 1, 3]\}$, $\{[4, 1, 2, 3], [2, 3, 1], [1, 3, 2]\}$, $\{[1, 4, 3, 2], [2, 3, 1], [2, 1, 3]\}$,
 $\{[1, 4, 3, 2], [2, 1, 3], [3, 1, 2]\}$, $\{[3, 2, 1, 4], [2, 3, 1], [1, 3, 2]\}$, $\{[3, 2, 1, 4], [1, 3, 2], [3, 1, 2]\}$,
 $\{[2, 3, 4, 1], [1, 3, 2], [3, 1, 2]\}$, $\{[2, 3, 4, 1], [2, 1, 3], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [2, 3, 1], [1, 3, 2]\}$, $\{[1, 2, 4, 3], [2, 3, 1], [2, 1, 3]\}$, $\{[4, 3, 1, 2], [2, 3, 1], [2, 1, 3]\}$,

$\{[4, 3, 1, 2], [2, 3, 1], [1, 3, 2]\}, \{[3, 4, 2, 1], [2, 1, 3], [3, 1, 2]\}, \{[3, 4, 2, 1], [1, 3, 2], [3, 1, 2]\},$
 $\{[2, 1, 3, 4], [1, 3, 2], [3, 1, 2]\}, \{[1, 2, 4, 3], [2, 1, 3], [3, 1, 2]\}$

$\{[4, 1, 3, 2], [1, 2, 3], [3, 1, 2]\}, \{[4, 2, 1, 3], [1, 2, 3], [3, 1, 2]\}, \{[2, 3, 1, 4], [2, 1, 3], [3, 2, 1]\},$
 $\{[1, 3, 4, 2], [1, 3, 2], [3, 2, 1]\}, \{[1, 4, 2, 3], [1, 3, 2], [3, 2, 1]\}, \{[3, 1, 2, 4], [2, 1, 3], [3, 2, 1]\},$
 $\{[1, 2, 3], [3, 2, 4, 1], [2, 3, 1]\}, \{[1, 2, 3], [2, 4, 3, 1], [2, 3, 1]\}$

$\{[1, 2, 3, 4], [1, 2, 3], [2, 3, 1]\}, \{[1, 2, 3, 4], [1, 2, 3], [3, 1, 2]\}, \{[4, 3, 2, 1], [2, 1, 3], [3, 2, 1]\},$
 $\{[4, 3, 2, 1], [1, 3, 2], [3, 2, 1]\}$

$\{[4, 2, 3, 1], [2, 1, 3], [3, 2, 1]\}, \{[4, 2, 3, 1], [1, 3, 2], [3, 2, 1]\}, \{[1, 3, 2, 4], [1, 2, 3], [2, 3, 1]\},$
 $\{[1, 3, 2, 4], [1, 2, 3], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [2, 1, 3], [3, 2, 1]\}, \{[1, 2, 4, 3], [1, 3, 2], [3, 2, 1]\}, \{[1, 2, 3], [4, 3, 1, 2], [3, 1, 2]\},$
 $\{[1, 2, 3], [3, 4, 2, 1], [2, 3, 1]\}$

$\{[1, 2, 3], [3, 4, 1, 2], [2, 1, 3]\}, \{[1, 2, 3], [3, 4, 1, 2], [1, 3, 2]\}, \{[2, 1, 4, 3], [2, 3, 1], [3, 2, 1]\},$
 $\{[2, 1, 4, 3], [3, 1, 2], [3, 2, 1]\}$

$\{[2, 1, 3, 4], [1, 2, 3], [2, 3, 1]\}, \{[2, 1, 3, 4], [1, 2, 3], [3, 1, 2]\}, \{[1, 2, 4, 3], [1, 2, 3], [2, 3, 1]\},$
 $\{[1, 2, 4, 3], [1, 2, 3], [3, 1, 2]\}, \{[3, 4, 2, 1], [2, 1, 3], [3, 2, 1]\}, \{[3, 4, 2, 1], [1, 3, 2], [3, 2, 1]\},$
 $\{[4, 3, 1, 2], [2, 1, 3], [3, 2, 1]\}, \{[4, 3, 1, 2], [1, 3, 2], [3, 2, 1]\}$

$\{[4, 2, 3, 1], [2, 1, 3], [1, 3, 2]\}, \{[1, 3, 2, 4], [2, 3, 1], [3, 1, 2]\}$

$\{[2, 4, 1, 3], [1, 2, 3], [3, 1, 2]\}, \{[2, 4, 1, 3], [1, 2, 3], [2, 3, 1]\}, \{[2, 4, 1, 3], [1, 3, 2], [3, 2, 1]\},$
 $\{[2, 4, 1, 3], [2, 1, 3], [3, 2, 1]\}, \{[1, 2, 3], [3, 1, 4, 2], [2, 3, 1]\}, \{[1, 2, 3], [3, 1, 4, 2], [3, 1, 2]\},$
 $\{[3, 1, 4, 2], [2, 1, 3], [3, 2, 1]\}, \{[3, 1, 4, 2], [1, 3, 2], [3, 2, 1]\}$

$\{[1, 2, 3, 4], [2, 3, 1], [3, 1, 2]\}, \{[4, 3, 2, 1], [2, 1, 3], [1, 3, 2]\}$

$\{[4, 1, 3, 2], [1, 3, 2], [3, 2, 1]\}, \{[2, 3, 1, 4], [1, 2, 3], [2, 3, 1]\}, \{[1, 3, 4, 2], [1, 2, 3], [2, 3, 1]\},$
 $\{[1, 4, 2, 3], [1, 2, 3], [3, 1, 2]\}, \{[1, 2, 3], [3, 1, 2, 4], [3, 1, 2]\}, \{[3, 2, 4, 1], [2, 1, 3], [3, 2, 1]\},$
 $\{[2, 4, 3, 1], [1, 3, 2], [3, 2, 1]\}, \{[4, 2, 1, 3], [2, 1, 3], [3, 2, 1]\}$

$\{[3, 2, 4, 1], [1, 3, 2], [3, 1, 2]\}, \{[4, 1, 3, 2], [2, 3, 1], [2, 1, 3]\}, \{[4, 2, 1, 3], [2, 3, 1], [1, 3, 2]\},$
 $\{[2, 3, 1, 4], [1, 3, 2], [3, 1, 2]\}, \{[1, 3, 4, 2], [2, 1, 3], [3, 1, 2]\}, \{[1, 4, 2, 3], [2, 3, 1], [2, 1, 3]\},$
 $\{[3, 1, 2, 4], [2, 3, 1], [1, 3, 2]\}, \{[2, 4, 3, 1], [2, 1, 3], [3, 1, 2]\}$

{[4, 3, 2, 1], [1, 2, 3], [1, 3, 2]}

GENERATING FUNCTION: $x(1 + 6x^3 + 3x^4 + 2x + 4x^2 + x^5)$

sequence to 30 terms: 1, 2, 4, 6, 3, 1, 0
(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

textsthere is 1 symmetry class with this sequence:

{[1, 2, 3, 4], [1, 3, 2], [3, 2, 1]}, {[1, 2, 3, 4], [2, 1, 3], [3, 2, 1]}, {[4, 3, 2, 1], [1, 2, 3], [2, 3, 1]},
{[4, 3, 2, 1], [1, 2, 3], [3, 1, 2]}

GENERATING FUNCTION: $x(1 + 2x + 4x^2 + 4x^3)$

sequence to 30 terms: 1, 2, 4, 4, 0
(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

textsthere are 5 symmetry classes with this sequence:

{[4, 2, 3, 1], [1, 2, 3], [3, 2, 1]}, {[1, 3, 2, 4], [1, 2, 3], [3, 2, 1]}

{[4, 1, 2, 3], [1, 2, 3], [3, 2, 1]}, {[1, 4, 3, 2], [1, 2, 3], [3, 2, 1]}, {[1, 2, 3], [3, 2, 1, 4], [3, 2, 1]},
{[1, 2, 3], [2, 3, 4, 1], [3, 2, 1]}

{[1, 2, 3, 4], [1, 2, 3], [3, 2, 1]}, {[4, 3, 2, 1], [1, 2, 3], [3, 2, 1]}

{[2, 1, 3, 4], [1, 2, 3], [3, 2, 1]}, {[1, 2, 4, 3], [1, 2, 3], [3, 2, 1]}, {[1, 2, 3], [4, 3, 1, 2], [3, 2, 1]},
{[1, 2, 3], [3, 4, 2, 1], [3, 2, 1]}

{[4, 1, 3, 2], [1, 2, 3], [3, 2, 1]}, {[4, 2, 1, 3], [1, 2, 3], [3, 2, 1]}, {[2, 3, 1, 4], [1, 2, 3], [3, 2, 1]},
{[1, 3, 4, 2], [1, 2, 3], [3, 2, 1]}, {[1, 4, 2, 3], [1, 2, 3], [3, 2, 1]}, {[1, 2, 3], [3, 1, 2, 4], [3, 2, 1]},
{[1, 2, 3], [3, 2, 4, 1], [3, 2, 1]}, {[1, 2, 3], [2, 4, 3, 1], [3, 2, 1]}

GENERATING FUNCTION: $\frac{(x^2+1)x}{(x-1)^2}$

sequence to 30 terms: 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58

(A004275: 1 together with nonnegative even numbers)

RECURRENCE: $-\frac{n}{-1+n} + N$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.9996691578}1.000642378^n$

textsthere are 4 symmetry classes with this sequence:

{[3, 4, 1, 2], [2, 1, 3], [3, 2, 1]}, {[3, 4, 1, 2], [1, 3, 2], [3, 2, 1]}, {[2, 1, 4, 3], [1, 2, 3], [3, 1, 2]},
{[2, 1, 4, 3], [1, 2, 3], [2, 3, 1]}

{[4, 1, 3, 2], [1, 2, 3], [2, 3, 1]}, {[4, 2, 1, 3], [1, 2, 3], [2, 3, 1]}, {[2, 3, 1, 4], [1, 3, 2], [3, 2, 1]},
{[1, 3, 4, 2], [2, 1, 3], [3, 2, 1]}, {[1, 4, 2, 3], [2, 1, 3], [3, 2, 1]}, {[3, 1, 2, 4], [1, 3, 2], [3, 2, 1]},
{[1, 2, 3], [3, 2, 4, 1], [3, 1, 2]}, {[1, 2, 3], [2, 4, 3, 1], [3, 1, 2]}

{[1, 2, 3], [4, 3, 1, 2], [2, 3, 1]}, {[1, 2, 3], [3, 4, 2, 1], [3, 1, 2]}, {[2, 1, 3, 4], [1, 3, 2], [3, 2, 1]},
{[1, 2, 4, 3], [2, 1, 3], [3, 2, 1]}

{[4, 1, 2, 3], [1, 3, 2], [3, 2, 1]}, {[1, 4, 3, 2], [1, 2, 3], [2, 3, 1]}, {[1, 4, 3, 2], [1, 2, 3], [3, 1, 2]},
{[1, 2, 3], [3, 2, 1, 4], [2, 3, 1]}, {[1, 2, 3], [3, 2, 1, 4], [3, 1, 2]}, {[2, 3, 4, 1], [1, 3, 2], [3, 2, 1]},
{[2, 3, 4, 1], [2, 1, 3], [3, 2, 1]}, {[4, 1, 2, 3], [2, 1, 3], [3, 2, 1]}

summarizing results for [4,3,3] pattern sets

there are 66 symmetry classes in all.

66 of them can be counted by FINLABEL.

that's 100 %.

List: [4,4,3]

1656 sets

268 symmetry classes

(at least) 40 Wilf classes

[4,4,3]-sets, arranged by common generating function

GENERATING FUNCTION: $\frac{x(2x^5-2x^3-2x^2+x-1)}{(x-1)^3}$

sequence to 30 terms: 1, 2, 5, 12, 23, 36, 51, 68, 87, 108, 131, 156, 183, 212, 243, 276, 311, 348, 387, 428, 471, 516, 563, 612, 663, 716, 771, 828, 887, 948

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{(107n+1466)(n-3)}{1926-411n+179n^2} - \frac{24(280-41n+3n^2)N}{1926-411n+179n^2} + N^2$

ASYMPTOTIC EXPANSION: $n^2(1 + \frac{2}{n} - 12n^2)$

ZINN: $a(n)$ asymptotic to $n^{1.914682635}1.002142058^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [4, 3, 1, 2], [3, 2, 1, 4]}, {[2, 1, 3, 4], [2, 3, 4, 1], [3, 2, 1]},
{[1, 2, 3], [3, 2, 1, 4], [3, 4, 2, 1]}, {[1, 2, 4, 3], [2, 3, 4, 1], [3, 2, 1]},
{[4, 1, 2, 3], [2, 1, 3, 4], [3, 2, 1]}, {[1, 4, 3, 2], [1, 2, 3], [3, 4, 2, 1]},
{[1, 4, 3, 2], [1, 2, 3], [4, 3, 1, 2]}, {[4, 1, 2, 3], [1, 2, 4, 3], [3, 2, 1]}

GENERATING FUNCTION: $\frac{(x^3-x+1)x}{(2x-1)(x^2+x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 27, 59, 126, 265, 551, 1136, 2327, 4743, 9630, 19493, 39363, 79336, 159659, 320915, 644414, 1293009, 2592783, 5196512, 10410735, 20850127, 41746622, 83568269, 167257931, 334712280, 669742371, 1339998971

(not in online encyclopedia of integer sequences)

RECURRENCE: $2 + N - 3N^2 + N^3$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.008931394266}1.999145968^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 1, 2], [3, 2, 1, 4], [2, 3, 1]}, {[2, 1, 3, 4], [2, 3, 4, 1], [1, 3, 2]},
{[3, 2, 1, 4], [3, 4, 2, 1], [3, 1, 2]}, {[1, 2, 4, 3], [2, 3, 4, 1], [2, 1, 3]},
{[4, 1, 2, 3], [2, 1, 3, 4], [1, 3, 2]}, {[1, 4, 3, 2], [3, 4, 2, 1], [3, 1, 2]},
{[1, 4, 3, 2], [4, 3, 1, 2], [2, 3, 1]}, {[4, 1, 2, 3], [1, 2, 4, 3], [2, 1, 3]}

GENERATING FUNCTION: $\frac{(2x^5-3x^4-2x^3+4x^2-3x+1)x}{(x-1)^3(2x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 24, 45, 83, 154, 290, 555, 1077, 2112, 4172, 8281, 16487, 32886, 65670, 131223, 262313, 524476, 1048784, 2097381, 4194555, 8388882, 16777514, 33554755, 67109213, 134218104, 268435860, 536871345

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{(5n+27)(n-2)}{-25+13n} + \frac{(15n+113)(n-2)N}{2(-25+13n)} - \frac{(-186+85n+5n^2)N^2}{2(-25+13n)} + N^3$

ASYMPTOTIC EXPANSION: $2^n n^a (1 - \frac{a(-301+65a)}{26(a-1)n} + \frac{a(3185a^2-22263a+101866)}{780(a-2)n^2})$

ZINN: $a(n)$ asymptotic to $n^{-0.000008798900712}2.000002033^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 1, 3, 2], [1, 2, 3], [2, 4, 3, 1]}, {[4, 2, 1, 3], [1, 2, 3], [3, 2, 4, 1]},
{[2, 3, 1, 4], [1, 3, 4, 2], [3, 2, 1]}, {[1, 4, 2, 3], [3, 1, 2, 4], [3, 2, 1]}

GENERATING FUNCTION: $\frac{(x^4+2x^3+x^2+1)x}{(x-1)(x^3+x^2+x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 24, 46, 87, 162, 300, 554, 1021, 1880, 3460, 6366, 11711, 21542,

39624, 72882, 134053, 246564, 453504, 834126, 1534199, 2821834, 5190164, 9546202, 17558205, 32294576, 59398988, 109251774

(not in online encyclopedia of integer sequences)

RECURRENCE: $1 - 2N^3 + N^4$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{2.368099672e-7}1.839286706^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 1, 2, 3], [1, 3, 4, 2], [3, 2, 1]\}$, $\{[1, 2, 3], [3, 2, 1, 4], [2, 4, 3, 1]\}$,
 $\{[1, 4, 3, 2], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[1, 4, 2, 3], [2, 3, 4, 1], [3, 2, 1]\}$,
 $\{[4, 1, 3, 2], [1, 2, 3], [3, 2, 1, 4]\}$, $\{[4, 1, 2, 3], [2, 3, 1, 4], [3, 2, 1]\}$,
 $\{[4, 2, 1, 3], [1, 4, 3, 2], [1, 2, 3]\}$, $\{[3, 1, 2, 4], [2, 3, 4, 1], [3, 2, 1]\}$

GENERATING FUNCTION: $\frac{(x^2+x^3+1-x)x}{(x-1)(2x-1)}$ sequence to 30 terms: 1, 2, 5, 12, 26, 54, 110, 222, 446, 894, 1790, 3582, 7166, 14334, 28670, 57342, 114686, 229374, 458750, 917502, 1835006, 3670014, 7340030, 14680062, 29360126, 58720254, 117440510, 234881022, 469762046, 939524094

(A026622: $T(n, 0) + T(n, 1) + \dots + T(n, n)$, T given by A026615)

RECURRENCE: $2 - 3N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{2.388099170e-8}1.999999994^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 4, 2, 3], [3, 4, 1, 2], [3, 2, 1]\}$, $\{[2, 1, 4, 3], [1, 2, 3], [2, 4, 3, 1]\}$,
 $\{[3, 1, 2, 4], [3, 4, 1, 2], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [2, 1, 4, 3], [1, 2, 3]\}$,
 $\{[1, 3, 4, 2], [3, 4, 1, 2], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [2, 1, 4, 3], [1, 2, 3]\}$,
 $\{[2, 1, 4, 3], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[2, 3, 1, 4], [3, 4, 1, 2], [3, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(x+1)(x^3+2x^2+1)}{3x^4+x^5+2x^3+x^2+x-1}$

sequence to 30 terms: 1, 2, 5, 12, 25, 54, 120, 265, 580, 1272, 2796, 6143, 13488, 29619, 65053, 142873, 313771, 689095, 1513390, 3323699, 7299465, 16031000, 35207128, 77321545, 169812767, 372941033, 819049274, 1798787604, 3950478790, 8676000808

(not in online encyclopedia of integer sequences)

RECURRENCE: $-1 - 3N - 2N^2 - N^3 - N^4 + N^5$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{-2.900422920e-9}2.196189696^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 3, 2, 1], [2, 3, 4, 1], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [1, 4, 3, 2], [2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [3, 2, 1, 4], [1, 3, 2]\}$, $\{[4, 3, 2, 1], [4, 1, 2, 3], [2, 3, 1]\}$

GENERATING FUNCTION: $-\frac{x(x+1)(x^3-2x^2+x-1)}{(x^2+1)(x^3-x^2-2x+1)}$

sequence to 30 terms: 1, 2, 5, 12, 26, 58, 131, 295, 662, 1487, 3342, 7510, 16874, 37915, 85195, 191432, 430143, 966522, 2171756, 4879892, 10965017, 24638169, 55361464, 124396081, 279515456, 628065528, 1411250432, 3171050937, 7125286777, 16010374058

(not in online encyclopedia of integer sequences)

RECURRENCE: $1 - N - N^2 - 2N^4 + N^5$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 1, 2, 3], [2, 3, 4, 1], [3, 2, 1]\}$, $\{[1, 4, 3, 2], [1, 2, 3], [3, 2, 1, 4]\}$

GENERATING FUNCTION: $x(1 + 9x^5 + 2x + 18x^4 + 5x^2 + 12x^3)$ sequence to 30 terms: 1, 2, 5, 12,

18, 9, 0

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 1, 2, 4], [3, 2, 1]}, {[1, 2, 3, 4], [2, 3, 1, 4], [3, 2, 1]},
{[4, 3, 2, 1], [1, 2, 3], [2, 4, 3, 1]}, {[1, 2, 3, 4], [1, 3, 4, 2], [3, 2, 1]},
{[1, 2, 3, 4], [1, 4, 2, 3], [3, 2, 1]}, {[4, 3, 2, 1], [4, 1, 3, 2], [1, 2, 3]},
{[4, 3, 2, 1], [4, 2, 1, 3], [1, 2, 3]}, {[4, 3, 2, 1], [1, 2, 3], [3, 2, 4, 1]}

GENERATING FUNCTION: $-\frac{x(x^4-x^3-2x^2+2x-1)}{(x^2+x-1)(x-1)^3}$ sequence to 30 terms: 1, 2, 5, 12, 26, 52, 98, 177, 310, 531, 895, 1491, 2463, 4044, 6611, 10774, 17520, 28446, 46136, 74771, 121116, 196117, 317485, 513877, 831661, 1345862, 2177873, 3524112, 5702390, 9226936

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{(n+4)(n+1)}{n(3+n)} + \frac{2(2+n)N}{n(3+n)} - \frac{2(2+4n+n^2)N^2}{n(3+n)} + N^3$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.4566584814e-3} 1.617971334^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 2, 3], [3, 2, 1, 4], [2, 3, 1]}, {[4, 1, 2, 3], [2, 4, 3, 1], [2, 1, 3]},
{[4, 2, 1, 3], [2, 3, 4, 1], [1, 3, 2]}, {[4, 1, 2, 3], [3, 2, 4, 1], [1, 3, 2]},
{[1, 3, 4, 2], [3, 2, 1, 4], [3, 1, 2]}, {[4, 1, 3, 2], [2, 3, 4, 1], [2, 1, 3]},
{[2, 3, 1, 4], [1, 4, 3, 2], [3, 1, 2]}, {[1, 4, 3, 2], [3, 1, 2, 4], [2, 3, 1]}

GENERATING FUNCTION: $-\frac{x}{x^2+2x-1}$

sequence to 30 terms: 1, 2, 5, 12, 29, 70, 169, 408, 985, 2378, 5741, 13860, 33461, 80782, 195025, 470832, 1136689, 2744210, 6625109, 15994428, 38613965, 93222358, 225058681, 543339720, 1311738121, 3166815962, 7645370045, 18457556052, 44560482149, 107578520350

(A077985: Expansion of $1/(1+2*x-x^2)$)

RECURRENCE: $-1 - 2N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 3 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[3, 4, 1, 2], [2, 3, 4, 1], [3, 2, 1]}, {[2, 1, 4, 3], [1, 4, 3, 2], [1, 2, 3]},
{[4, 1, 2, 3], [3, 4, 1, 2], [3, 2, 1]}, {[2, 1, 4, 3], [1, 2, 3], [3, 2, 1, 4]}

{[1, 2, 3, 4], [2, 1, 3, 4], [1, 3, 2]}, {[4, 3, 2, 1], [3, 4, 2, 1], [3, 1, 2]},
{[1, 2, 3, 4], [1, 2, 4, 3], [2, 1, 3]}, {[4, 3, 2, 1], [4, 3, 1, 2], [2, 3, 1]}

{[3, 1, 2, 4], [3, 2, 1, 4], [2, 3, 1]}, {[2, 4, 3, 1], [2, 3, 4, 1], [2, 1, 3]},
{[1, 4, 2, 3], [1, 4, 3, 2], [2, 3, 1]}, {[3, 2, 4, 1], [2, 3, 4, 1], [1, 3, 2]},
{[4, 1, 2, 3], [4, 2, 1, 3], [1, 3, 2]}, {[4, 1, 2, 3], [4, 1, 3, 2], [2, 1, 3]},
{[2, 3, 1, 4], [3, 2, 1, 4], [3, 1, 2]}, {[1, 3, 4, 2], [1, 4, 3, 2], [3, 1, 2]}

GENERATING FUNCTION: $\frac{(x+1)(2x^4+x^3-3x^2+2x-1)x}{(x-1)^2(x^2+x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 22, 37, 60, 96, 153, 244, 390, 625, 1004, 1616, 2605, 4204, 6790, 10973, 17740, 28688, 46401, 75060, 121430, 196457, 317852, 514272, 832085, 1346316, 2178358, 3524629

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{10(-2+n)}{-47+16n} + \frac{(-41+16n)N}{-47+16n} + \frac{2(-17+10n)N^2}{-47+16n} - \frac{6(-18+7N)N^3}{-47+16n} + N^4$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{-0.0001184539082}1.618050976^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 3, 4, 2], [3, 1, 2, 4], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 2, 3], [2, 4, 3, 1]\}$,
 $\{[4, 1, 3, 2], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[2, 3, 1, 4], [1, 4, 2, 3], [3, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(x^4-2x^3+5x^2-3x+1)}{(x-1)^5}$

sequence to 30 terms: 1, 2, 5, 13, 31, 66, 127, 225, 373, 586, 881, 1277, 1795, 2458, 3291, 4321,
5577, 7090, 8893, 11021, 13511, 16402, 19735, 23553, 27901, 32826, 38377, 44605, 51563, 59306

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{22+28n+13n^2}{38+n} + \frac{(-54-25n+13n^2)N}{38+n} + N^2$

ASYMPTOTIC EXPANSION: $n^a(a - \frac{13a^2-1047a+3876}{26(a-5)n} + \frac{398987a^2-947086a-46512+169a^4-39806a^3}{2028(30+a^2-11a)n^2})$

ZINN: $a(n)$ asymptotic to $n^{4.046649112}1.001952658^n$

THERE ARE 7 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [4, 3, 1, 2], [3, 1, 2]\}$, $\{[4, 3, 2, 1], [2, 1, 3, 4], [2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [1, 3, 2]\}$, $\{[1, 2, 3, 4], [3, 4, 2, 1], [2, 3, 1]\}$

$\{[1, 2, 3, 4], [4, 1, 2, 3], [3, 1, 2]\}$, $\{[4, 3, 2, 1], [1, 4, 3, 2], [1, 3, 2]\}$,
 $\{[1, 2, 3, 4], [2, 3, 4, 1], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [3, 2, 1, 4], [2, 1, 3]\}$

$\{[1, 2, 3, 4], [3, 1, 4, 2], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [3, 1, 4, 2], [2, 3, 1]\}$,
 $\{[1, 2, 3, 4], [2, 4, 1, 3], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [2, 4, 1, 3], [3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [2, 4, 1, 3], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 4, 1, 3], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [3, 1, 4, 2], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [3, 1, 4, 2], [1, 3, 2]\}$

$\{[1, 2, 3, 4], [2, 4, 3, 1], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4], [2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [3, 2, 4, 1], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [2, 3, 1, 4], [2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [1, 3, 2]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [1, 3, 2]\}$,
 $\{[1, 2, 3, 4], [4, 1, 3, 2], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [4, 2, 1, 3], [3, 1, 2]\}$

$\{[1, 2, 3, 4], [3, 1, 2, 4], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [2, 3, 1, 4], [2, 3, 1]\}$,
 $\{[4, 3, 2, 1], [2, 4, 3, 1], [1, 3, 2]\}$, $\{[1, 2, 3, 4], [1, 3, 4, 2], [2, 3, 1]\}$,
 $\{[1, 2, 3, 4], [1, 4, 2, 3], [3, 1, 2]\}$, $\{[4, 3, 2, 1], [4, 1, 3, 2], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [4, 2, 1, 3], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [3, 2, 4, 1], [2, 1, 3]\}$

$\{[4, 3, 2, 1], [2, 1, 4, 3], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 1, 4, 3], [1, 3, 2]\}$,
 $\{[1, 2, 3, 4], [3, 4, 1, 2], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [3, 4, 1, 2], [3, 1, 2]\}$

$\{[4, 3, 2, 1], [1, 3, 2, 4], [1, 3, 2]\}$, $\{[4, 3, 2, 1], [1, 3, 2, 4], [2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [4, 2, 3, 1], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [4, 2, 3, 1], [3, 1, 2]\}$

GENERATING FUNCTION: $-\frac{x(2x^4+2x^3+2x^2-x+1)}{(x-1)^3}$

sequence to 30 terms: 1, 2, 5, 12, 25, 44, 69, 100, 137, 180, 229, 284, 345, 412, 485, 564, 649, 740,
837, 940, 1049, 1164, 1285, 1412, 1545, 1684, 1829, 1980, 2137, 2300

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{(12n+43)(-2+n)}{74+3n} + \frac{4(n+4)(3n-14)N}{74+3n} + N^2$

ASYMPTOTIC EXPANSION: $n^a(1 - \frac{3a^2-152a+264}{6(a-3)n} + \frac{2423a^2+494a-6600-456a^3+3a^4}{36(a^2+12-7a)n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.010087196}1.001272455^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [4, 3, 1, 2], [2, 1, 3]\}$, $\{[1, 2, 3, 4], [4, 3, 1, 2], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [2, 1, 3, 4], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [2, 1, 3, 4], [3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [1, 2, 4, 3], [3, 1, 2]\}$,
 $\{[1, 2, 3, 4], [3, 4, 2, 1], [2, 1, 3]\}$, $\{[1, 2, 3, 4], [3, 4, 2, 1], [1, 3, 2]\}$

GENERATING FUNCTION: $-\frac{x(2x^2-2x+1)}{(2x-1)(x-1)^2}$

sequence to 30 terms: 1, 2, 5, 12, 27, 58, 121, 248, 503, 1014, 2037, 4084, 8179, 16370, 32753, 65520, 131055, 262126, 524269, 1048556, 2097131, 4194282, 8388585, 16777192, 33554407, 67108838, 134217701, 268435428, 536870883, 1073741794

(A000325: $2^n - n$)

RECURRENCE: $\frac{2n}{-1+n} - \frac{(-2+3n)N}{-1+n} + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{3.182500588e-7}1.999999923^n$

THERE ARE 17 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [3, 2, 4, 1], [3, 1, 2]\}$, $\{[1, 2, 4, 3], [2, 4, 3, 1], [3, 1, 2]\}$,
 $\{[4, 3, 1, 2], [3, 1, 2, 4], [1, 3, 2]\}$, $\{[1, 4, 2, 3], [4, 3, 1, 2], [2, 1, 3]\}$,
 $\{[4, 2, 1, 3], [2, 1, 3, 4], [2, 3, 1]\}$, $\{[1, 3, 4, 2], [3, 4, 2, 1], [2, 1, 3]\}$,
 $\{[2, 3, 1, 4], [3, 4, 2, 1], [1, 3, 2]\}$, $\{[4, 1, 3, 2], [1, 2, 4, 3], [2, 3, 1]\}$

$\{[1, 3, 2, 4], [3, 1, 2, 4], [2, 3, 1]\}$, $\{[1, 3, 2, 4], [1, 3, 4, 2], [3, 1, 2]\}$,
 $\{[1, 3, 2, 4], [1, 4, 2, 3], [2, 3, 1]\}$, $\{[4, 1, 3, 2], [4, 2, 3, 1], [2, 1, 3]\}$,
 $\{[4, 2, 3, 1], [3, 2, 4, 1], [1, 3, 2]\}$, $\{[4, 2, 3, 1], [2, 4, 3, 1], [2, 1, 3]\}$,
 $\{[4, 2, 1, 3], [4, 2, 3, 1], [1, 3, 2]\}$, $\{[2, 3, 1, 4], [1, 3, 2, 4], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [3, 2, 1, 4], [2, 3, 1]\}$, $\{[4, 1, 2, 3], [4, 3, 1, 2], [1, 3, 2]\}$,
 $\{[4, 1, 2, 3], [4, 3, 1, 2], [2, 1, 3]\}$, $\{[2, 1, 3, 4], [3, 2, 1, 4], [3, 1, 2]\}$,
 $\{[1, 2, 4, 3], [1, 4, 3, 2], [3, 1, 2]\}$, $\{[3, 4, 2, 1], [2, 3, 4, 1], [2, 1, 3]\}$,
 $\{[3, 4, 2, 1], [2, 3, 4, 1], [1, 3, 2]\}$, $\{[1, 2, 4, 3], [1, 4, 3, 2], [2, 3, 1]\}$

$\{[4, 1, 2, 3], [2, 3, 4, 1], [2, 1, 3]\}$, $\{[4, 1, 2, 3], [2, 3, 4, 1], [1, 3, 2]\}$,
 $\{[1, 4, 3, 2], [3, 2, 1, 4], [2, 3, 1]\}$, $\{[1, 4, 3, 2], [3, 2, 1, 4], [3, 1, 2]\}$

$\{[1, 3, 2, 4], [3, 2, 1, 4], [3, 1, 2]\}$, $\{[1, 3, 2, 4], [3, 2, 1, 4], [2, 3, 1]\}$,
 $\{[1, 3, 2, 4], [1, 4, 3, 2], [2, 3, 1]\}$, $\{[1, 3, 2, 4], [1, 4, 3, 2], [3, 1, 2]\}$,
 $\{[4, 2, 3, 1], [2, 3, 4, 1], [2, 1, 3]\}$, $\{[4, 2, 3, 1], [2, 3, 4, 1], [1, 3, 2]\}$,
 $\{[4, 1, 2, 3], [4, 2, 3, 1], [2, 1, 3]\}$, $\{[4, 1, 2, 3], [4, 2, 3, 1], [1, 3, 2]\}$

$\{[4, 1, 3, 2], [2, 4, 3, 1], [2, 1, 3]\}$, $\{[2, 3, 1, 4], [1, 3, 4, 2], [3, 1, 2]\}$,
 $\{[4, 2, 1, 3], [3, 2, 4, 1], [1, 3, 2]\}$, $\{[1, 4, 2, 3], [3, 1, 2, 4], [2, 3, 1]\}$

$\{[3, 4, 1, 2], [2, 4, 3, 1], [2, 1, 3]\}$, $\{[2, 3, 1, 4], [2, 1, 4, 3], [3, 1, 2]\}$,
 $\{[3, 2, 4, 1], [3, 4, 1, 2], [1, 3, 2]\}$, $\{[4, 1, 3, 2], [3, 4, 1, 2], [2, 1, 3]\}$,
 $\{[2, 1, 4, 3], [1, 3, 4, 2], [3, 1, 2]\}$, $\{[4, 2, 1, 3], [3, 4, 1, 2], [1, 3, 2]\}$,
 $\{[2, 1, 4, 3], [3, 1, 2, 4], [2, 3, 1]\}$, $\{[2, 1, 4, 3], [1, 4, 2, 3], [2, 3, 1]\}$

{[4, 1, 2, 3], [1, 3, 4, 2], [2, 1, 3]}, {[3, 2, 1, 4], [2, 4, 3, 1], [3, 1, 2]},
{[1, 4, 3, 2], [3, 2, 4, 1], [3, 1, 2]}, {[1, 4, 2, 3], [2, 3, 4, 1], [2, 1, 3]},
{[4, 1, 3, 2], [3, 2, 1, 4], [2, 3, 1]}, {[3, 1, 2, 4], [2, 3, 4, 1], [1, 3, 2]},
{[4, 2, 1, 3], [1, 4, 3, 2], [2, 3, 1]}, {[4, 1, 2, 3], [2, 3, 1, 4], [1, 3, 2]}

{[1, 4, 2, 3], [3, 4, 1, 2], [2, 1, 3]}, {[3, 1, 2, 4], [3, 4, 1, 2], [1, 3, 2]},
{[4, 2, 1, 3], [2, 1, 4, 3], [2, 3, 1]}, {[1, 3, 4, 2], [3, 4, 1, 2], [2, 1, 3]},
{[2, 3, 1, 4], [3, 4, 1, 2], [1, 3, 2]}, {[4, 1, 3, 2], [2, 1, 4, 3], [2, 3, 1]},
{[2, 1, 4, 3], [3, 2, 4, 1], [3, 1, 2]}, {[2, 1, 4, 3], [2, 4, 3, 1], [3, 1, 2]}

{[2, 3, 1, 4], [2, 1, 3, 4], [3, 1, 2]}, {[3, 2, 4, 1], [3, 4, 2, 1], [1, 3, 2]},
{[3, 4, 2, 1], [2, 4, 3, 1], [2, 1, 3]}, {[2, 1, 3, 4], [3, 1, 2, 4], [2, 3, 1]},
{[4, 2, 1, 3], [4, 3, 1, 2], [1, 3, 2]}, {[4, 1, 3, 2], [4, 3, 1, 2], [2, 1, 3]},
{[1, 2, 4, 3], [1, 3, 4, 2], [3, 1, 2]}, {[1, 2, 4, 3], [1, 4, 2, 3], [2, 3, 1]}

{[2, 3, 1, 4], [2, 4, 3, 1], [3, 1, 2]}, {[3, 1, 2, 4], [3, 2, 4, 1], [1, 3, 2]},
{[1, 4, 2, 3], [2, 4, 3, 1], [2, 1, 3]}, {[4, 1, 3, 2], [3, 1, 2, 4], [2, 3, 1]},
{[4, 2, 1, 3], [2, 3, 1, 4], [1, 3, 2]}, {[4, 1, 3, 2], [1, 3, 4, 2], [2, 1, 3]},
{[1, 3, 4, 2], [3, 2, 4, 1], [3, 1, 2]}, {[4, 2, 1, 3], [1, 4, 2, 3], [2, 3, 1]}

{[3, 4, 1, 2], [2, 3, 4, 1], [2, 1, 3]}, {[3, 4, 1, 2], [2, 3, 4, 1], [1, 3, 2]},
{[2, 1, 4, 3], [1, 4, 3, 2], [2, 3, 1]}, {[2, 1, 4, 3], [3, 2, 1, 4], [2, 3, 1]},
{[2, 1, 4, 3], [1, 4, 3, 2], [3, 1, 2]}, {[2, 1, 4, 3], [3, 2, 1, 4], [3, 1, 2]},
{[4, 1, 2, 3], [3, 4, 1, 2], [2, 1, 3]}, {[4, 1, 2, 3], [3, 4, 1, 2], [1, 3, 2]}

{[1, 3, 2, 4], [3, 2, 4, 1], [3, 1, 2]}, {[4, 2, 3, 1], [2, 3, 1, 4], [1, 3, 2]},
{[1, 3, 2, 4], [2, 4, 3, 1], [3, 1, 2]}, {[4, 1, 3, 2], [1, 3, 2, 4], [2, 3, 1]},
{[4, 2, 3, 1], [3, 1, 2, 4], [1, 3, 2]}, {[4, 2, 1, 3], [1, 3, 2, 4], [2, 3, 1]},
{[4, 2, 3, 1], [1, 4, 2, 3], [2, 1, 3]}, {[4, 2, 3, 1], [1, 3, 4, 2], [2, 1, 3]}

{[4, 1, 2, 3], [3, 1, 2, 4], [2, 3, 1]}, {[4, 1, 2, 3], [1, 4, 2, 3], [2, 3, 1]},
{[4, 1, 3, 2], [1, 4, 3, 2], [2, 1, 3]}, {[1, 4, 3, 2], [2, 4, 3, 1], [2, 1, 3]},
{[1, 3, 4, 2], [2, 3, 4, 1], [3, 1, 2]}, {[4, 2, 1, 3], [3, 2, 1, 4], [1, 3, 2]},
{[3, 2, 1, 4], [3, 2, 4, 1], [1, 3, 2]}, {[2, 3, 1, 4], [2, 3, 4, 1], [3, 1, 2]}

