Tables of Calabi–Yau equations

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Abstract

The main part of this paper is a big table containing what we believe to be a complete list of all fourth order equations of Calabi–Yau type known so far. In the text preceding the tables we explain what a differential equation of Calabi–Yau type is and we briefly discuss how we found these equations. We also describe an electronic version of this list.

Contents

1 Differential equations of Calabi–Yau type

The differential equations we will be investigating are all of the following form

$$D_{n,k} := \sum_{i=0}^{k} z^i P_i(\theta). \tag{1}$$

Here $\theta := z\frac{\partial}{\partial z}$ and the $P_i(\theta)$ are polynomials with integral coefficients and order n. We will mostly restrict ourselves to equations of order 4, but the number of terms $k+1$ will vary. Independently of the number of terms we can rewrite the differential equation $D_{n,k}y = 0$ in the following way

$$y^{(n)} + a_{n-1}(z)y^{(n-1)} + \cdots + a_2(z)y'' + a_1(z)y' + a_0(z)y = 0,$$

where the $a_i(z)$ are rational functions of z. Recall that at any point $z = a$ (including $z = \infty$ via the transformation $w = z^{-1}$) we can define the so called indicial equation which governs the existence of solutions of the form $z^\lambda \times$ (power series in z). The set of solutions (with multiplicities) to the indicial equation at a certain point will be called the spectrum at that point.

In [1] the authors define Calabi–Yau equations to be differential equations of the form $D_{4,k}y = 0$ satisfying certain extra conditions. Let us briefly list the conditions satisfied by the equations from Appendix A. For an explanation of these conditions we refer to [1, 8]. Together they can be considered to define the notion of a Calabi–Yau equation.

Condition 1. The singular point $z = 0$ is a point of maximal unipotent monodromy, i.e., the indicial equation at $z = 0$ should have 0 as its only solution.

Condition 2. The coefficients $a_i(z)$ satisfy the following equation

$$a_1 = \frac{1}{2}a_2a_3 - \frac{1}{8}a_3^3 + a_2' - \frac{3}{4}a_3a_3' - \frac{1}{2}a_3''.$$

Condition 3. The solutions $\lambda_1 \leq \lambda_2 \leq \lambda_3 \leq \lambda_4$ of the indicial equation at $z = \infty$ are positive rational numbers satisfying $\lambda_1 + \lambda_4 = \lambda_2 + \lambda_3 = s$ for some $s \in \mathbb{Q}$ (symmetry). We also suppose that the eigenvalues $e^{2\pi i\lambda}$ of the monodromy around $z = \infty$ are the zeros (counted with multiplicity) of a product of cyclotomic polynomials, which can be interpreted as the characteristic polynomial of the monodromy around $z = \infty$.

Condition 4. The power series solution near $z = 0$ has integral coefficients.

Condition 5. The genus zero instanton numbers computed by the standard recipe are integral (up to multiplication by an overall positive integer corresponding to the degree, which is not apparent from the differential equation alone).

2 Construction of Calabi–Yau equations

Some of the equations we collected in this paper have a geometric origin. These account for equations #1–28 except #9 in our list (see introduction to the main table for the precise references). Such geometric equations served as the starting point of our list. They are automatically of Calabi–Yau type because of their geometric origin. We observed that the expressions for the differential operators are very similar. This encouraged us to start looking for more equations that share the properties listed above. To find such equations we used various constructions:

- Translation to other singular points (not $z = 0$) with spectrum $\{a, a, a, a\}$
- Manipulation of binomial expressions for the coefficients of the power series solution
- Hadamard product
- ‘Pullbacks’ from fifth order equations
- Computer searches

The first method of obtaining new equations is rather trivial. Note that we defined a Calabi–Yau equation to have a point of maximal unipotent monodromy at $z = 0$. However, it can have other singular points where the spectrum consists of a single value a with multiplicity 4. These points can be found by computing the spectrum at all singular points. By translating to such a point (i.e., by substitution $z = z_0 + w$ if z_0 is the MUM-point or $z = 1/w$ if the MUM-point is at infinity) and simultaneously replacing y by $w^{-a}\tilde{y}$ we get a new equation for $\tilde{y}$, that has maximal unipotent monodromy at $w = 0$. Of course in some sense it is still the same equation. However, it can happen that one arrives at the same equation at a different point of maximal unipotent monodromy in entirely different ways. Then it may not always be clear that two equations are just translates of each other (in the sense described above). An example of a Picard–Fuchs equation with two points of maximal unipotent monodromy was discussed in [17, 18]. In that case both points have a geometric interpretation. By including translates it is easier to check if we include a certain equation.

The next three constructions are discussed in more detail in [1]. We will restrict ourselves to a few brief remarks. In many cases explicit formulas are known for the coefficients of the power series solution around $z = 0$. They satisfy a recursion relation coming from the differential equation. As can be seen from the list, in many cases the coefficients can be expressed in terms of sums or double sums of binomial expressions. There are many ways of transforming such expressions to other expressions which still satisfy a recursion relation. Translating this recursion relation back to a differential equation we obtain a new differential equation which in many cases turns out to be of Calabi–Yau type again.

The Hadamard product of two equations with power series solutions around $z = 0$ given by $\sum_{n=0}^{\infty} A_n z^n$ and $\sum_{n=0}^{\infty} B_n z^n$ is the differential equation that has $\sum_{n=0} A_n B_n z^n$ as its power series solution. As explained in [1] the Hadamard product can be used to construct higher order equations from lower order ones. The lower order ones come from [21, 9] and computer searches.

As discussed in [1] we can construct a fifth order equation from a fourth order one. This construction also goes the other way: given a suitable fifth order equation the corresponding fourth order equation can be constructed. The fifth order equations are found by other methods similar to the ones discussed above for fourth order equations.

2.1 Computer searches

A look at the list of differential equations shows that certain types occur very often. If we restrict to equations with $k = 1$, then the list reduces to the 14 hypergeometric cases. These are all of the form

$$D_{4,1}^{\text{hg}} = \theta^4 - cz(v\theta + u)(x\theta + w)(x\theta + x - w)(v\theta + v - u), \tag{2}$$

for integers c, u, v, w, and x. The term without z has to be $a\theta^4$ for some integer $a \neq 0$ because we want the equation to have maximal unipotent monodromy at $z = 0$. For some reason only $a = 1$ occurs. The last term determines the indicial equation at $z = \infty$, as can be seen by transforming (1) to $w = z^{-1}$.

$$D_{n,k}^{w} := \sum_{i=0}^{k} w^i P_{k-i}(-\theta_w), \tag{3}$$

where $\theta_w := w\frac{\partial}{\partial w}$. Therefore the indicial equation at $z = \infty$ is

$$P_k(-\lambda) = 0.$$

Hence Condition 3 tells us among other things that $P_k(-\lambda)$ has rational roots. Another part of this condition is the symmetry $\lambda_1 + \lambda_4 = \lambda_2 + \lambda_3 = s$ for some $s \in \mathbb{Q}$. Take $s = 1$ and write $\lambda_1 = \frac{u}{v}$ and $\lambda_2 = \frac{w}{x}$, then we find the expression from (2).

However, we still have not fully exploited Condition 3. The characteristic polynomial has to be a product of cyclotomic polynomials. As it has fixed degree 4, there are only finitely many possibilities (see Table 1). The λ_i are defined by the property that $e^{2\pi i\lambda_1}, \ldots, e^{2\pi i\lambda_4}$ is the full set of zeros of the characteristic polynomial. This determines the λ_i up to integer shifts. Because they also have to be positive and we have the symmetry condition $\lambda_1 + \lambda_4 = \lambda_2 + \lambda_3 = s$, there are only finitely many choices for the λ_i's for a fixed characteristic polynomial and fixed s. As mentioned above, for the hypergeometric equations s turns out to be 1. We listed the 14 possible spectra in Table 1. These correspond exactly to the first 14 equations in our list. Given the spectrum at $z = \infty$ the only thing that is not fixed is the constant c. This constant can easily be found by requiring the coefficients of the power series solution around $z = 0$ to be integral.

One step up from the hypergeometric equations are the Calabi–Yau equations with $k = 2$. In this case the most general form is

$$\begin{aligned} D_{4,2}^{\text{gen}} &= \theta^4 - cz(A\theta^4 + 2A\theta^3 + (B + A)\theta^2 + B\theta + C) \\ &\quad - dz^2(v\theta + u)(x\theta + w)(x\theta + 2x - w)(v\theta + 2v - u). \end{aligned} \tag{4}$$

The first and the last term are again restricted because of the required monodromies (Conditions 1 and 3), where again we suppose that the coefficient of θ^4 is 1. The only difference is that for the spectrum at $z = \infty$ we now use $s = 2$ instead of $s = 1$. This is just based on the experimental fact that for $k = 2$ most Calabi–Yau equations turn out to have $s = 2$. In fact our database contains one exception ($s = \frac{3}{2}$). For larger k we observe that several values of s occur (based on the equations in our database).

Condition 2 forces the middle term (with z) to be of the given form, as can be checked by computing the coefficients $a_i(z)$ for a general polynomial $P_1(\theta)$. In practice in most cases the middle term factors and the operator is of the form

$$\begin{aligned} D_{4,2}^{\text{fact}} &= \theta^4 - cz(v\theta + u)(v\theta + v - u)(A\theta^2 + A\theta + B) \\ &\quad - dz^2(v\theta + u)(x\theta + w)(x\theta + 2x - w)(v\theta + 2v - u). \end{aligned} \tag{5}$$

Using this form reduces the number of parameters by one which makes the computer search a lot faster.

As mentioned above, we also search for equations of lower order ($n = 2$ or $n = 3$) because they can be used as factors in the Hadamard product to find interesting fourth order equations. We have searched for operators of the following forms (see [1])

$$D_{2,2}^{\text{had}} = \theta^2 - c(A\theta^2 + A\theta + B) - d(\theta + 1)^2$$

and

$$D_{3,2}^{\text{had}} = \theta^3 - c(2\theta + 1)(A\theta^2 + A\theta + B) - d(\theta + 1)^3.$$

char. polyn.	spectra ($s=1$)	spectra ($s=2$)
$\phi_1\phi_2\phi_3$	—	—
$\phi_1\phi_2\phi_6$	—	—
$\phi_1\phi_2\phi_6$	—	—
$\phi_1\phi_2^3$	—	—
$\phi_1^2\phi_2^2$	—	$\{\frac{1}{2},1,1,\frac{3}{2}\}^*$
$\phi_1^2\phi_3$	—	$\{\frac{2}{3},1,1,\frac{4}{3}\}^*$, $\{\frac{1}{3},1,1,\frac{5}{3}\}^*$
$\phi_1^2\phi_4$	—	$\{\frac{3}{4},1,1,\frac{5}{4}\}$, $\{\frac{1}{4},1,1,\frac{7}{4}\}^*$
$\phi_1^2\phi_6$	—	$\{\frac{5}{6},1,1,\frac{7}{6}\}^*$, $\{\frac{1}{6},1,1,\frac{11}{6}\}^*$
$\phi_1^3\phi_2$	—	—
ϕ_1^4	—	$\{1,1,1,1\}^*$
$\phi_2^2\phi_3$	$\{\frac{1}{3},\frac{1}{2},\frac{1}{2},\frac{2}{3}\}$	$\{\frac{1}{2},\frac{2}{3},\frac{4}{3},\frac{3}{2}\}$, $\{\frac{1}{3},\frac{1}{2},\frac{3}{2},\frac{5}{3}\}$
$\phi_2^2\phi_4$	$\{\frac{1}{4},\frac{1}{2},\frac{1}{2},\frac{3}{4}\}$	$\{\frac{1}{2},\frac{3}{4},\frac{5}{4},\frac{3}{2}\}$, $\{\frac{1}{4},\frac{1}{2},\frac{3}{2},\frac{7}{4}\}$
$\phi_2^2\phi_6$	$\{\frac{1}{6},\frac{1}{2},\frac{1}{2},\frac{5}{6}\}$	$\{\frac{1}{6},\frac{1}{2},\frac{3}{2},\frac{11}{6}\}$, $\{\frac{1}{2},\frac{5}{6},\frac{7}{6},\frac{3}{2}\}$,
ϕ_2^4	$\{\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}\}$	$\{\frac{1}{2},\frac{1}{2},\frac{3}{2},\frac{3}{2}\}$
$\phi_3\phi_4$	$\{\frac{1}{4},\frac{1}{3},\frac{2}{3},\frac{3}{4}\}$	$\{\frac{2}{3},\frac{3}{4},\frac{5}{4},\frac{4}{3}\}$, $\{\frac{1}{4},\frac{1}{3},\frac{5}{3},\frac{7}{4}\}$, $\{\frac{1}{3},\frac{3}{4},\frac{5}{4},\frac{5}{3}\}$, $\{\frac{1}{4},\frac{2}{3},\frac{4}{3},\frac{7}{4}\}$
$\phi_3\phi_6$	$\{\frac{1}{6},\frac{1}{3},\frac{2}{3},\frac{5}{6}\}$	$\{\frac{2}{3},\frac{5}{6},\frac{7}{6},\frac{4}{3}\}$, $\{\frac{1}{6},\frac{1}{3},\frac{5}{3},\frac{11}{6}\}$, $\{\frac{1}{3},\frac{5}{6},\frac{7}{6},\frac{5}{3}\}$, $\{\frac{1}{6},\frac{2}{3},\frac{4}{3},\frac{11}{6}\}$
ϕ_3^2	$\{\frac{1}{3},\frac{1}{3},\frac{2}{3},\frac{2}{3}\}$	$\{\frac{1}{3},\frac{2}{3},\frac{4}{3},\frac{5}{3}\}$, $\{\frac{2}{3},\frac{2}{3},\frac{4}{3},\frac{4}{3}\}$, $\{\frac{1}{3},\frac{1}{3},\frac{5}{3},\frac{5}{3}\}$
$\phi_4\phi_6$	$\{\frac{1}{6},\frac{1}{4},\frac{3}{4},\frac{5}{6}\}$	$\{\frac{1}{6},\frac{3}{4},\frac{5}{4},\frac{11}{6}\}$, $\{\frac{3}{4},\frac{5}{6},\frac{7}{6},\frac{5}{4}\}$, $\{\frac{1}{4},\frac{5}{6},\frac{7}{6},\frac{7}{4}\}$, $\{\frac{1}{6},\frac{1}{4},\frac{7}{4},\frac{11}{6}\}$
ϕ_4^2	$\{\frac{1}{4},\frac{1}{4},\frac{3}{4},\frac{3}{4}\}$	$\{\frac{1}{4},\frac{3}{4},\frac{5}{4},\frac{7}{4}\}$, $\{\frac{3}{4},\frac{3}{4},\frac{5}{4},\frac{5}{4}\}$, $\{\frac{1}{4},\frac{1}{4},\frac{7}{4},\frac{7}{4}\}$
ϕ_5	$\{\frac{1}{5},\frac{2}{5},\frac{3}{5},\frac{4}{5}\}$	$\{\frac{2}{5},\frac{4}{5},\frac{6}{5},\frac{8}{5}\}$, $\{\frac{3}{5},\frac{4}{5},\frac{6}{5},\frac{7}{5}\}$, $\{\frac{1}{5},\frac{3}{5},\frac{7}{5},\frac{9}{5}\}$, $\{\frac{1}{5},\frac{2}{5},\frac{8}{5},\frac{9}{5}\}$
ϕ_6^2	$\{\frac{1}{6},\frac{1}{6},\frac{5}{6},\frac{5}{6}\}$	$\{\frac{1}{6},\frac{5}{6},\frac{7}{6},\frac{11}{6}\}$, $\{\frac{1}{6},\frac{1}{6},\frac{11}{6},\frac{11}{6}\}$, $\{\frac{5}{6},\frac{5}{6},\frac{7}{6},\frac{7}{6}\}$
ϕ_8	$\{\frac{1}{8},\frac{3}{8},\frac{5}{8},\frac{7}{8}\}$	$\{\frac{1}{8},\frac{3}{8},\frac{13}{8},\frac{15}{8}\}$, $\{\frac{1}{8},\frac{5}{8},\frac{11}{8},\frac{15}{8}\}$, $\{\frac{3}{8},\frac{7}{8},\frac{9}{8},\frac{13}{8}\}$, $\{\frac{5}{8},\frac{7}{8},\frac{9}{8},\frac{11}{8}\}$
ϕ_{10}	$\{\frac{1}{10},\frac{3}{10},\frac{7}{10},\frac{9}{10}\}$	$\{\frac{7}{10},\frac{9}{10},\frac{11}{10},\frac{13}{10}\}$, $\{\frac{1}{10},\frac{3}{10},\frac{17}{10},\frac{19}{10}\}$, $\{\frac{1}{10},\frac{7}{10},\frac{13}{10},\frac{19}{10}\}$, $\{\frac{3}{10},\frac{9}{10},\frac{11}{10},\frac{17}{10}\}$
ϕ_{12}	$\{\frac{1}{12},\frac{5}{12},\frac{7}{12},\frac{11}{12}\}$	$\{\frac{1}{12},\frac{5}{12},\frac{19}{12},\frac{23}{12}\}$, $\{\frac{1}{12},\frac{7}{12},\frac{17}{12},\frac{23}{12}\}$, $\{\frac{5}{12},\frac{11}{12},\frac{13}{12},\frac{19}{12}\}$, $\{\frac{7}{12},\frac{11}{12},\frac{13}{12},\frac{17}{12}\}$