{[4, 1, 2, 3], [3, 1, 2, 4], [3, 2, 1]}, {[4, 1, 2, 3], [1, 4, 2, 3], [3, 2, 1]},
{[1, 4, 3, 2], [1, 2, 3], [2, 4, 3, 1]}, {[1, 3, 4, 2], [2, 3, 4, 1], [3, 2, 1]},
{[4, 2, 1, 3], [1, 2, 3], [3, 2, 1, 4]}, {[1, 2, 3], [3, 2, 1, 4], [3, 2, 4, 1]},
{[2, 3, 1, 4], [2, 3, 4, 1], [3, 2, 1]}, {[4, 1, 3, 2], [1, 4, 3, 2], [1, 2, 3]}

{[3, 1, 2, 4], [3, 1, 4, 2], [3, 2, 1]}, {[2, 4, 1, 3], [1, 2, 3], [2, 4, 3, 1]},
{[2, 3, 1, 4], [2, 4, 1, 3], [3, 2, 1]}, {[1, 3, 4, 2], [3, 1, 4, 2], [3, 2, 1]},
{[4, 2, 1, 3], [2, 4, 1, 3], [1, 2, 3]}, {[4, 1, 3, 2], [1, 2, 3], [3, 1, 4, 2]},
{[2, 4, 1, 3], [1, 4, 2, 3], [3, 2, 1]}, {[1, 2, 3], [3, 1, 4, 2], [3, 2, 4, 1]}

{[2, 3, 1, 4], [3, 1, 4, 2], [3, 2, 1]}, {[4, 1, 3, 2], [2, 4, 1, 3], [1, 2, 3]},
{[2, 4, 1, 3], [3, 1, 2, 4], [3, 2, 1]}, {[1, 2, 3], [3, 1, 4, 2], [2, 4, 3, 1]}

{[2, 4, 1, 3], [1, 2, 3], [3, 2, 4, 1]}, {[2, 4, 1, 3], [1, 3, 4, 2], [3, 2, 1]},
 {[1, 4, 2, 3], [3, 1, 4, 2], [3, 2, 1]}, {[4, 2, 1, 3], [1, 2, 3], [3, 1, 4, 2]}

GENERATING FUNCTION: $\frac{(x-1)^2x}{(2x-1)^2}$

sequence to 30 terms: 1, 2, 5, 12, 28, 64, 144, 320, 704, 1536, 3328, 7168, 15360, 32768, 69632,
 147456, 311296, 655360, 1376256, 2883584, 6029312, 12582912, 26214400, 54525952, 113246208,
 234881024, 486539264, 1006632960, 2080374784, 4294967296

(A045623: Number of 1's in all compositions of n+1)

RECURRENCE: $-\frac{2(3+n)}{2+n} + N$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{.9997304686}2.001047297^n$

THERE ARE 5 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[4, 1, 3, 2], [1, 2, 4, 3], [2, 1, 3]}, {[2, 1, 3, 4], [3, 2, 4, 1], [1, 3, 2]},
 {[4, 3, 1, 2], [3, 1, 2, 4], [2, 3, 1]}, {[1, 2, 4, 3], [2, 4, 3, 1], [2, 1, 3]},
 {[1, 4, 2, 3], [4, 3, 1, 2], [2, 3, 1]}, {[4, 2, 1, 3], [2, 1, 3, 4], [1, 3, 2]},
 {[1, 3, 4, 2], [3, 4, 2, 1], [3, 1, 2]}, {[2, 3, 1, 4], [3, 4, 2, 1], [3, 1, 2]}

{[1, 3, 4, 2], [2, 4, 3, 1], [2, 1, 3]}, {[1, 3, 4, 2], [2, 4, 3, 1], [3, 1, 2]},
 {[2, 3, 1, 4], [3, 2, 4, 1], [1, 3, 2]}, {[2, 3, 1, 4], [3, 2, 4, 1], [3, 1, 2]},
 {[4, 1, 3, 2], [1, 4, 2, 3], [2, 3, 1]}, {[4, 1, 3, 2], [1, 4, 2, 3], [2, 1, 3]},
 {[4, 2, 1, 3], [3, 1, 2, 4], [2, 3, 1]}, {[4, 2, 1, 3], [3, 1, 2, 4], [1, 3, 2]}

{[4, 1, 2, 3], [3, 1, 2, 4], [1, 3, 2]}, {[4, 1, 2, 3], [1, 4, 2, 3], [2, 1, 3]},
 {[4, 1, 3, 2], [1, 4, 3, 2], [2, 3, 1]}, {[1, 4, 3, 2], [2, 4, 3, 1], [3, 1, 2]},
 {[1, 3, 4, 2], [2, 3, 4, 1], [2, 1, 3]}, {[4, 2, 1, 3], [3, 2, 1, 4], [2, 3, 1]},
 {[3, 2, 1, 4], [3, 2, 4, 1], [3, 1, 2]}, {[2, 3, 1, 4], [2, 3, 4, 1], [1, 3, 2]}

{[2, 1, 4, 3], [1, 2, 4, 3], [2, 3, 1]}, {[2, 1, 4, 3], [1, 2, 4, 3], [3, 1, 2]},
 {[3, 4, 1, 2], [3, 4, 2, 1], [2, 1, 3]}, {[3, 4, 1, 2], [3, 4, 2, 1], [1, 3, 2]},
 {[4, 3, 1, 2], [3, 4, 1, 2], [2, 1, 3]}, {[4, 3, 1, 2], [3, 4, 1, 2], [1, 3, 2]},
 {[2, 1, 3, 4], [2, 1, 4, 3], [2, 3, 1]}, {[2, 1, 3, 4], [2, 1, 4, 3], [3, 1, 2]}

{[1, 2, 3, 4], [4, 1, 2, 3], [2, 1, 3]}, {[1, 2, 3, 4], [4, 1, 2, 3], [1, 3, 2]},
 {[4, 3, 2, 1], [1, 4, 3, 2], [3, 1, 2]}, {[1, 2, 3, 4], [2, 3, 4, 1], [2, 1, 3]},
 {[4, 3, 2, 1], [3, 2, 1, 4], [3, 1, 2]}, {[4, 3, 2, 1], [1, 4, 3, 2], [2, 3, 1]},
 {[1, 2, 3, 4], [2, 3, 4, 1], [1, 3, 2]}, {[4, 3, 2, 1], [3, 2, 1, 4], [2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(x^4-3x^2+2x-1)}{(x-1)^4}$

sequence to 30 terms: 1, 2, 5, 12, 24, 42, 67, 100, 142, 194, 257, 332, 420, 522, 639, 772, 922, 1090,
 1277, 1484, 1712, 1962, 2235, 2532, 2854, 3202, 3577, 3980, 4412, 4874

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{(n+9)(-1+n)}{2(-5+n)} - \frac{(-28+7n+n^2)N}{2(-5+n)} + N^2$

ASYMPTOTIC EXPANSION: $n^a(1 - \frac{15a-48+a^2}{2(a-4)n} + \frac{-1766a+3168-37a^2+a^4+74a^3}{12(-9+20+a^2)n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.907334382}1.002746973^n$

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 2, 3], [4, 3, 1, 2], [3, 1, 4, 2]}, {[2, 4, 1, 3], [1, 2, 3], [4, 3, 1, 2]},
 {[1, 2, 3], [3, 1, 4, 2], [3, 4, 2, 1]}, {[2, 4, 1, 3], [1, 2, 4, 3], [3, 2, 1]}

{[2, 4, 1, 3], [1, 2, 3], [3, 4, 2, 1]}, {[2, 1, 3, 4], [3, 1, 4, 2], [3, 2, 1]},
 {[2, 4, 1, 3], [2, 1, 3, 4], [3, 2, 1]}, {[1, 2, 4, 3], [3, 1, 4, 2], [3, 2, 1]}

{[4, 2, 3, 1], [1, 2, 3], [3, 4, 2, 1]}, {[2, 1, 3, 4], [1, 3, 2, 4], [3, 2, 1]},
 {[4, 2, 3, 1], [1, 2, 3], [4, 3, 1, 2]}, {[1, 2, 4, 3], [1, 3, 2, 4], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{x(x^5-3x^3+5x^2-3x+1)}{(x-1)^5}$

sequence to 30 terms: 1, 2, 5, 12, 25, 47, 82, 135, 212, 320, 467, 662, 915, 1237, 1640, 2137, 2742,
 3470, 4337, 5360, 6557, 7947, 9550, 11387, 13480, 15852, 18527, 21530, 24887, 28625

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{43(n+40)(-1+n)}{-1984+531n+229n^2} - \frac{4(-1571+738n+68n^2)N}{-1984+531n+229n^2} + N^2$

ASYMPTOTIC EXPANSION: $n^4(1 - \frac{6}{n} + \frac{47}{n^2})$

ZINN: $a(n)$ asymptotic to $n^{4.272165516}0.9992600910^n$

THERE ARE 3 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 3, 2, 4], [3, 4, 2, 1], [3, 1, 2]}, {[4, 2, 3, 1], [2, 1, 3, 4], [1, 3, 2]},
 {[1, 3, 2, 4], [4, 3, 1, 2], [2, 3, 1]}, {[4, 2, 3, 1], [1, 2, 4, 3], [2, 1, 3]}

{[1, 3, 2, 4], [2, 3, 4, 1], [3, 1, 2]}, {[4, 2, 3, 1], [3, 2, 1, 4], [1, 3, 2]},
 {[4, 2, 3, 1], [1, 4, 3, 2], [2, 1, 3]}, {[4, 1, 2, 3], [1, 3, 2, 4], [2, 3, 1]}

{[4, 3, 2, 1], [1, 3, 2, 4], [2, 3, 1]}, {[4, 3, 2, 1], [1, 3, 2, 4], [3, 1, 2]},
 {[1, 2, 3, 4], [4, 2, 3, 1], [2, 1, 3]}, {[1, 2, 3, 4], [4, 2, 3, 1], [1, 3, 2]}

GENERATING FUNCTION: $x(1 + 2x + 17x^4 + 5x^2 + 12x^3 + 10x^5)$

sequence to 30 terms: 1, 2, 5, 12, 17, 10, 0

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 1, 4, 2], [3, 2, 1]}, {[1, 2, 3, 4], [2, 4, 1, 3], [3, 2, 1]},
 {[4, 3, 2, 1], [1, 2, 3], [3, 1, 4, 2]}, {[4, 3, 2, 1], [2, 4, 1, 3], [1, 2, 3]}

GENERATING FUNCTION: $\frac{(2x^3-5x^2+3x-1)x}{(x-1)^5}$

sequence to 30 terms: 1, 2, 5, 13, 30, 61, 112, 190, 303, 460, 671, 947, 1300, 1743, 2290, 2956, 3757,
 4710, 5833, 7145, 8666, 10417, 12420, 14698, 17275, 20176, 23427, 27055, 31088, 35555

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{6+285n+23n^2}{366-123n+23n^2} + \frac{4(-183+56n)N}{366-123n+23n^2} + N^2$

ASYMPTOTIC EXPANSION: (no unique dominant root)

ZINN: $a(n)$ asymptotic to $n^{3.939051976}1.002997833^n$

THERE ARE 7 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[2, 3, 1, 4], [1, 2, 3], [4, 3, 1, 2]}, {[1, 4, 2, 3], [1, 2, 3], [3, 4, 2, 1]},
 {[2, 1, 3, 4], [2, 4, 3, 1], [3, 2, 1]}, {[1, 2, 3], [3, 1, 2, 4], [3, 4, 2, 1]},
 {[4, 1, 3, 2], [2, 1, 3, 4], [3, 2, 1]}, {[4, 2, 1, 3], [1, 2, 4, 3], [3, 2, 1]},
 {[1, 2, 4, 3], [3, 2, 4, 1], [3, 2, 1]}, {[1, 3, 4, 2], [1, 2, 3], [4, 3, 1, 2]}

{[1, 2, 4, 3], [3, 4, 2, 1], [3, 2, 1]}, {[2, 1, 3, 4], [3, 4, 2, 1], [3, 2, 1]},
 {[2, 1, 3, 4], [1, 2, 3], [3, 4, 2, 1]}, {[1, 2, 4, 3], [1, 2, 3], [4, 3, 1, 2]},
 {[2, 1, 3, 4], [1, 2, 3], [4, 3, 1, 2]}, {[1, 2, 4, 3], [4, 3, 1, 2], [3, 2, 1]},
 {[2, 1, 3, 4], [4, 3, 1, 2], [3, 2, 1]}, {[1, 2, 4, 3], [1, 2, 3], [3, 4, 2, 1]}

{[1, 3, 2, 4], [1, 2, 3], [3, 4, 2, 1]}, {[4, 2, 3, 1], [2, 1, 3, 4], [3, 2, 1]},
{[1, 3, 2, 4], [1, 2, 3], [4, 3, 1, 2]}, {[4, 2, 3, 1], [1, 2, 4, 3], [3, 2, 1]}

{[1, 2, 3], [4, 3, 1, 2], [3, 1, 2, 4]}, {[2, 1, 3, 4], [3, 2, 4, 1], [3, 2, 1]},
{[1, 4, 2, 3], [1, 2, 3], [4, 3, 1, 2]}, {[4, 1, 3, 2], [1, 2, 4, 3], [3, 2, 1]},
{[1, 2, 4, 3], [2, 4, 3, 1], [3, 2, 1]}, {[4, 2, 1, 3], [2, 1, 3, 4], [3, 2, 1]},
{[2, 3, 1, 4], [1, 2, 3], [3, 4, 2, 1]}, {[1, 3, 4, 2], [1, 2, 3], [3, 4, 2, 1]}

{[1, 2, 3, 4], [1, 2, 3], [4, 3, 1, 2]}, {[4, 3, 2, 1], [2, 1, 3, 4], [3, 2, 1]},
{[4, 3, 2, 1], [1, 2, 4, 3], [3, 2, 1]}, {[1, 2, 3, 4], [1, 2, 3], [3, 4, 2, 1]}

{[1, 2, 3], [4, 3, 1, 2], [2, 3, 4, 1]}, {[4, 1, 2, 3], [1, 2, 3], [3, 4, 2, 1]},
{[1, 2, 4, 3], [3, 2, 1, 4], [3, 2, 1]}, {[2, 1, 3, 4], [1, 4, 3, 2], [3, 2, 1]}

{[4, 1, 2, 3], [1, 2, 3], [4, 3, 1, 2]}, {[2, 1, 3, 4], [3, 2, 1, 4], [3, 2, 1]},
{[1, 2, 4, 3], [1, 4, 3, 2], [3, 2, 1]}, {[1, 2, 3], [3, 4, 2, 1], [2, 3, 4, 1]}

GENERATING FUNCTION: $-\frac{x(2x^2-2x+1)}{3x^3-5x^2+4x-1}$

sequence to 30 terms: 1, 2, 5, 13, 33, 82, 202, 497, 1224, 3017, 7439, 18343, 45228, 111514, 274945,
677894, 1671393, 4120937, 10160465, 25051354, 61765902, 152288233, 375477484, 925766477, 2282543187,
5627772815, 13875674756, 34211464510, 84350802705, 207972912538

(not in online encyclopedia of integer sequences)

RECURRENCE: $-3 + 5N - 4N^2 + N^3$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{1.200000000e-9}2.465571231^n$

THERE ARE 7 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[3, 4, 1, 2], [2, 3, 4, 1], [3, 1, 2]}, {[4, 1, 2, 3], [3, 4, 1, 2], [2, 3, 1]},
{[2, 1, 4, 3], [1, 4, 3, 2], [2, 1, 3]}, {[2, 1, 4, 3], [3, 2, 1, 4], [1, 3, 2]}

{[1, 3, 2, 4], [3, 2, 1, 4], [1, 3, 2]}, {[1, 3, 2, 4], [1, 4, 3, 2], [2, 1, 3]},
{[4, 2, 3, 1], [2, 3, 4, 1], [3, 1, 2]}, {[4, 1, 2, 3], [4, 2, 3, 1], [2, 3, 1]}

{[4, 3, 1, 2], [2, 3, 4, 1], [3, 1, 2]}, {[4, 1, 2, 3], [3, 4, 2, 1], [2, 3, 1]},
{[1, 2, 4, 3], [3, 2, 1, 4], [1, 3, 2]}, {[2, 1, 3, 4], [1, 4, 3, 2], [2, 1, 3]}

{[3, 2, 1, 4], [2, 4, 3, 1], [1, 3, 2]}, {[1, 4, 3, 2], [3, 2, 4, 1], [2, 1, 3]},
{[1, 4, 2, 3], [2, 3, 4, 1], [3, 1, 2]}, {[4, 1, 3, 2], [3, 2, 1, 4], [1, 3, 2]},
{[3, 1, 2, 4], [2, 3, 4, 1], [3, 1, 2]}, {[4, 2, 1, 3], [1, 4, 3, 2], [2, 1, 3]},
{[4, 1, 2, 3], [1, 3, 4, 2], [2, 3, 1]}, {[4, 1, 2, 3], [2, 3, 1, 4], [2, 3, 1]}

{[4, 1, 2, 3], [3, 1, 4, 2], [2, 3, 1]}, {[1, 4, 3, 2], [3, 1, 4, 2], [2, 1, 3]},
{[2, 4, 1, 3], [1, 4, 3, 2], [2, 1, 3]}, {[2, 4, 1, 3], [2, 3, 4, 1], [3, 1, 2]},
{[2, 4, 1, 3], [3, 2, 1, 4], [1, 3, 2]}, {[3, 1, 4, 2], [2, 3, 4, 1], [3, 1, 2]},
{[4, 1, 2, 3], [2, 4, 1, 3], [2, 3, 1]}, {[3, 1, 4, 2], [3, 2, 1, 4], [1, 3, 2]}

{[1, 4, 2, 3], [3, 2, 1, 4], [1, 3, 2]}, {[4, 1, 2, 3], [2, 4, 3, 1], [2, 3, 1]},

{[4, 2, 1, 3], [2, 3, 4, 1], [3, 1, 2]}, {[4, 1, 2, 3], [3, 2, 4, 1], [2, 3, 1]},
 {[1, 3, 4, 2], [3, 2, 1, 4], [1, 3, 2]}, {[4, 1, 3, 2], [2, 3, 4, 1], [3, 1, 2]},
 {[2, 3, 1, 4], [1, 4, 3, 2], [2, 1, 3]}, {[1, 4, 3, 2], [3, 1, 2, 4], [2, 1, 3]}

{[4, 1, 2, 3], [2, 3, 4, 1], [2, 3, 1]}, {[4, 1, 2, 3], [2, 3, 4, 1], [3, 1, 2]},
 {[1, 4, 3, 2], [3, 2, 1, 4], [2, 1, 3]}, {[1, 4, 3, 2], [3, 2, 1, 4], [1, 3, 2]}

GENERATING FUNCTION: $-\frac{(x^4-6x^3+7x^2-4x+1)x}{(2x-1)(x-1)^4}$

sequence to 30 terms: 1, 2, 5, 12, 26, 52, 99, 184, 340, 632, 1189, 2268, 4382, 8556, 16839, 33328, 66216, 131888, 263113, 525428, 1049906, 2098692, 4196075, 8390632, 16779516, 33557032, 67111789, 134221004, 268439110, 536874972

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{2(n+1)(n-4)}{(n-1)(n-5)} - \frac{3(2-5n+n^2)N}{(n-1)(n-5)} + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{-0.7903355938e-4}2.000017433^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 2, 3, 1], [3, 4, 2, 1], [1, 3, 2]}, {[4, 2, 3, 1], [3, 4, 2, 1], [2, 1, 3]},
 {[2, 1, 3, 4], [1, 3, 2, 4], [2, 3, 1]}, {[2, 1, 3, 4], [1, 3, 2, 4], [3, 1, 2]},
 {[1, 2, 4, 3], [1, 3, 2, 4], [2, 3, 1]}, {[4, 2, 3, 1], [4, 3, 1, 2], [2, 1, 3]},
 {[4, 2, 3, 1], [4, 3, 1, 2], [1, 3, 2]}, {[1, 2, 4, 3], [1, 3, 2, 4], [3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x^3-x+1)}{(x-1)(x^2+x-1)(x^3+x^2+x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 26, 55, 113, 227, 449, 877, 1696, 3254, 6203, 11762, 22205, 41766, 78316, 146467, 273313, 509041, 946531, 1757541, 3259480, 6038576, 11176989, 20671462, 38204837, 70567516, 130275854, 240394475

(not in online encyclopedia of integer sequences)

RECURRENCE: $-1 - N + N^2 + 2N^3 + N^4 - 3N^5 + N^6$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.1064953887}1.833273082^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [2, 1, 3]}, {[4, 3, 2, 1], [3, 1, 2, 4], [2, 3, 1]},
 {[1, 2, 3, 4], [3, 2, 4, 1], [1, 3, 2]}, {[4, 3, 2, 1], [1, 3, 4, 2], [3, 1, 2]},
 {[4, 3, 2, 1], [1, 4, 2, 3], [2, 3, 1]}, {[1, 2, 3, 4], [4, 1, 3, 2], [2, 1, 3]},
 {[1, 2, 3, 4], [4, 2, 1, 3], [1, 3, 2]}, {[4, 3, 2, 1], [2, 3, 1, 4], [3, 1, 2]}

GENERATING FUNCTION: $\frac{(3x^4+4x^3+2x^2+1)x}{(x-1)^2}$

sequence to 30 terms: 1, 2, 5, 12, 22, 32, 42, 52, 62, 72, 82, 92, 102, 112, 122, 132, 142, 152, 162, 172, 182, 192, 202, 212, 222, 232, 242, 252, 262, 272

(not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{(20n-31)(n-3)}{-39+25n} + \frac{2(81-68n+10n^2)N}{-39+25n} + N^2$

ASYMPTOTIC EXPANSION: $n^a(1 - \frac{-162a-3+25a^2}{50(a-2)n} + \frac{20893a^2-16226a-612-4180a^3+125a^4}{1500(6+a^2-5a)n^2})$

ZINN: $a(n)$ asymptotic to $n^{0.9996209054}1.000734113^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 1, 2], [3, 2, 1]}, {[2, 1, 4, 3], [1, 2, 3], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [3, 4, 1, 2], [3, 2, 1]}, {[2, 1, 4, 3], [1, 2, 3], [3, 4, 2, 1]}

GENERATING FUNCTION: $\frac{(4x^3+2x^2+1)x}{(x-1)^2}$

sequence to 30 terms: 1, 2, 5, 12, 19, 26, 33, 40, 47, 54, 61, 68, 75, 82, 89, 96, 103, 110, 117, 124,

131, 138, 145, 152, 159, 166, 173, 180, 187, 194

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{10(-2+n)}{-11+3n} - \frac{(-38+13n)N}{-11+3n} + N^2$

ASYMPTOTIC EXPANSION: $\left(\frac{10}{3}\right)^n n^{(2/3)} \left(1 - \frac{239}{63n} - \frac{14759}{3969n^2}\right)$

ZINN: $a(n)$ asymptotic to $n^{0.9996353188} 1.000706001^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [1, 2, 4, 3], [3, 2, 1]\}, \{[1, 2, 3], [4, 3, 1, 2], [3, 4, 2, 1]\}$

GENERATING FUNCTION: $\frac{(x^5+x^4-2x^3-2x^2+x-1)x}{(x-1)^3}$

sequence to 30 terms: 1, 2, 5, 12, 22, 34, 48, 64, 82, 102, 124, 148, 174, 202, 232, 264, 298, 334, 372, 412, 454, 498, 544, 592, 642, 694, 748, 804, 862, 922

(A048840: Expansion of $(1-x+2x^2+2x^3-x^4-x^5)/(1-x)^3$)

RECURRENCE: $\frac{(n-3)(7n-106)}{168-101n+43n^2} - \frac{2(240-78n+25n^2)N}{168-101n+43n^2} + N^2$

ASYMPTOTIC EXPANSION: $n^2 \left(1 + \frac{1}{n} - \frac{8}{n^2}\right)$

ZINN: $a(n)$ asymptotic to $n^{1.942643405} 1.001850719^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [1, 3, 4, 2], [3, 2, 1]\}, \{[1, 2, 3], [4, 3, 1, 2], [2, 4, 3, 1]\},$

$\{[2, 1, 3, 4], [1, 4, 2, 3], [3, 2, 1]\}, \{[2, 3, 1, 4], [1, 2, 4, 3], [3, 2, 1]\},$

$\{[4, 2, 1, 3], [1, 2, 3], [3, 4, 2, 1]\}, \{[4, 1, 3, 2], [1, 2, 3], [3, 4, 2, 1]\},$

$\{[1, 2, 3], [4, 3, 1, 2], [3, 2, 4, 1]\}, \{[1, 2, 4, 3], [3, 1, 2, 4], [3, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(2x^3+x^2-x+1)}{(x-1)^2(x^2+x-1)}$

sequence to 30 terms: 1, 2, 5, 12, 25, 48, 87, 152, 259, 434, 719, 1182, 1933, 3150, 5121, 8312, 13477, 21836, 35363, 57252, 92671, 149982, 242715, 392762, 635545, 1028378, 1663997, 2692452, 4356529, 7049064

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{2+3n}{-1+3n} + \frac{3N}{-1+3n} - \frac{(1+6n)N^2}{-1+3n} + N^3$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.0001067938462} 1.618018453^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 3, 4, 2], [1, 4, 2, 3], [3, 2, 1]\}, \{[2, 3, 1, 4], [3, 1, 2, 4], [3, 2, 1]\},$

$\{[4, 1, 3, 2], [4, 2, 1, 3], [1, 2, 3]\}, \{[1, 2, 3], [3, 2, 4, 1], [2, 4, 3, 1]\}$

GENERATING FUNCTION: $\frac{(3x^2-2x+1)x}{(x-1)^4}$

sequence to 30 terms: 1, 2, 5, 12, 25, 46, 77, 120, 177, 250, 341, 452, 585, 742, 925, 1136, 1377, 1650, 1957, 2300, 2681, 3102, 3565, 4072, 4625, 5226, 5877, 6580, 7337, 8150

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{1+2n}{-2+n} - \frac{(-4+3n)N}{-2+n} + N^2$

ASYMPTOTIC EXPANSION: $\frac{2^n \left(1 + \frac{31}{8n} + \frac{3265}{128n^2}\right)}{\sqrt{n}}$

ZINN: $a(n)$ asymptotic to $n^{3.018477198} 1.001676388^n$

THERE ARE 13 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[2, 1, 4, 3], [3, 1, 2, 4], [3, 2, 1]\}, \{[1, 2, 3], [3, 4, 1, 2], [2, 4, 3, 1]\},$

$\{[2, 3, 1, 4], [2, 1, 4, 3], [3, 2, 1]\}, \{[1, 2, 3], [3, 2, 4, 1], [3, 4, 1, 2]\},$

$\{[4, 1, 3, 2], [1, 2, 3], [3, 4, 1, 2]\}, \{[2, 1, 4, 3], [1, 3, 4, 2], [3, 2, 1]\},$

$\{[2, 1, 4, 3], [1, 4, 2, 3], [3, 2, 1]\}, \{[4, 2, 1, 3], [1, 2, 3], [3, 4, 1, 2]\}$

$\{[2, 3, 1, 4], [4, 3, 1, 2], [1, 3, 2]\}, \{[1, 4, 2, 3], [3, 4, 2, 1], [2, 1, 3]\},$

{[2, 1, 3, 4], [2, 4, 3, 1], [3, 1, 2]}, {[4, 1, 3, 2], [2, 1, 3, 4], [2, 3, 1]},
{[3, 1, 2, 4], [3, 4, 2, 1], [1, 3, 2]}, {[4, 2, 1, 3], [1, 2, 4, 3], [2, 3, 1]},
{[1, 2, 4, 3], [3, 2, 4, 1], [3, 1, 2]}, {[1, 3, 4, 2], [4, 3, 1, 2], [2, 1, 3]}

{[1, 4, 3, 2], [3, 4, 1, 2], [2, 1, 3]}, {[4, 1, 2, 3], [2, 1, 4, 3], [2, 3, 1]},
{[2, 1, 4, 3], [2, 3, 4, 1], [3, 1, 2]}, {[3, 2, 1, 4], [3, 4, 1, 2], [1, 3, 2]}

{[4, 3, 2, 1], [3, 4, 2, 1], [2, 1, 3]}, {[4, 3, 2, 1], [3, 4, 2, 1], [1, 3, 2]},
{[1, 2, 3, 4], [2, 1, 3, 4], [2, 3, 1]}, {[1, 2, 3, 4], [2, 1, 3, 4], [3, 1, 2]},
{[1, 2, 3, 4], [1, 2, 4, 3], [2, 3, 1]}, {[1, 2, 3, 4], [1, 2, 4, 3], [3, 1, 2]},
{[4, 3, 2, 1], [4, 3, 1, 2], [2, 1, 3]}, {[4, 3, 2, 1], [4, 3, 1, 2], [1, 3, 2]}

{[1, 3, 2, 4], [3, 1, 2, 4], [3, 2, 1]}, {[1, 3, 2, 4], [1, 3, 4, 2], [3, 2, 1]},
{[4, 1, 3, 2], [4, 2, 3, 1], [1, 2, 3]}, {[1, 3, 2, 4], [1, 4, 2, 3], [3, 2, 1]},
{[4, 2, 3, 1], [1, 2, 3], [3, 2, 4, 1]}, {[4, 2, 3, 1], [1, 2, 3], [2, 4, 3, 1]},
{[4, 2, 1, 3], [4, 2, 3, 1], [1, 2, 3]}, {[2, 3, 1, 4], [1, 3, 2, 4], [3, 2, 1]}

{[4, 3, 1, 2], [3, 2, 1, 4], [1, 3, 2]}, {[2, 1, 3, 4], [2, 3, 4, 1], [3, 1, 2]},
{[3, 2, 1, 4], [3, 4, 2, 1], [1, 3, 2]}, {[1, 2, 4, 3], [2, 3, 4, 1], [3, 1, 2]},
{[4, 1, 2, 3], [2, 1, 3, 4], [2, 3, 1]}, {[1, 4, 3, 2], [3, 4, 2, 1], [2, 1, 3]},
{[1, 4, 3, 2], [4, 3, 1, 2], [2, 1, 3]}, {[4, 1, 2, 3], [1, 2, 4, 3], [2, 3, 1]}

{[2, 1, 3, 4], [1, 2, 4, 3], [2, 3, 1]}, {[2, 1, 3, 4], [1, 2, 4, 3], [3, 1, 2]},
{[4, 3, 1, 2], [3, 4, 2, 1], [2, 1, 3]}, {[4, 3, 1, 2], [3, 4, 2, 1], [1, 3, 2]}

{[2, 1, 4, 3], [1, 2, 4, 3], [3, 2, 1]}, {[1, 2, 3], [3, 4, 1, 2], [3, 4, 2, 1]},
{[1, 2, 3], [4, 3, 1, 2], [3, 4, 1, 2]}, {[2, 1, 3, 4], [2, 1, 4, 3], [3, 2, 1]}

{[1, 2, 4, 3], [3, 4, 2, 1], [3, 1, 2]}, {[2, 1, 3, 4], [3, 4, 2, 1], [3, 1, 2]},
{[2, 1, 3, 4], [3, 4, 2, 1], [1, 3, 2]}, {[1, 2, 4, 3], [4, 3, 1, 2], [2, 3, 1]},
{[1, 2, 4, 3], [4, 3, 1, 2], [2, 1, 3]}, {[2, 1, 3, 4], [4, 3, 1, 2], [2, 3, 1]},
{[2, 1, 3, 4], [4, 3, 1, 2], [1, 3, 2]}, {[1, 2, 4, 3], [3, 4, 2, 1], [2, 1, 3]}

{[1, 2, 3, 4], [1, 3, 2, 4], [2, 3, 1]}, {[1, 2, 3, 4], [1, 3, 2, 4], [3, 1, 2]},
{[4, 3, 2, 1], [4, 2, 3, 1], [2, 1, 3]}, {[4, 3, 2, 1], [4, 2, 3, 1], [1, 3, 2]}

{[1, 2, 3, 4], [4, 1, 2, 3], [2, 3, 1]}, {[4, 3, 2, 1], [1, 4, 3, 2], [2, 1, 3]},
{[1, 2, 3, 4], [2, 3, 4, 1], [3, 1, 2]}, {[4, 3, 2, 1], [3, 2, 1, 4], [1, 3, 2]}

{[1, 4, 3, 2], [1, 2, 3], [3, 4, 1, 2]}, {[4, 1, 2, 3], [2, 1, 4, 3], [3, 2, 1]},
{[2, 1, 4, 3], [2, 3, 4, 1], [3, 2, 1]}, {[1, 2, 3], [3, 2, 1, 4], [3, 4, 1, 2]}

{[4, 3, 1, 2], [2, 3, 4, 1], [1, 3, 2]}, {[4, 1, 2, 3], [3, 4, 2, 1], [2, 1, 3]},
{[1, 2, 4, 3], [3, 2, 1, 4], [3, 1, 2]}, {[2, 1, 3, 4], [1, 4, 3, 2], [2, 3, 1]},
{[4, 3, 1, 2], [2, 3, 4, 1], [2, 1, 3]}, {[2, 1, 3, 4], [1, 4, 3, 2], [3, 1, 2]},
{[4, 1, 2, 3], [3, 4, 2, 1], [1, 3, 2]}, {[1, 2, 4, 3], [3, 2, 1, 4], [2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(x^2-x+1)}{x^3-2x^2+3x-1}$
sequence to 30 terms: 1, 2, 5, 12, 28, 65, 151, 351, 816, 1897, 4410, 10252, 23833, 55405, 128801, 299426, 696081, 1618192, 3761840, 8745217, 20330163, 47261895, 109870576, 255418101, 593775046, 1380359512, 3208946545, 7459895657, 17342153393, 40315615410
(A034943: Binomial transform of Padovan sequence A000931)
RECURRENCE: $-1 + 2N - 3N^2 + N^3$
ASYMPTOTIC EXPANSION: (no result)
ZINN: (no result)

THERE ARE 6 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 1, 2, 4], [1, 3, 2]}, {[1, 2, 3, 4], [2, 3, 1, 4], [1, 3, 2]},
{[1, 2, 3, 4], [1, 3, 4, 2], [2, 1, 3]}, {[4, 3, 2, 1], [2, 4, 3, 1], [3, 1, 2]},
{[1, 2, 3, 4], [1, 4, 2, 3], [2, 1, 3]}, {[4, 3, 2, 1], [4, 1, 3, 2], [2, 3, 1]},
{[4, 3, 2, 1], [4, 2, 1, 3], [2, 3, 1]}, {[4, 3, 2, 1], [3, 2, 4, 1], [3, 1, 2]}

{[1, 3, 4, 2], [1, 4, 2, 3], [2, 1, 3]}, {[2, 3, 1, 4], [3, 1, 2, 4], [1, 3, 2]},
{[4, 1, 3, 2], [4, 2, 1, 3], [2, 3, 1]}, {[3, 2, 4, 1], [2, 4, 3, 1], [3, 1, 2]}

{[2, 4, 3, 1], [2, 3, 4, 1], [3, 1, 2]}, {[3, 1, 2, 4], [3, 2, 1, 4], [1, 3, 2]},
{[1, 4, 2, 3], [1, 4, 3, 2], [2, 1, 3]}, {[3, 2, 4, 1], [2, 3, 4, 1], [3, 1, 2]},
{[4, 1, 2, 3], [4, 2, 1, 3], [2, 3, 1]}, {[4, 1, 2, 3], [4, 1, 3, 2], [2, 3, 1]},
{[2, 3, 1, 4], [3, 2, 1, 4], [1, 3, 2]}, {[1, 3, 4, 2], [1, 4, 3, 2], [2, 1, 3]}

{[2, 3, 1, 4], [2, 1, 3, 4], [1, 3, 2]}, {[1, 2, 4, 3], [1, 4, 2, 3], [2, 1, 3]},
{[3, 2, 4, 1], [3, 4, 2, 1], [3, 1, 2]}, {[3, 4, 2, 1], [2, 4, 3, 1], [3, 1, 2]},
{[2, 1, 3, 4], [3, 1, 2, 4], [1, 3, 2]}, {[4, 2, 1, 3], [4, 3, 1, 2], [2, 3, 1]},
{[4, 1, 3, 2], [4, 3, 1, 2], [2, 3, 1]}, {[1, 2, 4, 3], [1, 3, 4, 2], [2, 1, 3]}

{[4, 1, 2, 3], [4, 3, 1, 2], [2, 3, 1]}, {[2, 1, 3, 4], [3, 2, 1, 4], [1, 3, 2]},
{[3, 4, 2, 1], [2, 3, 4, 1], [3, 1, 2]}, {[1, 2, 4, 3], [1, 4, 3, 2], [2, 1, 3]}

{[4, 1, 2, 3], [2, 4, 1, 3], [3, 2, 1]}, {[4, 1, 2, 3], [3, 1, 4, 2], [3, 2, 1]},
{[1, 4, 3, 2], [1, 2, 3], [3, 1, 4, 2]}, {[2, 4, 1, 3], [1, 4, 3, 2], [1, 2, 3]},
{[2, 4, 1, 3], [2, 3, 4, 1], [3, 2, 1]}, {[2, 4, 1, 3], [1, 2, 3], [3, 2, 1, 4]},
{[3, 1, 4, 2], [2, 3, 4, 1], [3, 2, 1]}, {[1, 2, 3], [3, 1, 4, 2], [3, 2, 1, 4]}

GENERATING FUNCTION: $x(1 + 2x + 16x^4 + 5x^2 + 12x^3 + 9x^5)$
sequence to 30 terms: 1, 2, 5, 12, 16, 9, 0
(not in online encyclopedia of integer sequences)
RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [1, 2, 3], [3, 4, 1, 2]}, {[1, 2, 3, 4], [2, 1, 4, 3], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{x(x^3-4x^2+3x-1)}{(x-1)^3(2x-1)}$
sequence to 30 terms: 1, 2, 5, 13, 32, 74, 163, 347, 722, 1480, 3005, 6065, 12196, 24470, 49031, 98167, 196454, 393044, 786241, 1572653, 3145496, 6291202, 12582635, 25165523, 50331322, 100662944, 201326213, 402652777, 805305932, 1610612270
(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{2(1+n)}{-1+n} - \frac{(-1+3n)N}{-1+n} + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.000003165247290}1.999999266^n$

THERE ARE 10 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[2, 3, 1, 4], [2, 4, 3, 1], [3, 2, 1]\}$, $\{[1, 2, 3], [3, 1, 2, 4], [3, 2, 4, 1]\}$,
 $\{[1, 4, 2, 3], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[4, 1, 3, 2], [3, 1, 2, 4], [3, 2, 1]\}$,
 $\{[4, 2, 1, 3], [2, 3, 1, 4], [1, 2, 3]\}$, $\{[4, 1, 3, 2], [1, 3, 4, 2], [1, 2, 3]\}$,
 $\{[1, 3, 4, 2], [3, 2, 4, 1], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 4, 2, 3], [3, 2, 1]\}$

$\{[2, 3, 1, 4], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[3, 1, 2, 4], [3, 2, 4, 1], [3, 2, 1]\}$,
 $\{[1, 4, 2, 3], [2, 4, 3, 1], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [1, 2, 3], [3, 1, 2, 4]\}$,
 $\{[4, 2, 1, 3], [2, 3, 1, 4], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [1, 3, 4, 2], [3, 2, 1]\}$,
 $\{[4, 2, 1, 3], [1, 4, 2, 3], [1, 2, 3]\}$, $\{[1, 3, 4, 2], [1, 2, 3], [3, 2, 4, 1]\}$

$\{[2, 3, 1, 4], [3, 4, 2, 1], [3, 2, 1]\}$, $\{[2, 1, 3, 4], [1, 2, 3], [3, 2, 4, 1]\}$,
 $\{[1, 2, 4, 3], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[4, 3, 1, 2], [3, 1, 2, 4], [3, 2, 1]\}$,
 $\{[1, 4, 2, 3], [4, 3, 1, 2], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [2, 1, 3, 4], [1, 2, 3]\}$,
 $\{[1, 3, 4, 2], [3, 4, 2, 1], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [1, 2, 4, 3], [1, 2, 3]\}$

$\{[1, 4, 2, 3], [3, 2, 1, 4], [3, 2, 1]\}$, $\{[4, 1, 2, 3], [1, 2, 3], [2, 4, 3, 1]\}$,
 $\{[4, 1, 2, 3], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[1, 3, 4, 2], [3, 2, 1, 4], [3, 2, 1]\}$,
 $\{[4, 1, 3, 2], [1, 2, 3], [2, 3, 4, 1]\}$, $\{[2, 3, 1, 4], [1, 4, 3, 2], [3, 2, 1]\}$,
 $\{[4, 2, 1, 3], [1, 2, 3], [2, 3, 4, 1]\}$, $\{[1, 4, 3, 2], [3, 1, 2, 4], [3, 2, 1]\}$

$\{[1, 3, 2, 4], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[4, 2, 3, 1], [2, 3, 1, 4], [3, 2, 1]\}$,
 $\{[1, 3, 2, 4], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[4, 1, 3, 2], [1, 3, 2, 4], [1, 2, 3]\}$,
 $\{[4, 2, 3, 1], [3, 1, 2, 4], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 3, 2, 4], [1, 2, 3]\}$,
 $\{[4, 2, 3, 1], [1, 4, 2, 3], [3, 2, 1]\}$, $\{[4, 2, 3, 1], [1, 3, 4, 2], [3, 2, 1]\}$

$\{[2, 3, 1, 4], [4, 3, 1, 2], [3, 2, 1]\}$, $\{[1, 4, 2, 3], [3, 4, 2, 1], [3, 2, 1]\}$,
 $\{[2, 1, 3, 4], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[4, 1, 3, 2], [2, 1, 3, 4], [1, 2, 3]\}$,
 $\{[3, 1, 2, 4], [3, 4, 2, 1], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 2, 4, 3], [1, 2, 3]\}$,
 $\{[1, 2, 4, 3], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[1, 3, 4, 2], [4, 3, 1, 2], [3, 2, 1]\}$

$\{[1, 2, 3], [2, 4, 3, 1], [2, 3, 4, 1]\}$, $\{[3, 1, 2, 4], [3, 2, 1, 4], [3, 2, 1]\}$,
 $\{[1, 2, 3], [3, 2, 4, 1], [2, 3, 4, 1]\}$, $\{[1, 4, 2, 3], [1, 4, 3, 2], [3, 2, 1]\}$,
 $\{[4, 1, 2, 3], [4, 2, 1, 3], [1, 2, 3]\}$, $\{[4, 1, 2, 3], [4, 1, 3, 2], [1, 2, 3]\}$,
 $\{[2, 3, 1, 4], [3, 2, 1, 4], [3, 2, 1]\}$, $\{[1, 3, 4, 2], [1, 4, 3, 2], [3, 2, 1]\}$

$\{[1, 4, 2, 3], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[1, 4, 2, 3], [3, 2, 4, 1], [3, 2, 1]\}$,
 $\{[4, 1, 3, 2], [2, 3, 1, 4], [1, 2, 3]\}$, $\{[3, 1, 2, 4], [2, 4, 3, 1], [3, 2, 1]\}$,
 $\{[4, 1, 3, 2], [2, 3, 1, 4], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 3, 4, 2], [1, 2, 3]\}$,
 $\{[4, 2, 1, 3], [1, 3, 4, 2], [3, 2, 1]\}$, $\{[1, 2, 3], [3, 1, 2, 4], [2, 4, 3, 1]\}$

$\{[1, 3, 4, 2], [1, 2, 3], [2, 4, 3, 1]\}$, $\{[1, 3, 4, 2], [2, 4, 3, 1], [3, 2, 1]\}$,
 $\{[2, 3, 1, 4], [1, 2, 3], [3, 2, 4, 1]\}$, $\{[2, 3, 1, 4], [3, 2, 4, 1], [3, 2, 1]\}$,
 $\{[4, 1, 3, 2], [1, 4, 2, 3], [1, 2, 3]\}$, $\{[4, 2, 1, 3], [1, 2, 3], [3, 1, 2, 4]\}$,
 $\{[4, 2, 1, 3], [3, 1, 2, 4], [3, 2, 1]\}$, $\{[4, 1, 3, 2], [1, 4, 2, 3], [3, 2, 1]\}$

{[1, 2, 3, 4], [1, 2, 3], [2, 4, 3, 1]}, {[4, 3, 2, 1], [3, 1, 2, 4], [3, 2, 1]},
 {[1, 2, 3, 4], [1, 2, 3], [3, 2, 4, 1]}, {[4, 3, 2, 1], [1, 3, 4, 2], [3, 2, 1]},
 {[4, 3, 2, 1], [2, 3, 1, 4], [3, 2, 1]}, {[4, 3, 2, 1], [1, 4, 2, 3], [3, 2, 1]},
 {[1, 2, 3, 4], [4, 1, 3, 2], [1, 2, 3]}, {[1, 2, 3, 4], [4, 2, 1, 3], [1, 2, 3]}

GENERATING FUNCTION: $x(1 + 2x + 19x^4 + 5x^2 + 12x^3 + 14x^5)$
 sequence to 30 terms: 1, 2, 5, 12, 19, 14, 0
 (not in online encyclopedia of integer sequences)
 RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:
 {[1, 2, 3, 4], [1, 3, 2, 4], [3, 2, 1]}, {[4, 3, 2, 1], [4, 2, 3, 1], [1, 2, 3]}

GENERATING FUNCTION: $x(x + 1)(12x^4 + 8x^3 + 4x^2 + x + 1)$ sequence to 30 terms: 1, 2, 5, 12, 20,
 12, 0
 (not in online encyclopedia of integer sequences)
 RECURRENCE: (no result)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:
 {[1, 2, 3, 4], [4, 1, 2, 3], [3, 2, 1]}, {[1, 2, 3, 4], [2, 3, 4, 1], [3, 2, 1]},
 {[4, 3, 2, 1], [1, 4, 3, 2], [1, 2, 3]}, {[4, 3, 2, 1], [1, 2, 3], [3, 2, 1, 4]}

GENERATING FUNCTION: $-\frac{x(x^4+2x^3+2x^2-x+1)}{(x-1)^3}$
 sequence to 30 terms: 1, 2, 5, 12, 24, 41, 63, 90, 122, 159, 201, 248, 300, 357, 419, 486, 558, 635,
 717, 804, 896, 993, 1095, 1202, 1314, 1431, 1553, 1680, 1812, 1949
 (not in online encyclopedia of integer sequences)

RECURRENCE: $-\frac{5(23n-21)(n-2)}{18(-8+9n)} + \frac{(562-727n+115n^2)N}{18(-8+9n)} + N^2$
 ASYMPTOTIC EXPANSION: $n^a(1 - \frac{-6449a+1035a^2+64}{2070(a-3)n} + \frac{-5067842a+6271649a^2+92928-1293290a^3+39675a^4}{476100(12-7a+a^2)n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.009626456}1.001255473^n$
 THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:
 {[1, 3, 2, 4], [2, 3, 4, 1], [3, 2, 1]}, {[4, 2, 3, 1], [1, 2, 3], [3, 2, 1, 4]},
 {[4, 2, 3, 1], [1, 4, 3, 2], [1, 2, 3]}, {[4, 1, 2, 3], [1, 3, 2, 4], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{(x^4-3x^3+5x^2-3x+1)x}{(x-1)^5}$
 sequence to 30 terms: 1, 2, 5, 12, 26, 51, 92, 155, 247, 376, 551, 782, 1080, 1457, 1926, 2501, 3197,
 4030, 5017, 6176, 7526, 9087, 10880, 12927, 15251, 17876, 20827, 24130, 27812, 31901
 (A027927: $T(n, 2n - 4)$, T given by A027926)

RECURRENCE: $-\frac{26+7n+5n^2}{2(n-2)} + \frac{(34-15n+5n^2)N}{2(n-2)} + N^2$
 ASYMPTOTIC EXPANSION: $n^a(1 - \frac{-72+5a^2-7a}{10(a-5)n} + \frac{16502a-3373a^2-8640+25a^4-50a^3}{300(a^2+30-11a)n^2})$
 ZINN: $a(n)$ asymptotic to $n^{4.073320290}1.001554436^n$

THERE ARE 4 SYMMETRY CLASSES WITH THIS SEQUENCE:
 {[1, 2, 3, 4], [3, 1, 2, 4], [2, 3, 1]}, {[1, 2, 3, 4], [2, 3, 1, 4], [3, 1, 2]},
 {[4, 3, 2, 1], [2, 4, 3, 1], [2, 1, 3]}, {[1, 2, 3, 4], [1, 3, 4, 2], [3, 1, 2]},
 {[1, 2, 3, 4], [1, 4, 2, 3], [2, 3, 1]}, {[4, 3, 2, 1], [4, 1, 3, 2], [2, 1, 3]},
 {[4, 3, 2, 1], [4, 2, 1, 3], [1, 3, 2]}, {[4, 3, 2, 1], [3, 2, 4, 1], [1, 3, 2]}

{[4, 3, 2, 1], [2, 1, 4, 3], [2, 3, 1]}, {[4, 3, 2, 1], [2, 1, 4, 3], [3, 1, 2]},
 {[1, 2, 3, 4], [3, 4, 1, 2], [2, 1, 3]}, {[1, 2, 3, 4], [3, 4, 1, 2], [1, 3, 2]}

{[2, 1, 3, 4], [1, 3, 4, 2], [3, 1, 2]}, {[2, 1, 3, 4], [1, 4, 2, 3], [2, 3, 1]},
 {[4, 3, 1, 2], [2, 4, 3, 1], [2, 1, 3]}, {[2, 3, 1, 4], [1, 2, 4, 3], [3, 1, 2]},
 {[4, 1, 3, 2], [3, 4, 2, 1], [2, 1, 3]}, {[4, 2, 1, 3], [3, 4, 2, 1], [1, 3, 2]},
 {[4, 3, 1, 2], [3, 2, 4, 1], [1, 3, 2]}, {[1, 2, 4, 3], [3, 1, 2, 4], [2, 3, 1]}

{[2, 1, 3, 4], [3, 4, 1, 2], [1, 3, 2]}, {[2, 1, 4, 3], [4, 3, 1, 2], [2, 3, 1]},
 {[1, 2, 4, 3], [3, 4, 1, 2], [2, 1, 3]}, {[2, 1, 4, 3], [3, 4, 2, 1], [3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x-1)}{x^2-3x+1}$

sequence to 30 terms: 1, 2, 5, 13, 34, 89, 233, 610, 1597, 4181, 10946, 28657, 75025, 196418, 514229,
 1346269, 3524578, 9227465, 24157817, 63245986, 165580141, 433494437, 1134903170, 2971215073,
 7778742049, 20365011074, 53316291173, 139583862445, 365435296162, 956722026041

(A099496: $(-1)^n Fib(2n + 1)$)

RECURRENCE: $1 - 3N + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: (no result)

THERE ARE 51 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[4, 1, 2, 3], [3, 1, 4, 2], [2, 1, 3]}, {[1, 4, 3, 2], [3, 1, 4, 2], [3, 1, 2]},
 {[2, 4, 1, 3], [1, 4, 3, 2], [2, 3, 1]}, {[2, 4, 1, 3], [2, 3, 4, 1], [2, 1, 3]},
 {[2, 4, 1, 3], [3, 2, 1, 4], [3, 1, 2]}, {[3, 1, 4, 2], [3, 2, 1, 4], [2, 3, 1]},
 {[4, 1, 2, 3], [2, 4, 1, 3], [1, 3, 2]}, {[3, 1, 4, 2], [2, 3, 4, 1], [1, 3, 2]}

{[4, 1, 2, 3], [4, 3, 1, 2], [3, 2, 1]}, {[3, 4, 2, 1], [2, 3, 4, 1], [3, 2, 1]},
 {[2, 1, 3, 4], [1, 2, 3], [3, 2, 1, 4]}, {[1, 2, 4, 3], [1, 4, 3, 2], [1, 2, 3]}

{[1, 4, 2, 3], [3, 2, 1, 4], [3, 1, 2]}, {[4, 1, 2, 3], [2, 4, 3, 1], [1, 3, 2]},
 {[4, 2, 1, 3], [2, 3, 4, 1], [2, 1, 3]}, {[4, 1, 2, 3], [3, 2, 4, 1], [2, 1, 3]},
 {[1, 3, 4, 2], [3, 2, 1, 4], [2, 3, 1]}, {[4, 1, 3, 2], [2, 3, 4, 1], [1, 3, 2]},
 {[2, 3, 1, 4], [1, 4, 3, 2], [2, 3, 1]}, {[1, 4, 3, 2], [3, 1, 2, 4], [3, 1, 2]}

{[4, 3, 2, 1], [3, 4, 1, 2], [2, 3, 1]}, {[1, 2, 3, 4], [2, 1, 4, 3], [2, 1, 3]},
 {[1, 2, 3, 4], [2, 1, 4, 3], [1, 3, 2]}, {[4, 3, 2, 1], [3, 4, 1, 2], [3, 1, 2]}

{[1, 2, 3, 4], [1, 4, 3, 2], [1, 3, 2]}, {[1, 2, 3, 4], [3, 2, 1, 4], [2, 1, 3]},
 {[4, 3, 2, 1], [4, 1, 2, 3], [3, 1, 2]}, {[4, 3, 2, 1], [2, 3, 4, 1], [2, 3, 1]}

{[1, 2, 3, 4], [2, 4, 3, 1], [1, 3, 2]}, {[4, 3, 2, 1], [3, 1, 2, 4], [3, 1, 2]},
 {[1, 2, 3, 4], [3, 2, 4, 1], [2, 1, 3]}, {[4, 3, 2, 1], [2, 3, 1, 4], [2, 3, 1]},
 {[4, 3, 2, 1], [1, 3, 4, 2], [2, 3, 1]}, {[4, 3, 2, 1], [1, 4, 2, 3], [3, 1, 2]},
 {[1, 2, 3, 4], [4, 1, 3, 2], [1, 3, 2]}, {[1, 2, 3, 4], [4, 2, 1, 3], [2, 1, 3]}

{[1, 4, 2, 3], [1, 2, 3], [3, 2, 1, 4]}, {[4, 1, 2, 3], [2, 4, 3, 1], [3, 2, 1]},
 {[4, 2, 1, 3], [2, 3, 4, 1], [3, 2, 1]}, {[1, 3, 4, 2], [1, 2, 3], [3, 2, 1, 4]},
 {[4, 1, 2, 3], [3, 2, 4, 1], [3, 2, 1]}, {[4, 1, 3, 2], [2, 3, 4, 1], [3, 2, 1]},
 {[2, 3, 1, 4], [1, 4, 3, 2], [1, 2, 3]}, {[1, 4, 3, 2], [1, 2, 3], [3, 1, 2, 4]}

{[1, 3, 2, 4], [1, 2, 3], [3, 2, 1, 4]}, {[1, 3, 2, 4], [1, 4, 3, 2], [1, 2, 3]},

$\{[4, 2, 3, 1], [2, 3, 4, 1], [3, 2, 1]\}, \{[4, 1, 2, 3], [4, 2, 3, 1], [3, 2, 1]\}$

$\{[2, 3, 1, 4], [2, 4, 3, 1], [1, 3, 2]\}, \{[3, 1, 2, 4], [3, 2, 4, 1], [3, 1, 2]\},$
 $\{[1, 4, 2, 3], [2, 4, 3, 1], [3, 1, 2]\}, \{[4, 1, 3, 2], [3, 1, 2, 4], [1, 3, 2]\},$
 $\{[4, 2, 1, 3], [2, 3, 1, 4], [2, 3, 1]\}, \{[4, 1, 3, 2], [1, 3, 4, 2], [2, 3, 1]\},$
 $\{[1, 3, 4, 2], [3, 2, 4, 1], [2, 1, 3]\}, \{[4, 2, 1, 3], [1, 4, 2, 3], [2, 1, 3]\}$

$\{[2, 1, 3, 4], [1, 3, 4, 2], [1, 3, 2]\}, \{[2, 1, 3, 4], [1, 4, 2, 3], [1, 3, 2]\},$
 $\{[4, 3, 1, 2], [2, 4, 3, 1], [2, 3, 1]\}, \{[4, 1, 3, 2], [3, 4, 2, 1], [3, 1, 2]\},$
 $\{[4, 2, 1, 3], [3, 4, 2, 1], [3, 1, 2]\}, \{[4, 3, 1, 2], [3, 2, 4, 1], [2, 3, 1]\},$
 $\{[1, 2, 4, 3], [3, 1, 2, 4], [2, 1, 3]\}, \{[2, 3, 1, 4], [1, 2, 4, 3], [2, 1, 3]\}$

$\{[3, 1, 2, 4], [3, 1, 4, 2], [2, 3, 1]\}, \{[2, 4, 1, 3], [2, 4, 3, 1], [2, 1, 3]\},$
 $\{[2, 3, 1, 4], [2, 4, 1, 3], [3, 1, 2]\}, \{[1, 3, 4, 2], [3, 1, 4, 2], [3, 1, 2]\},$
 $\{[4, 2, 1, 3], [2, 4, 1, 3], [1, 3, 2]\}, \{[4, 1, 3, 2], [3, 1, 4, 2], [2, 1, 3]\},$
 $\{[2, 4, 1, 3], [1, 4, 2, 3], [2, 3, 1]\}, \{[3, 1, 4, 2], [3, 2, 4, 1], [1, 3, 2]\}$

$\{[3, 1, 2, 4], [2, 4, 3, 1], [2, 1, 3]\}, \{[1, 4, 2, 3], [3, 2, 4, 1], [2, 3, 1]\},$
 $\{[1, 4, 2, 3], [3, 2, 4, 1], [1, 3, 2]\}, \{[4, 1, 3, 2], [2, 3, 1, 4], [2, 1, 3]\},$
 $\{[4, 1, 3, 2], [2, 3, 1, 4], [3, 1, 2]\}, \{[4, 2, 1, 3], [1, 3, 4, 2], [1, 3, 2]\},$
 $\{[4, 2, 1, 3], [1, 3, 4, 2], [3, 1, 2]\}, \{[3, 1, 2, 4], [2, 4, 3, 1], [2, 3, 1]\}$

$\{[4, 3, 1, 2], [3, 1, 4, 2], [2, 3, 1]\}, \{[2, 4, 1, 3], [4, 3, 1, 2], [2, 3, 1]\},$
 $\{[3, 1, 4, 2], [3, 4, 2, 1], [3, 1, 2]\}, \{[1, 2, 4, 3], [3, 1, 4, 2], [2, 1, 3]\},$
 $\{[2, 1, 3, 4], [3, 1, 4, 2], [1, 3, 2]\}, \{[2, 4, 1, 3], [2, 1, 3, 4], [1, 3, 2]\},$
 $\{[2, 4, 1, 3], [3, 4, 2, 1], [3, 1, 2]\}, \{[2, 4, 1, 3], [1, 2, 4, 3], [2, 1, 3]\}$

$\{[4, 2, 3, 1], [3, 4, 2, 1], [3, 1, 2]\}, \{[2, 1, 3, 4], [1, 3, 2, 4], [1, 3, 2]\},$
 $\{[1, 2, 4, 3], [1, 3, 2, 4], [2, 1, 3]\}, \{[4, 2, 3, 1], [4, 3, 1, 2], [2, 3, 1]\}$

$\{[4, 1, 2, 3], [1, 3, 4, 2], [3, 1, 2]\}, \{[3, 2, 1, 4], [2, 4, 3, 1], [2, 1, 3]\},$
 $\{[1, 4, 2, 3], [2, 3, 4, 1], [2, 3, 1]\}, \{[1, 4, 3, 2], [3, 2, 4, 1], [1, 3, 2]\},$
 $\{[3, 1, 2, 4], [2, 3, 4, 1], [2, 3, 1]\}, \{[4, 1, 3, 2], [3, 2, 1, 4], [2, 1, 3]\},$
 $\{[4, 1, 2, 3], [2, 3, 1, 4], [3, 1, 2]\}, \{[4, 2, 1, 3], [1, 4, 3, 2], [1, 3, 2]\}$

$\{[1, 3, 2, 4], [3, 1, 2, 4], [1, 3, 2]\}, \{[1, 3, 2, 4], [1, 3, 4, 2], [2, 1, 3]\},$
 $\{[1, 3, 2, 4], [1, 4, 2, 3], [2, 1, 3]\}, \{[4, 1, 3, 2], [4, 2, 3, 1], [2, 3, 1]\},$
 $\{[4, 2, 3, 1], [3, 2, 4, 1], [3, 1, 2]\}, \{[4, 2, 3, 1], [2, 4, 3, 1], [3, 1, 2]\},$
 $\{[4, 2, 1, 3], [4, 2, 3, 1], [2, 3, 1]\}, \{[2, 3, 1, 4], [1, 3, 2, 4], [1, 3, 2]\}$

$\{[4, 1, 2, 3], [1, 4, 3, 2], [1, 3, 2]\}, \{[4, 1, 2, 3], [1, 4, 3, 2], [3, 1, 2]\},$
 $\{[4, 1, 2, 3], [3, 2, 1, 4], [2, 1, 3]\}, \{[1, 4, 3, 2], [2, 3, 4, 1], [1, 3, 2]\},$
 $\{[1, 4, 3, 2], [2, 3, 4, 1], [2, 3, 1]\}, \{[3, 2, 1, 4], [2, 3, 4, 1], [2, 3, 1]\},$
 $\{[4, 1, 2, 3], [3, 2, 1, 4], [3, 1, 2]\}, \{[3, 2, 1, 4], [2, 3, 4, 1], [2, 1, 3]\}$

$\{[1, 2, 3, 4], [3, 1, 2, 4], [2, 1, 3]\}, \{[1, 2, 3, 4], [2, 3, 1, 4], [2, 1, 3]\},$
 $\{[4, 3, 2, 1], [2, 4, 3, 1], [2, 3, 1]\}, \{[1, 2, 3, 4], [1, 3, 4, 2], [1, 3, 2]\},$

$\{[1, 2, 3, 4], [1, 4, 2, 3], [1, 3, 2]\}, \{[4, 3, 2, 1], [4, 1, 3, 2], [3, 1, 2]\},$
 $\{[4, 3, 2, 1], [3, 2, 4, 1], [2, 3, 1]\}, \{[4, 3, 2, 1], [4, 2, 1, 3], [3, 1, 2]\}$

$\{[2, 1, 3, 4], [2, 3, 4, 1], [2, 1, 3]\}, \{[4, 3, 1, 2], [3, 2, 1, 4], [3, 1, 2]\},$
 $\{[3, 2, 1, 4], [3, 4, 2, 1], [2, 3, 1]\}, \{[1, 2, 4, 3], [2, 3, 4, 1], [1, 3, 2]\},$
 $\{[4, 1, 2, 3], [2, 1, 3, 4], [2, 1, 3]\}, \{[1, 4, 3, 2], [3, 4, 2, 1], [2, 3, 1]\},$
 $\{[4, 1, 2, 3], [1, 2, 4, 3], [1, 3, 2]\}, \{[1, 4, 3, 2], [4, 3, 1, 2], [3, 1, 2]\}$

$\{[2, 1, 4, 3], [1, 2, 4, 3], [2, 1, 3]\}, \{[3, 4, 1, 2], [3, 4, 2, 1], [3, 1, 2]\},$
 $\{[4, 3, 1, 2], [3, 4, 1, 2], [2, 3, 1]\}, \{[2, 1, 3, 4], [2, 1, 4, 3], [1, 3, 2]\}$

$\{[1, 4, 3, 2], [3, 4, 1, 2], [2, 3, 1]\}, \{[1, 4, 3, 2], [3, 4, 1, 2], [3, 1, 2]\},$
 $\{[4, 1, 2, 3], [2, 1, 4, 3], [2, 1, 3]\}, \{[4, 1, 2, 3], [2, 1, 4, 3], [1, 3, 2]\},$
 $\{[2, 1, 4, 3], [2, 3, 4, 1], [2, 1, 3]\}, \{[2, 1, 4, 3], [2, 3, 4, 1], [1, 3, 2]\},$
 $\{[3, 2, 1, 4], [3, 4, 1, 2], [2, 3, 1]\}, \{[3, 2, 1, 4], [3, 4, 1, 2], [3, 1, 2]\}$

$\{[4, 3, 2, 1], [2, 3, 4, 1], [3, 2, 1]\}, \{[1, 2, 3, 4], [1, 4, 3, 2], [1, 2, 3]\},$
 $\{[1, 2, 3, 4], [1, 2, 3], [3, 2, 1, 4]\}, \{[4, 3, 2, 1], [4, 1, 2, 3], [3, 2, 1]\}$

$\{[2, 3, 1, 4], [2, 4, 3, 1], [2, 1, 3]\}, \{[3, 1, 2, 4], [3, 2, 4, 1], [2, 3, 1]\},$
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$\{[4, 3, 1, 2], [2, 3, 4, 1], [3, 2, 1]\}, \{[2, 1, 3, 4], [1, 4, 3, 2], [1, 2, 3]\},$
 $\{[1, 2, 4, 3], [1, 2, 3], [3, 2, 1, 4]\}, \{[4, 1, 2, 3], [3, 4, 2, 1], [3, 2, 1]\}$

$\{[2, 4, 3, 1], [2, 3, 4, 1], [1, 3, 2]\}, \{[3, 1, 2, 4], [3, 2, 1, 4], [3, 1, 2]\},$
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 $\{[2, 3, 1, 4], [3, 2, 1, 4], [2, 3, 1]\}, \{[1, 3, 4, 2], [1, 4, 3, 2], [2, 3, 1]\}$

$\{[1, 4, 2, 3], [3, 2, 4, 1], [3, 1, 2]\}, \{[1, 4, 2, 3], [3, 2, 4, 1], [2, 1, 3]\},$
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$\{[3, 1, 2, 4], [3, 1, 4, 2], [1, 3, 2]\}, \{[1, 3, 4, 2], [3, 1, 4, 2], [2, 1, 3]\},$
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{[1, 4, 2, 3], [3, 2, 1, 4], [2, 1, 3]}, {[4, 1, 2, 3], [2, 4, 3, 1], [3, 1, 2]},
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$\{[4, 3, 2, 1], [4, 2, 3, 1], [2, 3, 1]\}, \{[4, 3, 2, 1], [4, 2, 3, 1], [3, 1, 2]\}$

$\{[1, 3, 4, 2], [3, 1, 2, 4], [2, 3, 1]\}, \{[1, 3, 4, 2], [3, 1, 2, 4], [3, 1, 2]\},$
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$\{[4, 1, 2, 3], [3, 1, 4, 2], [1, 3, 2]\}, \{[1, 4, 3, 2], [3, 1, 4, 2], [2, 3, 1]\},$
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$\{[4, 1, 2, 3], [1, 3, 4, 2], [1, 3, 2]\}, \{[3, 2, 1, 4], [2, 4, 3, 1], [2, 3, 1]\},$
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$\{[1, 3, 2, 4], [2, 3, 4, 1], [1, 3, 2]\}, \{[1, 3, 2, 4], [2, 3, 4, 1], [2, 1, 3]\},$
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$\{[1, 3, 2, 4], [3, 2, 4, 1], [1, 3, 2]\}, \{[4, 2, 3, 1], [2, 3, 1, 4], [3, 1, 2]\},$
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$\{[2, 4, 1, 3], [3, 1, 2, 4], [2, 3, 1]\}, \{[4, 1, 3, 2], [2, 4, 1, 3], [2, 1, 3]\},$
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$\{[4, 3, 2, 1], [3, 4, 2, 1], [2, 3, 1]\}, \{[1, 2, 3, 4], [2, 1, 3, 4], [2, 1, 3]\},$
 $\{[1, 2, 3, 4], [1, 2, 4, 3], [1, 3, 2]\}, \{[4, 3, 2, 1], [4, 3, 1, 2], [3, 1, 2]\}$

$\{[1, 2, 3, 4], [3, 1, 4, 2], [1, 3, 2]\}, \{[1, 2, 3, 4], [3, 1, 4, 2], [2, 1, 3]\},$
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$\{[2, 3, 1, 4], [4, 3, 1, 2], [2, 3, 1]\}, \{[1, 4, 2, 3], [3, 4, 2, 1], [3, 1, 2]\},$
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$\{[1, 4, 2, 3], [3, 4, 1, 2], [2, 3, 1]\}, \{[3, 1, 2, 4], [3, 4, 1, 2], [2, 3, 1]\},$
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{[2, 3, 1, 4], [3, 4, 1, 2], [3, 1, 2]}, {[1, 3, 4, 2], [3, 4, 1, 2], [3, 1, 2]},
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{[2, 4, 1, 3], [3, 1, 2, 4], [1, 3, 2]}, {[4, 1, 3, 2], [2, 4, 1, 3], [2, 3, 1]},
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{[4, 1, 3, 2], [2, 4, 3, 1], [2, 3, 1]}, {[4, 1, 3, 2], [2, 4, 3, 1], [3, 1, 2]},
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 {[1, 4, 2, 3], [3, 1, 2, 4], [2, 1, 3]}, {[1, 4, 2, 3], [3, 1, 2, 4], [1, 3, 2]}

GENERATING FUNCTION: $-\frac{x(3x^2-3x+1)}{(x-1)(2x-1)^2}$

sequence to 30 terms: 1, 2, 5, 13, 33, 81, 193, 449, 1025, 2305, 5121, 11265, 24577, 53249, 114689,
 245761, 524289, 1114113, 2359297, 4980737, 10485761, 22020097, 46137345, 96468993, 201326593,
 419430401, 872415233, 1811939329, 3758096385, 7784628225

(A005183: $n * 2^{(n-1)} + 1$)

RECURRENCE: $\frac{2(2+n)}{1+n} - \frac{(5+3n)N}{1+n} + N^2$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.9996728378} 2.001284628^n$

THERE ARE 10 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[4, 3, 1, 2], [3, 1, 4, 2], [2, 1, 3]}, {[2, 4, 1, 3], [4, 3, 1, 2], [1, 3, 2]},
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{[2, 1, 3, 4], [3, 2, 4, 1], [2, 3, 1]}, {[1, 2, 4, 3], [2, 4, 3, 1], [2, 3, 1]},
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{[2, 1, 3, 4], [1, 3, 4, 2], [2, 3, 1]}, {[2, 1, 3, 4], [1, 4, 2, 3], [3, 1, 2]},
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{[4, 3, 1, 2], [3, 2, 1, 4], [2, 1, 3]}, {[2, 1, 3, 4], [2, 3, 4, 1], [2, 3, 1]},
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 {[1, 4, 3, 2], [4, 3, 1, 2], [1, 3, 2]}, {[4, 1, 2, 3], [1, 2, 4, 3], [3, 1, 2]}

{[4, 3, 1, 2], [3, 1, 4, 2], [1, 3, 2]}, {[2, 4, 1, 3], [4, 3, 1, 2], [2, 1, 3]},
 {[2, 4, 1, 3], [1, 2, 4, 3], [3, 1, 2]}, {[3, 1, 4, 2], [3, 4, 2, 1], [2, 1, 3]},
 {[1, 2, 4, 3], [3, 1, 4, 2], [2, 3, 1]}, {[2, 1, 3, 4], [3, 1, 4, 2], [3, 1, 2]},
 {[2, 4, 1, 3], [2, 1, 3, 4], [2, 3, 1]}, {[2, 4, 1, 3], [3, 4, 2, 1], [1, 3, 2]}

{[2, 3, 1, 4], [4, 3, 1, 2], [2, 1, 3]}, {[1, 4, 2, 3], [3, 4, 2, 1], [1, 3, 2]},
 {[2, 1, 3, 4], [2, 4, 3, 1], [2, 3, 1]}, {[3, 1, 2, 4], [3, 4, 2, 1], [2, 1, 3]},
 {[4, 1, 3, 2], [2, 1, 3, 4], [3, 1, 2]}, {[4, 2, 1, 3], [1, 2, 4, 3], [3, 1, 2]},
 {[1, 2, 4, 3], [3, 2, 4, 1], [2, 3, 1]}, {[1, 3, 4, 2], [4, 3, 1, 2], [1, 3, 2]}

{[1, 3, 2, 4], [3, 4, 2, 1], [1, 3, 2]}, {[1, 3, 2, 4], [3, 4, 2, 1], [2, 1, 3]},
 {[4, 2, 3, 1], [2, 1, 3, 4], [2, 3, 1]}, {[4, 2, 3, 1], [2, 1, 3, 4], [3, 1, 2]},
 {[1, 3, 2, 4], [4, 3, 1, 2], [2, 1, 3]}, {[1, 3, 2, 4], [4, 3, 1, 2], [1, 3, 2]},
 {[4, 2, 3, 1], [1, 2, 4, 3], [2, 3, 1]}, {[4, 2, 3, 1], [1, 2, 4, 3], [3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x^2+x^3+1-x)}{(x-1)^2(x^3+x^2+x-1)}$
 sequence to 30 terms: 1, 2, 5, 12, 25, 50, 97, 184, 345, 642, 1189, 2196, 4049, 7458, 13729, 25264,
 46481, 85506, 157285, 289308, 532137, 978770, 1800257, 3311208, 6090281, 11201794, 20603333,
 37895460, 69700641, 128199490

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{2+n}{1+n} + \frac{N}{1+n} + \frac{N^2}{1+n} - \frac{(3+2n)N^3}{1+n} + N^4$

ASYMPTOTIC EXPANSION: (no result)

ZINN: $a(n)$ asymptotic to $n^{0.2414480984e-5} 1.839286270^n$

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 1, 2, 3], [1, 4, 3, 2], [2, 3, 1]}, {[4, 1, 2, 3], [1, 4, 3, 2], [2, 1, 3]},
 {[4, 1, 2, 3], [3, 2, 1, 4], [2, 3, 1]}, {[1, 4, 3, 2], [2, 3, 4, 1], [3, 1, 2]},
 {[1, 4, 3, 2], [2, 3, 4, 1], [2, 1, 3]}, {[4, 1, 2, 3], [3, 2, 1, 4], [1, 3, 2]},
 {[3, 2, 1, 4], [2, 3, 4, 1], [1, 3, 2]}, {[3, 2, 1, 4], [2, 3, 4, 1], [3, 1, 2]}

GENERATING FUNCTION: $x(x+1)(9x^4+8x^3+4x^2+x+1)$ sequence to 30 terms: 1, 2, 5, 12, 17,
 9, 0

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[4, 3, 2, 1], [1, 2, 3], [3, 4, 2, 1]}, {[1, 2, 3, 4], [2, 1, 3, 4], [3, 2, 1]},
 {[1, 2, 3, 4], [1, 2, 4, 3], [3, 2, 1]}, {[4, 3, 2, 1], [1, 2, 3], [4, 3, 1, 2]}

{[4, 3, 2, 1], [2, 1, 4, 3], [1, 2, 3]}, {[1, 2, 3, 4], [3, 4, 1, 2], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{(2x^3+2x^2-x+1)x}{(x-1)^3}$

sequence to 30 terms: 1, 2, 5, 12, 23, 38, 57, 80, 107, 138, 173, 212, 255, 302, 353, 408, 467, 530, 597, 668, 743, 822, 905, 992, 1083, 1178, 1277, 1380, 1487, 1598

(not in online encyclopedia of integer sequences)

RECURRENCE: $\frac{19(-1+n)}{-23+7n} - \frac{2(-33+13n)N}{-23+7n} + N^2$

ASYMPTOTIC EXPANSION: $(\frac{19}{7})^n n^{(2/7)} (1 - \frac{179}{98n} - \frac{127985}{28812n^2})$

ZINN: $a(n)$ asymptotic to $n^{2.007225668} 1.001253297^n$

THERE ARE 5 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [4, 3, 1, 2], [2, 3, 1]\}$, $\{[4, 3, 2, 1], [2, 1, 3, 4], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [2, 1, 3]\}$, $\{[1, 2, 3, 4], [3, 4, 2, 1], [3, 1, 2]\}$

$\{[1, 2, 3, 4], [1, 4, 3, 2], [3, 1, 2]\}$, $\{[1, 2, 3, 4], [1, 4, 3, 2], [2, 3, 1]\}$,
 $\{[1, 2, 3, 4], [3, 2, 1, 4], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [3, 2, 1, 4], [3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [4, 1, 2, 3], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [4, 1, 2, 3], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [2, 3, 4, 1], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 3, 4, 1], [1, 3, 2]\}$

$\{[1, 2, 3, 4], [2, 4, 3, 1], [3, 1, 2]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4], [1, 3, 2]\}$,
 $\{[1, 2, 3, 4], [3, 2, 4, 1], [3, 1, 2]\}$, $\{[4, 3, 2, 1], [2, 3, 1, 4], [1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [4, 1, 3, 2], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [4, 2, 1, 3], [2, 3, 1]\}$

$\{[1, 2, 3, 4], [2, 1, 4, 3], [2, 3, 1]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3], [3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [3, 4, 1, 2], [2, 1, 3]\}$, $\{[4, 3, 2, 1], [3, 4, 1, 2], [1, 3, 2]\}$