Table 1: Possible characteristic polynomials and spectra

The special forms of the operator discussed above allow us to do a computer search for Calabi–Yau equations. For fourth order equations we use the following two step process.

Step 1. A program written in C searches a certain range of the parameters in the expressions for the operators discussed above (e.g., A, B, C, c, d, $\frac{u}{v}$, and $\frac{w}{x}$ for $D^{\mathrm{gen}}_{4,2}$). The C program only checks for an integral solution to the recursion relation. If an integral power series solution exists, the corresponding values of the parameters are written to a Maple array.

Step 2. A Maple program reads the candidate parameter combinations and computes the instanton numbers. These need not be integral, because we can still multiply with the degree. Therefore, we compute the lowest common multiple of denominators of the first 15 and the first 20 instanton numbers. If they are equal, we consider this to be acceptable. In practice we observe that in these cases the lowest common multiple is also very small (below 100). We also check if the differential operator factors as a differential operator (using the `DEtools` package). If does, we remove the operator from our list.

For second and third order equations we cannot directly define the instanton numbers. Instead, we check if using them as factors in a Hadamard product yields a fourth order equation of Calabi–Yau type.

The first step is the most time consuming one. So we use a few tricks to save some time. First note that replacing z by λz multiplies the coefficients A_n of the power series solution by λ^n. In terms of the parameters this amounts to multiplying c and d by λ and λ^2 respectively. Therefore we can put $c = 1$ and compute the first N coefficients of the power series. In general the coefficients will be rational. We will require the denominators to be a product of powers of a limited number of small primes. We can then compute the scaling factor to make the first N coefficients integral. Using the rescaled parameters c and d we can compute the first M ($M > N$) coefficients and check that they are integral. We always used $N = 50$ and $M = 1000$, but it never happened that with the rescaled parameters we found non integral coefficients. Note that we do not *prove* that all the coefficients of the power series solution are integral, but as we check the first 1000 coefficients, we are pretty confident that they are.

In this way we did extensive searches using up to a dozen computers. The results are summarized in Table 2 on the following page. The last column contains the number of solutions found by the C program. For the fourth order equations we also indicate between parentheses the number of solutions that survive the second step of the searching process and are contained in our database. For the spectra searched we refer to Table 1 on the previous page. The star indicates that we restrict to the subset of the spectra from Table 1 labelled by a star.

The difference between the programs `search4` and `search4q` is that the former is completely general, whereas the latter assumes that apart from $z = 0$ and $z = \infty$ there is just one rational critical point. This yields big restrictions on the parameters and allows us to compute d. Therefore this program is much faster and we were able to search a much larger parameter range. Of course it also means that we cannot find any equations which do not satisfy this extra condition.

We do not claim that our search has been exhaustive. First of all the parameter ranges are rather arbitrary. It is to be expected that enlarging these ranges

Program	Operator	Parameter range	Spectra	#
search2	$D^{\text{had}}_{2,2}$	$1 \le A, B \le 500$, $d = 2^p 3^q 5^r 7^s$ with $0 \le p \le 20$, $0 \le q \le 6$, $0 \le r \le 5$, $0 \le s \le 2$	—	126
search3	$D^{\text{had}}_{3,2}$	$1 \le A, B \le 500$, $d = 2^p 3^q 5^r 7^s$ with $0 \le p \le 20$, $0 \le q \le 6$, $0 \le r \le 5$, $0 \le s \le 2$	—	139
search4	$D^{\text{gen}}_{4,2}$	$1 \le A, B, C \le 200$, $d = 2^p 3^q 5^r 7^s$ with $0 \le p \le 15$, $0 \le q \le 5$, $0 \le r \le 4$, $0 \le s \le 2$	$s = 2^*$	66 (15)
search4f	$D^{\text{fact}}_{4,2}$	$1 \le A, B \le 100$, $d = 2^p 3^q 5^r 7^s$ with $0 \le p \le 15$, $0 \le q \le 6$, $0 \le r \le 5$, $0 \le s \le 1$	$s = 2$	364 (58)
search4q	$D^{\text{gen}}_{4,2}$	$1 \le A, B, C \le 1000$, d is computed	$s = 2$	1321 (30)

Table 2: Computer searches

we will find more equations. Furthermore, the expressions (4) and (5) that we use are not completely general. Both the assumption that the coefficient of θ^4 is 1 and the restriction to $s = 2$ are arbitrary. As mentioned above, we already have one example with $s = \frac{3}{2}$. There are also 32 equations where the coefficient of θ^4 is bigger than 1. However, in all these cases k is at least 4. All in all, this is still very much work in progress. We are still adding equations to our list every now and then and we keep enhancing the information on the equations in our database.

2.2 How to sum for $k = -n$ to $k = -1$

As already mentioned, the work [1] explains manipulating binomial expressions to deduce new examples of Calabi–Yau equations. This is certainly a "hypergeometric" machinery, but, surprisingly, it works for certain unusual series $y_0 = \sum_{n=0}^{\infty} A_n z^n$ as well, namely, when coefficients A_n involve not only binomials but also harmonic sums and consist of several summations.

In some formulas for A_n (particular cases are #211 and #264) it is necessary to sum also for $k = -n$ to $k = -1$ to get the correct coefficients of the solution y_0 to the differential equation. This requires expressing binomial coefficients near $k = -\bar{k}$, where $\bar{k}$ is a positive integer:

$$\begin{aligned}\binom{n}{k} \approx \binom{n}{-\bar{k} - \varepsilon} &= \frac{n!}{\Gamma(1 - \bar{k} - \varepsilon)\Gamma(1 + n + \bar{k} + \varepsilon)} \\ &= (-1)^{\bar{k}} \bar{k}^{-1} \binom{n + \bar{k}}{n}^{-1} \varepsilon + O(\varepsilon^2),\end{aligned}$$

$$\binom{2k}{k} \approx \binom{-2\bar{k} - 2\varepsilon}{-\bar{k} - \varepsilon} = \frac{\Gamma(1 - 2\bar{k} - 2\varepsilon)}{\Gamma(1 - \bar{k} - \varepsilon)^2} = \bar{k}^{-1} \binom{2\bar{k}}{\bar{k}}^{-1} \varepsilon + O(\varepsilon^2),$$

$$\binom{n+k}{n} \approx \binom{n-\bar{k}-\varepsilon}{n} = \frac{\Gamma(1+n-\bar{k}-\varepsilon)}{n!\Gamma(1-\bar{k}-\varepsilon)} = (-1)^{\bar{k}}\bar{k}^{-1}\binom{n}{\bar{k}}^{-1}\varepsilon + O(\varepsilon^2),$$

and so on.

The differential equation for case #211 was found in two ways: first, as the reflection of case #210 at infinity and, secondly, by taking Maple's `Zeilberger` on the following binomial sum:

$$\text{“}A_n\text{”} = \binom{2n}{n}^4 \sum_k (-1)^{n+k} \binom{n}{k}^2 \binom{2k}{k} \binom{4n-2k}{2n-k} \binom{n+k}{n}^{-2} \binom{2n}{k}^{-1}.$$

Usual summing for $k=0$ to $k=n$ does not give the correct coefficient of y_0. To remove the latter quotation one should sum for $k=-n$ to n. So we have to consider also negative k. The 'difficult' (i.e., negative) part of the summand is

$$\binom{n}{k}^2 \binom{2k}{k} \binom{n+k}{n}^{-2} \binom{2n}{k}^{-1},$$

which near $k=-\bar{k}$ becomes (after simple reduction)

$$(-1)^{\bar{k}} \binom{n+\bar{k}}{n}^{-2} \binom{2\bar{k}}{\bar{k}}^{-1} \binom{n}{\bar{k}}^2 \binom{2n+\bar{k}}{2n} + O(\varepsilon),$$

thus giving us the formula indicated below in Table A.

In case #264 we use `Zeilberger` on

$$\text{“}A_n\text{”} = 16^{-n}\binom{2n}{n}^2 \sum_k (n-2k) \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n+2k}{n+k}^2 \times \binom{4n-2k}{2n-k}^2 \binom{2n}{k}^{-1} \binom{2n}{n-k}^{-1}$$

and proceed, as before, for negative k to obtain for the 'difficult' part

$$\binom{n}{k}\binom{2k}{k}\binom{2n}{k}^{-1}$$

near $k=-\bar{k}$ the following result:

$$\bar{k}^{-1}\binom{n+\bar{k}}{n}^{-1}\binom{2\bar{k}}{\bar{k}}^{-1}\binom{2n+\bar{k}}{2n}\varepsilon + O(\varepsilon^2).$$

Therefore, for negative k, we get the sum (this formula was found by C. Krattenthaler [13])

$$\frac{\mathrm{d}\text{“}A_n\text{”}}{\mathrm{d}\varepsilon} = 16^{-n}\binom{2n}{n}^2 \sum_{k=1}^{n} \frac{n+2k}{k}\binom{2n+k}{2n}\binom{2n+2k}{n+k} \times \binom{2n-2k}{n-k}^2\binom{4n+2k}{2n+k}^2\binom{n+k}{n}^{-1}\binom{2k}{k}^{-1},$$

where we replace $\bar{k}=-k$ by k. Finally, adding the derivative of “A_n” for positive k, we deduce our formula in Table A for case #264.

3 Electronic database of Calabi–Yau equations

All equations we found are also available in electronic form. The web interface to our database is at:

`http://enriques.mathematik.uni-mainz.de/CYequations/`

The database includes some extra information that is not contained in the tables in this paper. Furthermore we hope to be able to keep it up to date so that it can serve as a list of all known Calabi–Yau equations. Therefore we encourage anybody who finds new equations of Calabi–Yau type to send them to us so that we can include them into our database. Comments and suggestions are also welcome. The database and the web interface are still a work in progress.

Information about the use of the database can be found at the web address mentioned above. A small warning for people comparing the table in this article and the database: for equations past #180 the numbering of the equations in the database is different from the one used in this article. However, by searching for `almkvist[n]` in the source field, where n is the number used in this article one can easily find the equation in the database.

Part of the extra information that we do not provide in this article, but is contained in the database, is related to numerical computations of the monodromies around the singular points of the differential equations. In many cases we succeeded in guessing the exact monodromies using the approximate monodromies obtained numerically. In turn the exact monodromies allowed us to compute some geometric invariants of potential underlying Calabi–Yau manifolds. These, in combination with further information obtained from the monodromies, enabled us to compute elliptic invariants in many cases. This work is discussed in detail in [8].

Remark. We feel that our table in Appendix A is not perfectly organized, and we plan to systemize it in the nearest future. On the other hand, the papers [1], [8], as well as the electronic database have crucial references to the absolute numbering in Appendix A. Therefore, we have decided to keep the present numeration at least in the first arXiv-version of this work.

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A Table of Calabi–Yau equations

The first column is reserved for numeration of cases. The second column of the following table contains a 4th-order linear differential operator D (by means of $\theta = z\frac{\mathrm{d}}{\mathrm{d}z}$). The third column indicates coefficients $\{A_n\}_{n=0,1,2,\dots}$ of the analytic solution $y_0(z) = \sum_{n=0}^{\infty} A_n z^n$ to the MUM differential equation $Dy = 0$ normalized by the condition $y_0(0) = A_0 = 1$.

See [16], [11] for cases #1, #2; [15] for cases #3–6; [11] cases #7, #8; [12] for cases #10–14; [4] for cases #15–23, and [5] for cases #24–28.