$\{[2, 3, 1, 4], [2, 1, 3, 4], [3, 2, 1]\}$, $\{[1, 2, 3], [3, 2, 4, 1], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [1, 4, 2, 3], [3, 2, 1]\}$, $\{[1, 2, 3], [3, 4, 2, 1], [2, 4, 3, 1]\}$,
 $\{[2, 1, 3, 4], [3, 1, 2, 4], [3, 2, 1]\}$, $\{[4, 2, 1, 3], [1, 2, 3], [4, 3, 1, 2]\}$,
 $\{[4, 1, 3, 2], [1, 2, 3], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [1, 3, 4, 2], [3, 2, 1]\}$

GENERATING FUNCTION: $x(1 + 2x + 25x^4 + 5x^2 + 13x^3 + 25x^5)$

sequence to 30 terms: 1, 2, 5, 13, 25, 25, 0

(not in online encyclopedia of integer sequences)

RECURRENCE: (no result)

THERE ARE 4 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [4, 3, 1, 2], [3, 2, 1]\}$, $\{[4, 3, 2, 1], [2, 1, 3, 4], [1, 2, 3]\}$,
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [1, 2, 3]\}$, $\{[1, 2, 3, 4], [3, 4, 2, 1], [3, 2, 1]\}$

$\{[1, 2, 3, 4], [2, 4, 3, 1], [3, 2, 1]\}$, $\{[4, 3, 2, 1], [1, 2, 3], [3, 1, 2, 4]\}$,
 $\{[1, 2, 3, 4], [3, 2, 4, 1], [3, 2, 1]\}$, $\{[4, 3, 2, 1], [2, 3, 1, 4], [1, 2, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [1, 2, 3]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [1, 2, 3]\}$,
 $\{[1, 2, 3, 4], [4, 1, 3, 2], [3, 2, 1]\}$, $\{[1, 2, 3, 4], [4, 2, 1, 3], [3, 2, 1]\}$

$\{[1, 2, 3, 4], [4, 2, 3, 1], [3, 2, 1]\}$, $\{[4, 3, 2, 1], [1, 3, 2, 4], [1, 2, 3]\}$

$\{[1, 2, 3, 4], [1, 4, 3, 2], [3, 2, 1]\}$, $\{[1, 2, 3, 4], [3, 2, 1, 4], [3, 2, 1]\}$,
 $\{[4, 3, 2, 1], [4, 1, 2, 3], [1, 2, 3]\}$, $\{[4, 3, 2, 1], [1, 2, 3], [2, 3, 4, 1]\}$

SYMMETRY CLASSES WITH NO GENERATING FUNCTION FROM FINLABEL (THERE ARE 89):

$\{[1, 3, 2, 4], [3, 4, 2, 1], [3, 2, 1]\}, \{[4, 2, 3, 1], [2, 1, 3, 4], [1, 2, 3]\},$
 $\{[1, 3, 2, 4], [4, 3, 1, 2], [3, 2, 1]\}, \{[4, 2, 3, 1], [1, 2, 4, 3], [1, 2, 3]\}$

$\{[2, 4, 1, 3], [1, 2, 3], [3, 1, 4, 2]\}, \{[2, 4, 1, 3], [3, 1, 4, 2], [3, 2, 1]\}$

$\{[1, 4, 2, 3], [1, 2, 3], [3, 4, 1, 2]\}, \{[1, 2, 3], [3, 1, 2, 4], [3, 4, 1, 2]\},$
 $\{[2, 3, 1, 4], [1, 2, 3], [3, 4, 1, 2]\}, \{[4, 2, 1, 3], [2, 1, 4, 3], [3, 2, 1]\},$
 $\{[1, 3, 4, 2], [1, 2, 3], [3, 4, 1, 2]\}, \{[2, 1, 4, 3], [3, 2, 4, 1], [3, 2, 1]\},$
 $\{[4, 1, 3, 2], [2, 1, 4, 3], [3, 2, 1]\}, \{[2, 1, 4, 3], [2, 4, 3, 1], [3, 2, 1]\}$

$\{[4, 3, 2, 1], [1, 3, 2, 4], [3, 2, 1]\}, \{[1, 2, 3, 4], [4, 2, 3, 1], [1, 2, 3]\}$

$\{[3, 4, 1, 2], [2, 3, 4, 1], [2, 3, 1]\}, \{[4, 1, 2, 3], [3, 4, 1, 2], [3, 1, 2]\},$
 $\{[2, 1, 4, 3], [1, 4, 3, 2], [1, 3, 2]\}, \{[2, 1, 4, 3], [3, 2, 1, 4], [2, 1, 3]\}$

$\{[1, 3, 2, 4], [3, 4, 1, 2], [2, 3, 1]\}, \{[1, 3, 2, 4], [3, 4, 1, 2], [3, 1, 2]\},$
 $\{[4, 2, 3, 1], [2, 1, 4, 3], [2, 1, 3]\}, \{[4, 2, 3, 1], [2, 1, 4, 3], [1, 3, 2]\}$

$\{[2, 3, 1, 4], [2, 1, 3, 4], [2, 1, 3]\}, \{[4, 1, 3, 2], [4, 3, 1, 2], [3, 1, 2]\},$
 $\{[3, 2, 4, 1], [3, 4, 2, 1], [2, 3, 1]\}, \{[1, 2, 4, 3], [1, 4, 2, 3], [1, 3, 2]\},$
 $\{[3, 4, 2, 1], [2, 4, 3, 1], [2, 3, 1]\}, \{[2, 1, 3, 4], [3, 1, 2, 4], [2, 1, 3]\},$
 $\{[4, 2, 1, 3], [4, 3, 1, 2], [3, 1, 2]\}, \{[1, 2, 4, 3], [1, 3, 4, 2], [1, 3, 2]\}$

$\{[4, 2, 3, 1], [1, 2, 3], [3, 4, 1, 2]\}, \{[2, 1, 4, 3], [1, 3, 2, 4], [3, 2, 1]\}$

$\{[1, 2, 3, 4], [1, 3, 2, 4], [1, 2, 3]\}, \{[4, 3, 2, 1], [4, 2, 3, 1], [3, 2, 1]\}$

$\{[2, 3, 1, 4], [2, 4, 3, 1], [2, 3, 1]\}, \{[3, 1, 2, 4], [3, 2, 4, 1], [2, 1, 3]\},$
 $\{[1, 4, 2, 3], [2, 4, 3, 1], [1, 3, 2]\}, \{[4, 1, 3, 2], [3, 1, 2, 4], [3, 1, 2]\},$
 $\{[4, 2, 1, 3], [2, 3, 1, 4], [2, 1, 3]\}, \{[4, 1, 3, 2], [1, 3, 4, 2], [1, 3, 2]\},$
 $\{[1, 3, 4, 2], [3, 2, 4, 1], [2, 3, 1]\}, \{[4, 2, 1, 3], [1, 4, 2, 3], [3, 1, 2]\}$

$\{[2, 4, 1, 3], [3, 1, 4, 2], [2, 3, 1]\}, \{[2, 4, 1, 3], [3, 1, 4, 2], [2, 1, 3]\},$
 $\{[2, 4, 1, 3], [3, 1, 4, 2], [1, 3, 2]\}, \{[2, 4, 1, 3], [3, 1, 4, 2], [3, 1, 2]\}$

$\{[2, 1, 4, 3], [3, 1, 4, 2], [3, 2, 1]\}, \{[2, 4, 1, 3], [1, 2, 3], [3, 4, 1, 2]\},$
 $\{[2, 4, 1, 3], [2, 1, 4, 3], [3, 2, 1]\}, \{[1, 2, 3], [3, 1, 4, 2], [3, 4, 1, 2]\}$

$\{[1, 3, 2, 4], [1, 2, 3], [3, 4, 1, 2]\}, \{[4, 2, 3, 1], [2, 1, 4, 3], [3, 2, 1]\}$

$\{[1, 3, 2, 4], [3, 2, 4, 1], [3, 2, 1]\}, \{[4, 2, 3, 1], [2, 3, 1, 4], [1, 2, 3]\},$
 $\{[1, 3, 2, 4], [2, 4, 3, 1], [3, 2, 1]\}, \{[4, 2, 3, 1], [1, 2, 3], [3, 1, 2, 4]\},$
 $\{[4, 1, 3, 2], [1, 3, 2, 4], [3, 2, 1]\}, \{[4, 2, 1, 3], [1, 3, 2, 4], [3, 2, 1]\},$
 $\{[4, 2, 3, 1], [1, 4, 2, 3], [1, 2, 3]\}, \{[4, 2, 3, 1], [1, 3, 4, 2], [1, 2, 3]\}$

$\{[4, 1, 2, 3], [3, 1, 2, 4], [3, 1, 2]\}, \{[4, 1, 2, 3], [1, 4, 2, 3], [3, 1, 2]\},$
 $\{[4, 1, 3, 2], [1, 4, 3, 2], [1, 3, 2]\}, \{[1, 4, 3, 2], [2, 4, 3, 1], [1, 3, 2]\},$

$\{[1, 3, 4, 2], [2, 3, 4, 1], [2, 3, 1]\}, \{[4, 2, 1, 3], [3, 2, 1, 4], [2, 1, 3]\},$
 $\{[2, 3, 1, 4], [2, 3, 4, 1], [2, 3, 1]\}, \{[3, 2, 1, 4], [3, 2, 4, 1], [2, 1, 3]\}$

$\{[1, 3, 2, 4], [2, 3, 4, 1], [2, 3, 1]\}, \{[4, 2, 3, 1], [3, 2, 1, 4], [2, 1, 3]\},$
 $\{[4, 2, 3, 1], [1, 4, 3, 2], [1, 3, 2]\}, \{[4, 1, 2, 3], [1, 3, 2, 4], [3, 1, 2]\}$

$\{[4, 2, 3, 1], [3, 4, 1, 2], [2, 3, 1]\}, \{[4, 2, 3, 1], [3, 4, 1, 2], [3, 1, 2]\},$
 $\{[2, 1, 4, 3], [1, 3, 2, 4], [2, 1, 3]\}, \{[2, 1, 4, 3], [1, 3, 2, 4], [1, 3, 2]\}$

$\{[3, 1, 2, 4], [3, 1, 4, 2], [2, 1, 3]\}, \{[2, 4, 1, 3], [2, 4, 3, 1], [2, 3, 1]\},$
 $\{[1, 3, 4, 2], [3, 1, 4, 2], [1, 3, 2]\}, \{[2, 3, 1, 4], [2, 4, 1, 3], [2, 1, 3]\},$
 $\{[4, 2, 1, 3], [2, 4, 1, 3], [3, 1, 2]\}, \{[4, 1, 3, 2], [3, 1, 4, 2], [3, 1, 2]\},$
 $\{[2, 4, 1, 3], [1, 4, 2, 3], [1, 3, 2]\}, \{[3, 1, 4, 2], [3, 2, 4, 1], [2, 3, 1]\}$

$\{[1, 2, 3], [3, 1, 2, 4], [3, 1, 4, 2]\}, \{[2, 4, 1, 3], [2, 4, 3, 1], [3, 2, 1]\},$
 $\{[2, 3, 1, 4], [2, 4, 1, 3], [1, 2, 3]\}, \{[4, 2, 1, 3], [2, 4, 1, 3], [3, 2, 1]\},$
 $\{[4, 1, 3, 2], [3, 1, 4, 2], [3, 2, 1]\}, \{[2, 4, 1, 3], [1, 4, 2, 3], [1, 2, 3]\},$
 $\{[1, 3, 4, 2], [1, 2, 3], [3, 1, 4, 2]\}, \{[3, 1, 4, 2], [3, 2, 4, 1], [3, 2, 1]\}$

$\{[1, 3, 2, 4], [3, 1, 4, 2], [3, 2, 1]\}, \{[4, 2, 3, 1], [2, 4, 1, 3], [1, 2, 3]\},$
 $\{[4, 2, 3, 1], [1, 2, 3], [3, 1, 4, 2]\}, \{[2, 4, 1, 3], [1, 3, 2, 4], [3, 2, 1]\}$

$\{[1, 2, 3], [3, 4, 1, 2], [2, 3, 4, 1]\}, \{[4, 1, 2, 3], [1, 2, 3], [3, 4, 1, 2]\},$
 $\{[2, 1, 4, 3], [1, 4, 3, 2], [3, 2, 1]\}, \{[2, 1, 4, 3], [3, 2, 1, 4], [3, 2, 1]\}$

$\{[4, 1, 2, 3], [1, 4, 2, 3], [1, 2, 3]\}, \{[4, 1, 2, 3], [1, 2, 3], [3, 1, 2, 4]\},$
 $\{[4, 1, 3, 2], [1, 4, 3, 2], [3, 2, 1]\}, \{[1, 4, 3, 2], [2, 4, 3, 1], [3, 2, 1]\},$
 $\{[1, 3, 4, 2], [1, 2, 3], [2, 3, 4, 1]\}, \{[4, 2, 1, 3], [3, 2, 1, 4], [3, 2, 1]\},$
 $\{[2, 3, 1, 4], [1, 2, 3], [2, 3, 4, 1]\}, \{[3, 2, 1, 4], [3, 2, 4, 1], [3, 2, 1]\}$

$\{[1, 2, 3, 4], [2, 1, 4, 3], [1, 2, 3]\}, \{[4, 3, 2, 1], [3, 4, 1, 2], [3, 2, 1]\}$

$\{[1, 3, 2, 4], [1, 2, 3], [3, 1, 2, 4]\}, \{[1, 3, 2, 4], [1, 3, 4, 2], [1, 2, 3]\},$
 $\{[1, 3, 2, 4], [1, 4, 2, 3], [1, 2, 3]\}, \{[4, 1, 3, 2], [4, 2, 3, 1], [3, 2, 1]\},$
 $\{[4, 2, 3, 1], [3, 2, 4, 1], [3, 2, 1]\}, \{[4, 2, 3, 1], [2, 4, 3, 1], [3, 2, 1]\},$
 $\{[4, 2, 1, 3], [4, 2, 3, 1], [3, 2, 1]\}, \{[2, 3, 1, 4], [1, 3, 2, 4], [1, 2, 3]\}$

$\{[3, 4, 1, 2], [2, 4, 3, 1], [2, 3, 1]\}, \{[2, 3, 1, 4], [2, 1, 4, 3], [2, 1, 3]\},$
 $\{[3, 2, 4, 1], [3, 4, 1, 2], [2, 3, 1]\}, \{[4, 1, 3, 2], [3, 4, 1, 2], [3, 1, 2]\},$
 $\{[2, 1, 4, 3], [1, 3, 4, 2], [1, 3, 2]\}, \{[2, 1, 4, 3], [1, 4, 2, 3], [1, 3, 2]\},$
 $\{[4, 2, 1, 3], [3, 4, 1, 2], [3, 1, 2]\}, \{[2, 1, 4, 3], [3, 1, 2, 4], [2, 1, 3]\}$

$\{[2, 3, 1, 4], [1, 3, 4, 2], [1, 2, 3]\}, \{[4, 1, 3, 2], [2, 4, 3, 1], [3, 2, 1]\},$
 $\{[4, 2, 1, 3], [3, 2, 4, 1], [3, 2, 1]\}, \{[1, 4, 2, 3], [1, 2, 3], [3, 1, 2, 4]\}$

$\{[2, 1, 4, 3], [1, 3, 2, 4], [1, 2, 3]\}, \{[4, 2, 3, 1], [3, 4, 1, 2], [3, 2, 1]\}$

$\{[2, 1, 4, 3], [3, 1, 2, 4], [3, 1, 2]\}, \{[2, 3, 1, 4], [2, 1, 4, 3], [2, 3, 1]\},$
 $\{[3, 4, 1, 2], [2, 4, 3, 1], [1, 3, 2]\}, \{[4, 1, 3, 2], [3, 4, 1, 2], [1, 3, 2]\},$
 $\{[2, 1, 4, 3], [1, 3, 4, 2], [2, 3, 1]\}, \{[2, 1, 4, 3], [1, 4, 2, 3], [3, 1, 2]\},$
 $\{[4, 2, 1, 3], [3, 4, 1, 2], [2, 1, 3]\}, \{[3, 2, 4, 1], [3, 4, 1, 2], [2, 1, 3]\}$

$\{[4, 1, 3, 2], [2, 4, 3, 1], [1, 3, 2]\}, \{[2, 3, 1, 4], [1, 3, 4, 2], [2, 3, 1]\},$
 $\{[4, 2, 1, 3], [3, 2, 4, 1], [2, 1, 3]\}, \{[1, 4, 2, 3], [3, 1, 2, 4], [3, 1, 2]\}$

$\{[2, 4, 1, 3], [3, 1, 2, 4], [3, 1, 2]\}, \{[3, 1, 4, 2], [2, 4, 3, 1], [1, 3, 2]\},$
 $\{[2, 4, 1, 3], [1, 3, 4, 2], [2, 3, 1]\}, \{[2, 3, 1, 4], [3, 1, 4, 2], [2, 3, 1]\},$
 $\{[1, 4, 2, 3], [3, 1, 4, 2], [3, 1, 2]\}, \{[4, 2, 1, 3], [3, 1, 4, 2], [2, 1, 3]\},$
 $\{[4, 1, 3, 2], [2, 4, 1, 3], [1, 3, 2]\}, \{[2, 4, 1, 3], [3, 2, 4, 1], [2, 1, 3]\}$

$\{[1, 2, 3, 4], [2, 1, 3, 4], [1, 2, 3]\}, \{[4, 3, 2, 1], [3, 4, 2, 1], [3, 2, 1]\},$
 $\{[1, 2, 3, 4], [1, 2, 4, 3], [1, 2, 3]\}, \{[4, 3, 2, 1], [4, 3, 1, 2], [3, 2, 1]\}$

$\{[4, 3, 2, 1], [2, 1, 4, 3], [3, 2, 1]\}, \{[1, 2, 3, 4], [1, 2, 3], [3, 4, 1, 2]\}$

$\{[1, 4, 2, 3], [3, 4, 1, 2], [1, 3, 2]\}, \{[3, 1, 2, 4], [3, 4, 1, 2], [2, 1, 3]\},$
 $\{[2, 1, 4, 3], [2, 4, 3, 1], [2, 3, 1]\}, \{[4, 2, 1, 3], [2, 1, 4, 3], [3, 1, 2]\},$
 $\{[2, 3, 1, 4], [3, 4, 1, 2], [2, 1, 3]\}, \{[2, 1, 4, 3], [3, 2, 4, 1], [2, 3, 1]\},$
 $\{[4, 1, 3, 2], [2, 1, 4, 3], [3, 1, 2]\}, \{[1, 3, 4, 2], [3, 4, 1, 2], [1, 3, 2]\}$

$\{[1, 3, 2, 4], [3, 1, 2, 4], [3, 1, 2]\}, \{[1, 3, 2, 4], [1, 3, 4, 2], [2, 3, 1]\},$
 $\{[1, 3, 2, 4], [1, 4, 2, 3], [3, 1, 2]\}, \{[4, 1, 3, 2], [4, 2, 3, 1], [1, 3, 2]\},$
 $\{[4, 2, 3, 1], [3, 2, 4, 1], [2, 1, 3]\}, \{[4, 2, 3, 1], [2, 4, 3, 1], [1, 3, 2]\},$
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 $\{[2, 1, 4, 3], [1, 3, 4, 2], [1, 2, 3]\}, \{[4, 2, 1, 3], [3, 4, 1, 2], [3, 2, 1]\},$
 $\{[2, 1, 4, 3], [1, 2, 3], [3, 1, 2, 4]\}, \{[2, 1, 4, 3], [1, 4, 2, 3], [1, 2, 3]\}$

$\{[4, 1, 2, 3], [2, 1, 4, 3], [1, 2, 3]\}, \{[1, 4, 3, 2], [3, 4, 1, 2], [3, 2, 1]\},$
 $\{[3, 2, 1, 4], [3, 4, 1, 2], [3, 2, 1]\}, \{[2, 1, 4, 3], [1, 2, 3], [2, 3, 4, 1]\}$

$\{[4, 1, 2, 3], [3, 1, 4, 2], [3, 1, 2]\}, \{[1, 4, 3, 2], [3, 1, 4, 2], [1, 3, 2]\},$
 $\{[2, 4, 1, 3], [2, 3, 4, 1], [2, 3, 1]\}, \{[2, 4, 1, 3], [3, 2, 1, 4], [2, 1, 3]\},$
 $\{[3, 1, 4, 2], [3, 2, 1, 4], [2, 1, 3]\}, \{[2, 4, 1, 3], [1, 4, 3, 2], [1, 3, 2]\},$
 $\{[3, 1, 4, 2], [2, 3, 4, 1], [2, 3, 1]\}, \{[4, 1, 2, 3], [2, 4, 1, 3], [3, 1, 2]\}$

$\{[1, 3, 2, 4], [3, 2, 1, 4], [3, 2, 1]\}, \{[1, 3, 2, 4], [1, 4, 3, 2], [3, 2, 1]\},$
 $\{[4, 2, 3, 1], [1, 2, 3], [2, 3, 4, 1]\}, \{[4, 1, 2, 3], [4, 2, 3, 1], [1, 2, 3]\}$

summarizing results for [4,4,3] pattern sets

there are 268 symmetry classes in all.
179 of them can be counted by FINLABEL.
that's 67 %.

List: [4,4,4]

2024 sets

317 symmetry classes

(at least) 108 Wilf class

[4,4,4]-sets, arranged by common generating function

GENERATING FUNCTION: $-\frac{(x^4-5x^3+9x^2-5x+1)x}{(x^5-7x^4+18x^3-17x^2+7x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 263, 904, 3066, 10324, 34652, 116179, 389443, 1305592, 4377595, 14679474, 49227937, 165091510, 553658600, 1856778673, 6226985606, 20883103968, 70034469898, 234870470627, 787671056978, 2641565114181, 8858858116609, 29709420076299, 99634697678779, 334138903811043, 1120581585809358

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 3, 2], [2, 4, 1, 3], [2, 3, 1, 4]}, {[2, 3, 4, 1], [3, 1, 4, 2], [4, 1, 3, 2]},
{[2, 3, 4, 1], [4, 2, 1, 3], [2, 4, 1, 3]}, {[3, 2, 1, 4], [2, 4, 1, 3], [1, 4, 2, 3]},
{[3, 2, 1, 4], [1, 3, 4, 2], [3, 1, 4, 2]}, {[2, 4, 3, 1], [2, 4, 1, 3], [4, 1, 2, 3]},
{[1, 4, 3, 2], [3, 1, 4, 2], [3, 1, 2, 4]}, {[3, 2, 4, 1], [3, 1, 4, 2], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{x(x^3+x^2+x-1)}{-x^4+x^6+x^7+2x^3+x^2-x^5+3x-1}$

sequence to 30 terms: 1, 2, 6, 21, 72, 246, 845, 2901, 9955, 34165, 117254, 402409, 1381046, 4739681, 16266344, 55825262, 191589456, 657525254, 2256593172, 7744512803, 26578773396, 91216996231, 313052083987, 1074378803719, 3687213319833, 12654328267540, 43429009935872, 149046149596743, 511518792217847, 1755506435422361

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [3, 4, 1, 2], [4, 1, 2, 3]}, {[3, 2, 1, 4], [1, 2, 3, 4], [2, 1, 4, 3]},
{[1, 4, 3, 2], [1, 2, 3, 4], [2, 1, 4, 3]}, {[2, 3, 4, 1], [4, 3, 2, 1], [3, 4, 1, 2]}

GENERATING FUNCTION: $\frac{x(2x-1)}{x^3-2x^2+4x-1}$

sequence to 30 terms: 1, 2, 6, 21, 74, 260, 913, 3206, 11258, 39533, 138822, 487480, 1711809, 6011098, 21108254, 74122629, 260285106, 914003420, 3209566097, 11270542654, 39577041842, 138976648157, 488023051598, 1713715951920, 6017794352641, 21131768558322, 74205201479926, 260575063155701, 915021618221274, 3213141548053620

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[3, 2, 1, 4], [4, 1, 2, 3], [4, 1, 3, 2]}, {[1, 4, 3, 2], [2, 3, 4, 1], [3, 2, 4, 1]},
{[3, 2, 1, 4], [4, 1, 2, 3], [2, 3, 1, 4]}, {[1, 4, 3, 2], [4, 2, 1, 3], [4, 1, 2, 3]},
{[1, 4, 3, 2], [1, 3, 4, 2], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 3, 4, 1], [1, 4, 2, 3]},
{[3, 2, 1, 4], [2, 3, 4, 1], [3, 1, 2, 4]}, {[3, 2, 1, 4], [2, 4, 3, 1], [2, 3, 4, 1]}

GENERATING FUNCTION: $\frac{x(2x^9-8x^8+53x^7-133x^6+190x^5-182x^4+115x^3-45x^2+10x-1)}{(2x-1)^3(x-1)^6}$

sequence to 30 terms: 1, 2, 6, 21, 73, 233, 677, 1819, 4606, 11171, 26274, 60471, 137059, 307245, 683171, 1509595, 3319028, 7266583, 15850872, 34462295, 74700801, 161470161, 348116785, 748673435, 1606409882, 3439322827, 7348417246, 15669920663, 33353112015, 70866974325

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 2, 1], [4, 2, 3, 1]}, {[4, 3, 1, 2], [2, 1, 3, 4], [4, 2, 3, 1]},
{[4, 3, 1, 2], [1, 2, 4, 3], [4, 2, 3, 1]}, {[1, 2, 4, 3], [3, 4, 2, 1], [1, 3, 2, 4]}

{[2, 1, 3, 4], [3, 4, 2, 1], [1, 3, 2, 4]}, {[4, 3, 1, 2], [1, 2, 4, 3], [1, 3, 2, 4]},
 {[1, 2, 4, 3], [3, 4, 2, 1], [4, 2, 3, 1]}, {[4, 3, 1, 2], [2, 1, 3, 4], [1, 3, 2, 4]}

GENERATING FUNCTION: $-\frac{(6x^8-36x^7+91x^6-149x^5+160x^4-108x^3+44x^2-10x+1)x}{(2x-1)^2(x-1)^5(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 239, 740, 2199, 6348, 17947, 49954, 137372, 374164, 1011303,
 2716439, 7259970, 19324340, 51268390, 135658217, 358193704, 944162051, 2485297822, 6534794291,
 17167312441, 45067797703, 118245785494, 310105754020, 812977431579, 2130705571683, 5583031577457
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [1, 2, 4, 3], [4, 1, 3, 2]}, {[3, 2, 1, 4], [4, 3, 1, 2], [1, 4, 2, 3]},
 {[3, 2, 1, 4], [1, 3, 4, 2], [3, 4, 2, 1]}, {[1, 4, 3, 2], [4, 3, 1, 2], [3, 1, 2, 4]},
 {[2, 4, 3, 1], [1, 2, 4, 3], [4, 1, 2, 3]}, {[2, 3, 4, 1], [4, 2, 1, 3], [2, 1, 3, 4]},
 {[2, 1, 3, 4], [3, 2, 4, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [3, 4, 2, 1], [2, 3, 1, 4]}

GENERATING FUNCTION: $-\frac{(2x^6-13x^5+31x^4-41x^3+26x^2-8x+1)x}{(2x-1)(x^2-3x+1)^2(x-1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 73, 241, 757, 2288, 6724, 19365, 54959, 154303, 429733,
 1189430, 3276306, 8990037, 24591349, 67093357, 182653717, 496322396, 1346450176, 3647459397,
 9868036571, 26666447611, 71984395333, 194127819746, 523052441742, 1408115003253, 3787828574689,
 10181759025385
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 4, 2], [4, 2, 1, 3], [2, 3, 1, 4]}, {[2, 4, 3, 1], [4, 1, 3, 2], [2, 3, 1, 4]},
 {[4, 2, 1, 3], [3, 2, 4, 1], [1, 4, 2, 3]}, {[2, 4, 3, 1], [3, 1, 2, 4], [4, 1, 3, 2]},
 {[1, 3, 4, 2], [4, 1, 3, 2], [2, 3, 1, 4]}, {[1, 3, 4, 2], [4, 2, 1, 3], [3, 2, 4, 1]},
 {[3, 2, 4, 1], [3, 1, 2, 4], [1, 4, 2, 3]}, {[2, 4, 3, 1], [3, 1, 2, 4], [1, 4, 2, 3]}

GENERATING FUNCTION: $-\frac{(2x^4-9x^3+13x^2-6x+1)x}{(2x-1)(x^2-3x+1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 75, 261, 877, 2852, 9020, 27877, 84533, 252331, 743389, 2166062,
 6252642, 17905365, 50922495, 143958513, 404848717, 1133309336, 3159610856, 8776920517, 24301859561,
 67091484631, 184734559165, 507443649506, 1390845571662, 3804542710197, 10387949419635, 283154907038
 (not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [1, 3, 4, 2], [4, 1, 3, 2]}, {[3, 2, 4, 1], [3, 1, 2, 4], [4, 1, 2, 3]},
 {[1, 4, 3, 2], [3, 1, 2, 4], [4, 1, 3, 2]}, {[2, 3, 4, 1], [4, 2, 1, 3], [2, 3, 1, 4]},
 {[2, 4, 3, 1], [1, 4, 3, 2], [2, 3, 1, 4]}, {[3, 2, 1, 4], [4, 2, 1, 3], [1, 4, 2, 3]},
 {[2, 4, 3, 1], [4, 1, 2, 3], [1, 4, 2, 3]}, {[3, 2, 1, 4], [1, 3, 4, 2], [3, 2, 4, 1]}

{[2, 4, 3, 1], [3, 1, 2, 4], [4, 2, 3, 1]}, {[1, 3, 4, 2], [4, 2, 1, 3], [4, 2, 3, 1]},
 {[3, 2, 4, 1], [4, 2, 3, 1], [1, 4, 2, 3]}, {[4, 2, 3, 1], [4, 1, 3, 2], [2, 3, 1, 4]},
 {[4, 1, 3, 2], [1, 3, 2, 4], [2, 3, 1, 4]}, {[2, 4, 3, 1], [3, 1, 2, 4], [1, 3, 2, 4]},
 {[3, 2, 4, 1], [1, 3, 2, 4], [1, 4, 2, 3]}, {[1, 3, 4, 2], [4, 2, 1, 3], [1, 3, 2, 4]}

GENERATING FUNCTION: $-\frac{x(x^3-2x^2+3x-1)(x-1)^2}{(x^2-x+1)(x^4-5x^3+10x^2-6x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 267, 950, 3384, 12065, 43034, 153524, 547744, 1954328,
 6973114, 24880601, 88776363, 316763410, 1130246720, 4032847433, 14389658085, 51343944371,
 183201075822, 653682454214, 2332414030833, 8322321077596, 29694997352494, 105955161038956,
 378060184065944, 1348962159690978, 4813251925328713
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 2, 1, 3], [4, 1, 2, 3], [3, 4, 2, 1]}, {[2, 3, 4, 1], [4, 3, 1, 2], [3, 2, 4, 1]},
 {[4, 1, 2, 3], [3, 4, 2, 1], [4, 1, 3, 2]}, {[2, 4, 3, 1], [2, 3, 4, 1], [4, 3, 1, 2]},
 {[1, 4, 3, 2], [1, 3, 4, 2], [2, 1, 3, 4]}, {[3, 2, 1, 4], [1, 2, 4, 3], [3, 1, 2, 4]},
 {[3, 2, 1, 4], [1, 2, 4, 3], [2, 3, 1, 4]}, {[1, 4, 3, 2], [2, 1, 3, 4], [1, 4, 2, 3]}

GENERATING FUNCTION: $-\frac{(x^2-x+1)(2x^4-7x^3+10x^2-5x+1)x}{(2x^4-7x^3+8x^2-5x+1)(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 73, 242, 772, 2409, 7439, 22872, 70204, 215345, 660375, 2024866,
 6208416, 19035179, 58361985, 178937794, 548622648, 1682074579, 5157232471, 15812048862, 48479661510,
 148638395025, 455724560391, 1397249174878, 4283958833718, 13134595902579, 40270603946867,
 123469466000352

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 3, 2], [4, 2, 1, 3], [1, 2, 4, 3]}, {[4, 3, 1, 2], [1, 3, 4, 2], [4, 1, 2, 3]},
 {[4, 3, 1, 2], [4, 1, 2, 3], [2, 3, 1, 4]}, {[3, 2, 1, 4], [2, 4, 3, 1], [2, 1, 3, 4]},
 {[1, 4, 3, 2], [3, 2, 4, 1], [1, 2, 4, 3]}, {[3, 2, 1, 4], [2, 1, 3, 4], [4, 1, 3, 2]},
 {[2, 3, 4, 1], [3, 4, 2, 1], [1, 4, 2, 3]}, {[2, 3, 4, 1], [3, 1, 2, 4], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{x(15x^8-89x^7+211x^6-293x^5+262x^4-151x^3+54x^2-11x+1)}{(2x-1)^4(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 74, 246, 763, 2227, 6191, 16567, 43026, 109110, 271384, 664236,
 1603813, 3827381, 9040909, 21164253, 49147156, 113305760, 259515246, 590863722, 1337972351,
 3014643351, 6761203099, 15099476851, 33587965958, 74440483642, 164416689396, 361985180952

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[3, 2, 1, 4], [4, 3, 1, 2], [2, 1, 3, 4]}, {[4, 3, 1, 2], [2, 1, 3, 4], [4, 1, 2, 3]},
 {[4, 3, 1, 2], [1, 2, 4, 3], [4, 1, 2, 3]}, {[1, 4, 3, 2], [4, 3, 1, 2], [1, 2, 4, 3]},
 {[3, 2, 1, 4], [2, 1, 3, 4], [3, 4, 2, 1]}, {[2, 3, 4, 1], [1, 2, 4, 3], [3, 4, 2, 1]},
 {[2, 3, 4, 1], [2, 1, 3, 4], [3, 4, 2, 1]}, {[1, 4, 3, 2], [1, 2, 4, 3], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{(4x^4+5x^3-12x^2+6x-1)x}{(x-1)(3x-1)(2x-1)(x^2+2x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 262, 890, 2949, 9575, 30590, 96486, 301269, 933171, 2872102,
 8794946, 26822901, 81539855, 247232702, 748061070, 2259653349, 6816525435, 20540701510, 61842968906,
 186063857829, 559486534391, 1681592864702, 5052356855286, 15175393904181, 45570473759235,
 136818462927142

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 2, 1, 3], [1, 2, 4, 3], [4, 1, 2, 3]}, {[3, 2, 1, 4], [4, 3, 1, 2], [2, 3, 1, 4]},
 {[2, 4, 3, 1], [2, 3, 4, 1], [2, 1, 3, 4]}, {[1, 4, 3, 2], [3, 4, 2, 1], [1, 4, 2, 3]},
 {[2, 3, 4, 1], [3, 2, 4, 1], [1, 2, 4, 3]}, {[3, 2, 1, 4], [3, 1, 2, 4], [3, 4, 2, 1]},
 {[1, 4, 3, 2], [4, 3, 1, 2], [1, 3, 4, 2]}, {[2, 1, 3, 4], [4, 1, 2, 3], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{x(2x^6-12x^5+24x^4-31x^3+21x^2-7x+1)}{(2x-1)(x^2-3x+1)(x-1)^4}$

sequence to 30 terms: 1, 2, 6, 21, 72, 230, 689, 1970, 5460, 14833, 39790, 105890, 280367, 739878,
 1948186, 5121973, 13451620, 35299782, 92580429, 242705586, 636062896, 1666534337, 4365640346,
 11434584546, 29946505947, 78421715110, 205352199014, 537701996645, 1407888015200, 3686230491718

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 2, 4, 1], [2, 4, 1, 3]}, {[1, 2, 3, 4], [2, 4, 1, 3], [4, 1, 3, 2]},
 {[4, 3, 2, 1], [3, 1, 4, 2], [1, 4, 2, 3]}, {[4, 3, 2, 1], [3, 1, 4, 2], [2, 3, 1, 4]},
 {[4, 3, 2, 1], [2, 4, 1, 3], [3, 1, 2, 4]}, {[4, 3, 2, 1], [1, 3, 4, 2], [2, 4, 1, 3]}

$\{[2, 4, 3, 1], [1, 2, 3, 4], [3, 1, 4, 2]\}, \{[1, 2, 3, 4], [4, 2, 1, 3], [3, 1, 4, 2]\}$

GENERATING FUNCTION: $\frac{x(x^9-8x^8+24x^7-44x^6+61x^5-72x^4+58x^3-29x^2+8x-1)}{(2x-1)(x-1)^5(x^3-2x^2+3x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 72, 228, 678, 1929, 5307, 14203, 37133, 95179, 239942, 596587, 1466529, 3571386, 8630575, 20725008, 49509197, 117762285, 279109649, 659555800, 1554707004, 3657127140, 8587557316, 20135214390, 47151860695, 110301150860, 257791861488, 602039016561
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[4, 3, 2, 1], [4, 1, 3, 2], [2, 3, 1, 4]\}, \{[1, 2, 3, 4], [4, 1, 3, 2], [2, 3, 1, 4]\},$
 $\{[4, 3, 2, 1], [3, 2, 4, 1], [1, 4, 2, 3]\}, \{[4, 3, 2, 1], [1, 3, 4, 2], [4, 2, 1, 3]\},$
 $\{[2, 4, 3, 1], [4, 3, 2, 1], [3, 1, 2, 4]\}, \{[1, 2, 3, 4], [3, 2, 4, 1], [1, 4, 2, 3]\},$
 $\{[1, 2, 3, 4], [1, 3, 4, 2], [4, 2, 1, 3]\}, \{[2, 4, 3, 1], [1, 2, 3, 4], [3, 1, 2, 4]\}$

GENERATING FUNCTION: $\frac{(5x^9-30x^8+80x^7-153x^6+230x^5-231x^4+143x^3-53x^2+11x-1)x}{(x-1)^4(2x-1)^3(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 71, 219, 626, 1698, 4452, 11428, 28966, 72907, 182915, 458590, 1150877, 2894324, 7299391, 18468191, 46885660, 119437550, 305268086, 782671392, 2012470416, 5188157511, 13406252581, 34712884554, 90042441271, 233921270608, 608500149057, 1584650190763
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[3, 1, 2, 4], [3, 4, 2, 1], [1, 4, 2, 3]\}, \{[4, 2, 1, 3], [3, 2, 4, 1], [1, 2, 4, 3]\},$
 $\{[4, 3, 1, 2], [1, 3, 4, 2], [2, 3, 1, 4]\}, \{[2, 4, 3, 1], [2, 1, 3, 4], [4, 1, 3, 2]\}$

GENERATING FUNCTION: $\frac{x(x^8-5x^7+5x^6+8x^5-16x^4+14x^3-13x^2+5x-1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 72, 216, 555, 1252, 2549, 4787, 8428, 14079, 22518, 34722, 51897, 75510, 107323, 149429, 204290, 274777, 364212, 476412, 615735, 787128, 996177, 1249159, 1553096, 1915811, 2345986, 2853222
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 3, 4, 1], [4, 3, 1, 2]\}, \{[1, 2, 3, 4], [3, 4, 2, 1], [4, 1, 2, 3]\},$
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [3, 2, 1, 4]\}, \{[4, 3, 2, 1], [1, 4, 3, 2], [2, 1, 3, 4]\}$

GENERATING FUNCTION: $-\frac{x(x-1)^4}{x^5-6x^4+13x^3-12x^2+6x-1}$

sequence to 30 terms: 1, 2, 6, 21, 75, 265, 929, 3249, 11362, 39746, 139060, 486549, 1702349, 5956172, 20839367, 72912441, 255104933, 892557394, 3122866871, 10926241348, 38228574601, 133753581322, 467975086412, 1637344431204, 5728716901208, 20043551442825, 70128086510956, 245363129966728, 858472953449577, 3003612693983412
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 3, 1, 4], [2, 4, 3, 1], [3, 1, 2, 4]\}, \{[2, 4, 3, 1], [3, 1, 2, 4], [3, 2, 4, 1]\},$
 $\{[1, 3, 4, 2], [1, 4, 2, 3], [4, 2, 1, 3]\}, \{[1, 3, 4, 2], [1, 4, 2, 3], [3, 2, 4, 1]\},$
 $\{[2, 3, 1, 4], [3, 1, 2, 4], [4, 1, 3, 2]\}, \{[1, 3, 4, 2], [4, 1, 3, 2], [4, 2, 1, 3]\},$
 $\{[1, 4, 2, 3], [2, 4, 3, 1], [3, 2, 4, 1]\}, \{[2, 3, 1, 4], [4, 1, 3, 2], [4, 2, 1, 3]\}$

GENERATING FUNCTION: $-\frac{x(5x^7-28x^6+64x^5-88x^4+73x^3-35x^2+9x-1)}{(2x-1)^2(x-1)^4(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 74, 248, 787, 2389, 7013, 20079, 56417, 156250, 427914, 1161571, 3130892, 8391305, 22387648, 59509600, 157714833, 416978205, 1100298811, 2898861767, 7627745311, 20050436226, 52661977424, 138224905323, 362616720922, 950883551569, 2492651182758, 6532505818344
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 3, 4, 2], [2, 4, 3, 1]\}$, $\{[1, 2, 3, 4], [1, 4, 2, 3], [4, 1, 3, 2]\}$,
 $\{[1, 2, 3, 4], [2, 3, 1, 4], [3, 2, 4, 1]\}$, $\{[1, 2, 3, 4], [3, 1, 2, 4], [4, 2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [2, 4, 3, 1]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [4, 1, 3, 2]\}$,
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [3, 2, 4, 1]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4], [4, 2, 1, 3]\}$

GENERATING FUNCTION: $-\frac{x(8x^7-41x^6+84x^5-103x^4+79x^3-36x^2+9x-1)}{(2x-1)^3(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 73, 236, 705, 1970, 5224, 13307, 32866, 79251, 187523, 437030,
1005935, 2291536, 5174458, 11596189, 25816552, 57141641, 125822061, 275766912, 601872301,
1308610526, 2835334908, 6123666671, 13186871710, 28319917295, 60666386119, 129654294282
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [3, 2, 4, 1], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [3, 4, 2, 1], [4, 2, 1, 3]\}$,
 $\{[1, 4, 2, 3], [2, 1, 3, 4], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [3, 1, 2, 4], [4, 3, 1, 2]\}$,
 $\{[1, 3, 4, 2], [2, 1, 3, 4], [3, 4, 2, 1]\}$, $\{[1, 2, 4, 3], [2, 3, 1, 4], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [2, 4, 3, 1], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [3, 4, 2, 1], [4, 1, 3, 2]\}$

GENERATING FUNCTION: $\frac{x(x^6+2x^5-12x^4+25x^3-20x^2+7x-1)}{(x-1)(2x-1)^4}$

sequence to 30 terms: 1, 2, 6, 21, 73, 239, 734, 2134, 5934, 15918, 41470, 105470, 262910, 644350,
1556478, 3713022, 8761342, 20475902, 47448062, 109117438, 249233406, 565772286, 1277165566,
2868379646, 6412042238, 14272167934, 31641829374, 69893881854, 153863847934, 337641471998
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [2, 1, 4, 3], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [2, 1, 4, 3], [3, 4, 2, 1]\}$,
 $\{[2, 1, 3, 4], [3, 4, 1, 2], [3, 4, 2, 1]\}$, $\{[1, 2, 4, 3], [2, 1, 4, 3], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [2, 1, 4, 3], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [3, 4, 1, 2], [4, 3, 1, 2]\}$,
 $\{[1, 2, 4, 3], [3, 4, 1, 2], [3, 4, 2, 1]\}$, $\{[1, 2, 4, 3], [3, 4, 1, 2], [4, 3, 1, 2]\}$

GENERATING FUNCTION: $-\frac{x(x^6-4x^5+15x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 71, 213, 561, 1317, 2809, 5536, 10220, 17865, 29823, 47867, 74271,
111897, 164289, 235774, 331570, 457901, 622119, 832833, 1100045, 1435293, 1851801, 2364636,
2990872, 3749761, 4662911, 5754471
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 4, 3, 1], [3, 4, 1, 2]\}$, $\{[1, 2, 3, 4], [3, 2, 4, 1], [3, 4, 1, 2]\}$,
 $\{[1, 2, 3, 4], [3, 4, 1, 2], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [3, 4, 1, 2], [4, 2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [2, 1, 4, 3]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [2, 1, 4, 3]\}$,
 $\{[4, 3, 2, 1], [2, 1, 4, 3], [2, 3, 1, 4]\}$, $\{[4, 3, 2, 1], [2, 1, 4, 3], [3, 1, 2, 4]\}$

GENERATING FUNCTION: $\frac{(9x^6-24x^5-23x^4-8x^3-3x^2+x-1)x}{(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 70, 177, 333, 538, 792, 1095, 1447, 1848, 2298, 2797, 3345, 3942,
4588, 5283, 6027, 6820, 7662, 8553, 9493, 10482, 11520, 12607, 13743, 14928, 16162, 17445
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [3, 4, 2, 1], [4, 3, 1, 2]\}$, $\{[4, 3, 2, 1], [1, 2, 4, 3], [2, 1, 3, 4]\}$

GENERATING FUNCTION: $-\frac{(8x^5-22x^4+30x^3-21x^2+7x-1)x}{(x-1)^3(2x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 73, 238, 724, 2075, 5667, 14892, 37942, 94273, 229453, 548954,
1294440, 3014775, 6946951, 15859864, 35913898, 80740541, 180355281, 400556262, 884998396

1946157331, 4261413163, 9294577988, 20199768414, 43754979705, 94489280917, 203474076082

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 2, 4], [2, 3, 1, 4], [4, 3, 1, 2]}, {[1, 3, 2, 4], [3, 1, 2, 4], [3, 4, 2, 1]},
{[1, 2, 4, 3], [3, 2, 4, 1], [4, 2, 3, 1]}, {[2, 1, 3, 4], [2, 4, 3, 1], [4, 2, 3, 1]},
{[2, 1, 3, 4], [4, 1, 3, 2], [4, 2, 3, 1]}, {[1, 2, 4, 3], [4, 2, 1, 3], [4, 2, 3, 1]},
{[1, 3, 2, 4], [1, 3, 4, 2], [4, 3, 1, 2]}, {[1, 3, 2, 4], [1, 4, 2, 3], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{x(x^7-4x^6+4x^5-4x^4+13x^3-14x^2+6x-1)}{(x-1)^2(x^2-3x+1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 72, 232, 717, 2157, 6370, 18557, 53490, 152868, 433781,
1223511, 3433182, 9590277, 26683932, 73986112, 204501885, 563677377, 1549776250, 4251231533,
11637412806, 31795910076, 86721532517, 236147429547, 642085767222, 1743426163317, 4727776585200,
12805338888472

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 4, 3, 2], [2, 3, 4, 1]}, {[1, 2, 3, 4], [1, 4, 3, 2], [4, 1, 2, 3]},
{[1, 2, 3, 4], [2, 3, 4, 1], [3, 2, 1, 4]}, {[1, 2, 3, 4], [3, 2, 1, 4], [4, 1, 2, 3]},
{[4, 3, 2, 1], [1, 4, 3, 2], [2, 3, 4, 1]}, {[4, 3, 2, 1], [1, 4, 3, 2], [4, 1, 2, 3]},
{[4, 3, 2, 1], [2, 3, 4, 1], [3, 2, 1, 4]}, {[4, 3, 2, 1], [3, 2, 1, 4], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{(x^6-8x^5+15x^4-14x^3+13x^2-5x+1)x}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 71, 209, 533, 1205, 2473, 4696, 8372, 14169, 22959, 35855,
54251, 79865, 114785, 161518, 223042, 302861, 405063, 534381, 696257, 896909, 1143401, 1443716,
1806832, 2242801, 2762831, 3379371

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 1, 3, 4], [4, 3, 1, 2]},
{[1, 4, 3, 2], [2, 1, 3, 4], [3, 4, 2, 1]}, {[2, 1, 3, 4], [2, 3, 4, 1], [4, 3, 1, 2]},
{[1, 2, 4, 3], [2, 3, 4, 1], [4, 3, 1, 2]}, {[1, 2, 4, 3], [3, 2, 1, 4], [3, 4, 2, 1]},
{[1, 2, 4, 3], [3, 2, 1, 4], [4, 3, 1, 2]}, {[1, 2, 4, 3], [3, 4, 2, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{(9x^3-13x^2+6x-1)x}{(x^2-3x+1)^2(2x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 245, 795, 2508, 7732, 23393, 69687, 204939, 596215,
1718714, 4915914, 13966077, 39445669, 110840321, 310052883, 863847240, 2398229056, 6636793817,
18313798131, 50404632471, 138400646383, 379203110390, 1036933937430, 2830385433333, 7712890858657,
20985573008333

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 2, 1, 4], [4, 2, 1, 3]}, {[1, 4, 2, 3], [3, 2, 1, 4], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 4, 3, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 3, 1, 4], [2, 3, 4, 1]},
{[3, 2, 1, 4], [3, 2, 4, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 3, 4, 1], [4, 1, 3, 2]},
{[1, 3, 4, 2], [2, 3, 4, 1], [3, 2, 1, 4]}, {[1, 4, 3, 2], [3, 1, 2, 4], [4, 1, 2, 3]}

{[1, 3, 2, 4], [2, 3, 4, 1], [3, 2, 1, 4]}, {[2, 3, 4, 1], [3, 2, 1, 4], [4, 2, 3, 1]},
{[1, 3, 2, 4], [3, 2, 1, 4], [4, 1, 2, 3]}, {[1, 4, 3, 2], [4, 1, 2, 3], [4, 2, 3, 1]},
{[3, 2, 1, 4], [4, 1, 2, 3], [4, 2, 3, 1]}, {[1, 4, 3, 2], [2, 3, 4, 1], [4, 2, 3, 1]},
{[1, 3, 2, 4], [1, 4, 3, 2], [2, 3, 4, 1]}, {[1, 3, 2, 4], [1, 4, 3, 2], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{x(2x^6-8x^5+20x^4-30x^3+21x^2-7x+1)}{(2x-1)^3(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 71, 220, 630, 1697, 4365, 10842, 26216, 62071, 144519, 331928, 753834, 1695933, 3784913, 8388838, 18481404, 40501523, 88342827, 191889732, 415236446, 895484281, 1925185941, 4127195570, 8824816080, 18824036847, 40063992335, 85094040112

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 4, 3], [3, 1, 2, 4], [3, 4, 2, 1]}, {[1, 4, 2, 3], [2, 1, 4, 3], [3, 4, 2, 1]},
{[2, 1, 3, 4], [2, 4, 3, 1], [3, 4, 1, 2]}, {[1, 3, 4, 2], [2, 1, 4, 3], [4, 3, 1, 2]},
{[2, 1, 4, 3], [2, 3, 1, 4], [4, 3, 1, 2]}, {[2, 1, 3, 4], [3, 4, 1, 2], [4, 1, 3, 2]},
{[1, 2, 4, 3], [3, 2, 4, 1], [3, 4, 1, 2]}, {[1, 2, 4, 3], [3, 4, 1, 2], [4, 2, 1, 3]}

GENERATING FUNCTION: $\frac{x(x^9-4x^8+3x^7+x^6+8x^5-17x^4+14x^3-13x^2+5x-1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 73, 223, 587, 1356, 2820, 5395, 9653, 16355, 26487, 41299, 62347, 91538, 131178, 184023, 253333, 342929, 457253, 601431, 781339, 1003672, 1276016, 1606923, 2005989, 2483935, 3052691, 3725483

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 2, 4, 3], [3, 4, 2, 1]}, {[1, 2, 3, 4], [1, 2, 4, 3], [4, 3, 1, 2]},
{[1, 2, 3, 4], [2, 1, 3, 4], [3, 4, 2, 1]}, {[1, 2, 3, 4], [2, 1, 3, 4], [4, 3, 1, 2]},
{[4, 3, 2, 1], [1, 2, 4, 3], [3, 4, 2, 1]}, {[4, 3, 2, 1], [1, 2, 4, 3], [4, 3, 1, 2]},
{[4, 3, 2, 1], [2, 1, 3, 4], [3, 4, 2, 1]}, {[4, 3, 2, 1], [2, 1, 3, 4], [4, 3, 1, 2]}

GENERATING FUNCTION: $\frac{x(2x^6-18x^5+39x^4-45x^3+27x^2-8x+1)}{(x-1)^2(2x-1)^4}$

sequence to 30 terms: 1, 2, 6, 21, 75, 255, 813, 2443, 6985, 19175, 50917, 131555, 332257, 823263, 2007005, 4825051, 11460569, 26935255, 62717909, 144834515, 332005329, 756023247, 1711275981, 3852468171, 8629780425, 19243466695, 42731569093, 94522834883, 208339468225, 457682452415

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 2, 4, 1], [3, 4, 2, 1]}, {[2, 1, 3, 4], [2, 3, 1, 4], [3, 4, 2, 1]},
{[2, 1, 3, 4], [3, 1, 2, 4], [4, 3, 1, 2]}, {[2, 1, 3, 4], [4, 2, 1, 3], [4, 3, 1, 2]},
{[1, 2, 4, 3], [1, 3, 4, 2], [3, 4, 2, 1]}, {[1, 2, 4, 3], [1, 4, 2, 3], [4, 3, 1, 2]},
{[1, 2, 4, 3], [2, 4, 3, 1], [3, 4, 2, 1]}, {[1, 2, 4, 3], [4, 1, 3, 2], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(2x-1)(3x^2-3x+1)x}{9x^4-19x^3+17x^2-7x+1}$

sequence to 30 terms: 1, 2, 6, 21, 74, 257, 886, 3050, 10505, 36206, 124833, 430474, 1484526, 5119597, 17655746, 60888801, 209985534, 724171922, 2497434881, 8612847430, 29702935745, 102435859346, 353268294998, 1218308608389, 4201554149626, 14489807575617, 49970681390086, 172332792312506, 594320319146169, 2049619442941662

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 2, 3], [2, 1, 3, 4], [3, 2, 1, 4]}, {[2, 3, 4, 1], [3, 4, 2, 1], [4, 1, 3, 2]},
{[2, 3, 4, 1], [3, 4, 2, 1], [4, 2, 1, 3]}, {[1, 3, 4, 2], [2, 1, 3, 4], [3, 2, 1, 4]},
{[1, 2, 4, 3], [1, 4, 3, 2], [2, 3, 1, 4]}, {[1, 2, 4, 3], [1, 4, 3, 2], [3, 1, 2, 4]},
{[2, 4, 3, 1], [4, 1, 2, 3], [4, 3, 1, 2]}, {[3, 2, 4, 1], [4, 1, 2, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(3x^6+6x^5-9x^4+5x^3-9x^2+4x-1)x}{(x-1)^6}$

sequence to 30 terms: 1, 2, 6, 21, 70, 195, 458, 942, 1752, 3016, 4886, 7539, 11178, 16033, 22362, 30452, 40620, 53214, 68614, 87233, 109518, 135951, 167050, 203370, 245504, 294084, 349782, 413311,

485426, 566925

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 2, 1], [4, 3, 1, 2]}, {[1, 2, 4, 3], [2, 1, 3, 4], [4, 3, 1, 2]},
{[1, 2, 4, 3], [2, 1, 3, 4], [3, 4, 2, 1]}, {[1, 2, 4, 3], [3, 4, 2, 1], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(6x^8-7x^7-7x^6+4x^5+11x^4+x^3+6x^2-3x+1)x}{(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 71, 200, 465, 929, 1667, 2766, 4325, 6455, 9279, 12932, 17561, 23325, 30395, 38954, 49197, 61331, 75575, 92160, 111329, 133337, 158451, 186950, 219125, 255279, 295727, 340796

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [4, 3, 1, 2]}, {[1, 2, 3, 4], [3, 2, 4, 1], [4, 3, 1, 2]},
{[1, 2, 3, 4], [3, 4, 2, 1], [4, 1, 3, 2]}, {[1, 2, 3, 4], [3, 4, 2, 1], [4, 2, 1, 3]},
{[4, 3, 2, 1], [1, 2, 4, 3], [2, 3, 1, 4]}, {[4, 3, 2, 1], [1, 2, 4, 3], [3, 1, 2, 4]},
{[4, 3, 2, 1], [1, 3, 4, 2], [2, 1, 3, 4]}, {[4, 3, 2, 1], [1, 4, 2, 3], [2, 1, 3, 4]}

GENERATING FUNCTION: $-\frac{x(2x^8-3x^7+x^6-9x^5+15x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 71, 208, 526, 1174, 2370, 4416, 7714, 12783, 20277, 31004, 45946, 66280, 93400, 128940, 174798, 233161, 306531, 397752, 510038, 647002, 812686, 1011592, 1248714, 1529571, 1860241, 2247396

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 1, 4, 2], [3, 4, 2, 1]}, {[1, 2, 3, 4], [2, 4, 1, 3], [3, 4, 2, 1]},
{[1, 2, 3, 4], [2, 4, 1, 3], [4, 3, 1, 2]}, {[1, 2, 3, 4], [3, 1, 4, 2], [4, 3, 1, 2]},
{[4, 3, 2, 1], [1, 2, 4, 3], [2, 4, 1, 3]}, {[4, 3, 2, 1], [1, 2, 4, 3], [3, 1, 4, 2]},
{[4, 3, 2, 1], [2, 1, 3, 4], [2, 4, 1, 3]}, {[4, 3, 2, 1], [2, 1, 3, 4], [3, 1, 4, 2]}

GENERATING FUNCTION: $-\frac{(3x^4-6x^3+10x^2-5x+1)x}{(2x-1)(x-1)^2(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 239, 738, 2178, 6220, 17351, 47595, 128985, 346492, 924788, 2456502, 6502017, 17164189, 45219875, 118954134, 312559974, 820560736, 2152792187, 5645155791, 14797355181, 38776269808, 101590174424, 266111693898, 696979788213, 1825297432705, 4779852033911

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 4, 2], [3, 2, 1, 4], [4, 2, 1, 3]}, {[1, 4, 2, 3], [3, 2, 1, 4], [3, 2, 4, 1]},
{[2, 4, 3, 1], [3, 1, 2, 4], [4, 1, 2, 3]}, {[1, 4, 2, 3], [3, 2, 4, 1], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 3, 1, 4], [4, 1, 3, 2]}, {[1, 4, 3, 2], [2, 4, 3, 1], [3, 1, 2, 4]},
{[1, 3, 4, 2], [2, 3, 4, 1], [4, 2, 1, 3]}, {[2, 3, 1, 4], [2, 3, 4, 1], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{x(3x^7-20x^6+54x^5-71x^4+57x^3-29x^2+8x-1)}{(2x-1)^2(x-1)^6}$

sequence to 30 terms: 1, 2, 6, 21, 76, 263, 843, 2501, 6941, 18245, 45928, 111721, 264482, 612707, 1394929, 3131269, 6948043, 15269985, 33290710, 72085673, 155182152, 332387343, 708820807, 1505731877, 3187639497, 6727621949, 14159916404, 29729158217, 62276939902, 130191089851

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [4, 1, 2, 3], [4, 1, 3, 2]}, {[1, 2, 3, 4], [2, 3, 4, 1], [2, 4, 3, 1]},
{[1, 2, 3, 4], [2, 3, 4, 1], [3, 2, 4, 1]}, {[1, 2, 3, 4], [4, 1, 2, 3], [4, 2, 1, 3]},
{[4, 3, 2, 1], [1, 3, 4, 2], [1, 4, 3, 2]}, {[4, 3, 2, 1], [1, 4, 2, 3], [1, 4, 3, 2]},
{[4, 3, 2, 1], [2, 3, 1, 4], [3, 2, 1, 4]}, {[4, 3, 2, 1], [3, 1, 2, 4], [3, 2, 1, 4]}

GENERATING FUNCTION: $\frac{x(3x^6-12x^5+22x^4-30x^3+21x^2-7x+1)}{(2x-1)^3(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 73, 234, 691, 1910, 5019, 12690, 31147, 74694, 175843, 407810, 934179, 2117958, 4759915, 10617234, 23527867, 51839462, 113639955, 247988802, 538968691, 1167065766, 2518680283, 5419041554, 11626611531, 24880612230, 53116666819, 113145545730

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 4, 3], [1, 3, 4, 2], [4, 3, 1, 2]}, {[2, 1, 3, 4], [2, 3, 1, 4], [4, 3, 1, 2]},
{[2, 1, 3, 4], [3, 1, 2, 4], [3, 4, 2, 1]}, {[2, 1, 3, 4], [2, 4, 3, 1], [3, 4, 2, 1]},
{[2, 1, 3, 4], [4, 1, 3, 2], [4, 3, 1, 2]}, {[1, 2, 4, 3], [1, 4, 2, 3], [3, 4, 2, 1]},
{[1, 2, 4, 3], [3, 2, 4, 1], [3, 4, 2, 1]}, {[1, 2, 4, 3], [4, 2, 1, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(x^9-3x^8+3x^7-4x^6+19x^5-32x^4+27x^3-18x^2+6x-1)x}{(x-1)^8}$

sequence to 30 terms: 1, 2, 6, 21, 74, 237, 668, 1667, 3750, 7743, 14898, 27033, 46698, 77369, 123672, 191639, 288998, 425499, 613278, 867261, 1205610, 1650213, 2227220, 2967627, 3907910, 5090711, 6565578, 8389761, 10629066, 13358769

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [1, 2, 4, 3], [4, 1, 3, 2]}, {[1, 2, 3, 4], [1, 3, 4, 2], [3, 4, 2, 1]},
{[1, 2, 3, 4], [1, 4, 2, 3], [4, 3, 1, 2]}, {[1, 2, 3, 4], [2, 3, 1, 4], [3, 4, 2, 1]},
{[1, 2, 3, 4], [3, 1, 2, 4], [4, 3, 1, 2]}, {[4, 3, 2, 1], [1, 2, 4, 3], [2, 4, 3, 1]},
{[4, 3, 2, 1], [2, 1, 3, 4], [3, 2, 4, 1]}, {[4, 3, 2, 1], [2, 1, 3, 4], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(x-1)(x^4+3x^3-5x^2+4x-1)}{-13x^4+21x^3-17x^2+7x-1+2x^5}$

sequence to 30 terms: 1, 2, 6, 21, 76, 278, 1021, 3756, 13827, 50916, 187512, 690593, 2543444, 9367525, 34500756, 127067006, 467990629, 1723620240, 6348133335, 23380322908, 86110274536, 317146150489, 1168056674504, 4301979997337, 15844292751908, 58354900065926, 214922459155549, 791564434141796, 2915350288952555, 10737303169170660

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 2, 4, 3], [1, 4, 3, 2]}, {[1, 2, 3, 4], [2, 1, 3, 4], [3, 2, 1, 4]},
{[4, 3, 2, 1], [2, 3, 4, 1], [3, 4, 2, 1]}, {[4, 3, 2, 1], [4, 1, 2, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(x^2-3x+1)}{(x^2-4x+1)(x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 77, 286, 1066, 3977, 14841, 55386, 206702, 771421, 2878981, 10744502, 40099026, 149651601, 558507377, 2084377906, 7779004246, 29031639077, 108347552061, 404358569166, 1509086724602, 5631988329241, 21018866592361, 78443478040202, 292755045568446, 1092576704233581, 4077551771365877, 15217630381229926

(A101265: $a(1) = 1, a(2) = 2, a(3) = 6; a(n) = 5 * a(n - 1) - 5 * a(n - 2) + a(n - 3)$ for $n > 3$)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 2, 3], [1, 4, 3, 2], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 3, 4, 1], [2, 4, 3, 1]},
{[1, 4, 3, 2], [4, 1, 2, 3], [4, 1, 3, 2]}, {[3, 1, 2, 4], [3, 2, 1, 4], [4, 1, 2, 3]},
{[3, 2, 1, 4], [4, 1, 2, 3], [4, 2, 1, 3]}, {[1, 3, 4, 2], [1, 4, 3, 2], [2, 3, 4, 1]},
{[2, 3, 4, 1], [3, 2, 1, 4], [3, 2, 4, 1]}, {[2, 3, 1, 4], [2, 3, 4, 1], [3, 2, 1, 4]}

GENERATING FUNCTION: $-\frac{x(4x^5-15x^4+26x^3-20x^2+7x-1)}{(2x-1)^2(x^2-3x+1)(x-1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 73, 241, 756, 2276, 6640, 18915, 52911, 145951, 398242, 1077434, 2895486, 7740081, 20603269, 54659533, 144620496, 381823376, 1006354636, 2648774847, 6964087131, 18293818171, 48022224958, 125990960486, 330403641306, 866159487501, 2270020978225,

5947929978985

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[1, 4, 3, 2], [2, 1, 3, 4], [4, 1, 3, 2]\}$, $\{[1, 4, 3, 2], [2, 1, 3, 4], [2, 4, 3, 1]\}$,
 $\{[3, 1, 2, 4], [3, 4, 2, 1], [4, 1, 2, 3]\}$, $\{[1, 3, 4, 2], [2, 3, 4, 1], [4, 3, 1, 2]\}$,
 $\{[1, 2, 4, 3], [3, 2, 1, 4], [3, 2, 4, 1]\}$, $\{[1, 2, 4, 3], [3, 2, 1, 4], [4, 2, 1, 3]\}$,
 $\{[1, 4, 2, 3], [3, 4, 2, 1], [4, 1, 2, 3]\}$, $\{[2, 3, 1, 4], [2, 3, 4, 1], [4, 3, 1, 2]\}$

$\{[4, 3, 2, 1], [3, 1, 2, 4], [4, 1, 2, 3]\}$, $\{[1, 2, 3, 4], [1, 4, 3, 2], [2, 4, 3, 1]\}$,
 $\{[1, 2, 3, 4], [1, 4, 3, 2], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [3, 2, 1, 4], [3, 2, 4, 1]\}$,
 $\{[1, 2, 3, 4], [3, 2, 1, 4], [4, 2, 1, 3]\}$, $\{[4, 3, 2, 1], [1, 3, 4, 2], [2, 3, 4, 1]\}$,
 $\{[4, 3, 2, 1], [1, 4, 2, 3], [4, 1, 2, 3]\}$, $\{[4, 3, 2, 1], [2, 3, 1, 4], [2, 3, 4, 1]\}$

GENERATING FUNCTION: $-\frac{x(x^6-5x^5+13x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 69, 198, 498, 1121, 2305, 4402, 7910, 13509, 22101, 34854, 53250, 79137, 114785, 162946, 226918, 310613, 418629, 556326, 729906, 946497, 1214241, 1542386, 1941382, 2422981, 3000341, 3688134

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

$\{[2, 1, 4, 3], [2, 3, 4, 1], [4, 3, 1, 2]\}$, $\{[1, 4, 3, 2], [2, 1, 3, 4], [3, 4, 1, 2]\}$,
 $\{[2, 1, 4, 3], [3, 4, 2, 1], [4, 1, 2, 3]\}$, $\{[1, 2, 4, 3], [3, 2, 1, 4], [3, 4, 1, 2]\}$

$\{[1, 2, 3, 4], [1, 4, 3, 2], [3, 4, 1, 2]\}$, $\{[1, 2, 3, 4], [3, 2, 1, 4], [3, 4, 1, 2]\}$,
 $\{[4, 3, 2, 1], [2, 1, 4, 3], [2, 3, 4, 1]\}$, $\{[4, 3, 2, 1], [2, 1, 4, 3], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $\frac{(4x^7-5x^6-11x^5+13x^4-19x^3+16x^2-6x+1)x}{(2x-1)^2(x-1)^4}$

sequence to 30 terms: 1, 2, 6, 21, 72, 221, 605, 1517, 3574, 8065, 17671, 37953, 80424, 168885, 352481, 732581, 1518074, 3139033, 6480187, 13360153, 27514476, 56610861, 116377941, 239059421, 490715582, 1006612721, 2063574895, 4227833137, 8657015344, 17716708965

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 3, 4, 1], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [2, 3, 4, 1], [4, 2, 1, 3]\}$,
 $\{[1, 2, 3, 4], [2, 4, 3, 1], [4, 1, 2, 3]\}$, $\{[1, 2, 3, 4], [3, 2, 4, 1], [4, 1, 2, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [3, 2, 1, 4]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [3, 2, 1, 4]\}$,
 $\{[4, 3, 2, 1], [1, 4, 3, 2], [2, 3, 1, 4]\}$, $\{[4, 3, 2, 1], [1, 4, 3, 2], [3, 1, 2, 4]\}$

GENERATING FUNCTION: $\frac{(x^6-14x^5+37x^4-45x^3+27x^2-8x+1)x}{(2x-1)^4(x-1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 73, 239, 734, 2133, 5924, 15859, 41202, 104433, 259312, 632815, 1521646, 3612653, 8482796, 19726315, 45481962, 104071145, 236519400, 534249447, 1200095206, 2682257381, 5967445988, 13220446179, 29175578594, 64156073953, 140609847264, 307224379359

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [3, 1, 4, 2], [3, 4, 2, 1]\}$, $\{[2, 1, 3, 4], [2, 4, 1, 3], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [3, 1, 4, 2], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [2, 4, 1, 3], [4, 3, 1, 2]\}$,
 $\{[2, 1, 3, 4], [3, 1, 4, 2], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [2, 4, 1, 3], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [2, 4, 1, 3], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [3, 1, 4, 2], [3, 4, 2, 1]\}$

GENERATING FUNCTION: $-\frac{(3x^5-12x^4+23x^3-19x^2+7x-1)x}{(x-1)^3(x^2-3x+1)(3x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 74, 253, 840, 2728, 8719, 27541, 86221, 268047, 828661, 2550116,

7818174, 23893803, 72831350, 221504503, 672394824, 2037817846, 6167472211, 18643839127, 56301766021, 169874621301, 512161584769, 1543128593438, 4646779576590, 13985876279193, 42076847689274, 126542662073161

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 3, 1, 4], [3, 1, 4, 2], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [2, 4, 1, 3], [4, 1, 3, 2]\}$,
 $\{[2, 1, 3, 4], [2, 4, 3, 1], [3, 1, 4, 2]\}$, $\{[1, 4, 2, 3], [3, 1, 4, 2], [3, 4, 2, 1]\}$,
 $\{[2, 4, 1, 3], [3, 1, 2, 4], [3, 4, 2, 1]\}$, $\{[1, 3, 4, 2], [2, 4, 1, 3], [4, 3, 1, 2]\}$,
 $\{[1, 2, 4, 3], [2, 4, 1, 3], [3, 2, 4, 1]\}$, $\{[1, 2, 4, 3], [3, 1, 4, 2], [4, 2, 1, 3]\}$

GENERATING FUNCTION: $-\frac{(3x^5-9x^4+11x^3-11x^2+5x-1)x}{(x-1)^3(3x-1)(x^2-x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 240, 754, 2309, 6987, 21036, 63202, 189723, 569311, 1708100, 5124492, 15373695, 46121335, 138364290, 415093192, 1245279935, 3735840201, 11207521038, 33622563592, 100867691301, 302603074477, 907809224054, 2723427672834, 8170283019225, 24510849058453, 73532547176

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 4, 3, 1], [3, 1, 2, 4], [3, 4, 2, 1]\}$, $\{[2, 1, 3, 4], [2, 3, 1, 4], [4, 1, 3, 2]\}$,
 $\{[2, 3, 1, 4], [4, 1, 3, 2], [4, 3, 1, 2]\}$, $\{[1, 4, 2, 3], [3, 2, 4, 1], [3, 4, 2, 1]\}$,
 $\{[2, 1, 3, 4], [2, 4, 3, 1], [3, 1, 2, 4]\}$, $\{[1, 2, 4, 3], [1, 3, 4, 2], [4, 2, 1, 3]\}$,
 $\{[1, 3, 4, 2], [4, 2, 1, 3], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [1, 4, 2, 3], [3, 2, 4, 1]\}$

GENERATING FUNCTION: $-\frac{(x^4-2x^3+6x^2-4x+1)x}{(x-1)^2(x^3-3x^2+4x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 72, 237, 761, 2415, 7626, 24034, 75689, 238298, 750179, 2361533, 7433917, 23401274, 73664906, 231889749, 729965584, 2297858029, 7233425149, 22770092131, 71677951146, 225634953382, 710276052265, 2235877300106, 7038315997059, 22155908140233, 69744561869913, 219548839056066

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 4, 3], [2, 3, 4, 1], [3, 2, 1, 4]\}$, $\{[1, 4, 3, 2], [3, 4, 1, 2], [4, 1, 2, 3]\}$,
 $\{[1, 4, 3, 2], [2, 1, 4, 3], [2, 3, 4, 1]\}$, $\{[1, 4, 3, 2], [2, 1, 4, 3], [4, 1, 2, 3]\}$,
 $\{[1, 4, 3, 2], [2, 3, 4, 1], [3, 4, 1, 2]\}$, $\{[3, 2, 1, 4], [3, 4, 1, 2], [4, 1, 2, 3]\}$,
 $\{[2, 1, 4, 3], [3, 2, 1, 4], [4, 1, 2, 3]\}$, $\{[2, 3, 4, 1], [3, 2, 1, 4], [3, 4, 1, 2]\}$

GENERATING FUNCTION: $-\frac{(2x^5-6x^4+10x^3-11x^2+5x-1)x}{2x^6-8x^5+19x^4-27x^3+19x^2-7x+1}$

sequence to 30 terms: 1, 2, 6, 21, 74, 249, 804, 2540, 7977, 25106, 79327, 251328, 797094, 2527977, 8014590, 25401277, 80494292, 255072244, 808301057, 2561517150, 8117640043, 25725562136, 81526606470, 258364283985, 818775016906, 2594754502777, 8222955559892, 26059119154716, 82583185757769, 261711972496378

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 3, 4, 1], [4, 1, 2, 3], [4, 1, 3, 2]\}$, $\{[2, 3, 4, 1], [4, 1, 2, 3], [4, 2, 1, 3]\}$,
 $\{[1, 4, 3, 2], [3, 1, 2, 4], [3, 2, 1, 4]\}$, $\{[1, 4, 3, 2], [2, 3, 1, 4], [3, 2, 1, 4]\}$,
 $\{[1, 3, 4, 2], [1, 4, 3, 2], [3, 2, 1, 4]\}$, $\{[1, 4, 2, 3], [1, 4, 3, 2], [3, 2, 1, 4]\}$,
 $\{[2, 3, 4, 1], [3, 2, 4, 1], [4, 1, 2, 3]\}$, $\{[2, 3, 4, 1], [2, 4, 3, 1], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $-\frac{x(x^3+x^2+x-1)}{2x^5-2x^3-x^2-3x+1}$

sequence to 30 terms: 1, 2, 6, 21, 73, 250, 861, 2967, 10220, 35203, 121263, 417710, 1438865, 4956391, 17073052, 58810751, 202582667, 697827126, 2403772765, 8280164651, 28522299468, 98249443251, 338435304271, 1165792409470, 4015751089881, 13832871688719, 47649452088476, 164135859525367,

565391189223075, 1947576829191782

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 2, 4, 3], [3, 2, 1, 4]}, {[1, 2, 3, 4], [1, 4, 3, 2], [2, 1, 3, 4]},
{[4, 3, 2, 1], [2, 3, 4, 1], [4, 3, 1, 2]}, {[4, 3, 2, 1], [3, 4, 2, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{x(x-1)^2(2x-1)}{2x^4-6x-9x^3+1+11x^2}$

sequence to 30 terms: 1, 2, 6, 21, 76, 275, 991, 3563, 12800, 45976, 165141, 593184, 2130737,
7653715, 27492557, 98754742, 354732286, 1274217137, 4577055240, 16441024023, 59057026159,
212135955587, 762003551500, 2737156984928, 9832012391033, 35317107564316, 126860914845885,
455691103417275, 1636866500495693, 5879710883868466

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[3, 4, 2, 1], [4, 1, 2, 3], [4, 2, 3, 1]}, {[2, 3, 4, 1], [4, 2, 3, 1], [4, 3, 1, 2]},
{[1, 2, 4, 3], [1, 3, 2, 4], [3, 2, 1, 4]}, {[1, 3, 2, 4], [1, 4, 3, 2], [2, 1, 3, 4]}

{[1, 3, 4, 2], [3, 1, 4, 2], [4, 2, 1, 3]}, {[2, 3, 1, 4], [3, 1, 4, 2], [4, 1, 3, 2]},
{[2, 4, 3, 1], [3, 1, 2, 4], [3, 1, 4, 2]}, {[2, 3, 1, 4], [2, 4, 1, 3], [4, 1, 3, 2]},
{[2, 4, 1, 3], [2, 4, 3, 1], [3, 1, 2, 4]}, {[1, 4, 2, 3], [2, 4, 1, 3], [3, 2, 4, 1]},
{[1, 4, 2, 3], [3, 1, 4, 2], [3, 2, 4, 1]}, {[1, 3, 4, 2], [2, 4, 1, 3], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(3x^6+x^5+17x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 73, 232, 654, 1639, 3705, 7678, 14798, 26841, 46257, 76324, 121318,
186699, 279313, 407610, 581878, 814493, 1120185, 1516320, 2023198, 2664367, 3466953, 4462006,
5684862, 7175521, 8979041, 11145948

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [4, 2, 3, 1]}, {[1, 2, 3, 4], [3, 2, 4, 1], [4, 2, 3, 1]},
{[1, 2, 3, 4], [4, 1, 3, 2], [4, 2, 3, 1]}, {[1, 2, 3, 4], [4, 2, 1, 3], [4, 2, 3, 1]},
{[4, 3, 2, 1], [1, 3, 2, 4], [1, 3, 4, 2]}, {[4, 3, 2, 1], [1, 3, 2, 4], [1, 4, 2, 3]},
{[4, 3, 2, 1], [1, 3, 2, 4], [2, 3, 1, 4]}, {[4, 3, 2, 1], [1, 3, 2, 4], [3, 1, 2, 4]}