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$	
1	$D = \theta^4 - 5^5 z\big(\theta+\frac{1}{5}\big)\big(\theta+\frac{2}{5}\big)\big(\theta+\frac{3}{5}\big)\big(\theta+\frac{4}{5}\big)$	$A_n = \dfrac{(5n)!}{n!^5}$
2	$D = \theta^4 - 8\cdot 10^5 z\big(\theta+\frac{1}{10}\big)\big(\theta+\frac{3}{10}\big)\big(\theta+\frac{7}{10}\big)\big(\theta+\frac{9}{10}\big)$	$A_n = \dfrac{(10n)!}{n!^3(2n)!(5n)!}$
3	$D = \theta^4 - 256z\big(\theta+\frac{1}{2}\big)^4$	$A_n = \binom{2n}{n}^4$
4	$D = \theta^4 - 3^6 z\big(\theta+\frac{1}{3}\big)^2\big(\theta+\frac{2}{3}\big)^2$	$A_n = \left(\dfrac{(3n)!}{n!^3}\right)^2$
5	$D = \theta^4 - 432z\big(\theta+\frac{1}{2}\big)^2\big(\theta+\frac{1}{3}\big)\big(\theta+\frac{2}{3}\big)$	$A_n = \binom{2n}{n}^2\dfrac{(3n)!}{n!^3}$
6	$D = \theta^4 - 2^{10} z\big(\theta+\frac{1}{2}\big)^2\big(\theta+\frac{1}{4}\big)\big(\theta+\frac{3}{4}\big)$	$A_n = \binom{2n}{n}\dfrac{(4n)!}{n!^4}$
7	$D = \theta^4 - 2^{16} z\big(\theta+\frac{1}{8}\big)\big(\theta+\frac{3}{8}\big)\big(\theta+\frac{5}{8}\big)\big(\theta+\frac{7}{8}\big)$	$A_n = \dfrac{(8n)!}{n!^4(4n)!}$
8	$D = \theta^4 - 11664z\big(\theta+\frac{1}{6}\big)\big(\theta+\frac{1}{3}\big)\big(\theta+\frac{2}{3}\big)\big(\theta+\frac{5}{6}\big)$	$A_n = \dfrac{(6n)!}{n!^4(2n)!}$
9	$D = \theta^4 - 12^6 z\big(\theta+\frac{1}{12}\big)\big(\theta+\frac{5}{12}\big)\big(\theta+\frac{7}{12}\big)\big(\theta+\frac{11}{12}\big)$	$A_n = \binom{2n}{n}\dfrac{(12n)!}{n!^2(4n)!(6n)!}$
10	$D = \theta^4 - 2^{12} z\big(\theta+\frac{1}{4}\big)^2\big(\theta+\frac{3}{4}\big)^2$	$A_n = \left(\dfrac{(4n)!}{n!^2(2n)!}\right)^2$
11	$D = \theta^4 - 12^3 z\big(\theta+\frac{1}{4}\big)\big(\theta+\frac{3}{4}\big)\big(\theta+\frac{1}{3}\big)\big(\theta+\frac{2}{3}\big)$	$A_n = \binom{3n}{n}\dfrac{(4n)!}{n!^4}$
12	$D = \theta^4 - 2^{10}\cdot 3^3 z\big(\theta+\frac{1}{4}\big)\big(\theta+\frac{3}{4}\big)\big(\theta+\frac{1}{6}\big)\big(\theta+\frac{5}{6}\big)$	$A_n = \binom{4n}{n}\dfrac{(6n)!}{n!^2(2n)!^2}$
13	$D = \theta^4 - 2^8\cdot 3^6 z\big(\theta+\frac{1}{6}\big)^2\big(\theta+\frac{5}{6}\big)^2$	$A_n = \left(\dfrac{(6n)!}{n!(2n)!(3n)!}\right)^2$
14	$D = \theta^4 - 2^8\cdot 3^3 z\big(\theta+\frac{1}{2}\big)^2\big(\theta+\frac{1}{6}\big)\big(\theta+\frac{5}{6}\big)$	$A_n = \binom{2n}{n}\dfrac{(6n)!}{n!^3(3n)!}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
15	$D=\theta^4-3z(3\theta+1)(3\theta+2)(7\theta^2+7\theta+2) -72z^2(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_n=\frac{(3n)!}{n!^3}\sum_{k=0}^{n}\binom{n}{k}^3$
16	$D=\theta^4-4z(2\theta+1)^2(5\theta^2+5\theta+2)+2^8z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=\binom{2n}{n}\sum_{j+k+l+m=n}\left(\frac{n!}{j!\,k!\,l!\,m!}\right)^2=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}$
17	$D=25\theta^4-15z(51\theta^4+84\theta^3+72\theta^2+30\theta+5) +6z^2(531\theta^4+828\theta^3+541\theta^2+155\theta+15) -54z^3(423\theta^4+2160\theta^3+4399\theta^2+3795\theta+1170) +3^5z^4(279\theta^4+1368\theta^3+2270\theta^2+1586\theta+402)-3^{10}z^5(\theta+1)^4$
	$A_n=\sum_{j+k+l=n}\left(\frac{n!}{j!\,k!\,l!}\right)^3$
18	$D=\theta^4-4z(2\theta+1)^2(3\theta^2+3\theta+1)-4z^2(4\theta+2)(4\theta+3)(4\theta+5)(4\theta+6)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}^4$
19	$D=23^2\theta^4-23z(921\theta^4+2046\theta^3+1644\theta^2+621\theta+92) -z^2(380851\theta^4+1328584\theta^3+1772673\theta^2+1033528\theta+221168) -2z^3(475861\theta^4+1310172\theta^3+1028791\theta^2+208932\theta-27232) -2^2\cdot 17z^4(8873\theta^4+14020\theta^3+5139\theta^2-1664\theta-976) +2^3\cdot 3\cdot 17^2z^5(\theta+1)^2(3\theta+2)(3\theta+4)$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\binom{n+k}{n}\binom{2n-k}{n}$
20	$D=\theta^4-3z(48\theta^4+60\theta^3+53\theta^2+23\theta+4) +9z^2(873\theta^4+1980\theta^3+2319\theta^2+1344\theta+304) -2\cdot 3^4z^3(1269\theta^4+3888\theta^3+5259\theta^2+3348\theta+800) +2^2\cdot 3^6z^4(891\theta^4+3240\theta^3+4653\theta^2+2952\theta+688) -2^3\cdot 3^{11}z^5(\theta+1)^2(3\theta+2)(3\theta+4)$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}\frac{(3k)!}{k!^3}\,\frac{(3n-3k)!}{(n-k)!^3}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
21	$D = 25\theta^4 - 20z(36\theta^4+84\theta^3+72\theta^2+30\theta+5) - 2^4z^2(181\theta^4+268\theta^3+71\theta^2-70\theta-35) + 2^8z^3(\theta+1)(37\theta^3+248\theta^2+375\theta+165) + 2^{10}z^4(39\theta^4+198\theta^3+331\theta^2+232\theta+59) + 2^{15}z^5(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^3 \binom{2k}{k}\binom{2n-2k}{n-k}$
22	$D = 49\theta^4 - 7z(155\theta^4+286\theta^3+234\theta^2+91\theta+14) - z^2(161105\theta^4+680444\theta^3+1022261\theta^2+660940\theta+15736) + 2^3z^3(26250\theta^4+85890\theta^3+90710\theta^2+37590\theta+476) - 2^4z^4(4650\theta^4+12660\theta^3+14390\theta^2+8060\theta+184) + 2^9z^5(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^5$
23	$D = 9\theta^4 - 12z(64\theta^4+80\theta^3+73\theta^2+33\theta+6) + 2^7z^2(194\theta^4+440\theta^3+527\theta^2+315\theta+75) - 2^{12}z^3(94\theta^4+288\theta^3+397\theta^2+261\theta+66) + 2^{17}z^4(22\theta^4+80\theta^3+117\theta^2+77\theta+19) - 2^{23}z^5(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2$
24	$D = \theta^4 - 3z(3\theta+2)(3\theta+1)(11\theta^2+11\theta+3) - 9z^2(3\theta+5)(3\theta+2)(3\theta+4)(3\theta+1)$
	$A_n = \frac{(3n)!}{n!^3}\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}$
25	$D = \theta^4 - 4z(2\theta+1)^2(11\theta^2+11\theta+3) - 16z^2(2\theta+3)^2(1+2\theta)^2$
	$A_n = \binom{2n}{n}^2\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}$
26	$D = \theta^4 - 2z(2\theta+1)^2(13\theta^2+13\theta+4) - 12z^2(2\theta+3)(2\theta+1)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n}\sum_{k}\binom{n}{k}^2\binom{n+k}{k}\binom{2k}{n} = \binom{2n}{n}\sum_{k,l}\binom{n}{k}^2\binom{n}{l}^2\binom{k+l}{n}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
27	$D = 9\theta^4 - 3z(173\theta^4 + 340\theta^3 + 272\theta^2 + 102\theta + 15) - 2z^2(1129\theta^4 + 5032\theta^3 + 7597\theta^2 + 4773\theta + 1083) + 2z^3(843\theta^4 + 2628\theta^3 + 2353\theta^2 + 675\theta + 6) - z^4(295\theta^4 + 608\theta^3 + 478\theta^2 + 174\theta + 26) + z^5(\theta+1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{k+l}{n} \binom{2n-k}{n}$
28	$D = \theta^4 - z(65\theta^4 + 130\theta^3 + 105\theta^2 + 40\theta + 6) + 4z^2(4\theta+3)(4\theta+5)(\theta+1)^2$
	$A_n = \sum_{k,l,m} \binom{n}{k}\binom{n}{l}\binom{m}{k}\binom{m}{l}\binom{k+l}{k}\binom{n}{m}^2 = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{k+l}{n}^2$
29	$D = \theta^4 - 2z(2\theta+1)^2(17\theta^2 + 17\theta + 5) + 4z^2(2\theta+3)(2\theta+1)(\theta+1)^2$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k}^2$

Remark. The original formulas for A_n in cases #24, 25, 27–29 were simplified with the help of the binomial identity

$$\sum_j \binom{n}{j}\binom{k}{j} = \binom{n+k}{k}.$$

The origin of the following new cases is explained in the introductory part and [1, 8]. In particular, cases #30 and #31 are obtained in [1], Section 6; case #32 (the pullback of the differential equation related to $\zeta(4)$) is the subject of [1], Section 4; case #130 was communicated to us by H. Verrill [19], case #186 (except for an explicit formula for A_n's) by Tjøtta [18], and case #366 by T. Guttmann [10]. Entries #369–#372 correspond to the so-called *Hurwitz product*, $(A_n)\circ(B_n)=\sum_k\binom{n}{k}A_kB_{n-k}$ (actually, the Hurwitz square) and are due to M. Bogner. Equations #374, #375, and #376 were found by P. Metelitsyn. Equations #386–393 were communicated to us by M. Bogner and S. Reiter [6], while equations #402–404 are due to T. Coates [7].