GENERATING FUNCTION: $-\frac{(3x^6+4x^5-27x^4+40x^3-26x^2+8x-1)x}{(2x-1)^3(x-1)(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 244, 782, 2415, 7232, 21122, 60455, 170228, 473014,
1300271, 3543000, 9584730, 25776439, 68985676, 183892142, 488588991, 1294654352, 3422964722,
9033615431, 23805283556, 62654864998, 164741271119, 432808365192, 1136317847370, 2981731989847,
7820706059452

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 1, 4], [3, 2, 4, 1], [4, 3, 1, 2]}, {[1, 4, 2, 3], [2, 1, 3, 4], [4, 1, 3, 2]},
{[1, 3, 4, 2], [2, 1, 3, 4], [2, 4, 3, 1]}, {[3, 1, 2, 4], [3, 4, 2, 1], [4, 2, 1, 3]},
{[1, 2, 4, 3], [2, 3, 1, 4], [3, 2, 4, 1]}, {[1, 2, 4, 3], [3, 1, 2, 4], [4, 2, 1, 3]},
{[1, 3, 4, 2], [2, 4, 3, 1], [4, 3, 1, 2]}, {[1, 4, 2, 3], [3, 4, 2, 1], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{(3x^7-15x^6+34x^5-54x^4+52x^3-28x^2+8x-1)x}{(2x-1)(x^2-3x+1)(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 71, 222, 652, 1838, 5053, 13682, 36697, 97814, 259585, 686709,
1812257, 4773804, 12557136, 32994311, 86620279, 227256969, 595933506, 1562111927, 4093542416,
10724799901, 28093431826, 73580651302, 192698841652, 504616522623, 1321352035933, 3459842218612

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 4, 3], [2, 3, 4, 1], [4, 2, 1, 3]\}$, $\{[2, 1, 4, 3], [2, 3, 4, 1], [4, 1, 3, 2]\}$,
 $\{[1, 3, 4, 2], [3, 2, 1, 4], [3, 4, 1, 2]\}$, $\{[2, 1, 4, 3], [2, 4, 3, 1], [4, 1, 2, 3]\}$,
 $\{[1, 4, 3, 2], [3, 1, 2, 4], [3, 4, 1, 2]\}$, $\{[1, 4, 3, 2], [2, 3, 1, 4], [3, 4, 1, 2]\}$,
 $\{[2, 1, 4, 3], [3, 2, 4, 1], [4, 1, 2, 3]\}$, $\{[1, 4, 2, 3], [3, 2, 1, 4], [3, 4, 1, 2]\}$

(insert whole entries into FLshort from here on)

GENERATING FUNCTION: $-\frac{6x^6-22x^5+35x^4-36x^3+22x^2-7x+1}{(2x-1)(3x^3-5x^2+4x-1)(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 72, 228, 670, 1864, 5000, 13099, 33789, 86239, 218432, 550107,
1379348, 3446817, 8590103, 21362792, 53037845, 131501095, 325690131, 805941635, 1992965105,
4925514322, 12167639830, 30047049122, 74176872249, 183075826494, 451761419037, 1114599813984
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 3, 1, 4], [2, 4, 3, 1], [4, 1, 2, 3]\}$, $\{[2, 3, 4, 1], [3, 1, 2, 4], [4, 1, 3, 2]\}$,
 $\{[1, 3, 4, 2], [3, 2, 1, 4], [4, 1, 3, 2]\}$, $\{[1, 4, 3, 2], [2, 3, 1, 4], [4, 2, 1, 3]\}$,
 $\{[1, 3, 4, 2], [3, 2, 4, 1], [4, 1, 2, 3]\}$, $\{[1, 4, 2, 3], [2, 3, 4, 1], [4, 2, 1, 3]\}$,
 $\{[1, 4, 2, 3], [2, 4, 3, 1], [3, 2, 1, 4]\}$, $\{[1, 4, 3, 2], [3, 1, 2, 4], [3, 2, 4, 1]\}$

GENERATING FUNCTION: $-\frac{x(x^8-x^7+2x^6+2x^5-7x^4+17x^3-15x^2+6x-1)}{x^9-2x^8+6x^7-4x^6-7x^5+32x^4-40x^3+25x^2-8x+1}$

sequence to 30 terms: 1, 2, 6, 21, 73, 240, 759, 2365, 7369, 23069, 72495, 228186, 718341, 2260566,
7111650, 22370236, 70367607, 221357774, 696358788, 2190680327, 6891703804, 21680712093, 68205549672,
214568342539, 675012376279, 2123528489810, 6680433701268, 21016061929924, 66114705510348,
207991128637943

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 4, 3, 2], [2, 3, 1, 4], [3, 1, 2, 4]\}$, $\{[2, 3, 4, 1], [4, 1, 3, 2], [4, 2, 1, 3]\}$,
 $\{[1, 3, 4, 2], [1, 4, 2, 3], [3, 2, 1, 4]\}$, $\{[2, 4, 3, 1], [3, 2, 4, 1], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $-\frac{(2x^5-9x^4+16x^3-15x^2+6x-1)x}{(2x-1)(x-1)^3(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 240, 746, 2217, 6371, 17864, 49202, 133759, 360175, 963044,
2561604, 6787167, 17930815, 47267250, 124395032, 326966211, 858600521, 2253029402, 5908876016,
15490375561, 40595804773, 106364147270, 278630854386, 729796850937, 1911296568901, 5005166597124
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [3, 1, 4, 2], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [2, 4, 1, 3], [2, 4, 3, 1]\}$,
 $\{[1, 2, 3, 4], [2, 4, 1, 3], [4, 2, 1, 3]\}$, $\{[1, 2, 3, 4], [3, 1, 4, 2], [3, 2, 4, 1]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [3, 1, 4, 2]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [2, 4, 1, 3]\}$,
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [2, 4, 1, 3]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4], [3, 1, 4, 2]\}$

GENERATING FUNCTION: $-\frac{(4x^7+4x^6+11x^5+8x^4+4x^3+4x^2-3x+1)x}{(x^2-x+1)(x-1)^3(x^3+x^2+x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 231, 650, 1668, 3987, 9030, 19628, 41333, 84915, 171087,
339408, 665004, 1289881, 2481422, 4741442, 9009137, 17038193, 32096591, 60263770, 112832696,
210754191, 392853778, 731013500, 1358206773, 2520242339, 4671227187

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 4, 3, 1], [3, 2, 4, 1]\}$, $\{[1, 2, 3, 4], [4, 1, 3, 2], [4, 2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [1, 4, 2, 3]\}$, $\{[4, 3, 2, 1], [2, 3, 1, 4], [3, 1, 2, 4]\}$

GENERATING FUNCTION: $-\frac{x(x-1)^3}{1-6x^3+x^4+x^5-5x+7x^2}$

sequence to 30 terms: 1, 2, 6, 21, 74, 256, 880, 3025, 10406, 35805, 123197, 423881, 1458425, 5017929, 17264954, 59402739, 204384285, 703215622, 2419521666, 8324736993, 28642540011, 98549071193, 339073260558, 1166633785846, 4013983255478, 13810727728612, 47517936238039, 163492779576375, 562522093545950, 1935443917139269

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 2, 3], [1, 4, 3, 2], [3, 2, 4, 1]}, {[2, 3, 4, 1], [2, 4, 3, 1], [3, 1, 2, 4]},
{[2, 3, 1, 4], [4, 1, 2, 3], [4, 1, 3, 2]}, {[1, 4, 2, 3], [2, 3, 4, 1], [3, 2, 4, 1]},
{[2, 4, 3, 1], [3, 1, 2, 4], [3, 2, 1, 4]}, {[1, 3, 4, 2], [1, 4, 3, 2], [4, 2, 1, 3]},
{[1, 3, 4, 2], [4, 1, 2, 3], [4, 2, 1, 3]}, {[2, 3, 1, 4], [3, 2, 1, 4], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{(x^7-6x^6+20x^5-30x^4+27x^3-18x^2+6x-1)x}{(x-1)^8}$

sequence to 30 terms: 1, 2, 6, 21, 72, 220, 590, 1409, 3055, 6118, 11474, 20373, 34542, 56304, 88714, 135713, 202301, 294730, 420718, 589685, 813012, 1104324, 1479798, 1958497, 2562731, 3318446, 4255642, 5408821, 6817466, 8526552

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 3, 4, 2], [4, 3, 1, 2]}, {[1, 2, 3, 4], [1, 4, 2, 3], [3, 4, 2, 1]},
{[1, 2, 3, 4], [2, 3, 1, 4], [4, 3, 1, 2]}, {[1, 2, 3, 4], [3, 1, 2, 4], [3, 4, 2, 1]},
{[4, 3, 2, 1], [1, 2, 4, 3], [3, 2, 4, 1]}, {[4, 3, 2, 1], [1, 2, 4, 3], [4, 2, 1, 3]},
{[4, 3, 2, 1], [2, 1, 3, 4], [2, 4, 3, 1]}, {[4, 3, 2, 1], [2, 1, 3, 4], [4, 1, 3, 2]}

GENERATING FUNCTION: $\frac{(x^9-4x^8+3x^7+5x^6-9x^5+2x^4-6x^3+10x^2-5x+1)x}{(x^3+x^2+x-1)(x-1)^3(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 71, 219, 635, 1776, 4853, 13068, 34862, 92438, 244118, 642947, 1690256, 4437947, 11642149, 30522573, 79988157, 209556918, 548894043, 1437513998, 3764362904, 9856889564, 25808724004, 67573730053, 176920646370, 463203254593, 1212716790219, 3174998014031

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 3, 2], [2, 1, 3, 4], [2, 3, 4, 1]}, {[1, 4, 3, 2], [2, 1, 3, 4], [4, 1, 2, 3]},
{[1, 2, 4, 3], [2, 3, 4, 1], [3, 2, 1, 4]}, {[2, 3, 4, 1], [3, 2, 1, 4], [4, 3, 1, 2]},
{[3, 2, 1, 4], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [3, 4, 2, 1], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 3, 4, 1], [4, 3, 1, 2]}, {[1, 2, 4, 3], [3, 2, 1, 4], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{(x^4-2x^3+6x^2-4x+1)x}{x^5-3x^4+11x^3-12x^2+6x-1}$

sequence to 30 terms: 1, 2, 6, 21, 74, 253, 845, 2791, 9188, 30246, 99639, 328422, 1082797, 3570197, 11771589, 38812310, 127966990, 421913905, 1391070390, 4586427029, 15121681789, 49856965951, 164381014292, 541972783322, 1786912535551, 5891543754590, 19424726640545, 64044335343577, 211157508852081, 696197303307338

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 4, 3, 2], [2, 1, 4, 3], [3, 1, 2, 4]}, {[2, 3, 4, 1], [3, 4, 1, 2], [4, 1, 3, 2]},
{[2, 3, 4, 1], [3, 4, 1, 2], [4, 2, 1, 3]}, {[1, 3, 4, 2], [2, 1, 4, 3], [3, 2, 1, 4]},
{[3, 2, 4, 1], [3, 4, 1, 2], [4, 1, 2, 3]}, {[2, 4, 3, 1], [3, 4, 1, 2], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 1, 4, 3], [2, 3, 1, 4]}, {[1, 4, 2, 3], [2, 1, 4, 3], [3, 2, 1, 4]}

{[1, 4, 3, 2], [2, 3, 1, 4], [3, 1, 4, 2]}, {[2, 3, 4, 1], [3, 1, 4, 2], [4, 2, 1, 3]},
{[2, 3, 4, 1], [2, 4, 1, 3], [4, 1, 3, 2]}, {[2, 4, 1, 3], [3, 2, 4, 1], [4, 1, 2, 3]},

{[1, 4, 2, 3], [3, 1, 4, 2], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 4, 1, 3], [3, 1, 2, 4]},
{[1, 3, 4, 2], [2, 4, 1, 3], [3, 2, 1, 4]}, {[2, 4, 3, 1], [3, 1, 4, 2], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{x(2x^8-4x^6+11x^5-x^4+6x^3-10x^2+5x-1)}{(x^3+x^2+x-1)(x^2-3x+1)(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 70, 210, 589, 1592, 4218, 11069, 28932, 75528, 197165, 514920,
1345484, 3517427, 9198984, 24064848, 62968211, 164789078, 431305300, 1128953923, 2955237882,
7736173110, 20252201791, 53018445686, 138799480530, 363373272865, 951307971458, 2490527894678
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 2, 1, 4], [4, 1, 3, 2]}, {[1, 3, 4, 2], [3, 2, 1, 4], [4, 1, 2, 3]},
{[1, 4, 2, 3], [2, 3, 4, 1], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 3, 4, 1], [3, 1, 2, 4]},
{[1, 4, 3, 2], [2, 3, 1, 4], [4, 1, 2, 3]}, {[1, 4, 3, 2], [3, 2, 4, 1], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 3, 4, 1], [4, 2, 1, 3]}, {[2, 4, 3, 1], [3, 2, 1, 4], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{(x^7-5x^6+8x^5-9x^4+17x^3-15x^2+6x-1)x}{(x^2+1)(x^3-x^2-2x+1)(x-1)^3(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 70, 212, 611, 1712, 4712, 12815, 34576, 92764, 247819, 659840,
1752170, 4642567, 12278546, 32424408, 85514335, 225286086, 592967054, 1559508979, 4098803122,
10766657412, 28268032251, 74187679124, 194632590500, 510468639461, 1338477767302, 3508794502610
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 2, 1, 4], [4, 1, 2, 3]}, {[1, 4, 3, 2], [3, 2, 1, 4], [4, 1, 2, 3]},
{[1, 4, 3, 2], [2, 3, 4, 1], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 3, 4, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{(4x^3-9x^2+5x-1)x}{(x^2-3x+1)^2(x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 72, 236, 745, 2286, 6866, 20285, 59156, 170712, 488401,
1387226, 3916062, 10996581, 30737760, 85573316, 237387961, 656451270, 1810142186, 4978643597,
13661617196, 37409025456, 102238082977, 278920277426, 759695287350, 2066068144821, 5611044289656,
15218767591580
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 1, 4], [3, 2, 4, 1], [4, 1, 3, 2]}, {[1, 4, 2, 3], [3, 2, 4, 1], [4, 1, 3, 2]},
{[1, 4, 2, 3], [2, 3, 1, 4], [4, 1, 3, 2]}, {[2, 4, 3, 1], [3, 1, 2, 4], [4, 2, 1, 3]},
{[1, 3, 4, 2], [2, 4, 3, 1], [3, 1, 2, 4]}, {[1, 3, 4, 2], [2, 4, 3, 1], [4, 2, 1, 3]},
{[1, 4, 2, 3], [2, 3, 1, 4], [3, 2, 4, 1]}, {[1, 3, 4, 2], [3, 1, 2, 4], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{(3x^5-4x^4+4x^3-7x^2+4x-1)x}{4x^6-7x^5+9x^4-15x^3+13x^2-6x+1}$

sequence to 30 terms: 1, 2, 6, 21, 73, 241, 768, 2415, 7587, 23905, 75507, 238759, 755088, 2387570,
7548085, 23860518, 75425046, 238427267, 753705647, 2382596754, 7531821990, 23809446690, 75265885442,
237928695207, 752134317626, 2377628496399, 7516101147253, 23759716349192, 75108639092895,
237431608201632
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 3, 2], [2, 1, 3, 4], [2, 3, 1, 4]}, {[1, 2, 4, 3], [1, 3, 4, 2], [3, 2, 1, 4]},
{[2, 3, 4, 1], [4, 1, 3, 2], [4, 3, 1, 2]}, {[2, 3, 4, 1], [4, 2, 1, 3], [4, 3, 1, 2]},
{[1, 4, 3, 2], [2, 1, 3, 4], [3, 1, 2, 4]}, {[1, 2, 4, 3], [1, 4, 2, 3], [3, 2, 1, 4]},
{[3, 2, 4, 1], [3, 4, 2, 1], [4, 1, 2, 3]}, {[2, 4, 3, 1], [3, 4, 2, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{x(2x-1)(x^2-3x+1)}{3x^4-11x^3+15x^2-7x+1}$

sequence to 30 terms: 1, 2, 6, 21, 76, 277, 1012, 3702, 13553, 49642, 181885, 666542, 2442922,

8954133, 32821408, 120310377, 441018216, 1616644946, 5926191305, 21723934190, 79634709513, 291922123258, 1070118922286, 3922810609205, 14380129657444, 52714290239405, 193238646748572, 708369168053198, 2596721278804929, 9518993674352610

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 3, 4, 2], [1, 4, 3, 2]\}$, $\{[1, 2, 3, 4], [1, 4, 2, 3], [1, 4, 3, 2]\}$,
 $\{[1, 2, 3, 4], [2, 3, 1, 4], [3, 2, 1, 4]\}$, $\{[1, 2, 3, 4], [3, 1, 2, 4], [3, 2, 1, 4]\}$,
 $\{[4, 3, 2, 1], [2, 3, 4, 1], [2, 4, 3, 1]\}$, $\{[4, 3, 2, 1], [2, 3, 4, 1], [3, 2, 4, 1]\}$,
 $\{[4, 3, 2, 1], [4, 1, 2, 3], [4, 1, 3, 2]\}$, $\{[4, 3, 2, 1], [4, 1, 2, 3], [4, 2, 1, 3]\}$

GENERATING FUNCTION: $\frac{(x^5 - 3x^4 + 7x^3 - 10x^2 + 5x - 1)x}{(3x^3 - 5x^2 + 4x - 1)(x^2 - 3x + 1)}$

sequence to 30 terms: 1, 2, 6, 21, 72, 232, 712, 2116, 6155, 17629, 49893, 139851, 388899, 1074280, 2950885, 8066698, 21960083, 59566264, 161060160, 434269077, 1168017399, 3134554480, 8395344424, 22445226508, 59911148129, 159681826564, 425035944306, 1129976852988, 3000770763534, 7960790638177

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 4, 3, 2], [2, 3, 1, 4], [3, 2, 4, 1]\}$, $\{[2, 3, 1, 4], [3, 2, 4, 1], [4, 1, 2, 3]\}$,
 $\{[2, 3, 4, 1], [3, 1, 2, 4], [4, 2, 1, 3]\}$, $\{[1, 4, 2, 3], [2, 3, 4, 1], [4, 1, 3, 2]\}$,
 $\{[1, 4, 2, 3], [3, 2, 1, 4], [4, 1, 3, 2]\}$, $\{[1, 3, 4, 2], [2, 4, 3, 1], [3, 2, 1, 4]\}$,
 $\{[1, 3, 4, 2], [2, 4, 3, 1], [4, 1, 2, 3]\}$, $\{[1, 4, 3, 2], [3, 1, 2, 4], [4, 2, 1, 3]\}$

GENERATING FUNCTION: $-\frac{(x^7 - x^6 + 3x^5 - 3x^4 + 9x^3 - 10x^2 + 5x - 1)x}{x^8 - x^7 + 4x^6 - 7x^5 + 19x^4 - 24x^3 + 18x^2 - 7x + 1}$

sequence to 30 terms: 1, 2, 6, 21, 71, 229, 726, 2299, 7296, 23180, 73648, 233935, 742924, 2359143, 7491146, 23786672, 75528789, 239820410, 761475614, 2417816525, 7676955811, 24375507011, 77395827653, 245742882637, 780268393400, 2477461176578, 7866282679471, 24976532154203, 79303921031262, 251800817939396

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 4, 3, 2], [2, 4, 1, 3]\}$, $\{[1, 2, 3, 4], [1, 4, 3, 2], [3, 1, 4, 2]\}$,
 $\{[1, 2, 3, 4], [2, 4, 1, 3], [3, 2, 1, 4]\}$, $\{[1, 2, 3, 4], [3, 1, 4, 2], [3, 2, 1, 4]\}$,
 $\{[4, 3, 2, 1], [2, 3, 4, 1], [2, 4, 1, 3]\}$, $\{[4, 3, 2, 1], [2, 3, 4, 1], [3, 1, 4, 2]\}$,
 $\{[4, 3, 2, 1], [2, 4, 1, 3], [4, 1, 2, 3]\}$, $\{[4, 3, 2, 1], [3, 1, 4, 2], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $-\frac{x(2x^6 - 10x^5 + 31x^4 - 41x^3 + 26x^2 - 8x + 1)}{(2x - 1)(x - 1)^2(x^2 - 3x + 1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 73, 244, 787, 2468, 7570, 22809, 67727, 198664, 576775, 1659914, 4741254, 13454541, 37964341, 106590076, 297951451, 829614896, 2301930586, 6367200417, 17562228251, 48317182096, 132621950863, 363253065494, 993026186382, 2709804698133, 7382470135105, 20081940292804

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 3, 4, 2], [3, 4, 2, 1], [4, 2, 1, 3]\}$, $\{[1, 4, 2, 3], [3, 2, 4, 1], [4, 3, 1, 2]\}$,
 $\{[2, 3, 1, 4], [3, 4, 2, 1], [4, 1, 3, 2]\}$, $\{[2, 4, 3, 1], [3, 1, 2, 4], [4, 3, 1, 2]\}$,
 $\{[1, 4, 2, 3], [2, 1, 3, 4], [3, 2, 4, 1]\}$, $\{[1, 3, 4, 2], [2, 1, 3, 4], [4, 2, 1, 3]\}$,
 $\{[1, 2, 4, 3], [2, 3, 1, 4], [4, 1, 3, 2]\}$, $\{[1, 2, 4, 3], [2, 4, 3, 1], [3, 1, 2, 4]\}$

GENERATING FUNCTION: $-\frac{(3x^7 - 7x^6 - 3x^5 + 17x^4 - 14x^3 + 13x^2 - 5x + 1)x}{(x - 1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 73, 228, 616, 1460, 3110, 6082, 11102, 19155, 31539, 49924, 76416, 113626, 164744, 233618, 324838, 443825, 596925, 791508, 1036072, 1340352, 1715434, 2173874,

2729822, 3399151, 4199591, 5150868

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [3, 4, 2, 1], [4, 2, 3, 1]\}$, $\{[1, 2, 3, 4], [4, 2, 3, 1], [4, 3, 1, 2]\}$,
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [1, 3, 2, 4]\}$, $\{[4, 3, 2, 1], [1, 3, 2, 4], [2, 1, 3, 4]\}$

GENERATING FUNCTION: $-\frac{x(5x^8-2x^7-x^6+9x^5+10x^4+x^3+6x^2-3x+1)}{(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 70, 200, 481, 1004, 1886, 3270, 5325, 8246, 12254, 17596, 24545, 33400, 44486, 58154, 74781, 94770, 118550, 146576, 179329, 217316, 261070, 311150, 368141, 432654, 505326, 586820

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 4, 3, 2], [4, 2, 3, 1]\}$, $\{[1, 2, 3, 4], [3, 2, 1, 4], [4, 2, 3, 1]\}$,
 $\{[4, 3, 2, 1], [1, 3, 2, 4], [2, 3, 4, 1]\}$, $\{[4, 3, 2, 1], [1, 3, 2, 4], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $-\frac{x(2x-1)(x^4-3x^3+6x^2-4x+1)}{(2x^2-4x+1)(x-1)^4}$

sequence to 30 terms: 1, 2, 6, 21, 74, 256, 876, 2987, 10182, 34726, 118492, 404441, 1380670, 4713644, 16093028, 54944551, 187591798, 640477650, 2186726460, 7465949877, 25490345790, 87029482456, 297137237124, 1014489982275, 3463685453334, 11825761847038, 40375676479484, 137851182221585, 470653375924798, 1606911139253124

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 1, 3, 4], [3, 2, 1, 4], [4, 1, 2, 3]\}$, $\{[2, 3, 4, 1], [3, 2, 1, 4], [3, 4, 2, 1]\}$,
 $\{[1, 4, 3, 2], [4, 1, 2, 3], [4, 3, 1, 2]\}$, $\{[1, 4, 3, 2], [2, 3, 4, 1], [3, 4, 2, 1]\}$,
 $\{[2, 1, 3, 4], [2, 3, 4, 1], [3, 2, 1, 4]\}$, $\{[3, 2, 1, 4], [4, 1, 2, 3], [4, 3, 1, 2]\}$,
 $\{[1, 2, 4, 3], [1, 4, 3, 2], [2, 3, 4, 1]\}$, $\{[1, 2, 4, 3], [1, 4, 3, 2], [4, 1, 2, 3]\}$

GENERATING FUNCTION: $-\frac{x(4x^5-13x^4+23x^3-19x^2+7x-1)}{(2x-1)^2(x-1)(-1+4x-3x^2+x^3)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 262, 891, 2964, 9700, 31374, 100639, 320949, 1019396, 3228687, 10206180, 32219494, 101619194, 320303001, 1009163739, 3178610330, 10009874543, 31518335944, 99233864812, 312414443206, 983524845979, 3096194776709, 9746837115912, 30682741964331, 965875908103, 304050920621542

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[2, 3, 1, 4], [4, 2, 1, 3], [4, 3, 1, 2]\}$, $\{[2, 1, 3, 4], [2, 3, 1, 4], [2, 4, 3, 1]\}$,
 $\{[3, 1, 2, 4], [3, 2, 4, 1], [3, 4, 2, 1]\}$, $\{[2, 1, 3, 4], [3, 1, 2, 4], [4, 1, 3, 2]\}$,
 $\{[1, 3, 4, 2], [4, 1, 3, 2], [4, 3, 1, 2]\}$, $\{[1, 2, 4, 3], [1, 3, 4, 2], [3, 2, 4, 1]\}$,
 $\{[1, 2, 4, 3], [1, 4, 2, 3], [4, 2, 1, 3]\}$, $\{[1, 4, 2, 3], [2, 4, 3, 1], [3, 4, 2, 1]\}$

GENERATING FUNCTION: $-\frac{x(x^8-2x^7-x^6+4x^5-x^4-6x^2+4x-1)}{(2x-1)(x^2-3x+1)(x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 71, 220, 646, 1835, 5095, 13924, 37627, 100859, 268756, 713023, 1885543, 4974068, 13097587, 34440547, 90467764, 237450167, 622857583, 1633072276, 4280258635, 11215502411, 29381846164, 76961231215, 201564237751, 527856262580, 1382254111075, 3619405192819

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 1, 4, 3], [2, 4, 3, 1]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3], [3, 2, 4, 1]\}$,
 $\{[1, 2, 3, 4], [2, 1, 4, 3], [4, 1, 3, 2]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3], [4, 2, 1, 3]\}$,
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [3, 4, 1, 2]\}$, $\{[4, 3, 2, 1], [1, 4, 2, 3], [3, 4, 1, 2]\}$,
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [3, 4, 1, 2]\}$, $\{[4, 3, 2, 1], [3, 1, 2, 4], [3, 4, 1, 2]\}$

GENERATING FUNCTION: $-\frac{(5x^8-12x^7+3x^6+11x^5-26x^4+34x^3-22x^2+7x-1)x}{(2x-1)(x-1)^6(x^2-1+x)}$

sequence to 30 terms: 1, 2, 6, 21, 71, 213, 569, 1389, 3175, 6927, 14632, 30238, 61596, 124335, 249598, 499492, 997953, 1992420, 3977093, 7939304, 15852025, 31658506, 63240940, 126356805, 252509950, 504690182, 1008848258, 2016839103, 4032297299, 8062370351
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 4, 2], [3, 2, 1, 4], [4, 3, 1, 2]}, {[1, 4, 2, 3], [3, 2, 1, 4], [3, 4, 2, 1]},
{[1, 4, 3, 2], [2, 3, 1, 4], [4, 3, 1, 2]}, {[2, 1, 3, 4], [2, 4, 3, 1], [4, 1, 2, 3]},
{[1, 2, 4, 3], [2, 3, 4, 1], [4, 2, 1, 3]}, {[2, 1, 3, 4], [2, 3, 4, 1], [4, 1, 3, 2]},
{[1, 2, 4, 3], [3, 2, 4, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [3, 1, 2, 4], [3, 4, 2, 1]}

GENERATING FUNCTION: $-\frac{(x-1)^4x}{x^5-5x^4+13x^3-12x^2+6x-1}$

sequence to 30 terms: 1, 2, 6, 21, 76, 273, 971, 3439, 12172, 43098, 152649, 540730, 1915445, 6785029, 24034177, 85134498, 301565746, 1068215101, 3783864272, 13403320805, 47477655647, 168176809999, 595721056436, 2110181402286, 7474749309041, 26477286366134, 93788656245849, 332221056144025, 1176803619530785, 4168509892130818
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 4, 3, 2], [2, 1, 3, 4], [2, 1, 4, 3]}, {[2, 3, 4, 1], [3, 4, 1, 2], [4, 3, 1, 2]},
{[3, 4, 1, 2], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 2, 4, 3], [2, 1, 4, 3], [3, 2, 1, 4]}

GENERATING FUNCTION: $-\frac{(x^9-11x^8+47x^7-109x^6+162x^5-165x^4+109x^3-44x^2+10x-1)x}{(x^2-3x+1)^2(x-1)^6}$

sequence to 30 terms: 1, 2, 6, 21, 72, 230, 692, 2004, 5683, 15948, 44523, 123924, 344113, 953353, 2635064, 7266192, 19990484, 54876361, 150331490, 411034895, 1121843295, 3056805471, 8316456845, 22593934835, 61301610481, 166118362404, 449639670226, 1215751835943, 3283883296672, 8861749352592
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 2, 4, 1], [4, 1, 3, 2]}, {[2, 1, 3, 4], [2, 4, 3, 1], [4, 2, 1, 3]},
{[1, 2, 4, 3], [2, 4, 3, 1], [4, 2, 1, 3]}, {[1, 2, 4, 3], [3, 2, 4, 1], [4, 1, 3, 2]},
{[1, 4, 2, 3], [2, 3, 1, 4], [3, 4, 2, 1]}, {[1, 4, 2, 3], [2, 3, 1, 4], [4, 3, 1, 2]},
{[1, 3, 4, 2], [3, 1, 2, 4], [3, 4, 2, 1]}, {[1, 3, 4, 2], [3, 1, 2, 4], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{x(-1+x^{11}+16x^{10}-13x^4-5x^3+25x^6+10x^9-7x^5+25x^7-x^2+17x^8)}{-2x-x^2+x^{12}+17x^9+1-5x^4-2x^3-14x^5+25x^7+25x^8+10x^{10}+16x^{11}-7x^6}$

sequence to 30 terms: 1, 2, 6, 21, 70, 204, 560, 1617, 4796, 14249, 41939, 122658, 358991, 1053628, 3095381, 9089525, 26674879, 78271099, 229705211, 674214603, 1978919196, 5808153968, 17046573229, 50030848109, 146839772058, 430974323821, 1264905691383, 3712476662089, 10896049867698, 31979726638169
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 4, 3, 2], [3, 2, 1, 4]}, {[4, 3, 2, 1], [2, 3, 4, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{x(x^9-2x^8-10x^7+35x^6-64x^5+75x^4-59x^3+29x^2-8x+1)}{(x-1)^2(3x^3-5x^2+4x-1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 72, 229, 683, 1954, 5452, 14974, 40671, 109509, 292743, 777810, 2055833, 5409187, 14175902, 37020669, 96378274, 250204801, 647907945, 1673920904, 4315683002, 11105412898, 28527156939, 73161209063, 187350573875, 479102344436, 1223610001503, 3121312202893
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 1, 4], [3, 4, 2, 1], [4, 1, 2, 3]}, {[2, 3, 4, 1], [3, 1, 2, 4], [4, 3, 1, 2]},
 {[1, 4, 3, 2], [2, 1, 3, 4], [4, 2, 1, 3]}, {[1, 3, 4, 2], [3, 4, 2, 1], [4, 1, 2, 3]},
 {[1, 2, 4, 3], [2, 4, 3, 1], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 1, 3, 4], [3, 2, 4, 1]},
 {[1, 4, 2, 3], [2, 3, 4, 1], [4, 3, 1, 2]}, {[1, 2, 4, 3], [3, 2, 1, 4], [4, 1, 3, 2]}

GENERATING FUNCTION: $\frac{x(6x^{13}+8x^{12}-23x^{11}-49x^{10}-15x^9+56x^8+54x^7-26x^6-22x^5-3x^4+3x^3+6x^2-4x+1)}{(x^2-1+x)^2(x^3+x^2+x-1)(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 70, 192, 441, 929, 1870, 3670, 7097, 13600, 25907, 49142, 92911, 175190, 329563, 618681, 1159262, 2168484, 4050003, 7553315, 14068790, 26173531, 48640712, 90304947, 167508064, 310461529, 574989748, 1064197426

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [4, 2, 1, 3]}, {[1, 2, 3, 4], [3, 2, 4, 1], [4, 1, 3, 2]},
 {[4, 3, 2, 1], [1, 3, 4, 2], [3, 1, 2, 4]}, {[4, 3, 2, 1], [1, 4, 2, 3], [2, 3, 1, 4]}

GENERATING FUNCTION: $-\frac{(4x^8-35x^7+114x^6-197x^5+208x^4-135x^3+52x^2-11x+1)x}{(x^2-3x+1)^2(x-1)^3(2x-1)^2}$

sequence to 30 terms: 1, 2, 6, 21, 75, 258, 845, 2649, 8019, 23630, 68216, 193861, 544312, 1514024, 4180488, 11476203, 31358553, 85367436, 231691655, 627259131, 1694678721, 4570645292, 12309288446, 33108960151, 88958761210, 238792953938, 640459354110, 1716475912209, 4597182110439, 12304948384230

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THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[3, 1, 2, 4], [3, 4, 2, 1], [4, 2, 3, 1]}, {[2, 3, 1, 4], [4, 2, 3, 1], [4, 3, 1, 2]},
 {[1, 4, 2, 3], [3, 4, 2, 1], [4, 2, 3, 1]}, {[1, 3, 4, 2], [4, 2, 3, 1], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [1, 3, 2, 4], [3, 2, 4, 1]}, {[1, 2, 4, 3], [1, 3, 2, 4], [4, 2, 1, 3]},
 {[1, 3, 2, 4], [2, 1, 3, 4], [2, 4, 3, 1]}, {[1, 3, 2, 4], [2, 1, 3, 4], [4, 1, 3, 2]}

GENERATING FUNCTION: $\frac{x(2x^{10}+4x^9+9x^8+9x^7+4x^6-18x^5-15x^4-5x^3-x^2+x-1)}{(x-1)(x^3+x^2+x-1)(x^5+3x^4+2x^3+x^2+x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 70, 199, 502, 1232, 2962, 6970, 16138, 36982, 84083, 189918, 426722, 954884, 2129756, 4737382, 10514539, 23294911, 51533491, 113864171, 251330512, 554292891, 1221605912, 2690738608, 5923829534, 13036444247, 28679413033, 63075388125

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 4, 3, 2], [3, 2, 4, 1]}, {[1, 2, 3, 4], [1, 4, 3, 2], [4, 2, 1, 3]},
 {[1, 2, 3, 4], [2, 4, 3, 1], [3, 2, 1, 4]}, {[1, 2, 3, 4], [3, 2, 1, 4], [4, 1, 3, 2]},
 {[4, 3, 2, 1], [1, 3, 4, 2], [4, 1, 2, 3]}, {[4, 3, 2, 1], [1, 4, 2, 3], [2, 3, 4, 1]},
 {[4, 3, 2, 1], [2, 3, 1, 4], [4, 1, 2, 3]}, {[4, 3, 2, 1], [2, 3, 4, 1], [3, 1, 2, 4]}

GENERATING FUNCTION: $-\frac{(2x^5-9x^4+14x^3-14x^2+6x-1)x}{(x-1)(x^2-3x+1)(2x^3-4x^2+4x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 260, 869, 2817, 8920, 27745, 85113, 258256, 776717, 2319093, 6882432, 20321017, 59738793, 174960544, 510756501, 1486819229, 4317417984, 12509488161, 36175413601, 104433440896, 301022300573, 866485007957, 2491082722400, 7153751750089, 20523229989113, 58825513697

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 1, 4], [3, 1, 2, 4], [4, 3, 1, 2]}, {[2, 3, 1, 4], [3, 1, 2, 4], [3, 4, 2, 1]},
 {[1, 3, 4, 2], [1, 4, 2, 3], [4, 3, 1, 2]}, {[1, 3, 4, 2], [1, 4, 2, 3], [3, 4, 2, 1]},
 {[2, 1, 3, 4], [2, 4, 3, 1], [3, 2, 4, 1]}, {[2, 1, 3, 4], [4, 1, 3, 2], [4, 2, 1, 3]},
 {[1, 2, 4, 3], [2, 4, 3, 1], [3, 2, 4, 1]}, {[1, 2, 4, 3], [4, 1, 3, 2], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(-1+4x+x^4-2x^3-4x^2)}{(x^4-2x^3-5x^2+5x-1)(x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 74, 257, 881, 2995, 10132, 34182, 115143, 387538, 1303745, 4384933, 14746009, 49585430, 166730986, 560620697, 1885023706, 6338138505, 21311063589, 71655198707, 240929422288, 810087129234, 2723789200907, 9158306712498, 30793342721777, 103537688773817, 348128906036113, 1170527707580426

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 2, 4, 1], [4, 1, 3, 2]}, {[1, 4, 2, 3], [1, 4, 3, 2], [2, 3, 1, 4]},
{[2, 4, 3, 1], [4, 1, 2, 3], [4, 2, 1, 3]}, {[1, 3, 4, 2], [1, 4, 3, 2], [3, 1, 2, 4]},
{[1, 4, 2, 3], [2, 3, 1, 4], [3, 2, 1, 4]}, {[2, 3, 4, 1], [2, 4, 3, 1], [4, 2, 1, 3]},
{[1, 3, 4, 2], [3, 1, 2, 4], [3, 2, 1, 4]}, {[3, 2, 4, 1], [4, 1, 2, 3], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{(2x^7-11x^6+16x^5-33x^4+27x^3-18x^2+6x-1)x}{(x-1)^8}$

sequence to 30 terms: 1, 2, 6, 21, 75, 248, 735, 1952, 4697, 10378, 21320, 41163, 75363, 131808, 221561, 359742, 566561, 868514, 1299754, 1903649, 2734539, 3859704, 5361555, 7340060, 9915417, 13230986, 17456492, 22791511, 29469251, 37760640

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 3, 4, 1], [3, 4, 2, 1]}, {[1, 2, 3, 4], [4, 1, 2, 3], [4, 3, 1, 2]},
{[4, 3, 2, 1], [1, 2, 4, 3], [1, 4, 3, 2]}, {[4, 3, 2, 1], [2, 1, 3, 4], [3, 2, 1, 4]}