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
3*	$D=\theta^4-2^4z(2\theta+1)^2(2\theta^2+2\theta+1)+2^{10}z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=16^n\binom{2n}{n}\sum_k\binom{-1/2}{k}^2\binom{-1/2}{n-k}^2=\binom{2n}{n}\sum_{k=0}^{n}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2$
4*	$D=\theta^4-6z(2\theta+1)^2(9\theta^2+9\theta+5)+2^2\cdot3^6z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=27^n\binom{2n}{n}\sum_k\binom{-1/3}{k}^2\binom{-2/3}{n-k}^2$
4**	$D=\theta^4-6z(2\theta+1)^2(9\theta^2+9\theta+4)$ $+2^2\cdot3^4z^2(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n=27^n\binom{2n}{n}\sum_k\binom{-1/3}{k}\binom{-2/3}{k}\binom{-1/3}{n-k}\binom{-2/3}{n-k}$ $=\binom{2n}{n}\sum_{k=0}^{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3}$
6*	$D=\theta^4-2^5z(2\theta+1)^2(2\theta^2+2\theta+1)$ $+2^8z^2(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	$A_n=32^n\binom{2n}{n}\sum_k\binom{-1/2}{k}\binom{-1/4}{k}\binom{-1/2}{n-k}\binom{-3/4}{n-k}$
7*	$D=\theta^4-2^4z(2\theta+1)^2(32\theta^2+32\theta+19)$ $+2^{14}z^2(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	$A_n=256^n\binom{2n}{n}\sum_k\binom{-1/8}{k}\binom{-3/8}{k}\binom{-5/8}{n-k}\binom{-7/8}{n-k}$
7**	$D=\theta^4-2^4z(2\theta+1)^2(32\theta^2+32\theta+13)+2^{16}z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n=256^n\binom{2n}{n}\sum_k\binom{-1/8}{k}\binom{-5/8}{k}\binom{-3/8}{n-k}\binom{-7/8}{n-k}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
8*	$D=\theta^4-12z(2\theta+1)^2(18\theta^2+18\theta+11)$ $+2^4\cdot 3^4z^2(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	$A_n=108^n\binom{2n}{n}\sum_k\binom{-1/6}{k}\binom{-1/3}{k}\binom{-5/6}{n-k}\binom{-2/3}{n-k}$
8**	$D=\theta^4-12z(2\theta+1)^2(18\theta^2+18\theta+7)+2^4\cdot 3^6z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n=108^n\binom{2n}{n}\sum_k\binom{-1/6}{k}\binom{-2/3}{k}\binom{-5/6}{n-k}\binom{-1/3}{n-k}$
9*	$D=\theta^4-48z(2\theta+1)^2(72\theta^2+72\theta+41)$ $+2^{14}\cdot 3^4z^2(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n=1728^n\binom{2n}{n}\sum_k\binom{-1/12}{k}\binom{-5/12}{k}\binom{-7/12}{n-k}\binom{-11/12}{n-k}$
9**	$D=\theta^4-48z(2\theta+1)^2(72\theta^2+72\theta+31)+2^{12}\cdot 3^6z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n=432^n\binom{2n}{n}^2\sum_k(-1)^k\binom{-5/6}{k}\binom{-1/6}{n-k}^2$
10*	$D=\theta^4-2^4z(2\theta+1)^2(8\theta^2+8\theta+5)+2^{14}z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=64^n\binom{2n}{n}\sum_k\binom{-1/4}{k}^2\binom{-3/4}{n-k}^2$
10**	$D=\theta^4-2^4z(2\theta+1)^2(8\theta^2+8\theta+3)+2^{12}z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n=64^n\binom{2n}{n}\sum_k\binom{-1/4}{k}\binom{-3/4}{k}\binom{-3/4}{n-k}\binom{-1/4}{n-k}$ $=\binom{2n}{n}\sum_{k=0}^{n}\frac{(4k)!}{k!^2(2k)!}\,\frac{(4n-4k)!}{(n-k)!^2(2n-2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
13^*	$D = \theta^4 - 48z(2\theta+1)^2(18\theta^2+18\theta+13) + 2^{10}\cdot 3^6 z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = 432^n \binom{2n}{n} \sum_k \binom{-1/6}{k}^2 \binom{-5/6}{n-k}^2$
13^{**}	$D = \theta^4 - 48z(2\theta+1)^2(18\theta^2+18\theta+5) + 2^{10}\cdot 3^4 z^2(2\theta+1)(2\theta+3)(3\theta+1)(3\theta+5)$
	$A_n = 432^n \binom{2n}{n} \sum_k \binom{-1/6}{k}\binom{-5/6}{k}\binom{-5/6}{n-k}\binom{-1/6}{n-k} = \binom{2n}{n} \sum_{k=0}^{n} \frac{(6k)!}{k!(2k)!(3k)!} \frac{(6n-6k)!}{(n-k)!(2n-k)!(3n-3k)!}$
$\widehat{1}$	$D = \theta^4 - 5z(10000\theta^4+12500\theta^3+9500\theta^2+3250\theta+399) + 5^8z^2(2400\theta^4+6000\theta^3+6290\theta^2+2800\theta+399) - 4\cdot 5^{14}z^3(4\theta+3)(80\theta^3+240\theta^2+221\theta+42) + 5^{20}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 10z(2\theta+1)(3125\theta^4+6250\theta^3+7875\theta^2+4750\theta+1226) + 2^4 5^6 z^2(\theta+1)(6250\theta^4+25000\theta^3+4550\theta^2+410000\theta+14851) - 2^6 5^{14} z^3(\theta+1)(\theta+2)(2\theta+3)(25\theta^2+75\theta+82) + 2^8 5^{19} z^4(\theta+1)(\theta+2)(\theta+3)(25\theta^2+100\theta+113) - 2^9 5^{25} z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n = (4\cdot 5^5)^n \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k(1/5)_k(2/5)_k(3/5)_k(4/5)_k}{k!^5}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
$\widehat{2}$	$D=\theta^4-2^4 5z(1600000\theta^4+2000000\theta^3+1540000\theta^2+540000\theta+7189)$ $+2^{14}5^8z^2(9600\theta^4+24000\theta^3+25320\theta^2+1400\theta+1669)$ $-2^{24}5^{14}z^3(4\theta+3)(320\theta^3+960\theta^2+888\theta+171)$ $+2^{32}5^{20}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5$ $-2^5 5z(2\theta+1)(50000\theta^4+100000\theta^3+127000\theta^2+77000\theta+19811)$ $+2^{16}5^6z^2(\theta+1)(1000000\theta^4+4000000\theta^3+7310000\theta^2+6620000\theta+240811)$ $-2^{28}5^{14}z^3(\theta+1)(\theta+2)(2\theta+3)(100\theta^2+300\theta+331)$ $+2^{39}5^{19}z^4(\theta+1)(\theta+2)(\theta+3)(50\theta^2+200\theta+227)$ $-2^{49}5^{25}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=3200000^n\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k(1/10)_k(3/10)_k(7/10)_k(9/10)_k}{k!^5}$
$\widehat{3}$	$D=\theta^4-2^4z(4\theta+1)(64\theta^3+64\theta^2+44\theta+9)$ $+2^{14}z^2(4\theta+1)(96\theta^3+216\theta^2+196\theta+61)$ $-2^{24}z^3(4\theta+1)(4\theta+3)(16\theta^2+44\theta+33)$ $+2^{32}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2^5z(2\theta+1)(80\theta^4+160\theta^3+200\theta^2+120\theta+31)$ $+5\cdot 2^{16}z^2(\theta+1)(32\theta^4+128\theta^3+232\theta^2+208\theta+75)$ $-5\cdot 2^{28}z^3(\theta+1)(\theta+2)(2\theta+3)(4\theta^2+12\theta+13)$ $+5\cdot 2^{37}z^4(\theta+1)(\theta+2)(\theta+3)(2\theta^2+8\theta+9)$ $-2^{49}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=1024^n\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k^5}{k!^5}$
$\widehat{4}$	$D=\theta^4-3^2z(1296\theta^4+1620\theta^3+1224\theta^2+414\theta+49)$ $+3^8z^2(7776\theta^4+19440\theta^3+20322\theta^2+9000\theta+1267)$ $-4\cdot 3^{16}z^3(4\theta+3)(144\theta^3+432\theta^2+397\theta+75)$ $+3^{24}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2\cdot 3^2z(2\theta+1)(405\theta^4+810\theta^3+1017\theta^2+612\theta+158)$ $+2^4 3^8z^2(\theta+1)(810\theta^4+3240\theta^3+5886\theta^2+5292\theta+1913)$ $-2^6 3^{17}z^3(\theta+1)(\theta+2)(2\theta+3)(15\theta^2+45\theta+49)$ $+2^8 3^{22}z^4(\theta+1)(\theta+2)(\theta+3)(45\theta^2+180\theta+203)$ $-2^9 3^{30}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=(4\cdot 3^6)^n\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k(1/3)_k^2(2/3)_k^2}{k!^5}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
$\widehat{5}$	$D=\theta^4-2^2 3z(576\theta^4+720\theta^3+542\theta^2+182\theta+21)$ $+2^4 3^2 z^2(1244160\theta^4+3110400\theta^3+3245760\theta^2+1432800\theta+20017)$ $-2^{11}3^7 z^3(4\theta+3)(1152\theta^3+3456\theta^2+3172\theta+597)$ $+2^{16}3^{12}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2^3 3z(2\theta+1)(180\theta^4+360\theta^3+451\theta^2+271\theta+70)$ $+2^{10}3^4 z^2(\theta+1)(360\theta^4+1440\theta^3+2613\theta^2+2346\theta+847)$ $-2^{15}3^8 z^3(\theta+1)(\theta+2)(2\theta+3)(120\theta^2+360\theta+391)$ $+2^{22}3^{10}z^4(\theta+1)(\theta+2)(\theta+3)(180\theta^2+720\theta+811)$ $-2^{29}3^{15}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=1728^n\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k^3(1/3)_k(2/3)_k}{k!^5}$
$\widehat{6}$	$D=\theta^4-2^4 z(1024\theta^4+1280\theta^3+968\theta^2+328\theta+39)$ $+2^{12}z^2(245760\theta^4+614400\theta^3+642560\theta^2+284800\theta+4017)$ $-2^{27}z^3(4\theta+3)(512\theta^3+1536\theta^2+1412\theta+267)$ $+2^{40}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2^5 z(2\theta+1)(320\theta^4+640\theta^3+804\theta^2+484\theta+125)$ $+2^{18}z^2(\theta+1)(640\theta^4+2560\theta^3+4652\theta^2+4184\theta+1513)$ $-2^{31}z^3(\theta+1)(\theta+2)(2\theta+3)(160\theta^2+480\theta+523)$ $+2^{44}z^4(\theta+1)(\theta+2)(\theta+3)(80\theta^2+320\theta+361)$ $-2^{54}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=2^{12n}\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k^3(1/4)_k(3/4)_k}{k!^5}$
$\widehat{7}$	$D=\theta^4-2^4 z(491520\theta^4+819200\theta^3+627200\theta^2+217600\theta+2793)$ $+2^{26}z^2(4\theta+3)(768\theta^3+1984\theta^2+1572\theta+291)$ $-2^{46}z^3(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2^5 z(2\theta+1)(20480\theta^4+40960\theta^3+51840\theta^2+31360\theta+8087)$ $+2^{24}z^2(\theta+1)(40960\theta^4+163840\theta^3+298880\theta^2+270080\theta+98071)$ $-2^{48}z^3(\theta+1)(\theta+2)(2\theta+3)(64\theta^2+192\theta+211)$ $+2^{67}z^4(\theta+1)(\theta+2)(\theta+3)(32\theta^2+128\theta+145)$ $-2^{89}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$A'_n=2^{18n}\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k(1/8)_k(3/8)_k(5/8)_k(7/8)_k}{k!^5}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
$\widehat{8}$	$D = \theta^4 - 2^2 3^2 z(3888\theta^4 + 6480\theta^3 + 4950\theta^2 + 1710\theta + 217)$ $+ 2^4 3^{10} z^2 (4\theta + 3)(1728\theta^3 + 4464\theta^2 + 3532\theta + 651)$ $- 2^{10} 3^{18} z^3 (4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^3 3^2 z(1620\theta^4 + 3240\theta^3 + 4095\theta^2 + 2475\theta + 638)$ $+ 2^{10} 3^8 z^2 (\theta + 1)(3240\theta^4 + 12960\theta^3 + 23625\theta^2 + 21350\theta + 7739)$ $- 5 \cdot 2^{15} 3^{17} z^3 (\theta + 1)(\theta + 2)(2\theta + 3)(24\theta^2 + 72\theta + 79)$ $+ 5 \cdot 2^{22} 3^{22} z^4 (\theta + 1)(\theta + 2)(\theta + 3)(36\theta^2 + 144\theta + 163)$ $- 2^{29} 3^{30} z^5 (\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5)$
	$A'_n = (4 \cdot 11664)^n \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k (1/3)_k (2/3)_k (1/6)_k (5/6)_k}{k!^5}$
$\widehat{9}$	$D = \theta^4 - 2^4 3^2 z(248832\theta^4 + 414720\theta^3 + 318528\theta^3 + 111116\theta + 14497)$ $+ 2^{22} 3^{10} z^2 (4\theta + 3)(432\theta^3 + 1116\theta^2 + 886\theta + 165)$ $- 2^{34} 3^{18} z^3 (4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5 3^2 z(2\theta + 1)(103680\theta^4 + 207360\theta^3 + 262944\theta^2$ $+ 159264\theta + 41087)$ $+ 2^{20} 3^{17} z^2 (\theta + 1)(207360\theta^4 + 829440\theta^3 + 1514592\theta^2$ $+ 1370304\theta + 498143)$ $- 2^{38} 3^{17} z^3 (\theta + 1)(\theta + 2)(2\theta + 3)(240\theta^2 + 720\theta + 793)$ $+ 2^{53} 3^{22} z^4 (\theta + 1)(\theta + 2)(\theta + 3)(360\theta^2 + 1440\theta + 1633)$ $- 2^{69} 3^{30} z^5 (\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5)$
	$A'_n = 3456^{2n} \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k (1/12)_k (5/12)_k (7/12)_k (11/12) k}{k!^5}$
$\widehat{10}$	$D = \theta^4 - 2^4 z(3072\theta^4 + 5120\theta^3 + 3904\theta^2 + 1344\theta + 169)$ $+ 2^{23} z^2 (4\theta + 3)(24\theta^3 + 62\theta^2 + 49\theta + 9)$ $- 2^{34} z^3 (4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5 z(2\theta + 1)(1280\theta^4 + 2560\theta^3 + 3232\theta^2 + 1952\theta + 503)$ $+ 2^{20} z^2 (\theta + 1)(2560\theta^4 + 10240\theta^3 + 18656\theta^2 + 16832\theta + 6103)$ $- 2^{38} z^3 (\theta + 1)(\theta + 2)(2\theta + 3)(80\theta^2 + 240\theta + 263)$ $+ 2^{53} z^4 (\theta + 1)(\theta + 2)(\theta + 3)(40\theta^2 + 160\theta + 181)$ $- 2^{69} z^5 (\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5)$
	$A'_n = 2^{14n} \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k (1/4)_k^2 (3/4)_k^2}{k!^5}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
$\widehat{11}$	$D = \theta^4 - 2^2 3z(2304\theta^4 + 2880\theta^3 + 2186\theta^2 + 746\theta + 91)$ $+ 2^4 3^3 z^2(1990656\theta^4 + 4976640\theta^3 + 5213952\theta^2 + 23184000\theta + 329497)$ $- 2^{15} 3^7 z^3(4\theta + 3)(4608\theta^3 + 13824\theta^2 + 12724\theta + 2415)$ $+ 2^{24} 3^{12} z^4(4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^3 3z(2\theta + 1)(720\theta^4 + 1440\theta^3 + 1813\theta^2 + 1093\theta + 282)$ $+ 2^{12} 3^5 z^2(\theta + 1)(480\theta^4 + 1920\theta^3 + 3493\theta^2 + 3146\theta + 1139)$ $- 2^{19} 3^8 z^3(\theta + 1)(\theta + 2)(2\theta + 3)(480\theta^2 + 1440\theta + 1573)$ $+ 2^{28} 3^{10} z^4(\theta + 1)(\theta + 2)(\theta + 3)(720\theta^2 + 2880\theta + 3253)$ $- 2^{39} 3^{15} z^5(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4(2\theta + 5)$
	$A'_n = (4 \cdot 12^3)^n \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k(1/3)_k(2/3)_k(1/4)_k(3/4)_k}{k!^5}$
$\widehat{12}$	$D = \theta^4 - 2^4 3z(9216\theta^4 + 11520\theta^3 + 8840\theta^2 30080\theta + 403)$ $+ 2^{12} 3^2 z^2(1990656\theta^4 + 4976640\theta^3 + 5241600\theta^2 + 2352960\theta + 3420049)$ $- 2^{27} 3^7 z^3(4\theta + 3)(4608\theta^3 + 13824\theta^2 + 12772\theta + 2451)$ $+ 2^{40} 3^{12} z^4(4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5 z(2\theta + 1)(2880\theta^4 + 5760\theta^3 + 7300\theta^2 + 4420\theta + 1137)$ $+ 2^{18} 3^5 z^2(\theta + 1)(1920\theta^4 + 7680\theta^3 + 14020\theta^2 + 12680\theta + 4607)$ $- 5 \cdot 2^{31} 3^8 z^3(\theta + 1)(\theta + 2)(2\theta + 3)(96\theta^2 + 288\theta + 317)$ $+ 5 \cdot 2^{44} 3^{10} z^4(\theta + 1)(\theta + 2)(\theta + 3)(144\theta^2 + 576\theta + 653)$ $- 2^{59} 3^{15} z^5(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5)$
	$A'_n = (2^{12} 3^3)^n \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k(1/4)_k(3/4)_k(1/6)_k(5/6)_k}{k!^5}$
$\widehat{13}$	$D = \theta^4 - 2^4 3^2 z(20736\theta^4 + 25920\theta^3 + 20016\theta^2 + 7056\theta + 961)$ $+ 2^{14} 3^8 z^2(311104\theta^4 + 777760\theta^3 + 821520\theta^2 + 370080\theta + 5461)$ $- 2^{24} 3^{16} z^3(4\theta + 3)(576\theta^3 + 1728\theta^2 + 1600\theta + 309)$ $+ 2^{32} 3^{24} z^4(4\theta + 1)(4\theta + 3)(4\theta + 7)(4\theta + 9)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5 3^2 z(2\theta + 1)(6480\theta^4 + 12960\theta^3 + 16488\theta^2 + 10008\theta + 2567)$ $+ 2^{16} 3^8 z^2(\theta + 1)(12960\theta^4 + 51840\theta^3 + 94824\theta^2 + 85968\theta + 31295)$ $- 2^{28} 3^{17} z^3(\theta + 1)(\theta + 2)(2\theta + 3)(60\theta^2 + 180\theta + 199)$ $+ 2^{39} 3^{22} z^4(\theta + 1)(\theta + 2)(\theta + 3)(90\theta^2 + 360\theta + 409)$ $- 2^{49} 3^{30} z^5(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5)$
	$A'_n = (2^{10} 3^6)^n \sum_k (-1)^k \binom{n}{k} \frac{(1/2)_k(1/6)_k^2(5/6)_k^2}{k!^5}$

<table>
<tr><th>#</th><th>differential operator D and coefficients A_n, $n=0,1,2,\dots$</th></tr>
<tr><td rowspan="4">$\widehat{14}$</td><td>$$\begin{aligned}D=\theta^4&-2^4 3z(2304\theta^4+2880\theta^3+2192\theta^2+752\theta+93)\\&+2^{14}3^4z^2(311104\theta^4+777760\theta^3+815776\theta^2+363360\theta+5197)\\&-2^{24}3^7z^3(4\theta+3)(576\theta^3+1728\theta^2+1592\theta+303)\\&+2^{32}3^{12}z^4(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)\end{aligned}$$</td></tr>
<tr><td>the pullback of the 5th-order differential equation $D'y=0$, where</td></tr>
<tr><td>$$\begin{aligned}D'=\theta^5&-2^5 3z(2\theta+1)(720\theta^4+1440\theta^3+1816\theta^2+1096\theta+283)\\&+2^{16}3^4z^2(\theta+1)(1440\theta^4+5760\theta^3+10488\theta^2+9456\theta+3427)\\&-2^{28}3^8z^3(\theta+1)(\theta+2)(2\theta+3)(60\theta^2+180\theta+197)\\&+2^{39}3^{10}z^4(\theta+1)(\theta+2)(\theta+3)(90\theta^2+360\theta+407)\\&-2^{49}3^{15}z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)\end{aligned}$$</td></tr>
<tr><td>$$A'_n=(2^{10}3^3)^n\sum_k(-1)^k\binom{n}{k}\frac{(1/2)_k^3(1/6)_k(5/6)_k}{k!^5}$$</td></tr>
<tr><td rowspan="2">30</td><td>$$\begin{aligned}D=\theta^4&-2^4z(4\theta+1)(4\theta+3)(8\theta^2+8\theta+3)\\&+2^{12}z^2(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)\end{aligned}$$</td></tr>
<tr><td>$$A_n=\frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}2^{2(n-k)}\binom{2k}{k}^2\binom{2n-2k}{n-k}\ \text{(see [1], (6.7))}$$</td></tr>
<tr><td rowspan="2">31</td><td>$$\begin{aligned}D=\theta^4&-2^4z(4\theta+1)(32\theta^3+40\theta^2+28\theta+7)\\&+2^{12}z^2(4\theta+1)(4\theta+3)^2(4\theta+5)\end{aligned}$$</td></tr>
<tr><td>$A_n=A_n^{(-)}$ (see [1], (6.8))</td></tr>
</table>

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
32	$D = \theta^4 - 3z(360\theta^4 + 90\theta^3 + 27\theta^2 - 18\theta - 11)$ $+ 3z^2(1457640\theta^4 + 728820\theta^3 + 248990\theta^2 + 60940\theta + 13224)$ $- 3^4z^3(970920\theta^4 + 728190\theta^3 + 279069\theta^2 + 130766\theta - 16005)$ $+ 3^2z^4(5878660086\theta^4 + 5878660086\theta^3 + 2496718835\theta^2$ $+ 513951166\theta + 4547776)$ $+ 3^5z^5(87382800\theta^4 + 109228500\theta^3 + 56671110\theta^2 + 6068520\theta - 464210)$ $+ 3^5z^6(13118760\theta^4 + 19678140\theta^3 + 11715570\theta^2 + 2846520\theta + 134263)$ $+ 3^8z^7(32400\theta^4 + 56700\theta^3 + 37530\theta^2 + 12600\theta + 116)$ $+ 3^8z^8(3\theta + 1)^2(3\theta + 2)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 3z(2\theta + 1)(3\theta^2 + 3\theta + 1)(15\theta^2 + 15\theta + 4)$ $- 3z^2(\theta + 1)^3(3\theta + 2)(3\theta + 4)$
	$A'_n = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{n+k}{n} \binom{n+l}{n} \binom{k+l}{n}$
33	$D = \theta^4 - 2^2z(324\theta^4 + 456\theta^3 + 321\theta^2 + 93\theta + 10)$ $+ 2^9z^2(584\theta^4 + 584\theta^3 + 4\theta^2 - 71\theta - 13)$ $- 2^{16}z^3(324\theta^4 + 192\theta^3 + 123\theta^2 + 48\theta + 7) + 2^{24}z^4(2\theta + 1)^4$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{2n} \binom{2n}{k}^3$
34	$D = \theta^4 - z(35\theta^4 + 70\theta^3 + 63\theta^2 + 28\theta + 5)$ $+ z^2(\theta + 1)^2(259\theta^2 + 518\theta + 285) - 225z^3(\theta + 1)^2(\theta + 2)^2$
	$A_n = \sum_{i+j+k+l+m=n} \left(\frac{n!}{i!j!k!l!m!}\right)^2$
35	$D = \theta^4 - 2^2 \cdot 3z(192\theta^4 + 240\theta^3 + 191\theta^2 + 71\theta + 10)$ $+ 2^7 \cdot 3^2z^2(1746\theta^4 + 3960\theta^3 + 4323\theta^2 + 2247\theta + 395)$ $- 2^{12} \cdot 3^4z^3(2538\theta^4 + 7776\theta^3 + 9915\theta^2 + 5643\theta + 1030)$ $+ 2^{17} \cdot 3^6z^4(1782\theta^4 + 6480\theta^3 + 8793\theta^2 + 4905\theta + 875)$ $- 2^{23} \cdot 3^{11}z^5(\theta + 1)^2(3\theta + 1)(3\theta + 5)$
	$A_n = \sum_{k=0}^{n} \binom{n}{k} \frac{(6k)!}{k!(2k)!(3k)!} \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!}$
36	$D = \theta^4 - 2^4z(2\theta + 1)^2(3\theta^2 + 3\theta + 1) + 2^9z^2(2\theta + 1)^2(2\theta + 3)^2$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k} \binom{2n-2k}{n-k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
37	$D = \theta^4 - 4z(1280\theta^4 + 320\theta^3 + 94\theta^2 - 66\theta - 39) + 2^4z^2(679936\theta^4 + 339968\theta^3 + 114304\theta^2 - 19008\theta + 11601) - 2^{13}z^3(1515520\theta^4 + 1136640\theta^3 + 430656\theta^2 + 6144\theta + 1329) + 2^{20}z^4(7868416\theta^4 + 7868416\theta^3 + 3318656\theta^2 + 156096\theta - 118695) - 2^{31}z^5(1515520\theta^4 + 1894400\theta^3 + 880576\theta^2 + 62592\theta - 4599) + 2^{40}z^6(679936\theta^4 + 1019904\theta^3 + 518016\theta^2 + 64704\theta + 19713) - 2^{57}z^7\theta(640\theta^3 + 1120\theta^2 + 617\theta + 105) + 2^{68}z^8\theta(\theta+1)(4\theta+1)(4\theta+3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 8z(2\theta+1)(4\theta+1)(4\theta+3)(5\theta^2+5\theta+2) + 2^{10}z^2(\theta+1)(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A'_n = \frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}$
38	$D = \theta^4 - 2^4z(4\theta+1)(4\theta+3)(3\theta^2+3\theta+1) + 2^9z^2(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A_n = \frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}$
39	$D = \theta^4 - 4z(320\theta^4 + 80\theta^3 + 26\theta^2 - 14\theta - 9) + 2^4z^2(42496\theta^4 + 21248\theta^3 + 7808\theta^2 - 560\theta + 825) - 2^{12}z^3(47360\theta^4 + 35520\theta^3 + 14568\theta^2 + 1212\theta + 141) + 2^{19}z^4(61472\theta^4 + 61472\theta^3 + 27848\theta^2 + 2992\theta - 783) - 2^{27}z^5(23680\theta^4 + 29600\theta^3 + 14684\theta^2 + 1858\theta - 15) + 2^{32}z^6(42496\theta^4 + 63744\theta^3 + 34368\theta^2 + 6000\theta + 1293) - 2^{45}z^7\theta(160\theta^3 + 280\theta^2 + 163\theta + 35) + 2^{54}z^8\theta(\theta+1)(2\theta+1)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 8z(2\theta+1)^3(5\theta^2+5\theta+2) + 2^{10}z^2(\theta+1)(2\theta+1)^2(2\theta+3)^2$
	$A'_n = \binom{2n}{n}^2\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}$
40	$D = \theta^4 - 2^4z(64\theta^4 + 32\theta^3 + 12\theta^2 - 4\theta - 3) + 2^{13}z^2(48\theta^4 + 48\theta^3 + 22\theta^2 + 2\theta + 3) - 2^{22}z^3\theta(4\theta+3)(4\theta^2+3\theta+1) + 2^{30}z^4\theta(\theta+1)(2\theta+1)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5z(2\theta+1)^3(2\theta^2+2\theta+1) + 2^{12}z^2(\theta+1)(2\theta+1)^2(2\theta+3)^2$
	$A'_n = \binom{2n}{n}^2\sum_{k=0}^{n}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
41	$D = \theta^4 - 2z(2\theta+1)^2(7\theta^2+7\theta+3) + 324z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \binom{n+k}{k} \frac{(3k)!}{k!^3}$
42	$D = \theta^4 - 8z(2\theta+1)^2(3\theta^2+3\theta+1) + 64z^2(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n} \sum_{k} \binom{n}{k}^2 \binom{2k}{n}^2$
43	$D = \theta^4 - 2^4 z(256\theta^4 + 128\theta^3 + 44\theta^2 - 20\theta - 13)$ $+ 2^{14} z^2(384\theta^4 + 384\theta^3 + 164\theta^2 + 4\theta + 23)$ $- 2^{26} z^3 \theta(64\theta^3 + 96\theta^2 + 49\theta + 9) + 2^{36} z^4 \theta(\theta+1)(4\theta+1)(4\theta+3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2^5 z(2\theta+1)(4\theta+1)(4\theta+3)(2\theta^2+2\theta+1)$ $+ 2^{12} z^2(\theta+1)(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A'_n = \frac{(4n)!}{n!^2(2n)!} \sum_{k=0}^{n} \binom{2k}{k}^2 \binom{2n-2k}{n-k}^2$
44	$D = \theta^4 - 2^2 z(544\theta^4 + 136\theta^3 + 37\theta^2 - 31\theta - 18)$ $+ 2^6 z^2(27760\theta^4 + 13880\theta^3 + 4355\theta^2 + 823\theta + 2472)$ $- 2^{10} z^3(630496\theta^4 + 472872\theta^3 + 168105\theta^2 + 75333\theta - 9924)$ $+ 2^{14} z^4(5400856\theta^4 + 5400856\theta^3 + 2146159\theta^2 + 393923\theta + 22032)$ $- 2^{18} z^5(630496\theta^4 + 788120\theta^3 + 365135\theta^2 - 5981\theta - 55194)$ $+ 2^{22} z^6(27760\theta^4 + 41640\theta^3 + 21705\theta^2 + 2373\theta + 1752)$ $- 2^{26} z^7 \theta(544\theta^3 + 952\theta^2 + 547\theta + 119) + 2^{30} z^8 \theta(\theta+1)(2\theta+1)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 4z(2\theta+1)^3(17\theta^2+17\theta+5) + 16z^2(\theta+1)(2\theta+1)^2(2\theta+3)^2$
	$A'_n = \binom{2n}{n}^2 \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k}^2$
45	$D = \theta^4 - 4z(2\theta+1)^2(7\theta^2+7\theta+2) - 2^7 z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{n} \binom{n}{k}^3$
46	$D = \theta^4 - 6z(2\theta+1)^2(9\theta^2+9\theta+4)$ $+ 324z^2(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \frac{(3k)!}{k!^3} \frac{(3n-3k)!}{(n-k)!^3}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
47	$D = \theta^4 - 2^4 3z(2\theta+1)^2(18\theta^2+18\theta+5) + 2^{10}3^4z^2(2\theta+1)(2\theta+3)(3\theta+1)(3\theta+5)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \frac{(6k)!}{k!(2k)!(3k)!} \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!}$
48	$D = \theta^4 - 12z(3\theta+1)(3\theta+2)(3\theta^2+3\theta+1) + 288z^2(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_n = \frac{(3n)!}{n!^3} \sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}$
49	$D = \theta^4 - 2^2\cdot 3z(144\theta^4+72\theta^3+26\theta^2-10\theta-7) + 2^4\cdot 3^4z^2(864\theta^4+864\theta^3+384\theta^2+24\theta+53) - 2^{11}\cdot 3^8z^3\theta(24\theta^3+36\theta^2+19\theta+4) + 2^{16}\cdot 3^{10}z^4\theta(\theta+1)(3\theta+1)(3\theta+2)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 24z(2\theta+1)(3\theta+1)(3\theta+2)(2\theta^2+2\theta+1) + 2304z^2(\theta+1)(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A'_n = \frac{(3n)!}{n!^3} \sum_{k=0}^{n} \binom{2k}{k}^2\binom{2n-2k}{n-k}^2$
50	$D = \theta^4 - 3z(720\theta^4+180\theta^3+56\theta^2-34\theta-21) + 3^4z^2(239040\theta^4+119520\theta^3+4226\theta^2-472\theta+439) - 3^7z^3(4262400\theta^4+3196800\theta^3+126672\theta^2+6828\theta+868) + 3^{10}z^4(44259840\theta^4+44259840\theta^3+1943584\theta^2+158704\theta-61035) - 2^7\cdot 3^{13}z^5(2131200\theta^4+2664000\theta^3+1284560\theta^2+132020\theta-364) + 2^{13}\cdot 3^{16}z^6(119520\theta^4+179280\theta^3+94170\theta^2+14430\theta+356) - 2^{20}\cdot 3^{19}z^7\theta(180\theta^3+315\theta^2+179\theta+35) + 2^{24}\cdot 3^{22}z^8\theta(\theta+1)(3\theta+1)(3\theta+2)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 6z(2\theta+1)(3\theta+1)(3\theta+2)(5\theta^2+5\theta+2) + 576z^2(\theta+1)(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A'_n = \frac{(3n)!}{n!^3} \sum_{j+k+l+m=n} \left(\frac{n!}{j!\,k!\,l!\,m!}\right)^2 = \frac{(3n)!}{n!^3} \sum_{k=0}^{n} \binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k} = 4^{-n}\frac{(3n)!}{n!^3}\binom{2n}{n}^3 \sum_{k=0}^{n}\binom{n}{k}^4\binom{2n}{2k}^{-3}$
51	$D = \theta^4 - 4z(4\theta+1)(4\theta+3)(11\theta^2+11\theta+3) - 16z^2(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A_n = \frac{(4n)!}{n!^2(2n)!} \sum_{k=0}^{n} \binom{n}{k}^2\binom{n+k}{k}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
52	$D=\theta^4-2^2z(2176\theta^4+544\theta^3+131\theta^2-141\theta-78)$ $+2^7z^2(222080\theta^4+111040\theta^3+31370\theta^2+3690\theta+19557)$ $-2^{14}z^3(2521984\theta^4+1891488\theta^3+613311\theta^2+261807\theta-37362)$ $+2^{20}z^4(21603424\theta^4+21603424\theta^3+7909529\theta^2+1234089\theta+58191)$ $-2^{26}z^5(2521984\theta^4+3152480\theta^3+1362025\theta^2-102855\theta-233532)$ $+2^{31}z^6(222080\theta^4+333120\theta^3+163230\theta^2+9150\theta+13317)$ $-2^{38}z^7\theta(2176\theta^3+3808\theta^2+2069\theta+357)$ $+2^{44}z^8\theta(\theta+1)(4\theta+1)(4\theta+3)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-4z(2\theta+1)(4\theta+1)(4\theta+3)(17\theta^2+17\theta+5)$ $+16z^2(\theta+1)(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A'_n=\dfrac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}^2$
53	$D=\theta^4-3z(1224\theta^4+306\theta^3+79\theta^2-74\theta-42)$ $+3^4z^2(62460\theta^4+31230\theta^3+9365\theta^2+1490\theta+5534)$ $-3^7z^3(1418616\theta^4+1063962\theta^3+363459\theta^2+159618\theta-21788)$ $+3^{10}z^4(12151926\theta^4+12151926\theta^3+4660081\theta^2+800926\theta+41364)$ $-3^{13}z^5(1418616\theta^4+1773270\theta^3+796925\theta^2-33190\theta-127418)$ $+3^{16}z^6(62460\theta^4+93690\theta^3+47535\theta^2+4110\theta+3854)$ $-3^{19}z^7\theta(1224\theta^3+2142\theta^2+1201\theta+238)$ $+3^{22}z^8\theta(\theta+1)(3\theta+1)(3\theta+2)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-3z(2\theta+1)(3\theta+1)(3\theta+2)(17\theta^2+17\theta+5)$ $+9z^2(\theta+1)(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A'_n=\dfrac{(3n)!}{n!^3}\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}^2$
54	$D=\theta^4-2z(6\theta^4+10\theta^3+10\theta^2+5\theta+1)$ $+4z^2(1039\theta^4+4146\theta^3+5707\theta^2+3127\theta+592)$ $-8z^3(\theta+1)(4116\theta^3+18512\theta^2+27768\theta+13889)$ $+16z^4(\theta+1)(\theta+2)(6159\theta^2+24631\theta+25143)$ $-64z^5(\theta+1)(\theta+2)(\theta+3)(2051\theta+5127)$ $+65600z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n=\sum_k(-1)^k2^{n-2k}\binom{n}{2k}\left(\dfrac{(4k)!}{k!^2(2k)!}\right)^2$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