GENERATING FUNCTION: $-\frac{(3x^3-8x^2+5x-1)x}{3x^4-14x^3+16x^2-7x+1}$

sequence to 30 terms: 1, 2, 6, 21, 76, 274, 978, 3463, 12201, 42869, 150415, 527426, 1848905, 6480722, 22715293, 79617891, 279063942, 978133274, 3428414441, 12016810218, 42119714480, 147632440224, 517461749617, 1813738775801, 6357278456431, 22282695956167, 78102374002636, 273754164782411, 959527077451746, 3363208053812049

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 4, 3, 1], [4, 1, 2, 3], [4, 2, 3, 1]}, {[2, 3, 4, 1], [4, 1, 3, 2], [4, 2, 3, 1]},
{[2, 3, 4, 1], [4, 2, 1, 3], [4, 2, 3, 1]}, {[1, 3, 2, 4], [1, 4, 2, 3], [3, 2, 1, 4]},
{[1, 3, 2, 4], [1, 3, 4, 2], [3, 2, 1, 4]}, {[1, 3, 2, 4], [1, 4, 3, 2], [2, 3, 1, 4]},
{[1, 3, 2, 4], [1, 4, 3, 2], [3, 1, 2, 4]}, {[3, 2, 4, 1], [4, 1, 2, 3], [4, 2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(x^4-10x^3+13x^2-6x+1)}{(x-1)(x^4-13x^3+16x^2-7x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 264, 914, 3127, 10621, 35932, 121324, 409301, 1380417, 4655382, 15700590, 52954137, 178609067, 602449564, 2032105066, 6854506171, 23121097405, 77990499392, 263072412420, 887378656761, 2993247393297, 10096624106970, 34057260581510, 114879675815149, 387504427399195, 1307103942204640

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 2, 4, 1], [4, 2, 1, 3]}, {[2, 4, 3, 1], [4, 1, 2, 3], [4, 1, 3, 2]},
{[1, 3, 4, 2], [1, 4, 3, 2], [2, 3, 1, 4]}, {[1, 4, 2, 3], [3, 1, 2, 4], [3, 2, 1, 4]},
{[1, 3, 4, 2], [2, 3, 1, 4], [3, 2, 1, 4]}, {[2, 3, 4, 1], [2, 4, 3, 1], [4, 1, 3, 2]},
{[1, 4, 2, 3], [1, 4, 3, 2], [3, 1, 2, 4]}, {[3, 2, 4, 1], [4, 1, 2, 3], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(-1+6x-10x^4+17x^3+x^6-14x^2)}{34x^4-38x^3+24x^2-14x^5-8x+1+2x^6}$

sequence to 30 terms: 1, 2, 6, 21, 76, 278, 1019, 3734, 13678, 50100, 183514, 672230, 2462490, 9020556, 33043996, 121046420, 443416116, 1624318192, 5950189652, 21796689568, 79845470136, 292489332488, 1071444754512, 3924908494984, 14377695776152, 52668268899232, 192934013436752, 706754452474960, 2588977688520032, 9483923940660064

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 3, 2, 4], [1, 4, 3, 2]}, {[1, 2, 3, 4], [1, 3, 2, 4], [3, 2, 1, 4]},
{[4, 3, 2, 1], [2, 3, 4, 1], [4, 2, 3, 1]}, {[4, 3, 2, 1], [4, 1, 2, 3], [4, 2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(x^7-3x^6+12x^5-18x^4+22x^3-16x^2+6x-1)}{x^8-4x^7+18x^6-35x^5+51x^4-47x^3+26x^2-8x+1}$

sequence to 30 terms: 1, 2, 6, 21, 73, 241, 766, 2399, 7514, 23648, 74706, 236352, 747770, 2364773, 7475960, 23631523, 74699975, 236139689, 746503680, 2359936092, 7460507061, 23584937695, 74558966315, 235702724400, 745125438325, 2355561039070, 7446624613760, 23540983585802, 74420013414420, 235263670168398

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 3, 4, 1], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 1, 3, 4], [3, 2, 1, 4]},
{[1, 2, 4, 3], [1, 4, 3, 2], [3, 2, 1, 4]}, {[2, 3, 4, 1], [4, 1, 2, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(x^3-7x^2+5x-1)x}{(2x^2-4x+1)(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 266, 935, 3263, 11326, 39155, 134955, 464094, 1593231, 5462447, 18709694, 64035275, 219039523, 748919582, 2559777591, 8746974087, 29883271518, 102078226067, 348648695387, 1190706243710, 4066228992799, 13885339795679, 47413708724094, 161896741574043, 552792500128083, 1887462784935518

(not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[1, 3, 4, 2], [3, 1, 4, 2], [4, 3, 1, 2]}, {[3, 1, 2, 4], [3, 1, 4, 2], [3, 4, 2, 1]},
{[1, 2, 4, 3], [2, 4, 1, 3], [4, 2, 1, 3]}, {[2, 1, 3, 4], [2, 4, 1, 3], [2, 4, 3, 1]},
{[2, 1, 3, 4], [3, 1, 4, 2], [4, 1, 3, 2]}, {[2, 3, 1, 4], [2, 4, 1, 3], [4, 3, 1, 2]},
{[1, 4, 2, 3], [2, 4, 1, 3], [3, 4, 2, 1]}, {[1, 2, 4, 3], [3, 1, 4, 2], [3, 2, 4, 1]}

{[3, 1, 2, 4], [3, 4, 1, 2], [3, 4, 2, 1]}, {[1, 4, 2, 3], [3, 4, 1, 2], [3, 4, 2, 1]},
{[2, 3, 1, 4], [3, 4, 1, 2], [4, 3, 1, 2]}, {[2, 1, 3, 4], [2, 1, 4, 3], [4, 1, 3, 2]},
{[2, 1, 3, 4], [2, 1, 4, 3], [2, 4, 3, 1]}, {[1, 3, 4, 2], [3, 4, 1, 2], [4, 3, 1, 2]},
{[1, 2, 4, 3], [2, 1, 4, 3], [3, 2, 4, 1]}, {[1, 2, 4, 3], [2, 1, 4, 3], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(4x^6-2x^5+17x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 73, 229, 634, 1562, 3481, 7132, 13622, 24531, 42033, 69031, 109306, 167680, 250193, 364294, 519046, 725345, 996153, 1346745, 1794970, 2361526, 3070249, 3948416, 5027062, 6341311, 7930721, 9839643

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [3, 4, 1, 2], [3, 4, 2, 1]}, {[1, 2, 3, 4], [3, 4, 1, 2], [4, 3, 1, 2]},
{[4, 3, 2, 1], [1, 2, 4, 3], [2, 1, 4, 3]}, {[4, 3, 2, 1], [2, 1, 3, 4], [2, 1, 4, 3]}

GENERATING FUNCTION: $\frac{x(2x^9-16x^8+15x^7+13x^6-8x^5-11x^4-x^3-6x^2+3x-1)}{(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 71, 204, 479, 951, 1687, 2764, 4269, 6299, 8961, 12372, 16659, 21959, 28419, 36196, 45457, 56379, 69149, 83964, 101031, 120567, 142799, 167964, 196309, 228091, 263577, 303044

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [1, 2, 4, 3], [2, 3, 4, 1]}, {[1, 2, 3, 4], [3, 2, 1, 4], [4, 3, 1, 2]},
{[1, 2, 3, 4], [1, 4, 3, 2], [3, 4, 2, 1]}, {[1, 2, 3, 4], [1, 4, 3, 2], [4, 3, 1, 2]}

{[1, 2, 3, 4], [3, 2, 1, 4], [3, 4, 2, 1]}, {[4, 3, 2, 1], [1, 2, 4, 3], [4, 1, 2, 3]},
{[4, 3, 2, 1], [2, 1, 3, 4], [2, 3, 4, 1]}, {[4, 3, 2, 1], [2, 1, 3, 4], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{x(4x^5-11x^4+18x^3-15x^2+6x-1)}{(4x^3-7x^2+5x-1)(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 73, 244, 794, 2553, 8179, 26192, 83906, 268883, 861815, 2762484,
8855204, 28385839, 90992639, 291683062, 935010104, 2997239539, 9607859097, 30798658994, 98727239296,
316477019741, 1014489059421, 3252015115894, 10424560242258, 33416651637465, 107119396954821,
343378664280584

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 4, 3], [2, 4, 3, 1], [3, 1, 2, 4]}, {[1, 3, 4, 2], [3, 4, 1, 2], [4, 2, 1, 3]},
{[1, 4, 2, 3], [3, 2, 4, 1], [3, 4, 1, 2]}, {[2, 3, 1, 4], [3, 4, 1, 2], [4, 1, 3, 2]},
{[2, 4, 3, 1], [3, 1, 2, 4], [3, 4, 1, 2]}, {[1, 3, 4, 2], [2, 1, 4, 3], [4, 2, 1, 3]},
{[2, 1, 4, 3], [2, 3, 1, 4], [4, 1, 3, 2]}, {[1, 4, 2, 3], [2, 1, 4, 3], [3, 2, 4, 1]}

GENERATING FUNCTION: $-\frac{(4x^8-33x^7+91x^6-151x^5+161x^4-108x^3+44x^2-10x+1)x}{(x-1)^5(2x-1)^2(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 74, 249, 798, 2459, 7351, 21457, 61434, 173120, 481461,
1324409, 3610321, 9768290, 26267339, 70277944, 187252097, 497243636, 1316797076, 3479358732,
9176849481, 24168624981, 63576482894, 167080909424, 438756754748, 1151471044579, 3020421094496,
7919724334427

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 3, 4, 2], [4, 1, 3, 2]}, {[1, 2, 3, 4], [1, 4, 2, 3], [2, 4, 3, 1]},
{[1, 2, 3, 4], [2, 3, 1, 4], [4, 2, 1, 3]}, {[1, 2, 3, 4], [3, 1, 2, 4], [3, 2, 4, 1]},
{[4, 3, 2, 1], [1, 3, 4, 2], [3, 2, 4, 1]}, {[4, 3, 2, 1], [1, 4, 2, 3], [4, 2, 1, 3]},
{[4, 3, 2, 1], [2, 3, 1, 4], [2, 4, 3, 1]}, {[4, 3, 2, 1], [3, 1, 2, 4], [4, 1, 3, 2]}

GENERATING FUNCTION: $-\frac{(x^8+2x^7-18x^6+47x^5-65x^4+55x^3-28x^2+8x-1)x}{x^9+2x^8+86x^6-144x^5+150x^4-100x^3+42x^2-10x+1}$

sequence to 30 terms: 1, 2, 6, 21, 73, 245, 804, 2617, 8511, 27709, 90283, 294231, 958826, 3124175,
10178664, 33160777, 108030912, 351937426, 1146512182, 3734982701, 12167348792, 39637060036,
129123584284, 420638265356, 1370286347625, 4463889391210, 14541700425059, 47371455692470,
154318538952999, 502712122814838

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 4, 1, 3], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 1, 3, 4], [2, 4, 1, 3]},
{[1, 4, 3, 2], [2, 1, 3, 4], [3, 1, 4, 2]}, {[1, 2, 4, 3], [2, 4, 1, 3], [3, 2, 1, 4]},
{[3, 1, 4, 2], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 2, 4, 3], [3, 1, 4, 2], [3, 2, 1, 4]},
{[2, 3, 4, 1], [3, 1, 4, 2], [4, 3, 1, 2]}, {[2, 3, 4, 1], [2, 4, 1, 3], [4, 3, 1, 2]}

GENERATING FUNCTION: $\frac{x(x^9-5x^8+6x^7+x^6+2x^5-17x^4+14x^3-13x^2+5x-1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 73, 229, 629, 1521, 3304, 6578, 12201, 21353, 35607, 57007, 88153,
132293, 193422, 276388, 387005, 532173, 720005, 959961, 1262989, 1641673, 2110388, 2685462,
3385345, 4230785, 5245011, 6453923

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [1, 3, 2, 4], [3, 4, 2, 1]}, {[1, 2, 3, 4], [1, 3, 2, 4], [4, 3, 1, 2]},
{[4, 3, 2, 1], [1, 2, 4, 3], [4, 2, 3, 1]}, {[4, 3, 2, 1], [2, 1, 3, 4], [4, 2, 3, 1]}

GENERATING FUNCTION: $\frac{(2x^6+3x^5+4x^4+2x^3-9x^2+5x-1)x}{(x-1)(x^2-3x+1)(x^2-1+x)(2x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 72, 229, 686, 1972, 5514, 15131, 40986, 110013, 293376, 778678, 2059646, 5434009, 14309508, 37628165, 98841306, 259426800, 680498610, 1784183887, 4676276006, 12253079101, 32099813532, 84080037314, 220207603686, 576677309277, 1510093273824, 3954140215141
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 2, 4], [2, 4, 3, 1], [4, 1, 2, 3]}, {[1, 3, 2, 4], [2, 3, 4, 1], [4, 2, 1, 3]},
 {[1, 3, 2, 4], [2, 3, 4, 1], [4, 1, 3, 2]}, {[1, 3, 2, 4], [3, 2, 4, 1], [4, 1, 2, 3]},
 {[1, 4, 3, 2], [2, 3, 1, 4], [4, 2, 3, 1]}, {[1, 3, 4, 2], [3, 2, 1, 4], [4, 2, 3, 1]},
 {[1, 4, 2, 3], [3, 2, 1, 4], [4, 2, 3, 1]}, {[1, 4, 3, 2], [3, 1, 2, 4], [4, 2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(x^8-9x^7+31x^6-62x^5+74x^4-58x^3+29x^2-8x+1)}{(x-1)^5(2x-1)(x^3-2x^2+3x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 74, 247, 769, 2247, 6238, 16649, 43132, 109257, 272073, 668704, 1626916, 3926643, 9416939, 22468173, 53383884, 126404204, 298455204, 703023125, 1652724170, 3878899500, 9090904341, 21280894049, 49766276975, 116280945813, 271497163531, 633507834437
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [3, 1, 2, 4], [3, 2, 4, 1]}, {[1, 2, 3, 4], [1, 3, 4, 2], [3, 2, 4, 1]},
 {[1, 2, 3, 4], [1, 4, 2, 3], [4, 2, 1, 3]}, {[1, 2, 3, 4], [2, 3, 1, 4], [2, 4, 3, 1]},
 {[1, 2, 3, 4], [3, 1, 2, 4], [4, 1, 3, 2]}, {[4, 3, 2, 1], [1, 3, 4, 2], [4, 1, 3, 2]},
 {[4, 3, 2, 1], [1, 4, 2, 3], [2, 4, 3, 1]}, {[4, 3, 2, 1], [2, 3, 1, 4], [4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{x(x^9-4x^8+3x^7+6x^6-7x^5+14x^4-14x^3+13x^2-5x+1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 6, 21, 70, 203, 517, 1187, 2504, 4921, 9107, 16009, 26922, 43567, 68177, 103591, 153356, 221837, 314335, 437213, 598030, 805683, 1070557, 1404683, 1821904, 2338049, 2971115, 3741457, 4671986, 5788375
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 2, 4], [3, 4, 2, 1], [4, 1, 2, 3]}, {[1, 3, 2, 4], [2, 3, 4, 1], [4, 3, 1, 2]},
 {[1, 4, 3, 2], [2, 1, 3, 4], [4, 2, 3, 1]}, {[1, 2, 4, 3], [3, 2, 1, 4], [4, 2, 3, 1]}

GENERATING FUNCTION: $-\frac{x(2x^7-8x^6+19x^5-29x^4+27x^3-18x^2+6x-1)}{(x-1)^8}$

sequence to 30 terms: 1, 2, 6, 21, 71, 213, 564, 1340, 2909, 5860, 11090, 19911, 34179, 56447, 90144, 139782, 211193, 311798, 450910, 640073, 893439, 1228185, 1664972, 2228448, 2947797, 3857336, 4997162, 6413851, 8161211, 10301091
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3, 4], [3, 4, 2, 1], [4, 1, 3, 2]}, {[1, 2, 4, 3], [3, 4, 2, 1], [4, 2, 1, 3]},
 {[1, 4, 2, 3], [2, 1, 3, 4], [3, 4, 2, 1]}, {[1, 3, 4, 2], [2, 1, 3, 4], [4, 3, 1, 2]},
 {[2, 1, 3, 4], [2, 4, 3, 1], [4, 3, 1, 2]}, {[1, 2, 4, 3], [2, 3, 1, 4], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [3, 1, 2, 4], [3, 4, 2, 1]}, {[1, 2, 4, 3], [3, 2, 4, 1], [4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(x^6+16x^5+13x^4+x^3+6x^2-3x+1)x}{(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 73, 222, 563, 1226, 2376, 4213, 6972, 10923, 16371, 23656, 33153, 45272, 60458, 79191, 101986, 129393, 161997, 200418, 245311, 297366, 357308, 425897, 503928, 592231, 691671, 803148
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [3, 4, 2, 1]}, {[1, 2, 3, 4], [3, 2, 4, 1], [3, 4, 2, 1]},
 {[1, 2, 3, 4], [4, 1, 3, 2], [4, 3, 1, 2]}, {[1, 2, 3, 4], [4, 2, 1, 3], [4, 3, 1, 2]}

{[4, 3, 2, 1], [1, 2, 4, 3], [1, 3, 4, 2]}, {[4, 3, 2, 1], [1, 2, 4, 3], [1, 4, 2, 3]},
 {[4, 3, 2, 1], [2, 1, 3, 4], [2, 3, 1, 4]}, {[4, 3, 2, 1], [2, 1, 3, 4], [3, 1, 2, 4]}

GENERATING FUNCTION: $\frac{x(24x^{13}-188x^{12}+585x^{11}-913x^{10}+688x^9-88x^8-309x^7+442x^6-471x^5+374x^4-196x^3+64x^2-12x+1)}{(2x-1)^3(x-1)^5(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 71, 209, 545, 1348, 3270, 7908, 19201, 46918, 115407, 285642, 711031, 1779289, 4474537, 11304830, 28685778, 73083753, 186888321, 479511547, 1234006566, 3184091383, 8234890726, 21340207949, 55396690600, 144013075958, 374847347100, 976686950573
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4], [2, 4, 3, 1], [4, 1, 3, 2]}, {[1, 2, 3, 4], [3, 2, 4, 1], [4, 2, 1, 3]},
 {[4, 3, 2, 1], [1, 3, 4, 2], [2, 3, 1, 4]}, {[4, 3, 2, 1], [1, 4, 2, 3], [3, 1, 2, 4]}

GENERATING FUNCTION: $-\frac{(2x^8-7x^7+7x^6-8x^5+8x^4-12x^3+11x^2-5x+1)x}{2x^9-7x^8+7x^7-10x^6+16x^5-27x^4+29x^3-19x^2+7x-1}$

sequence to 30 terms: 1, 2, 6, 21, 72, 233, 739, 2343, 7458, 23801, 76016, 242777, 775265, 2475513, 7904587, 25240597, 80598107, 257366469, 821825201, 2624260190, 8379812195, 26758495711, 85445488885, 272845382481, 871252605664, 2782092566535, 8883805937470, 28367858414881, 90584530704662, 289255434382502
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[4, 3, 2, 1], [2, 3, 4, 1], [4, 1, 3, 2]}, {[1, 2, 3, 4], [1, 3, 4, 2], [3, 2, 1, 4]},
 {[1, 2, 3, 4], [1, 4, 2, 3], [3, 2, 1, 4]}, {[1, 2, 3, 4], [1, 4, 3, 2], [2, 3, 1, 4]},
 {[1, 2, 3, 4], [1, 4, 3, 2], [3, 1, 2, 4]}, {[4, 3, 2, 1], [2, 3, 4, 1], [4, 2, 1, 3]},
 {[4, 3, 2, 1], [2, 4, 3, 1], [4, 1, 2, 3]}, {[4, 3, 2, 1], [3, 2, 4, 1], [4, 1, 2, 3]}

GENERATING FUNCTION: $-\frac{x(x-1)^3}{(x^2-x+1)(2x^2-4x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 250, 853, 2911, 9938, 33931, 115849, 395534, 1350437, 4610679, 15741842, 53746011, 183500361, 626509422, 2139036965, 7303129015, 24934442130, 85131510491, 290657157705, 992365609838, 3388148123941, 11567861276087, 39495148856466, 134844872873691, 460389193781833, 1571867029379950
 (not in online encyclopedia of integer sequences)

THERE ARE 2 SYMMETRY CLASSES WITH THIS SEQUENCE:

{[3, 4, 2, 1], [4, 1, 2, 3], [4, 3, 1, 2]}, {[2, 3, 4, 1], [3, 4, 2, 1], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [2, 1, 3, 4], [3, 2, 1, 4]}, {[1, 2, 4, 3], [1, 4, 3, 2], [2, 1, 3, 4]}

{[2, 3, 4, 1], [3, 1, 4, 2], [3, 2, 1, 4]}, {[1, 4, 3, 2], [2, 4, 1, 3], [4, 1, 2, 3]},
 {[2, 3, 4, 1], [2, 4, 1, 3], [3, 2, 1, 4]}, {[1, 4, 3, 2], [3, 1, 4, 2], [4, 1, 2, 3]},
 {[1, 4, 3, 2], [2, 3, 4, 1], [2, 4, 1, 3]}, {[2, 4, 1, 3], [3, 2, 1, 4], [4, 1, 2, 3]},
 {[1, 4, 3, 2], [2, 3, 4, 1], [3, 1, 4, 2]}, {[3, 1, 4, 2], [3, 2, 1, 4], [4, 1, 2, 3]}

GENERATING FUNCTION: $\frac{x(x^9-8x^8+34x^7-97x^6+183x^5-205x^4+135x^3-52x^2+11x-1)}{(x^2-3x+1)^2(2x-1)^2(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 72, 233, 719, 2146, 6260, 17968, 50967, 143278, 399960, 1110203, 3067479, 8442903, 23163006, 63371999, 172967309, 471115792, 1280844662, 3476636122, 9423007521, 25506378316, 68958653982, 186231636833, 502435772049, 1354261840761, 3647103861120, 9813907809653
 (not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 3, 4, 2], [3, 4, 2, 1], [4, 3, 1, 2]}, {[2, 3, 1, 4], [3, 4, 2, 1], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [2, 1, 3, 4], [3, 2, 4, 1]}, {[1, 4, 2, 3], [3, 4, 2, 1], [4, 3, 1, 2]},
 {[1, 2, 4, 3], [2, 1, 3, 4], [2, 4, 3, 1]}, {[1, 2, 4, 3], [2, 1, 3, 4], [4, 1, 3, 2]}

$\{[1, 2, 4, 3], [2, 1, 3, 4], [4, 2, 1, 3]\}, \{[3, 1, 2, 4], [3, 4, 2, 1], [4, 3, 1, 2]\}$

GENERATING FUNCTION: $\frac{x(2x^{10}-x^9-11x^8+6x^7+7x^6-20x^5+8x^4+18x^3-19x^2+7x-1)}{(2x-1)(x^2-1+x)^2(x-1)^3(x^2+2x-1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 238, 724, 2078, 5706, 15161, 39319, 100168, 251846, 627046, 1549898, 3810125, 9328073, 22766362, 55432684, 134725294, 326982110, 792733065, 1920267887, 4648446316, 11246721414, 27199650590, 65759222454, 158940539445, 384078470185, 927962430886
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 2, 4, 3], [3, 2, 4, 1]\}, \{[4, 3, 2, 1], [1, 4, 2, 3], [3, 4, 2, 1]\},$
 $\{[1, 2, 3, 4], [1, 2, 4, 3], [4, 2, 1, 3]\}, \{[1, 2, 3, 4], [2, 1, 3, 4], [2, 4, 3, 1]\},$
 $\{[1, 2, 3, 4], [2, 1, 3, 4], [4, 1, 3, 2]\}, \{[4, 3, 2, 1], [1, 3, 4, 2], [4, 3, 1, 2]\},$
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [4, 3, 1, 2]\}, \{[4, 3, 2, 1], [3, 1, 2, 4], [3, 4, 2, 1]\}$

GENERATING FUNCTION: $\frac{(x^8-6x^7+17x^6-40x^5+58x^4-52x^3+28x^2-8x+1)x}{(2x-1)(x^2-3x+1)(x-1)^5}$

sequence to 30 terms: 1, 2, 6, 21, 75, 256, 826, 2535, 7474, 21370, 59718, 164082, 445266, 1197326, 3198035, 8499466, 22505676, 59427975, 156598649, 412008060, 1082704623, 2842662437, 7458393801, 19558738331, 51270256195, 134356895501, 352010154826, 922093010615, 2415107751249, 6324907980650
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 2, 4, 3], [2, 4, 3, 1]\}, \{[1, 2, 3, 4], [1, 2, 4, 3], [4, 1, 3, 2]\},$
 $\{[1, 2, 3, 4], [2, 1, 3, 4], [3, 2, 4, 1]\}, \{[1, 2, 3, 4], [2, 1, 3, 4], [4, 2, 1, 3]\},$
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [3, 4, 2, 1]\}, \{[4, 3, 2, 1], [1, 4, 2, 3], [4, 3, 1, 2]\},$
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [3, 4, 2, 1]\}, \{[4, 3, 2, 1], [3, 1, 2, 4], [4, 3, 1, 2]\}$

GENERATING FUNCTION: $-\frac{(4x^{10}-19x^9+52x^8-36x^7-81x^6+208x^5-226x^4+142x^3-53x^2+11x-1)x}{(2x-1)^2(x-1)^5(x^2-1+x)(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 75, 258, 842, 2614, 7787, 22466, 63273, 175044, 477897, 1291997, 3467411, 9254394, 24595834, 65158141, 172181087, 454099591, 1195773446, 3144999057, 8263735626, 21697177681, 56933687000, 149323655848, 391492963872, 1026099123979, 2688757623557, 7044211695636
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [1, 3, 2, 4], [2, 4, 3, 1]\}, \{[1, 2, 3, 4], [1, 3, 2, 4], [3, 2, 4, 1]\},$
 $\{[1, 2, 3, 4], [1, 3, 2, 4], [4, 1, 3, 2]\}, \{[1, 2, 3, 4], [1, 3, 2, 4], [4, 2, 1, 3]\},$
 $\{[4, 3, 2, 1], [1, 3, 4, 2], [4, 2, 3, 1]\}, \{[4, 3, 2, 1], [1, 4, 2, 3], [4, 2, 3, 1]\},$
 $\{[4, 3, 2, 1], [2, 3, 1, 4], [4, 2, 3, 1]\}, \{[4, 3, 2, 1], [3, 1, 2, 4], [4, 2, 3, 1]\}$

GENERATING FUNCTION: $-\frac{x(18x^6+31x^5+22x^4+8x^3+3x^2-x+1)}{(x-1)^3}$

sequence to 30 terms: 1, 2, 6, 21, 69, 181, 375, 651, 1009, 1449, 1971, 2575, 3261, 4029, 4879, 5811, 6825, 7921, 9099, 10359, 11701, 13125, 14631, 16219, 17889, 19641, 21475, 23391, 25389, 27469
(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 2, 3, 4], [2, 1, 4, 3], [3, 4, 2, 1]\}, \{[1, 2, 3, 4], [2, 1, 4, 3], [4, 3, 1, 2]\},$
 $\{[4, 3, 2, 1], [1, 2, 4, 3], [3, 4, 1, 2]\}, \{[4, 3, 2, 1], [2, 1, 3, 4], [3, 4, 1, 2]\}$

GENERATING FUNCTION: $-\frac{(8x^7-26x^6+60x^5-87x^4+73x^3-35x^2+9x-1)x}{(2x-1)^2(x-1)^4(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 6, 21, 73, 241, 759, 2305, 6806, 19652, 55725, 155688, 429719, 1174344, 3183298, 8571979, 22958381, 61220351, 162668347, 430978487, 1139179386, 3005433282, 7916965441, 20829348046, 54747238203, 143781463846, 377368903574, 989935857665, 2595794110401,

6804425792877

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

$\{[1, 3, 4, 2], [3, 2, 4, 1], [4, 3, 1, 2]\}$, $\{[1, 4, 2, 3], [2, 1, 3, 4], [2, 4, 3, 1]\}$,
 $\{[2, 3, 1, 4], [2, 4, 3, 1], [4, 3, 1, 2]\}$, $\{[1, 4, 2, 3], [3, 4, 2, 1], [4, 2, 1, 3]\}$,
 $\{[1, 3, 4, 2], [2, 1, 3, 4], [4, 1, 3, 2]\}$, $\{[1, 2, 4, 3], [2, 3, 1, 4], [4, 2, 1, 3]\}$,
 $\{[1, 2, 4, 3], [3, 1, 2, 4], [3, 2, 4, 1]\}$, $\{[3, 1, 2, 4], [3, 4, 2, 1], [4, 1, 3, 2]\}$

SYMMETRY CLASSES WITH NO GENERATING FUNCTION FROM FINLABEL (THERE ARE 201):

$\{[4, 3, 1, 2], [2, 4, 1, 3], [2, 1, 4, 3]\}$, $\{[2, 4, 1, 3], [2, 1, 4, 3], [3, 4, 2, 1]\}$,
 $\{[1, 2, 4, 3], [2, 4, 1, 3], [3, 4, 1, 2]\}$, $\{[4, 3, 1, 2], [2, 1, 4, 3], [3, 1, 4, 2]\}$,
 $\{[2, 1, 3, 4], [2, 4, 1, 3], [3, 4, 1, 2]\}$, $\{[1, 2, 4, 3], [3, 4, 1, 2], [3, 1, 4, 2]\}$,
 $\{[2, 1, 4, 3], [3, 1, 4, 2], [3, 4, 2, 1]\}$, $\{[2, 1, 3, 4], [3, 4, 1, 2], [3, 1, 4, 2]\}$

$\{[2, 3, 4, 1], [4, 1, 2, 3], [4, 2, 3, 1]\}$, $\{[3, 2, 1, 4], [1, 4, 3, 2], [1, 3, 2, 4]\}$

$\{[2, 3, 4, 1], [3, 2, 4, 1], [4, 2, 3, 1]\}$, $\{[3, 2, 1, 4], [3, 1, 2, 4], [1, 3, 2, 4]\}$,
 $\{[3, 2, 1, 4], [1, 3, 2, 4], [2, 3, 1, 4]\}$, $\{[4, 2, 1, 3], [4, 1, 2, 3], [4, 2, 3, 1]\}$,
 $\{[4, 1, 2, 3], [4, 2, 3, 1], [4, 1, 3, 2]\}$, $\{[2, 4, 3, 1], [2, 3, 4, 1], [4, 2, 3, 1]\}$,
 $\{[1, 4, 3, 2], [1, 3, 4, 2], [1, 3, 2, 4]\}$, $\{[1, 4, 3, 2], [1, 3, 2, 4], [1, 4, 2, 3]\}$

$\{[3, 4, 1, 2], [3, 4, 2, 1], [4, 1, 3, 2]\}$, $\{[1, 2, 4, 3], [2, 1, 4, 3], [3, 1, 2, 4]\}$,
 $\{[4, 3, 1, 2], [3, 2, 4, 1], [3, 4, 1, 2]\}$, $\{[1, 3, 4, 2], [2, 1, 3, 4], [2, 1, 4, 3]\}$,
 $\{[2, 1, 3, 4], [2, 1, 4, 3], [1, 4, 2, 3]\}$, $\{[1, 2, 4, 3], [2, 1, 4, 3], [2, 3, 1, 4]\}$,
 $\{[2, 4, 3, 1], [4, 3, 1, 2], [3, 4, 1, 2]\}$, $\{[4, 2, 1, 3], [3, 4, 1, 2], [3, 4, 2, 1]\}$

$\{[4, 3, 2, 1], [2, 1, 4, 3], [3, 4, 1, 2]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3], [3, 4, 1, 2]\}$

$\{[1, 2, 3, 4], [4, 3, 2, 1], [2, 4, 1, 3]\}$, $\{[1, 2, 3, 4], [4, 3, 2, 1], [3, 1, 4, 2]\}$

$\{[3, 4, 1, 2], [3, 4, 2, 1], [2, 3, 1, 4]\}$, $\{[4, 3, 1, 2], [3, 4, 1, 2], [3, 1, 2, 4]\}$,
 $\{[4, 2, 1, 3], [2, 1, 3, 4], [2, 1, 4, 3]\}$, $\{[4, 3, 1, 2], [3, 4, 1, 2], [1, 4, 2, 3]\}$,
 $\{[1, 2, 4, 3], [2, 1, 4, 3], [4, 1, 3, 2]\}$, $\{[2, 1, 3, 4], [3, 2, 4, 1], [2, 1, 4, 3]\}$,
 $\{[1, 3, 4, 2], [3, 4, 1, 2], [3, 4, 2, 1]\}$, $\{[2, 4, 3, 1], [1, 2, 4, 3], [2, 1, 4, 3]\}$

$\{[2, 3, 4, 1], [3, 4, 1, 2], [2, 3, 1, 4]\}$, $\{[3, 4, 1, 2], [3, 1, 2, 4], [4, 1, 2, 3]\}$,
 $\{[3, 4, 1, 2], [4, 1, 2, 3], [1, 4, 2, 3]\}$, $\{[1, 4, 3, 2], [2, 1, 4, 3], [4, 1, 3, 2]\}$,
 $\{[2, 3, 4, 1], [1, 3, 4, 2], [3, 4, 1, 2]\}$, $\{[3, 2, 1, 4], [3, 2, 4, 1], [2, 1, 4, 3]\}$,
 $\{[2, 4, 3, 1], [1, 4, 3, 2], [2, 1, 4, 3]\}$, $\{[3, 2, 1, 4], [4, 2, 1, 3], [2, 1, 4, 3]\}$

$\{[4, 3, 2, 1], [3, 4, 1, 2], [1, 3, 2, 4]\}$, $\{[1, 2, 3, 4], [2, 1, 4, 3], [4, 2, 3, 1]\}$

$\{[4, 2, 1, 3], [2, 4, 1, 3], [3, 4, 2, 1]\}$, $\{[4, 3, 1, 2], [3, 2, 4, 1], [3, 1, 4, 2]\}$,
 $\{[1, 3, 4, 2], [2, 1, 3, 4], [3, 1, 4, 2]\}$, $\{[2, 1, 3, 4], [2, 4, 1, 3], [1, 4, 2, 3]\}$,
 $\{[1, 2, 4, 3], [3, 1, 4, 2], [3, 1, 2, 4]\}$, $\{[2, 4, 3, 1], [4, 3, 1, 2], [2, 4, 1, 3]\}$,
 $\{[3, 1, 4, 2], [3, 4, 2, 1], [4, 1, 3, 2]\}$, $\{[1, 2, 4, 3], [2, 4, 1, 3], [2, 3, 1, 4]\}$

$\{[2, 4, 1, 3], [4, 2, 3, 1], [4, 1, 3, 2]\}$, $\{[2, 4, 3, 1], [3, 1, 4, 2], [4, 2, 3, 1]\}$,

{[3, 2, 4, 1], [2, 4, 1, 3], [4, 2, 3, 1]}, {[3, 1, 4, 2], [1, 3, 2, 4], [1, 4, 2, 3]},
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{[2, 4, 1, 3], [3, 1, 2, 4], [1, 3, 2, 4]}, {[4, 2, 1, 3], [3, 1, 4, 2], [4, 2, 3, 1]}

{[2, 1, 3, 4], [3, 4, 1, 2], [4, 1, 2, 3]}, {[1, 2, 4, 3], [3, 4, 1, 2], [4, 1, 2, 3]},
{[3, 2, 1, 4], [4, 3, 1, 2], [2, 1, 4, 3]}, {[2, 3, 4, 1], [2, 1, 3, 4], [3, 4, 1, 2]},
{[2, 3, 4, 1], [1, 2, 4, 3], [3, 4, 1, 2]}, {[1, 4, 3, 2], [4, 3, 1, 2], [2, 1, 4, 3]},
{[1, 4, 3, 2], [2, 1, 4, 3], [3, 4, 2, 1]}, {[3, 2, 1, 4], [2, 1, 4, 3], [3, 4, 2, 1]}

{[2, 3, 4, 1], [2, 4, 1, 3], [4, 1, 2, 3]}, {[3, 2, 1, 4], [1, 4, 3, 2], [3, 1, 4, 2]},
{[3, 2, 1, 4], [1, 4, 3, 2], [2, 4, 1, 3]}, {[2, 3, 4, 1], [3, 1, 4, 2], [4, 1, 2, 3]}

{[3, 1, 4, 2], [3, 1, 2, 4], [4, 2, 3, 1]}, {[3, 2, 4, 1], [3, 1, 4, 2], [1, 3, 2, 4]},
{[2, 4, 3, 1], [2, 4, 1, 3], [1, 3, 2, 4]}, {[4, 2, 1, 3], [2, 4, 1, 3], [1, 3, 2, 4]},
{[3, 1, 4, 2], [4, 1, 3, 2], [1, 3, 2, 4]}, {[2, 4, 1, 3], [4, 2, 3, 1], [1, 4, 2, 3]},
{[1, 3, 4, 2], [3, 1, 4, 2], [4, 2, 3, 1]}, {[2, 4, 1, 3], [4, 2, 3, 1], [2, 3, 1, 4]}

{[1, 3, 4, 2], [3, 2, 4, 1], [4, 2, 3, 1]}, {[3, 2, 4, 1], [3, 1, 2, 4], [1, 3, 2, 4]},
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{[2, 4, 3, 1], [4, 2, 3, 1], [2, 3, 1, 4]}, {[4, 2, 1, 3], [1, 3, 2, 4], [2, 3, 1, 4]},
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{[1, 4, 3, 2], [1, 3, 4, 2], [4, 1, 3, 2]}, {[2, 3, 4, 1], [1, 3, 4, 2], [3, 2, 4, 1]},
{[2, 4, 3, 1], [2, 3, 4, 1], [2, 3, 1, 4]}, {[2, 4, 3, 1], [1, 4, 3, 2], [1, 4, 2, 3]},
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{[4, 3, 1, 2], [4, 2, 1, 3], [4, 2, 3, 1]}, {[3, 2, 4, 1], [3, 4, 2, 1], [4, 2, 3, 1]},
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{[2, 1, 3, 4], [1, 3, 2, 4], [2, 3, 1, 4]}, {[4, 3, 1, 2], [4, 2, 3, 1], [4, 1, 3, 2]}

{[3, 2, 4, 1], [2, 4, 1, 3], [3, 4, 2, 1]}, {[4, 3, 1, 2], [2, 4, 1, 3], [4, 1, 3, 2]},
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{[1, 2, 4, 3], [3, 1, 4, 2], [1, 4, 2, 3]}, {[1, 3, 4, 2], [1, 2, 4, 3], [2, 4, 1, 3]},
{[2, 4, 3, 1], [3, 1, 4, 2], [3, 4, 2, 1]}, {[4, 3, 1, 2], [4, 2, 1, 3], [3, 1, 4, 2]}