55	$D = 9\theta^4 - 12z(208\theta^4+224\theta^3+163\theta^2+51\theta+6) + 2^9z^2(32\theta^4-928\theta^3-1606\theta^2-837\theta-141) + 2^{16}z^3(144\theta^4+576\theta^3+467\theta^2+144\theta+15) - 2^{24}z^4(2\theta+1)^4$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2n}{2k}$
56	$D = \theta^4 - 2^4z(22\theta^4+8\theta^3+9\theta^2+5\theta+1) + 2^9z^2(94\theta^4+88\theta^3+97\theta^2+45\theta+8) - 2^{14}z^3(194\theta^4+336\theta^3+371\theta^2+195\theta+41) + 2^{19}\cdot 3z^4(64\theta^4+176\theta^3+217\theta^2+129\theta+30) - 2^{27}\cdot 3^2z^5(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^{-1} \binom{2k}{k}^3 \binom{2n-2k}{n-k}^3$
57	$D = \theta^4 - 2^2z(8\theta^4+10\theta^3+10\theta^2+5\theta+1) + 2^4z^2(28\theta^4+70\theta^3+95\theta^2+65\theta+18) - 2^7z^3(28\theta^4+105\theta^3+180\theta^2+150\theta+49) + 2^8z^4(799\theta^4+6182\theta^3+15629\theta^2+13660\theta+3856) - 2^{11}z^5(\theta+1)(1486\theta^3+11082\theta^2+25388\theta+17397) + 2^{13}z^6(\theta+1)(\theta+2)(2201\theta^2+13185\theta+18827) - 2^{16}z^7(\theta+1)(\theta+2)(\theta+3)(731\theta+2557) + 2^{17}\cdot 5\cdot 73z^8(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n = \sum_k (-1)^k 4^{n-4k} \binom{n}{4k} \left(\frac{(6k)!}{k!(2k)!(3k)!}\right)^2$
58	$D = \theta^4 - 4z(2\theta+1)^2(10\theta^2+10\theta+3) + 144z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2k}{k}$
59	$D = 49\theta^4 - 2z(1799\theta^4+3640\theta^3+3045\theta^2+1225\theta+196) + 2^2z^2(134970\theta^4+555360\theta^3+812220\theta^2+503370\theta+11396)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
60	$D = \theta^4 - 2z(248\theta^4 + 62\theta^3 + 23\theta^2 - 8\theta - 6) + 2^2z^2(247792\theta^4 + 123960\theta^3 + 5153\theta^2 + 704\theta + 1126) - 2^2z^3(25494440\theta^4 + 19120080\theta^3 + 8827900\theta^2 + 2308900\theta + 21527) + 2^3z^4(716467520\theta^4 + 716467520\theta^3 + 365089920\theta^2 + 81762020\theta - 785881) - 2^4 \cdot 3z^5(36711936\theta^4 + 45889920\theta^3 + 25682452\theta^2 + 542909400\theta + 1905253) + 2^4 \cdot 3^2z^6(20563476480\theta^4 + 30845214720\theta^3 + 18804199680\theta^2 + 4998021120\theta + 140357665) - 2^9 \cdot 3^5z^7(205701120\theta^4 + 359976960\theta^3 + 237098880\theta^2 + 74370240\theta + 640447) + 2^{12} \cdot 3^8z^8(24\theta + 5)(24\theta + 11)(24\theta + 13)(24\theta + 19)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(31\theta^4 + 62\theta^3 + 54\theta^2 + 23\theta + 4) + 12z^2(\theta + 1)(3\theta + 2)(3\theta + 4)(4\theta + 3)(4\theta + 5)$
	$A'_n = \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2n-k}{n} \binom{n+k}{k} \binom{2k}{k} \binom{2n-2k}{n-k}$
61	$D = \theta^4 - 2^4 3^2 z(6\theta + 1)(6\theta + 5)(72\theta^2 + 72\theta + 31) + 2^{12}3^8z^2(6\theta + 1)(6\theta + 5)(6\theta + 7)(6\theta + 11)$
	$A_n = \frac{(6n)!}{n!\,(2n)!\,(3n)!} \cdot 432^n \sum_k (-1)^k \binom{-5/6}{k} \binom{-1/6}{n-k}^2$
62	$D = \theta^4 - 12z(6\theta + 1)(6\theta + 5)(7\theta^2 + 7\theta + 2) + 1152z^2(6\theta + 1)(6\theta + 5)(6\theta + 7)(6\theta + 11)$
	$A_n = \frac{(6n)!}{n!(2n)!(3n)!} \sum_{k=0}^{n} \binom{n}{k}^3$
63	$D = \theta^4 - 12z(6\theta + 1)(6\theta + 5)(11\theta^2 + 11\theta + 3) + 144z^2(6\theta + 1)(6\theta + 5)(6\theta + 7)(6\theta + 11)$
	$A_n = \frac{(6n)!}{n!(2n)!(3n)!} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
64	$D = \theta^4 - 12z(6\theta+1)(6\theta+5)(10\theta^2+10\theta+3) + 1296z^2(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A_n = \frac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}$
65	$D = \theta^4 - 48z(6\theta+1)(6\theta+5)(3\theta^2+3\theta+1) + 4608z^2(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A_n = \frac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}$
66	$D = \theta^4 - 2^2\cdot 3z(2880\theta^4+720\theta^3+194\theta^2-166\theta-93) + 2^4\cdot 3^4z^2(382464\theta^4+191232\theta^3+59648\theta^2-15088\theta+5833) - 2^{12}\cdot 3^7z^3(426240\theta^4+319680\theta^3+113352\theta^2-5412\theta-305) + 2^{19}\cdot 3^{10}z^4(553248\theta^4+553248\theta^3+219896\theta^2-1432\theta-9327) - 2^{28}\cdot 3^{13}z^5(106560\theta^4+133200\theta^3+58678\theta^2+1321\theta-518) + 2^{32}\cdot 3^{16}z^6(382464\theta^4+573696\theta^3+277440\theta^2+22704\theta+10669) - 2^{45}\cdot 3^{19}z^7\theta(1440\theta^3+2520\theta^2+1327\theta+175) + 2^{54}\cdot 3^{22}z^8\theta(\theta+1)(6\theta+1)(6\theta+5)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 24z(2\theta+1)(6\theta+1)(6\theta+5)(5\theta^2+5\theta+2) + 9216z^2(\theta+1)(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A'_n = \frac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}$
67	$D = \theta^4 - 2^4\cdot 3z(576\theta^4+288\theta^3+92\theta^2-52\theta-31) + 2^{13}\cdot 3^4z^2(432\theta^4+432\theta^3+174\theta^2-6\theta+25) - 2^{22}\cdot 3^8z^3\theta(4\theta+1)(12\theta^2+15\theta+5) + 2^{30}\cdot 3^{10}z^4\theta(\theta+1)(6\theta+1)(6\theta+5)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 96z(2\theta+1)(6\theta+1)(6\theta+5)(3\theta^2+3\theta+1) + 36864z^2(\theta+1)(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A'_n = \frac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2$
68	$D = \theta^4 - 4z(4\theta+1)(4\theta+3)(7\theta^2+7\theta+2) - 128z^2(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A_n = \frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}\binom{n}{k}^3$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
69	$D=\theta^4-4z(4\theta+1)(4\theta+3)(10\theta^2+10\theta+3)$ $+144z^2(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A_n=\frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}$
70	$D=\theta^4-3z(3\theta+1)(3\theta+2)(10\theta^2+10\theta+3)$ $+81z^2(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_n=\frac{(3n)!}{n!^3}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}$
71	$D=\theta^4+2^4z(39\theta^4-42\theta^3-29\theta^2-8\theta-1)$ $+2^{11}z^2\theta(37\theta^3-137\theta^2-10\theta-1)$ $-2^{16}z^3(181\theta^4+456\theta^3+353\theta^2+132\theta+19)$ $-2^{23}5z^4(36\theta^4+60\theta^3+36\theta^2+6\theta-1)+2^{30}5^2z^5(\theta+1)^4$
	$A_n=2^{-n}\sum_{k=0}^{n}\binom{2k}{k}^4\binom{2n-2k}{n-k}^4\binom{n}{k}^{-3}$
72	$D=\theta^4-2z(136\theta^4+260\theta^3+198\theta^2+68\theta+9)$ $+2^2z^2(1048\theta^4+2584\theta^3+3102\theta^2+2188\theta+703)$ $-2^4z^3(1552\theta^4+4632\theta^3+6552\theta^2+4614\theta+1089)$ $+2^4z^4(4112\theta^4+14368\theta^3+21528\theta^2+14344\theta+3585)-2^{16}z^5(\theta+1)^4$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}^3\binom{2n}{2k}^{-1}$
73	$D=\theta^4-18z(42\theta^4+60\theta^3+45\theta^2+15\theta+2)$ $+3\cdot18^2z^2(180\theta^4+432\theta^3+453\theta^2+222\theta+40)$ $-3\cdot18^4z^3(2\theta+1)^2(13\theta^2+29\theta+20)+18^6z^4(2\theta+1)^2(2\theta+3)^2$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3}\binom{2n}{k}\binom{n}{k}^{-1}$
74	$D=\theta^4-2\cdot3z(99\theta^4+36\theta^3+39\theta^2+21\theta+4)$ $+2^2\cdot3^2z^2(3807\theta^4+3564\theta^3+3798\theta^2+1683\theta+284)$ $-2^3\cdot3^5z^3(7857\theta^4+13608\theta^3+14562\theta^2+7317\theta+1444)$ $+2^4\cdot3^9z^4(2592\theta^4+7128\theta^3+8550\theta^2+4851\theta+1052)$ $-2^5\cdot3^{13}z^5(3\theta+2)(3\theta+4)(6\theta+5)(6\theta+7)$
	$A_n=\sum_{k=0}^{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{n}{k}^{-1}$
75	$D=\theta^4-10z(2\theta+1)^2(26\theta^2+26\theta+5)$ $+4z^2(2\theta+1)(2\theta+3)(774\theta^2+1548\theta+823)$ $-3088z^3(2\theta+1)(2\theta+3)^2(2\theta+5)$ $+4112z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}\frac{(4k)!}{k!^4}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
76	$D=\theta^4-z(1029\theta^4+2058\theta^3+1482\theta^2+453\theta+49)$ $+z^2(\theta+1)^2(4106\theta^2+8212\theta+5007)$ $-z^3(\theta+1)(\theta+2)(6154\theta^2+18462\theta+14809)$ $+4101z^4(\theta+1)(\theta+2)^2(\theta+3)$ $-1025z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\frac{(4k)!}{k!^4}$
77	$D=\theta^4-z(16416\theta^4+4116\theta^3+906\theta^2-1152\theta-625)$ $+z^2(101122496\theta^4+507581920\theta^3+133261740\theta^2+7739080\theta+8758171)$ $-z^3(277299334656\theta^4+209187183168\theta^3+63952323504\theta^2$ $+25856143860\theta-4222453166)$ $+z^4(286996730758656\theta^4+290319472045824\theta^3+102144306403616\theta^2$ $+13734541538384\theta+29090804825)$ $-2^4\cdot3\cdot5^2\cdot41z^5(4\theta-1)(231082778880\theta^3+520946820960\theta^2$ $+445830106360\theta+13882711785)$ $+2^5\cdot5^4\cdot41^2z^6(4\theta-1)(4\theta+3)(505612480\theta^2+1265015920\theta+87298415)$ $-2^8\cdot3\cdot5^6\cdot41^3z^7(4\theta-1)(4\theta+3)(4\theta+7)(13680\theta+2395)$ $+2^8\cdot5^8\cdot41^4z^8(4\theta-1)(4\theta+3)(4\theta+7)(4\theta+11)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2(2\theta+1)(1029\theta^4+2058\theta^3+1482\theta^2+453\theta+49)$ $+4(\theta+1)(2\theta+1)(2\theta+3)(4106\theta^2+8212\theta+5007)$ $-8(2\theta+1)(2\theta+3)(2\theta+5)(6154\theta^2+18462\theta+14809)$ $+48\cdot1367(\theta+2)(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$ $-2^5\cdot5^2\cdot41(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)(2\theta+9)$
	$A'_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\frac{(4k)!}{k!^4}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
78	$$\begin{aligned} D = {} & \theta^4 - z(16392\theta^4 + 4102\theta^3 + 900\theta^2 - 1151\theta - 624) \\ & + z^2(100778012\theta^4 + 50454570\theta^3 + 13189539\theta^2 + 803211\theta + 8784048) \\ & - z^3(275482230840\theta^4 + 207014719614\theta^3 + 62883681150\theta^2 \\ & \quad + 25936450350\theta - 4109625168) \\ & + z^4(282850876768326\theta^4 + 283952402645202\theta^3 + 98665243460597\theta^2 \\ & \quad + 13790192460644\theta + 614356880784) \\ & - 17 \cdot 241 z^5\theta(275482230840\theta^3 + 620238065874\theta^2 \\ & \quad + 530195542680\theta + 165017893373) \\ & + 17^2 \cdot 241^2 z^6\theta(\theta+1)(100778012\theta^2 + 252010594\theta + 173831131) \\ & - 2 \cdot 17^3 \cdot 241^3 z^7\theta(\theta+1)(\theta+2)(8196\theta + 14345) \\ & + 17^4 \cdot 241^4 z^8\theta(\theta+1)(\theta+2)(\theta+3) \end{aligned}$$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$$\begin{aligned} D' = {} & \theta^5 - z(2\theta+1)(2051\theta^4 + 4102\theta^3 + 2951\theta^2 + 900\theta + 97) \\ & + z^2(\theta+1)(20495\theta^4 + 81980\theta^3 + 132457\theta^2 + 100954\theta + 30175) \\ & - 2z^3(\theta+1)(\theta+2)(2\theta+3)(10245\theta^2 + 30735\theta + 27983) \\ & + z^4(\theta+1)(\theta+2)(\theta+3)(40975\theta^2 + 163900\theta + 173889) \\ & - 10243z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5) \\ & + 4097z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5) \end{aligned}$$
	$$A'_n = \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k}^2 \frac{(4k)!}{k!^4}$$
79	$$\begin{aligned} D = {} & \theta^4 - z(3130\theta^4 + 6260\theta^3 + 4385\theta^2 + 1255\theta + 121) \\ & + 15z^2(\theta+1)^2(834\theta^2 + 1668\theta + 1001) \\ & - 5z^3(\theta+1)(\theta+2)(3752\theta^2 + 11256\theta + 9005) \\ & + 12505z^4(\theta+1)(\theta+2)^2(\theta+3) \\ & - 3126z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4) \end{aligned}$$
	same $K(q)$ as in #1
	$$A_n = \sum_{k=0}^{n} \binom{n}{k} \frac{(5k)!}{k!^5}$$