{[3, 2, 1, 4], [2, 1, 4, 3], [3, 4, 1, 2]}, {[2, 3, 4, 1], [2, 1, 4, 3], [3, 4, 1, 2]},
{[2, 1, 4, 3], [3, 4, 1, 2], [4, 1, 2, 3]}, {[1, 4, 3, 2], [2, 1, 4, 3], [3, 4, 1, 2]}

{[1, 2, 3, 4], [1, 3, 4, 2], [3, 1, 4, 2]}, {[1, 2, 3, 4], [2, 4, 1, 3], [1, 4, 2, 3]},
{[4, 3, 2, 1], [3, 1, 4, 2], [4, 1, 3, 2]}, {[2, 4, 3, 1], [4, 3, 2, 1], [2, 4, 1, 3]},
{[4, 3, 2, 1], [3, 2, 4, 1], [3, 1, 4, 2]}, {[4, 3, 2, 1], [4, 2, 1, 3], [2, 4, 1, 3]},
{[1, 2, 3, 4], [3, 1, 4, 2], [3, 1, 2, 4]}, {[1, 2, 3, 4], [2, 4, 1, 3], [2, 3, 1, 4]}

{[4, 3, 1, 2], [4, 2, 1, 3], [3, 2, 4, 1]}, {[2, 4, 3, 1], [4, 3, 1, 2], [4, 1, 3, 2]},
{[2, 4, 3, 1], [3, 4, 2, 1], [4, 1, 3, 2]}, {[1, 2, 4, 3], [3, 1, 2, 4], [1, 4, 2, 3]}

$\{[1, 3, 4, 2], [2, 1, 3, 4], [2, 3, 1, 4]\}, \{[4, 2, 1, 3], [3, 2, 4, 1], [3, 4, 2, 1]\},$
 $\{[1, 3, 4, 2], [1, 2, 4, 3], [2, 3, 1, 4]\}, \{[2, 1, 3, 4], [3, 1, 2, 4], [1, 4, 2, 3]\}$

$\{[4, 3, 1, 2], [2, 4, 1, 3], [3, 4, 2, 1]\}, \{[2, 1, 3, 4], [1, 2, 4, 3], [2, 4, 1, 3]\},$
 $\{[2, 1, 3, 4], [1, 2, 4, 3], [3, 1, 4, 2]\}, \{[4, 3, 1, 2], [3, 1, 4, 2], [3, 4, 2, 1]\}$

$\{[4, 3, 2, 1], [2, 4, 1, 3], [2, 1, 4, 3]\}, \{[1, 2, 3, 4], [2, 4, 1, 3], [3, 4, 1, 2]\},$
 $\{[4, 3, 2, 1], [2, 1, 4, 3], [3, 1, 4, 2]\}, \{[1, 2, 3, 4], [3, 4, 1, 2], [3, 1, 4, 2]\}$

$\{[1, 3, 4, 2], [2, 1, 4, 3], [2, 3, 1, 4]\}, \{[2, 1, 4, 3], [3, 1, 2, 4], [1, 4, 2, 3]\},$
 $\{[2, 4, 3, 1], [3, 4, 1, 2], [4, 1, 3, 2]\}, \{[4, 2, 1, 3], [3, 2, 4, 1], [3, 4, 1, 2]\}$

$\{[4, 3, 2, 1], [3, 4, 1, 2], [4, 2, 3, 1]\}, \{[1, 2, 3, 4], [2, 1, 4, 3], [1, 3, 2, 4]\}$

$\{[2, 1, 4, 3], [4, 2, 3, 1], [1, 3, 2, 4]\}, \{[3, 4, 1, 2], [4, 2, 3, 1], [1, 3, 2, 4]\}$

$\{[1, 3, 4, 2], [4, 2, 3, 1], [2, 3, 1, 4]\}, \{[4, 2, 1, 3], [3, 2, 4, 1], [1, 3, 2, 4]\},$
 $\{[2, 4, 3, 1], [4, 1, 3, 2], [1, 3, 2, 4]\}, \{[3, 1, 2, 4], [4, 2, 3, 1], [1, 4, 2, 3]\}$

$\{[4, 2, 1, 3], [3, 1, 2, 4], [1, 3, 2, 4]\}, \{[4, 2, 1, 3], [3, 1, 2, 4], [4, 2, 3, 1]\},$
 $\{[3, 2, 4, 1], [4, 2, 3, 1], [2, 3, 1, 4]\}, \{[4, 1, 3, 2], [1, 3, 2, 4], [1, 4, 2, 3]\},$
 $\{[3, 2, 4, 1], [1, 3, 2, 4], [2, 3, 1, 4]\}, \{[4, 2, 3, 1], [4, 1, 3, 2], [1, 4, 2, 3]\},$
 $\{[2, 4, 3, 1], [1, 3, 4, 2], [4, 2, 3, 1]\}, \{[2, 4, 3, 1], [1, 3, 4, 2], [1, 3, 2, 4]\}$

$\{[2, 1, 3, 4], [3, 4, 1, 2], [1, 3, 2, 4]\}, \{[1, 2, 4, 3], [3, 4, 1, 2], [1, 3, 2, 4]\},$
 $\{[2, 1, 4, 3], [3, 4, 2, 1], [4, 2, 3, 1]\}, \{[4, 3, 1, 2], [2, 1, 4, 3], [4, 2, 3, 1]\}$

$\{[1, 4, 3, 2], [3, 1, 4, 2], [4, 1, 3, 2]\}, \{[3, 2, 1, 4], [4, 2, 1, 3], [2, 4, 1, 3]\},$
 $\{[3, 2, 1, 4], [3, 2, 4, 1], [3, 1, 4, 2]\}, \{[2, 4, 1, 3], [4, 1, 2, 3], [1, 4, 2, 3]\},$
 $\{[2, 3, 4, 1], [1, 3, 4, 2], [3, 1, 4, 2]\}, \{[2, 4, 3, 1], [1, 4, 3, 2], [2, 4, 1, 3]\},$
 $\{[3, 1, 4, 2], [3, 1, 2, 4], [4, 1, 2, 3]\}, \{[2, 3, 4, 1], [2, 4, 1, 3], [2, 3, 1, 4]\}$

$\{[2, 4, 1, 3], [3, 1, 4, 2], [4, 1, 2, 3]\}, \{[3, 2, 1, 4], [2, 4, 1, 3], [3, 1, 4, 2]\},$
 $\{[1, 4, 3, 2], [2, 4, 1, 3], [3, 1, 4, 2]\}, \{[2, 3, 4, 1], [2, 4, 1, 3], [3, 1, 4, 2]\}$

$\{[2, 3, 4, 1], [1, 3, 4, 2], [2, 1, 4, 3]\}, \{[2, 1, 4, 3], [3, 1, 2, 4], [4, 1, 2, 3]\},$
 $\{[3, 2, 1, 4], [3, 2, 4, 1], [3, 4, 1, 2]\}, \{[2, 1, 4, 3], [4, 1, 2, 3], [1, 4, 2, 3]\},$
 $\{[2, 3, 4, 1], [2, 1, 4, 3], [2, 3, 1, 4]\}, \{[2, 4, 3, 1], [1, 4, 3, 2], [3, 4, 1, 2]\},$
 $\{[1, 4, 3, 2], [3, 4, 1, 2], [4, 1, 3, 2]\}, \{[3, 2, 1, 4], [4, 2, 1, 3], [3, 4, 1, 2]\}$

$\{[1, 4, 3, 2], [3, 2, 4, 1], [1, 3, 2, 4]\}, \{[2, 3, 4, 1], [3, 1, 2, 4], [4, 2, 3, 1]\},$
 $\{[3, 2, 1, 4], [4, 1, 3, 2], [1, 3, 2, 4]\}, \{[2, 3, 4, 1], [4, 2, 3, 1], [1, 4, 2, 3]\},$
 $\{[3, 2, 1, 4], [2, 4, 3, 1], [1, 3, 2, 4]\}, \{[4, 1, 2, 3], [4, 2, 3, 1], [2, 3, 1, 4]\},$
 $\{[1, 4, 3, 2], [4, 2, 1, 3], [1, 3, 2, 4]\}, \{[1, 3, 4, 2], [4, 1, 2, 3], [4, 2, 3, 1]\}$

$\{[2, 4, 3, 1], [4, 2, 1, 3], [1, 3, 2, 4]\}, \{[4, 2, 3, 1], [1, 4, 2, 3], [2, 3, 1, 4]\},$
 $\{[3, 2, 4, 1], [4, 1, 3, 2], [1, 3, 2, 4]\}, \{[1, 3, 4, 2], [3, 1, 2, 4], [4, 2, 3, 1]\}$

{[3, 2, 4, 1], [3, 4, 1, 2], [4, 1, 3, 2]}, {[1, 3, 4, 2], [2, 1, 4, 3], [3, 1, 2, 4]},
{[2, 1, 4, 3], [1, 4, 2, 3], [2, 3, 1, 4]}, {[2, 4, 3, 1], [4, 2, 1, 3], [3, 4, 1, 2]}

{[2, 4, 1, 3], [3, 4, 2, 1], [4, 2, 3, 1]}, {[3, 1, 4, 2], [3, 4, 2, 1], [4, 2, 3, 1]},
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{[1, 4, 3, 2], [2, 4, 1, 3], [1, 4, 2, 3]}, {[3, 2, 1, 4], [3, 1, 4, 2], [3, 1, 2, 4]},
{[2, 3, 4, 1], [3, 2, 4, 1], [3, 1, 4, 2]}, {[4, 2, 1, 3], [2, 4, 1, 3], [4, 1, 2, 3]},
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{[3, 1, 4, 2], [4, 1, 2, 3], [4, 1, 3, 2]}, {[3, 2, 1, 4], [2, 4, 1, 3], [2, 3, 1, 4]}

{[3, 2, 4, 1], [2, 1, 4, 3], [3, 1, 4, 2]}, {[2, 4, 1, 3], [3, 4, 1, 2], [1, 4, 2, 3]},
{[2, 1, 4, 3], [3, 1, 4, 2], [4, 1, 3, 2]}, {[2, 4, 1, 3], [3, 4, 1, 2], [2, 3, 1, 4]},
{[4, 2, 1, 3], [2, 4, 1, 3], [2, 1, 4, 3]}, {[1, 3, 4, 2], [3, 4, 1, 2], [3, 1, 4, 2]},
{[2, 4, 3, 1], [2, 4, 1, 3], [2, 1, 4, 3]}, {[3, 4, 1, 2], [3, 1, 4, 2], [3, 1, 2, 4]}

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{[2, 3, 4, 1], [1, 2, 4, 3], [4, 2, 3, 1]}, {[1, 4, 3, 2], [3, 4, 2, 1], [1, 3, 2, 4]},
{[3, 2, 1, 4], [3, 4, 2, 1], [1, 3, 2, 4]}, {[3, 2, 1, 4], [4, 3, 1, 2], [1, 3, 2, 4]},
{[1, 4, 3, 2], [4, 3, 1, 2], [1, 3, 2, 4]}, {[1, 2, 4, 3], [4, 1, 2, 3], [4, 2, 3, 1]}

{[3, 2, 1, 4], [1, 2, 3, 4], [4, 3, 2, 1]}, {[2, 3, 4, 1], [1, 2, 3, 4], [4, 3, 2, 1]},
{[1, 4, 3, 2], [1, 2, 3, 4], [4, 3, 2, 1]}, {[1, 2, 3, 4], [4, 3, 2, 1], [4, 1, 2, 3]}

{[2, 4, 1, 3], [2, 1, 4, 3], [4, 2, 3, 1]}, {[2, 4, 1, 3], [3, 4, 1, 2], [1, 3, 2, 4]},
{[2, 1, 4, 3], [3, 1, 4, 2], [4, 2, 3, 1]}, {[3, 4, 1, 2], [3, 1, 4, 2], [1, 3, 2, 4]}

{[1, 3, 4, 2], [1, 2, 4, 3], [4, 1, 3, 2]}, {[4, 3, 1, 2], [3, 1, 2, 4], [4, 1, 3, 2]},
{[4, 2, 1, 3], [2, 1, 3, 4], [2, 3, 1, 4]}, {[4, 3, 1, 2], [4, 2, 1, 3], [1, 4, 2, 3]},
{[2, 4, 3, 1], [1, 2, 4, 3], [1, 4, 2, 3]}, {[1, 3, 4, 2], [3, 2, 4, 1], [3, 4, 2, 1]},
{[2, 1, 3, 4], [3, 2, 4, 1], [3, 1, 2, 4]}, {[2, 4, 3, 1], [3, 4, 2, 1], [2, 3, 1, 4]}

{[3, 4, 1, 2], [3, 1, 4, 2], [4, 2, 3, 1]}, {[2, 4, 1, 3], [2, 1, 4, 3], [1, 3, 2, 4]},
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{[3, 4, 2, 1], [4, 2, 3, 1], [2, 3, 1, 4]}, {[2, 4, 3, 1], [1, 2, 4, 3], [1, 3, 2, 4]},
{[2, 1, 3, 4], [3, 2, 4, 1], [1, 3, 2, 4]}, {[4, 3, 1, 2], [4, 2, 3, 1], [1, 4, 2, 3]},
{[4, 3, 1, 2], [3, 1, 2, 4], [4, 2, 3, 1]}, {[1, 3, 4, 2], [3, 4, 2, 1], [4, 2, 3, 1]},
{[4, 2, 1, 3], [2, 1, 3, 4], [1, 3, 2, 4]}, {[1, 2, 4, 3], [4, 1, 3, 2], [1, 3, 2, 4]}

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{[3, 2, 4, 1], [3, 4, 1, 2], [3, 1, 4, 2]}, {[4, 2, 1, 3], [2, 4, 1, 3], [3, 4, 1, 2]}

{[2, 3, 4, 1], [3, 1, 2, 4], [4, 1, 2, 3]}, {[3, 2, 1, 4], [1, 4, 3, 2], [3, 2, 4, 1]},
{[2, 3, 4, 1], [4, 1, 2, 3], [1, 4, 2, 3]}, {[2, 3, 4, 1], [4, 1, 2, 3], [2, 3, 1, 4]},
{[3, 2, 1, 4], [1, 4, 3, 2], [4, 1, 3, 2]}, {[3, 2, 1, 4], [1, 4, 3, 2], [4, 2, 1, 3]},
{[3, 2, 1, 4], [2, 4, 3, 1], [1, 4, 3, 2]}, {[2, 3, 4, 1], [1, 3, 4, 2], [4, 1, 2, 3]}

{[3, 2, 1, 4], [4, 3, 1, 2], [3, 4, 2, 1]}, {[2, 3, 4, 1], [2, 1, 3, 4], [1, 2, 4, 3]},
{[1, 4, 3, 2], [4, 3, 1, 2], [3, 4, 2, 1]}, {[2, 1, 3, 4], [1, 2, 4, 3], [4, 1, 2, 3]}

{[2, 3, 4, 1], [3, 4, 1, 2], [4, 1, 2, 3]}, {[3, 2, 1, 4], [1, 4, 3, 2], [2, 1, 4, 3]}

{[1, 2, 3, 4], [2, 1, 4, 3], [3, 1, 2, 4]}, {[1, 2, 3, 4], [1, 3, 4, 2], [2, 1, 4, 3]},
{[4, 3, 2, 1], [3, 4, 1, 2], [4, 1, 3, 2]}, {[1, 2, 3, 4], [2, 1, 4, 3], [1, 4, 2, 3]},
{[4, 3, 2, 1], [3, 2, 4, 1], [3, 4, 1, 2]}, {[1, 2, 3, 4], [2, 1, 4, 3], [2, 3, 1, 4]},
{[2, 4, 3, 1], [4, 3, 2, 1], [3, 4, 1, 2]}, {[4, 3, 2, 1], [4, 2, 1, 3], [3, 4, 1, 2]}

{[1, 3, 4, 2], [2, 1, 4, 3], [3, 4, 1, 2]}, {[2, 4, 3, 1], [2, 1, 4, 3], [3, 4, 1, 2]},

{[2, 1, 4, 3], [3, 4, 1, 2], [3, 1, 2, 4]}, {[3, 2, 4, 1], [2, 1, 4, 3], [3, 4, 1, 2]},
{[2, 1, 4, 3], [3, 4, 1, 2], [1, 4, 2, 3]}, {[2, 1, 4, 3], [3, 4, 1, 2], [4, 1, 3, 2]},
{[2, 1, 4, 3], [3, 4, 1, 2], [2, 3, 1, 4]}, {[4, 2, 1, 3], [2, 1, 4, 3], [3, 4, 1, 2]}

{[2, 3, 4, 1], [1, 3, 4, 2], [2, 1, 3, 4]}, {[1, 2, 4, 3], [3, 1, 2, 4], [4, 1, 2, 3]},
{[1, 4, 3, 2], [3, 4, 2, 1], [4, 1, 3, 2]}, {[3, 2, 1, 4], [4, 2, 1, 3], [3, 4, 2, 1]},
{[2, 4, 3, 1], [1, 4, 3, 2], [4, 3, 1, 2]}, {[2, 1, 3, 4], [4, 1, 2, 3], [1, 4, 2, 3]},
{[2, 3, 4, 1], [1, 2, 4, 3], [2, 3, 1, 4]}, {[3, 2, 1, 4], [4, 3, 1, 2], [3, 2, 4, 1]}

{[4, 3, 1, 2], [2, 4, 1, 3], [4, 1, 2, 3]}, {[4, 3, 1, 2], [3, 1, 4, 2], [4, 1, 2, 3]},
{[1, 4, 3, 2], [1, 2, 4, 3], [2, 4, 1, 3]}, {[3, 2, 1, 4], [2, 1, 3, 4], [3, 1, 4, 2]},
{[3, 2, 1, 4], [2, 1, 3, 4], [2, 4, 1, 3]}, {[1, 4, 3, 2], [1, 2, 4, 3], [3, 1, 4, 2]},
{[2, 3, 4, 1], [3, 1, 4, 2], [3, 4, 2, 1]}, {[2, 3, 4, 1], [2, 4, 1, 3], [3, 4, 2, 1]}

{[4, 3, 2, 1], [4, 2, 1, 3], [3, 2, 4, 1]}, {[2, 4, 3, 1], [4, 3, 2, 1], [4, 1, 3, 2]},
{[1, 2, 3, 4], [1, 3, 4, 2], [2, 3, 1, 4]}, {[1, 2, 3, 4], [3, 1, 2, 4], [1, 4, 2, 3]}

{[2, 4, 3, 1], [1, 2, 3, 4], [4, 3, 2, 1]}, {[1, 2, 3, 4], [4, 3, 2, 1], [3, 2, 4, 1]},
{[1, 2, 3, 4], [4, 3, 2, 1], [4, 2, 1, 3]}, {[1, 2, 3, 4], [4, 3, 2, 1], [1, 3, 4, 2]},
{[1, 2, 3, 4], [4, 3, 2, 1], [3, 1, 2, 4]}, {[1, 2, 3, 4], [4, 3, 2, 1], [1, 4, 2, 3]},
{[1, 2, 3, 4], [4, 3, 2, 1], [4, 1, 3, 2]}, {[1, 2, 3, 4], [4, 3, 2, 1], [2, 3, 1, 4]}

{[3, 4, 1, 2], [4, 1, 2, 3], [4, 1, 3, 2]}, {[1, 4, 3, 2], [2, 1, 4, 3], [1, 4, 2, 3]},
{[2, 3, 4, 1], [3, 2, 4, 1], [3, 4, 1, 2]}, {[1, 4, 3, 2], [1, 3, 4, 2], [2, 1, 4, 3]},
{[3, 2, 1, 4], [2, 1, 4, 3], [3, 1, 2, 4]}, {[2, 4, 3, 1], [2, 3, 4, 1], [3, 4, 1, 2]},
{[4, 2, 1, 3], [3, 4, 1, 2], [4, 1, 2, 3]}, {[3, 2, 1, 4], [2, 1, 4, 3], [2, 3, 1, 4]}

{[1, 2, 3, 4], [1, 3, 4, 2], [2, 4, 1, 3]}, {[1, 2, 3, 4], [3, 1, 4, 2], [1, 4, 2, 3]},
{[1, 2, 3, 4], [3, 1, 4, 2], [2, 3, 1, 4]}, {[2, 4, 3, 1], [4, 3, 2, 1], [3, 1, 4, 2]},
{[1, 2, 3, 4], [2, 4, 1, 3], [3, 1, 2, 4]}, {[4, 3, 2, 1], [2, 4, 1, 3], [4, 1, 3, 2]},
{[4, 3, 2, 1], [3, 2, 4, 1], [2, 4, 1, 3]}, {[4, 3, 2, 1], [4, 2, 1, 3], [3, 1, 4, 2]}

{[3, 2, 4, 1], [3, 4, 1, 2], [2, 3, 1, 4]}, {[3, 4, 1, 2], [4, 1, 3, 2], [1, 4, 2, 3]},
{[4, 2, 1, 3], [3, 4, 1, 2], [3, 1, 2, 4]}, {[2, 1, 4, 3], [4, 1, 3, 2], [1, 4, 2, 3]},
{[3, 2, 4, 1], [2, 1, 4, 3], [2, 3, 1, 4]}, {[4, 2, 1, 3], [2, 1, 4, 3], [3, 1, 2, 4]},
{[2, 4, 3, 1], [1, 3, 4, 2], [3, 4, 1, 2]}, {[2, 4, 3, 1], [1, 3, 4, 2], [2, 1, 4, 3]}

{[2, 4, 3, 1], [1, 4, 2, 3], [2, 3, 1, 4]}, {[4, 2, 1, 3], [1, 4, 2, 3], [2, 3, 1, 4]},
{[2, 4, 3, 1], [4, 2, 1, 3], [1, 4, 2, 3]}, {[2, 4, 3, 1], [4, 2, 1, 3], [2, 3, 1, 4]},
{[1, 3, 4, 2], [3, 2, 4, 1], [4, 1, 3, 2]}, {[1, 3, 4, 2], [3, 2, 4, 1], [3, 1, 2, 4]},
{[3, 2, 4, 1], [3, 1, 2, 4], [4, 1, 3, 2]}, {[1, 3, 4, 2], [3, 1, 2, 4], [4, 1, 3, 2]}

{[4, 3, 1, 2], [2, 1, 4, 3], [1, 3, 2, 4]}, {[2, 1, 4, 3], [3, 4, 2, 1], [1, 3, 2, 4]},
{[1, 2, 4, 3], [3, 4, 1, 2], [4, 2, 3, 1]}, {[2, 1, 3, 4], [3, 4, 1, 2], [4, 2, 3, 1]}

{[3, 2, 1, 4], [3, 4, 1, 2], [4, 1, 3, 2]}, {[1, 3, 4, 2], [2, 1, 4, 3], [4, 1, 2, 3]},
{[2, 3, 4, 1], [2, 1, 4, 3], [3, 1, 2, 4]}, {[2, 1, 4, 3], [4, 1, 2, 3], [2, 3, 1, 4]}

{[2, 3, 4, 1], [2, 1, 4, 3], [1, 4, 2, 3]}, {[1, 4, 3, 2], [4, 2, 1, 3], [3, 4, 1, 2]},
{[1, 4, 3, 2], [3, 2, 4, 1], [3, 4, 1, 2]}, {[3, 2, 1, 4], [2, 4, 3, 1], [3, 4, 1, 2]}

{[4, 3, 1, 2], [3, 4, 2, 1], [4, 1, 3, 2]}, {[4, 3, 1, 2], [3, 2, 4, 1], [3, 4, 2, 1]},
{[1, 3, 4, 2], [2, 1, 3, 4], [1, 2, 4, 3]}, {[2, 1, 3, 4], [1, 2, 4, 3], [3, 1, 2, 4]},
{[4, 3, 1, 2], [4, 2, 1, 3], [3, 4, 2, 1]}, {[2, 1, 3, 4], [1, 2, 4, 3], [2, 3, 1, 4]},
{[2, 4, 3, 1], [4, 3, 1, 2], [3, 4, 2, 1]}, {[2, 1, 3, 4], [1, 2, 4, 3], [1, 4, 2, 3]}

{[3, 1, 2, 4], [1, 3, 2, 4], [2, 3, 1, 4]}, {[4, 2, 1, 3], [4, 2, 3, 1], [4, 1, 3, 2]},
{[2, 4, 3, 1], [3, 2, 4, 1], [4, 2, 3, 1]}, {[1, 3, 4, 2], [1, 3, 2, 4], [1, 4, 2, 3]}

{[2, 4, 3, 1], [3, 2, 4, 1], [3, 4, 1, 2]}, {[1, 3, 4, 2], [2, 1, 4, 3], [1, 4, 2, 3]},
{[2, 1, 4, 3], [3, 1, 2, 4], [2, 3, 1, 4]}, {[4, 2, 1, 3], [3, 4, 1, 2], [4, 1, 3, 2]}

summarizing results for [4,4,4] pattern sets

there are 317 symmetry classes in all.

116 of them can be counted by FINLABEL.

that's 37 %.

List: [5,3]

720 sets

118 symmetry classes

(at least) 10 Wilf classes

[5,3]-sets, arranged by common generating function

GENERATING FUNCTION: $-\frac{(x^6-3x^5+13x^4-14x^3+12^2-5x+1)x}{(x-1)^7}$

sequence to 30 terms: 1, 2, 5, 14, 41, 116, 302, 715, 1549, 3106, 5831, 10352, 17525, 28484, 44696, 68021, 100777, 145810, 206569, 287186, 392561, 528452, 701570, 919679, 1191701, 1527826, 1939627, 2440180, 3044189, 3768116

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 4, 5], [2, 3, 1]}, {[1, 2, 3, 4, 5], [3, 1, 2]}, {[1, 3, 2], [5, 4, 3, 2, 1]},
{[2, 1, 3], [5, 4, 3, 2, 1]}

GENERATING FUNCTION: $-\frac{(x^4-4x^3+8x^2-5x+1)x}{(x^2-3x+1)^2(x-1)}$

sequence to 30 terms: 1, 2, 5, 14, 41, 121, 355, 1032, 2973, 8496, 24111, 68017, 190885, 533294, 1484021, 4115186, 11375765, 31358377, 86223943, 236540916, 647556621, 1769374932, 4826148315, 13142564449, 35736448201, 97037995226, 263156279525, 712795854422, 1928547574913, 5212430732761

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 5, 3, 4], [2, 3, 1]}, {[1, 3, 2], [4, 3, 5, 2, 1]}, {[1, 2, 4, 5, 3], [3, 1, 2]},
{[2, 3, 1, 4, 5], [3, 1, 2]}, {[3, 1, 2, 4, 5], [2, 3, 1]}, {[3, 5, 4, 2, 1], [2, 1, 3]},
{[2, 1, 3], [5, 4, 1, 3, 2]}, {[1, 3, 2], [5, 4, 2, 1, 3]}

GENERATING FUNCTION: $\frac{x(x^8-4x^7+3x^6+6x^5-13x^4+14x^3-12x^2+5x-1)}{(x-1)^7}$

sequence to 30 terms: 1, 2, 5, 14, 41, 113, 277, 607, 1212, 2245, 3913, 6488, 10319, 15845, 23609, 34273, 48634, 67641, 92413, 124258, 164693, 215465, 278573, 356291, 451192, 566173, 704481, 869740, 1065979, 1297661

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 5, 4], [3, 2, 1]}, {[2, 1, 3, 4, 5], [3, 2, 1]}, {[1, 2, 3], [4, 5, 3, 2, 1]},
{[1, 2, 3], [5, 4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(x^5-5x^4+9x^3-10x^2+5x-1)x}{(x-1)^4(x^2-3x+1)}$

sequence to 30 terms: 1, 2, 5, 14, 41, 119, 336, 924, 2492, 6636, 17536, 46137, 121095, 317434, 831571, 2177734, 5702191, 14929519, 39087182, 102332996, 267912946, 701407172, 1836310110, 4807524929, 12586266701, 32951277474, 86267568321, 225851430414, 591286726197, 1548008751831

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [5, 1, 4, 3, 2]}, {[1, 3, 4, 5, 2], [3, 2, 1]}, {[1, 5, 2, 3, 4], [3, 2, 1]},
{[2, 3, 4, 1, 5], [3, 2, 1]}, {[2, 5, 4, 3, 1], [1, 2, 3]}, {[3, 2, 1], [4, 1, 2, 3, 5]},
{[1, 2, 3], [4, 3, 2, 5, 1]}, {[1, 2, 3], [5, 3, 2, 1, 4]}

GENERATING FUNCTION: $-\frac{(3x^4-5x^3+7x^2-4x+1)x}{4x^5-10x^4+17x^3-14x^2+6x-1}$

sequence to 30 terms: 1, 2, 5, 14, 41, 119, 336, 927, 2527, 6870, 18717, 51155, 140120, 384147, 1053147, 2886182, 7906953, 21657679, 59318944, 162475127, 445041287, 1219069014, 3339354501, 9147387195, 25057021032, 68637206987, 188013260835, 515011570790, 1410735630289, 3864333239127

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[5, 1, 2, 3, 4], [2, 3, 1]}, {[1, 5, 4, 3, 2], [2, 1, 3]}, {[2, 3, 4, 5, 1], [3, 1, 2]},
{[1, 3, 2], [4, 3, 2, 1, 5]}

GENERATING FUNCTION: $-\frac{x(x-1)^3}{-6x^3+x^4+8x^2-5x+1}$

sequence to 30 terms: 1, 2, 5, 14, 41, 121, 356, 1044, 3057, 8948, 26192, 76674, 224465, 657137,
1923817, 5632105, 16488346, 48270655, 141315320, 413709331, 1211159679, 3545745012, 10380388294,
30389230117, 88966354626, 260454516946, 762496740130, 2232256462721, 6535069139615, 19131819920141

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[2, 1, 3], [5, 1, 4, 3, 2]}, {[1, 3, 4, 5, 2], [3, 1, 2]}, {[1, 5, 2, 3, 4], [2, 3, 1]},
{[2, 3, 4, 1, 5], [3, 1, 2]}, {[2, 5, 4, 3, 1], [2, 1, 3]}, {[2, 3, 1], [4, 1, 2, 3, 5]},
{[1, 3, 2], [4, 3, 2, 5, 1]}, {[1, 3, 2], [5, 3, 2, 1, 4]}

GENERATING FUNCTION: $x(1 + 14x^3 + 2x + 106x^5 + 41x^4 + 196x^7 + 5x^2 + 196x^6)$

sequence to 30 terms: 1, 2, 5, 14, 41, 106, 196, 196, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3], [5, 4, 3, 2, 1]}, {[1, 2, 3, 4, 5], [3, 2, 1]}

GENERATING FUNCTION: $-\frac{x(7x^5-20x^4+28x^3-20x^2+7x-1)}{(2x-1)^3(x-1)^3}$

sequence to 30 terms: 1, 2, 5, 14, 41, 119, 334, 902, 2351, 5945, 14660, 35408, 84061, 196715, 454778,
1040522, 2359451, 5308589, 11862208, 26345684, 58196201, 127926527, 279970070, 610271534,
1325400391, 2868904289, 6190793084, 13321109912, 28588376501, 61203284435

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[1, 2, 3, 5, 4], [2, 3, 1]}, {[1, 2, 3, 5, 4], [3, 1, 2]}, {[2, 1, 3, 4, 5], [2, 3, 1]},
{[2, 1, 3, 4, 5], [3, 1, 2]}, {[1, 3, 2], [4, 5, 3, 2, 1]}, {[2, 1, 3], [4, 5, 3, 2, 1]},
{[1, 3, 2], [5, 4, 3, 1, 2]}, {[2, 1, 3], [5, 4, 3, 1, 2]}

GENERATING FUNCTION: $-\frac{(2x^5-8x^4+11x^3-11x^2+5x-1)x}{(x-1)^5(2x-1)}$

sequence to 30 terms: 1, 2, 5, 14, 41, 116, 307, 760, 1779, 3986, 8641, 18282, 38005, 78024, 158791,
321236, 647247, 1300630, 2609029, 5227766, 10467521, 20949692, 41917115, 83855504, 167736331,
335502586, 671040297, 1342121570, 2684290669, 5368636176

(not in online encyclopedia of integer sequences)

THERE IS 1 SYMMETRY CLASS WITH THIS SEQUENCE:

{[3, 1, 2, 4, 5], [3, 2, 1]}, {[1, 2, 4, 5, 3], [3, 2, 1]}, {[1, 2, 5, 3, 4], [3, 2, 1]},
{[2, 3, 1, 4, 5], [3, 2, 1]}, {[3, 5, 4, 2, 1], [1, 2, 3]}, {[1, 2, 3], [4, 3, 5, 2, 1]},
{[1, 2, 3], [5, 4, 1, 3, 2]}, {[1, 2, 3], [5, 4, 2, 1, 3]}

GENERATING FUNCTION: $-\frac{(2x-1)x}{(3x-1)(x-1)}$

sequence to 30 terms: 1, 2, 5, 14, 41, 122, 365, 1094, 3281, 9842, 29525, 88574, 265721, 797162,
2391485, 7174454, 21523361, 64570082, 193710245, 581130734, 1743392201, 5230176602, 15690529805,
47071589414, 141214768241, 423644304722, 1270932914165, 3812798742494, 11438396227481, 343151886824
(A007051: $(3^n + 1)/2$)

THERE ARE 6 SYMMETRY CLASS WITH THIS SEQUENCE:

{[5, 1, 2, 3, 4], [1, 3, 2]}, {[5, 1, 2, 3, 4], [2, 1, 3]}, {[1, 5, 4, 3, 2], [2, 3, 1]},

$\{[1, 5, 4, 3, 2], [3, 1, 2]\}$, $\{[2, 3, 4, 5, 1], [1, 3, 2]\}$, $\{[2, 3, 4, 5, 1], [2, 1, 3]\}$,
 $\{[2, 3, 1], [4, 3, 2, 1, 5]\}$, $\{[3, 1, 2], [4, 3, 2, 1, 5]\}$

$\{[1, 2, 3, 4, 5], [1, 3, 2]\}$, $\{[1, 2, 3, 4, 5], [2, 1, 3]\}$, $\{[2, 3, 1], [5, 4, 3, 2, 1]\}$,
 $\{[3, 1, 2], [5, 4, 3, 2, 1]\}$

$\{[3, 1, 2], [4, 3, 2, 5, 1]\}$, $\{[2, 3, 1], [5, 1, 4, 3, 2]\}$, $\{[1, 3, 4, 5, 2], [2, 1, 3]\}$,
 $\{[1, 5, 2, 3, 4], [2, 1, 3]\}$, $\{[2, 3, 4, 1, 5], [1, 3, 2]\}$, $\{[2, 5, 4, 3, 1], [3, 1, 2]\}$,
 $\{[1, 3, 2], [4, 1, 2, 3, 5]\}$, $\{[2, 3, 1], [5, 3, 2, 1, 4]\}$

$\{[1, 2, 3, 5, 4], [2, 1, 3]\}$, $\{[2, 1, 3, 4, 5], [1, 3, 2]\}$, $\{[3, 1, 2], [4, 5, 3, 2, 1]\}$,
 $\{[2, 3, 1], [5, 4, 3, 1, 2]\}$

$\{[5, 1, 2, 3, 4], [3, 2, 1]\}$, $\{[1, 5, 4, 3, 2], [1, 2, 3]\}$, $\{[2, 3, 4, 5, 1], [3, 2, 1]\}$,
 $\{[1, 2, 3], [4, 3, 2, 1, 5]\}$

$\{[1, 2, 5, 3, 4], [2, 1, 3]\}$, $\{[2, 3, 1], [5, 4, 1, 3, 2]\}$, $\{[3, 1, 2], [4, 3, 5, 2, 1]\}$,
 $\{[1, 2, 4, 5, 3], [2, 1, 3]\}$, $\{[2, 3, 1, 4, 5], [1, 3, 2]\}$, $\{[3, 1, 2, 4, 5], [1, 3, 2]\}$,
 $\{[3, 5, 4, 2, 1], [3, 1, 2]\}$, $\{[2, 3, 1], [5, 4, 2, 1, 3]\}$

SYMMETRY CLASSES WITH NO GENERATING FUNCTION FROM FINLABEL (THERE ARE 103):

$\{[1, 4, 2, 5, 3], [2, 3, 1]\}$, $\{[3, 1, 4, 2, 5], [3, 1, 2]\}$, $\{[1, 3, 5, 2, 4], [3, 1, 2]\}$,
 $\{[2, 4, 1, 3, 5], [2, 3, 1]\}$, $\{[3, 5, 2, 4, 1], [1, 3, 2]\}$, $\{[2, 1, 3], [4, 2, 5, 3, 1]\}$,
 $\{[2, 1, 3], [5, 2, 4, 1, 3]\}$, $\{[1, 3, 2], [5, 3, 1, 4, 2]\}$

$\{[2, 3, 1], [4, 3, 1, 2, 5]\}$, $\{[5, 1, 2, 4, 3], [2, 1, 3]\}$, $\{[1, 4, 5, 3, 2], [3, 1, 2]\}$,
 $\{[1, 5, 4, 2, 3], [2, 3, 1]\}$, $\{[2, 3, 5, 4, 1], [2, 1, 3]\}$, $\{[3, 2, 4, 5, 1], [1, 3, 2]\}$,
 $\{[3, 4, 2, 1, 5], [3, 1, 2]\}$, $\{[1, 3, 2], [5, 2, 1, 3, 4]\}$

$\{[1, 4, 3, 5, 2], [1, 3, 2]\}$, $\{[3, 1, 2], [5, 1, 3, 4, 2]\}$, $\{[1, 5, 3, 2, 4], [1, 3, 2]\}$,
 $\{[2, 4, 3, 1, 5], [2, 1, 3]\}$, $\{[2, 5, 3, 4, 1], [2, 3, 1]\}$, $\{[2, 1, 3], [4, 1, 3, 2, 5]\}$,
 $\{[2, 3, 1], [4, 2, 3, 5, 1]\}$, $\{[3, 1, 2], [5, 2, 3, 1, 4]\}$

$\{[2, 4, 1, 5, 3], [3, 1, 2]\}$, $\{[3, 1, 5, 2, 4], [2, 3, 1]\}$, $\{[3, 5, 1, 4, 2], [2, 1, 3]\}$,
 $\{[1, 3, 2], [4, 2, 5, 1, 3]\}$

$\{[1, 5, 3, 4, 2], [2, 1, 3]\}$, $\{[5, 1, 3, 2, 4], [2, 3, 1]\}$, $\{[2, 4, 3, 5, 1], [3, 1, 2]\}$,
 $\{[1, 3, 2], [4, 2, 3, 1, 5]\}$

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summarizing results for [5,3] pattern sets

there are 118 symmetry classes in all.

15 of them can be counted by FINLABEL.

that's 13 %.