<table>
<tr><th>#</th><th>differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$</th></tr>
<tr><td rowspan="4">80</td><td>$$\begin{aligned} D = {}& \theta^4 - 2z(25016\theta^4 + 6260\theta^3 + 1255\theta^2 - 1875\theta - 998) \\ &+ 2^2 z^2(2347251120\theta^4 + 1175126400\theta^3 + 284860250\theta^2 - 10620\theta + 20240412) \\ &- 2^4 z^3(48968855022400\theta^4 + 367970437920\theta^3 + 104723790940\theta^2 \\ &\quad + 412422536250\theta - 7232306723) \\ &+ 2^6 z^4(383914650187780\theta^4 + 385383011813200\theta^3 + 126338801127175\theta^2 \\ &\quad + 14531449104300\theta + 193021814409) \\ &- 16 \cdot 24 \cdot 521 z^5(4\theta - 1)(4896885502240\theta^3 + 1102503263256\theta^2 \\ &\quad + 9377340790140\theta + 289728842991) \\ &+ 4 \cdot 24^2 \cdot 521^2 z^6(4\theta - 1)(4\theta + 3)(2347251120\theta^2 \\ &\quad + 5869628640\theta + 404126249) \\ &- 16 \cdot 24^3 \cdot 521^3 z^7(4\theta - 1)(4\theta + 3)(4\theta + 7)(31270\theta + 5473) \\ &+ 24^4 \cdot 521^4 z^8(4\theta - 1)(4\theta + 3)(4\theta + 7)(4\theta + 11) \end{aligned}$$</td></tr>
<tr><td>the pullback of the 5th-order differential equation $D'y = 0$, where</td></tr>
<tr><td>$$\begin{aligned} D' = {}& \theta^5 - 2z(2\theta + 1)(3130\theta^4 + 6260\theta^3 + 4385\theta^2 + 1255\theta + 121) \\ &+ 60z^2(\theta + 1)(2\theta + 1)(2\theta + 3)(834\theta^2 + 1668\theta + 1001) \\ &- 40z^3(2\theta + 1)(2\theta + 3)(2\theta + 5)(3752\theta^2 + 11256\theta + 9005) \\ &+ 2^4 \cdot 5 \cdot 41 \cdot 61 z^4(\theta + 2)(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7) \\ &- 2^6 \cdot 3 \cdot 521 z^5(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)(2\theta + 9) \end{aligned}$$</td></tr>
<tr><td>$$A'_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k} \frac{(5k)!}{k!^5}$$</td></tr>
</table>

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
81	$D=\theta^4-z(50008\theta^4+125063\theta^3+25040\theta^2-37490\theta-1995)$
	$+z^2(9378500280\theta^4+4691250420\theta^3+1135312850\theta^2+500110\theta+81040890)$
	$-z^3(781812605000560\theta^4+586734573762600\theta^3+166576738762600\theta^2$
	$+660699781296\theta-114681662235)$
	$+z^4(244531390642500700\theta^4+244844078172502100\theta^3$
	$+79884105285877450\theta^2+932188857443850\theta+28724348623005)$
	$-3^3\cdot 463z^5\theta(78181260500560\theta^3+175945348127100\theta^2$
	$+149592075127800\theta+4621083875125)$
	$+3^6\cdot 463^2z^6\theta(\theta+1)(9378500280\theta^2+23448250980\theta+1614171341)$
	$-2\cdot 3^9\cdot 463^3z^7\theta(\theta+1)(\theta+2)(250040\theta+43759)$
	$+3^{12}\cdot 463^4z^8\theta(\theta+1)(\theta+2)(\theta+3)$
	same $K(q)$ as in #80 the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-z(2\theta+1)(62530\theta^4+125060\theta^3+87570\theta^2+25040\theta+241)$
	$+z^2(\theta+1)(625150\theta^4+2500600\theta^3+4026050\theta^2+3050900\theta+90511)$
	$-70z^3(\theta+1)(\theta+2)(2\theta+3)(8930\theta^2+26790\theta+2429)$
	$+5z^4(\theta+1)(\theta+2)(\theta+3)(250030\theta^2+1000120\theta+106013)$
	$-31253z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$+3^3\cdot 463z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5)$
	$A'_n=\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\frac{(5k)!}{k!^5}$
82	$D=\theta^4-z(186631\theta^4+466620\theta^3+84280\theta^2-149030\theta-7812)$
	$+z^2(130618137810\theta^4+65317000680\theta^3+14521084150\theta^2$
	$-1056188060\theta+1116194184)$
	$-z^3(4063051329431390\theta^4+3047843616227460\theta^3$
	$+804778253936150\theta^2+30347763996276\theta-5895787146228)$
	$+13\cdot 37\cdot 97z^4\theta(1015926105030110\theta^3+1016296197685680\theta^2$
	$+310894165501980\theta+2838662698240)$
	$-13^2\cdot 37^2\cdot 97^2z^5\theta(\theta+1)(65311868370\theta^2+108861045810\theta+5020240741)$
	$+13^3\cdot 37^3\cdot 97^3z^6\theta(\theta+1)(\theta+2)(1399750\theta+186639)$
	$-13^4\cdot 37^4\cdot 97^4z^7\theta(\theta+1)(\theta+2)(\theta+3)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-7z(2\theta+1)(33330\theta^4+66660\theta^3+45370\theta^2+12040\theta+103)$
	$+z^2(\theta+1)(2332950\theta^4+9331800\theta^3+14969850\theta^2+11276100\theta+331951)$
	$-10z^3(\theta+1)(\theta+2)(\theta+3)(233290\theta^2+699870\theta+63183)$
	$+5z^4(\theta+1)(\theta+2)(\theta+3)(933150\theta^2+3732600\theta+395293)$
	$-3\cdot 59\cdot 659z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$
	$+13\cdot 37\cdot 97z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5)$
	$A'_n=\sum_{k=0}^{n}\binom{n}{k}\frac{(6k)!}{k!^6}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
83	$D=\theta^4-2^4z(88\theta^4+32\theta^3+33\theta^2+17\theta+3)$ $+2^9z^2(1504\theta^4+1408\theta^3+1436\theta^2+596\theta+93)$ $-2^{18}z^3(776\theta^4+1344\theta^3+1381\theta^2+651\theta+117)$ $+3\cdot 2^{23}z^4(2\theta+1)(512\theta^3+1152\theta^2+1054\theta+339)$ $-9\cdot 2^{31}z^5(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}\binom{2n}{2k}^{-1}\frac{(4k)!}{k!^2(2k)!}\frac{(4n-4k)!}{(n-k)!^2(2n-2k)!}$
84	$D=\theta^4-4z(32\theta^4+64\theta^3+63\theta^2+31\theta+6)$ $+256z^2(\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^2\binom{2n}{2k}^{-1}\frac{(4k)!}{k!^2(2k)!}\frac{(4n-4k)!}{(n-k)!^2(2n-2k)!}$
85	$D=\theta^4-2z(2\theta+1)^2(866\theta^2+866\theta+121)$ $+4z^2(2\theta+1)(2\theta+3)(5190\theta^2+10380\theta+5431)$ $-2^4\cdot 1297z^3(2\theta+1)(2\theta+3)^2(2\theta+5)$ $+2^4\cdot 7\cdot 13\cdot 19z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\frac{(6k)!}{k!(2k)!(3k)!}$
86	$D=\theta^4-z(69017\theta^4+138034\theta^3+96010\theta^2+26993\theta+241)$ $+z^2(\theta+1)^2(276058\theta^2+553016\theta+33039)$ $-z^3(\theta+1)(\theta+2)(414082\theta^2+1244046\theta+99481)$ $+27653z^4(\theta+1)(\theta+2)^2(\theta+3)$ $-31\cdot 223z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	same $K(q)$ as in #85
	$A_n=\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\frac{(6k)!}{k!^3(3k)!}$
87	$D=\theta^4-z(31045\theta^4+62082\theta^3+44003\theta^2+12962\theta+122)$ $+4z^2(2\theta+1)(62070\theta^3+188004\theta^2+200058\theta+7523)$ $-8z^3(2\theta+1)(2\theta+3)(93095\theta^2+281081\theta+22544)$ $+16z^4(2\theta+1)(2\theta+3)(2\theta+5)(62060\theta+12519)$ $-2^4\cdot 3\cdot 7\cdot 149z^5(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}\frac{(5k)!}{k!^3(2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
88	$D = \theta^4 - z(1106240\theta^4 + 276680\theta^3 + 53860\theta^2 - 84480\theta - 4465)$ $+ z^2(45895684480\theta^4 + 22961116640\theta^3 + 5429210540\theta^2$ $- 107135800\theta + 395878043)$ $- z^3(846479537638400\theta^4 + 635410348344960\theta^3 + 176872575640800\theta^2$ $+ 6901304092148\theta - 1219151757870)$ $+ z^4(5860174168035343360\theta^4 + 5870329719706539520\theta^3$ $+ 1882885280236239680\theta^2 + 204430508266834720\theta + 526999484846681)$ $- 2^4 \cdot 31 \cdot 223 z^5(4\theta - 1)(211619884409600\theta^3 + 476282413700640\theta^2$ $+ 404371243842280\theta + 12464650057531)$ $+ 2^5 \cdot 31^2 \cdot 223^2 z^6(4\theta - 1)(4\theta + 3)(22947842240\theta^2$ $+ 57376242800\theta + 3947717231)$ $- 2^8 \cdot 31^3 \cdot 223^3 z^7(4\theta - 1)(4\theta + 3)(4\theta + 7)(276560\theta + 48401)$ $+ 2^8 \cdot 31^4 \cdot 223^4 z^8(4\theta - 1)(4\theta + 3)(4\theta + 7)(4\theta + 11)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(69170\theta^4 + 138340\theta^3 + 96100\theta^2 + 26930\theta + 241)$ $+ 4z^2(\theta + 1)(2\theta + 1)(2\theta + 3)(276580\theta^2 + 553160\theta + 33039)$ $- 8z^3(2\theta + 1)(2\theta + 3)(2\theta + 5)(414820\theta^2 + 1244460\theta + 99481)$ $+ 442448 z^4(\theta + 2)(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)$ $- 221216 z^5(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)(2\theta + 9)$
	$A'_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k} \frac{(6k)!}{k!^3 (3k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
89	$D = \theta^4 - z(1106000\theta^4 + 276540\theta^3 + 53800\theta^2 - 84470\theta - 4464)$ $+ z^2(45872455960\theta^4 + 22940651940\theta^3 + 5420106590\theta^2$ $- 105069970\theta + 396053424)$ $- z^3(845653624382000\theta^4 + 634423703686380\theta^3 + 176394455916780\theta^2$ $+ 69054435794380\theta - 1214113199184)$ $+ z^4(5847483169842832060\theta^4 + 5850865600854960180\theta^3$ $+ 1872409058346134930\theta^2 + 204684856287975400\theta + 703267501469328)$ $- 43 \cdot 643 z^5 \theta(845653624382000\theta^3 + 1902904140259380\theta^2$ $+ 1615308406174960\theta + 49787404171133)$ $+ 43^2 \cdot 643^2 z^6 \theta(\theta+1)(45872455960\theta^2 + 114685563860\theta + 7890274651)$ $- 2 \cdot 43^3 \cdot 643^3 z^7 \theta(\theta+1)(\theta+2)(553000\theta + 96777)$ $+ 43^4 \cdot 643^4 z^8 \theta(\theta+1)(\theta+2)(\theta+3)$
	same $K(q)$ as in #88 the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - z(2\theta+1)(138270\theta^4 + 276540\theta^3 + 192070\theta^2 + 53800\theta + 481)$ $+ z^2(\theta+1)(1382550\theta^4 + 5530200\theta^3 + 8894490\theta^2 + 6728580\theta + 199135)$ $- 2z^3(\theta+1)(\theta+2)(2\theta+3)(691250\theta^2 + 2073750\theta + 187791)$ $+ z^4(\theta+1)(\theta+2)(\theta+3)(2764950\theta^2 + 11059800\theta + 1172033)$ $- 69123 z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$ $+ 27649 z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5)$
	$A'_n = \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k}^2 \frac{(6k)!}{k!^3 (3k)!}$
90	$D = \theta^4 - 2z(2\theta+1)^2(56\theta^2 + 56\theta + 13)$ $+ 20z^2(2\theta+1)(2\theta+3)(66\theta^2 + 132\theta + 71)$ $- 1312z^3(2\theta+1)(2\theta+3)^2(2\theta+5)$ $+ 1744z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k} \frac{(3k)!}{k!^3}$
91	$D = \theta^4 - z(437\theta^4 + 874\theta^3 + 646\theta^2 209\theta + 25)$ $+ z^2(\theta+1)^2(1738\theta^2 + 3476\theta + 2151)$ $- z^3(\theta+1)(\theta+2)(2602\theta^2 + 7806\theta + 6277)$ $+ 1733z^4(\theta+1)(\theta+2)^2(\theta+3)$ $- 433z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n = \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k}^2 \frac{(3k)!}{k!^3}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
92	$D = \theta^4 - 2^2 z(12\theta^4 + 16\theta^3 + 14\theta^2 + 6\theta + 1) + 2^4 z^2(789\theta^4 + 3076\theta^3 + 4167\theta^2 + 2222\theta + 385) - 2^7 z^3(2\theta + 1)(1498\theta^3 + 6701\theta^2 + 9987\theta + 4949) + 2^8 z^4(2\theta + 1)(2\theta + 3)(4434\theta^2 + 17769\theta + 18003) - 2^{11} z^5(2\theta + 1)(2\theta + 3)(2\theta + 5)(1470\theta + 3671) + 2^{12} \cdot 733 z^6(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)$
	$A_n = \binom{2n}{n} \sum_k (-1)^k 2^{n-2k} \binom{n}{2k} \binom{2k}{k}^2 \binom{6k}{2k}$
93	$D = \theta^4 - z(448\theta^4 + 872\theta^3 + 648\theta^2 + 212\theta + 26) + z^2(7008\theta^4 + 17376\theta^3 + 20664\theta^2 + 14496\theta + 4652) - z^3(41728\theta^4 + 124800\theta^3 + 175488\theta^2 + 122784\theta + 28576) + z^4(110848\theta^4 + 387584\theta^3 + 577920\theta^2 + 381824\theta + 94096) - 3072 z^5(\theta + 1)^2(6\theta + 5)(6\theta + 7)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2k}{k} \binom{2n}{2k}^{-1} \frac{(3k)!}{k!^3}$
94	$D = \theta^4 - z(27656\theta^4 + 6918\theta^3 + 1420\theta^2 - 2039\theta - 1092) + z^2(286848028\theta^4 + 1435346634\theta^3 + 35472587\theta^2 + 6084435\theta + 24800580) - z^3(13226242775560\theta^4 + 9931154896662\theta^3 + 2872267573326\theta^2 + 1151291546686\theta - 19751450796) + z^4(228913053438880 6\theta^4 + 229441988421755 4\theta^3 + 762036995515973\theta^2 + 939721785158 92\theta + 2628910994892) - 31 \cdot 223 z^5 \theta(13226242775560\theta^3 + 29770519060002\theta^2 + 25348846998 40\theta + 784655821733) + 31^2 \cdot 223^2 z^6 \theta(\theta + 1)(2868480028\theta^2 + 7172306 90\theta + 494009059) - 2 \cdot 31^3 \cdot 223^3 z^7 \theta(\theta + 1)(\theta + 2)(138280\theta + 24201) + 31^4 \cdot 223^4 z^8 \theta(\theta + 1)(\theta + 2)(\theta + 3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - z(2\theta + 1)(3459\theta^4 + 6918\theta^3 + 4879\theta^2 + 1420\theta + 145) + z^2(\theta + 1)(34575\theta^4 + 138300\theta^3 + 222873\theta^2 + 169146\theta + 50287) - 2z^3(\theta + 1)(\theta + 2)(2\theta + 3)(17285\theta^2 + 51855\theta + 47067) + z^4(\theta + 1)(\theta + 2)(\theta + 3)(69135\theta^2 + 276540\theta + 293201) - 17283 z^5(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(2\theta + 5) + 6913 z^6(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)(\theta + 5)$
	$A'_n = \sum_{k=0}^{n} \binom{n}{k} \binom{2k}{k} \frac{(3k)!}{k!^3} \frac{(4k)!}{k!^2 (2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
95	$D = \theta^4 - z(1733\theta^4 + 3466\theta^3 + 2446\theta^2 + 713\theta + 73)$ $+ z^2(\theta+1)^2(6922\theta^2 + 13844\theta + 8343)$ $- z^3(\theta+1)(\theta+2)(10378\theta^2 + 31134\theta + 24925)$ $+ 6917z^4(\theta+1)(\theta+2)^2(\theta+3)$ $- 1729z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n = \sum_{k=0}^{n} \binom{n}{k} \frac{(3k)!}{k!^3} \frac{(4k)!}{k!^2(2k)!}$
96	$D = \theta^4 - z(1040\theta^4 + 2056\theta^3 + 1484\theta^2 + 456\theta + 50)$ $+ 4z^2(4120\theta^4 + 10264\theta^3 + 12062\theta^2 + 8396\theta + 2687)$ $- 16z^3(6160\theta^4 + 18456\theta^3 + 25752\theta^2 + 17862\theta + 4081)$ $+ 16z^4(16400\theta^4 + 57376\theta^3 + 85016\theta^2 + 55560\theta + 13441)$ $- 2^{14}z^5(\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2n}{2k}^{-1} \frac{(4k)!}{k!^4}$
97	$D = \theta^4 - z(16400\theta^4 + 4100\theta^3 + 902\theta^2 - 1148\theta - 623)$ $+ z^2(1009255536\theta^4 + 504627768\theta^3 + 13232182\theta^2 + 847628\theta + 8796151)$ $- z^3(27649009280\theta^4 + 20736756960\theta^3 + 6324283406\theta^2$ $+ 263624673\theta - 382193266)$ $+ z^4(285882691092736\theta^4 + 285882691092736\theta^3 + 100029707616352\theta^2$ $+ 15451954237456\theta + 1121739103233)$ $- 2^{11}z^5(2211920742400\theta^4 + 2764900928000\theta^3 + 2006667953392\theta^2$ $+ 1165909352584\theta + 332723569061)$ $+ 2^{20}z^6(258369372160\theta^4 + 387554058240\theta^3 + 330988473600\theta^2$ $+ 139145436160\theta - 569939335)$ $- 2^{33}z^7(8396800\theta^4 + 14694400\theta^3 + 12330304\theta^2 + 3444000\theta + 461113)$ $+ 2^{44}z^8(8\theta+3)^2(8\theta+5)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2058\theta^5 + 5125\theta^4 + 5002\theta^3 + 2378\theta^2 + 549\theta + 49)$ $+ 2^2z^2(20520\theta^5 + 61480\theta^4 + 90950\theta^3 + 89906\theta^2 + 55877\theta + 15545)$ $- 2^3z^3(82000\theta^5 + 286840\theta^4 + 507060\theta^3 + 532058\theta^2 + 277120\theta + 38601)$ $+ 2^4z^4(163920\theta^5 + 655520\theta^4 + 1259720\theta^3 + 1286224\theta^2$ $+ 611097\theta + 122882)$ $- 2^5z^5(163872\theta^5 + 737360\theta^4 + 1464400\theta^3 + 1446952\theta^2$ $+ 709642\theta + 138241)$ $+ 2^{18}z^6(\theta+1)^3(4\theta+3)(4\theta+5)$
	$A'_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2k}{k}^2 \binom{2n}{2k}^{-1} \frac{(4k)!}{k!^2(2k)!}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
98	$D=\theta^4-z(69280\theta^4+17320\theta^3+4140\theta^2-4520\theta-251)$ $+z^2(180265920\theta^4+90132960\theta^3+25415580\theta^2+2959320\theta+1580631)$ $-z^3(209264396800\theta^4+156948297600\theta^3+51194466720\theta^2$ $+2221999476\theta-262743618)$ $+z^4(92480480872960\theta^4+92480480872960\theta^3+34706224958400\theta^2$ $+6685906460320\theta+65658526849)$ $-2^4\cdot 24z^5(37667591424000\theta^4+47084489280000\theta^3+34872689489600\theta^2$ $+2025143427360\theta+57000462817)$ $+2^6\cdot 24^2z^6(233624632320\theta^4+350436948480\theta^3+303280035840\theta^2$ $+128699320320\theta-426340673)$ $-2^4\cdot 24^5z^7(179573760\theta^4+314254080\theta^3+266738400\theta^2$ $+76381200\theta+1060093)$ $+24^8z^8(12\theta+5)^2(12\theta+7)^2$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2z(874\theta^5+2165\theta^4+2146\theta^3+1054\theta^2+257\theta+25)$ $+2^2z^2(8680\theta^5+25960\theta^4+38710\theta^3+38498\theta^2+23981\theta+6689)$ $-2^3z^3(34640\theta^5+121080\theta^4+215220\theta^3+227034\theta^2+119160\theta+17085)$ $+2^4z^4(69200\theta^5+276640\theta^4+533960\theta^3+548432\theta^2+263401\theta+53762)$ $-2^5z^5(69152\theta^5+311120\theta^4+620240\theta^3+616936\theta^2+305866\theta+60481)$ $+2^{14}\cdot 3z^6(\theta+1)^3(6\theta+5)(6\theta+7)$
	$A'_n=\binom{2n}{n}\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}^2\binom{2n}{2k}^{-1}\frac{(3k)!}{k!^3}$
99	$D=13^2\theta^4-z(59397\theta^4+117546\theta^3+86827\theta^2+28054\theta+3380)$ $+2^4z^2(6386\theta^4-1774\theta^3-17898\theta^2-11596\theta-2119)$ $+2^8z^3(67\theta^4+1248\theta^3+1091\theta^2+312\theta+26)-2^{12}z^4(2\theta+1)^4$
	$A_n=\binom{2n}{n}^2\sum_{k=0}^{n}\binom{n}{k}^2\binom{2n+k}{n}$ $=\sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{2n+l}{n}\binom{n}{l-k}$
100	$D=\theta^4-z(73\theta^4+98\theta^3+77\theta^2+28\theta+4)$ $+z^2(520\theta^4-1040\theta^3-2904\theta^2-2048\theta-480)$ $+2^6z^3(65\theta^4+390\theta^3+417\theta^2+180\theta+28)$ $-2^9z^4(73\theta^4+194\theta^3+221\theta^2+124\theta+28)+2^{15}z^5(\theta+1)^4$
	$A_n=\left\{\sum_{k=0}^{n}\binom{n}{k}^3\right\}^2$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
101	$D=\theta^4-z(124\theta^4+242\theta^3+187\theta^2+66\theta+9)$ $+z^2(123\theta^4-246\theta^3-787\theta^2-554\theta-124)$ $+z^3(123\theta^4+738\theta^3+689\theta^2+210\theta+12)$ $-z^4(124\theta^4+254\theta^3+205\theta^2+78\theta+12)+z^5(\theta+1)^4$
	$A_n=\left\{\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}\right\}^2 =\sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{n+l-k}{n}\binom{n}{l-k}$
102	$D=\theta^4-z(7\theta^2+7\theta+2)(11\theta^2+11\theta+3)$ $-z^2(1049\theta^4+4100\theta^3+5689\theta^2+3178\theta+640)$ $+2^3z^3(77\theta^4-462\theta^3-1420\theta^2-1053\theta-252)$ $+2^4z^4(1041\theta^4+2082\theta^3-1406\theta^2-2447\theta-746)$ $+2^6z^5(77\theta^4+770\theta^3+428\theta^2-93\theta-80)$ $-2^6z^6(1049\theta^4+96\theta^3-317\theta^2+96\theta+100)$ $-2^9z^7(7\theta^2+7\theta+2)(11\theta^2+11\theta+3)+2^{12}z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}$
103	$D=\theta^4-z(73\theta^4+200\theta^3+160\theta^2+60\theta+9)$ $-z^2(738\theta^4-1476\theta^3-5274\theta^2-3816\theta-918)$ $+z^3(6642\theta^4+39852\theta^3+32238\theta^2+5832\theta-1458)$ $+3^6z^4(73\theta^4+92\theta^3-2\theta^2-48\theta-18)-3^{10}z^5(\theta+1)^4$
	$A_n=\left\{\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}\right\}^2$
104	$D=\theta^4-z(10\theta^2+10\theta+3)(7\theta^2+7\theta+2)$ $-z^2(71\theta^4+1148\theta^3+1591\theta^2+886\theta+192)$ $-2^3\cdot3^2z^3(70\theta^4-420\theta^3-1289\theta^2-963\theta-240)$ $-2^4\cdot3^2z^4(143\theta^4+286\theta^3-1138\theta^2-1281\theta-414)$ $+2^6\cdot3^4z^5(70\theta^4+700\theta^3+391\theta^2-75\theta-76)$ $+2^6\cdot3^4z^6(-71\theta^4+864\theta^3+1427\theta^2+864\theta+180)$ $+2^9\cdot3^6z^7(10\theta^2+10\theta+3)(7\theta^2+7\theta+2)+2^{12}\cdot3^8z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\cdot\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}$
105	$D=\theta^4-4z(3\theta^2+3\theta+1)(7\theta^2+7\theta+1)$ $+2^5z^2(45\theta^4+84\theta^3+117\theta^2+66\theta+12)$ $-2^{10}z^3(21\theta^4-126\theta^3-386\theta^2-291\theta-76)$ $+2^{14}z^4(37\theta^4+74\theta^3+50\theta^2+13\theta+6)$ $+2^{18}z^5(21\theta^4+210\theta^3+118\theta^2-19\theta-24)$ $+3\cdot2^{21}z^6(15\theta^4+32\theta^3+45\theta^2+32\theta+8)$ $+2^{26}z^7(3\theta^2+3\theta+1)(7\theta+7\theta+2)+2^{32}z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\cdot\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
106	$D = \theta^4 - 4z(3\theta^2+3\theta+1)(11\theta^2+11\theta+3) + 2^4z^2(241\theta^4+940\theta^3+1303\theta^2+726\theta+145) - 2^7z^3(33\theta^4-198\theta^3-607\theta^2-456\theta-117) + 2^{10}z^4(239\theta^4+478\theta^3-322\theta^2-561\theta-169) + 2^{12}z^5(33\theta^4+330\theta^3+185\theta^2-32\theta-37) + 2^{14}z^6(241\theta^4+24\theta^3-71\theta^2+24\theta+23) + 2^{17}z^7(3\theta^2+3\theta+1)(11\theta^2+11\theta+3) + 2^{20}z^8(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k} \cdot \sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}$
107	$D = \theta^4 - 2^4z(3\theta^4+18\theta^3+15\theta^2+6\theta+1) - 2^9z^2(5\theta^4-10\theta^3-45\theta^2-34\theta-9) + 2^{14}z^3(5\theta^4+30\theta^3+15\theta^2-6\theta-5) + 2^{19}z^4(3\theta^4-6\theta^3-21\theta^2-18\theta-5) - 2^{25}z^5(\theta+1)^4$
	$A_n = \left\{\sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\right\}^2$
108	$D = \theta^4 - 2z(6\theta^4+10\theta^3+10\theta^2+5\theta+1) + 2^2z^2(46671\theta^4+186674\theta^3+238539\theta^2+103735\theta+14416) - 2^3z^3(\theta+1)(186644\theta^3+839888\theta^2+1223544\theta+575489) + 2^4z^4(\theta+1)(\theta+2)(279951\theta^2+1119788\theta+1124983) - 2^6z^5(\theta+1)(\theta+2)(\theta+3)(93315\theta+233287) + 2^6\cdot 13\cdot 37\cdot 97z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n = \sum_k (-1)^k 2^{n-2k}\binom{n}{2k}\left(\frac{(6k)!}{k!(2k)!(3k)!}\right)^2$
109	$D = 49\theta^4 - 2\cdot 3z(8904\theta^4+17556\theta^3+12453\theta^2+3675\theta+392) + 2^2\cdot 3z^2(43704\theta^4+38088\theta^3-25757\theta^2-20608\theta-3360) - 2^4\cdot 3^3z^3(2736\theta^4-1512\theta^3-1672\theta^2-357\theta-14) - 2^6\cdot 3^5z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n = \binom{2n}{n}^2 \sum_{k=0}^{2n}\binom{n+k}{k}\binom{2n}{k}^2$
110	$D = \theta^4 - 12z(3\theta+1)(3\theta+2)(8\theta^2+8\theta+3) + 2304z^2(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_n = \frac{(3n)!}{n!^3}\sum_{k=0}^{n} 4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}$
111	$D = \theta^4 - 16z(2\theta+1)^2(8\theta^2+8\theta+3) + 4096z^2(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2\sum_{k=0}^{n} 4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
112	$D=\theta^4-48z(6\theta+1)(6\theta+5)(8\theta^2+8\theta+3)$ $+36864z^2(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A_n=\frac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}$
113	$D=\theta^4-z(10\theta^2+10\theta+3)(11\theta^2+11\theta+3)$ $+z^2(1025\theta^4+3992\theta^3+5533\theta^2+3082\theta+615)$ $+3^2z^3(-110\theta^4+660\theta^3+2027\theta^2+1509\theta+369)$ $+3^2z^4(2032\theta^4+4064\theta^3-2726\theta^2-4758\theta-1431)$ $+3^4z^5(110\theta^4+1100\theta^3+613\theta^2-125\theta-117)$ $+3^4z^6(1025\theta^4+108\theta^3-293\theta^2+108\theta+99)$ $+3^6z^7(10\theta^2+10\theta+3)(11\theta^2+11\theta+3)+3^8z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}\cdot\sum_{k=0}^{n}\binom{n}{k}^2\binom{2k}{k}$
114	$D=\theta^4-4z(7\theta^2+7\theta+2)(8\theta^2+8\theta+3)$ $+2^7z^2(98\theta^4+200\theta^3+274\theta^2+148\theta+23)$ $+2^{13}z^3(-56\theta^4+336\theta^3+1027\theta^2+783\theta+216)$ $+2^{19}z^4(82\theta^4+164\theta^3+84\theta^2+2\theta+11)$ $+2^{24}z^5(56\theta^4+560\theta^3+317\theta^2-39\theta-68)$ $+2^{29}z^6(98\theta^4+192\theta^3+262\theta^2+192\theta+47)$ $+2^{35}z^7(7\theta^2+7\theta+2)(8\theta^2+8\theta+3)+2^{44}z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\cdot\sum_{k=0}^{n}4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}$
115	$D=\theta^4-2^4z(16\theta^4+128\theta^3+112\theta^2+48\theta+9)$ $+2^{12}z^2(-32\theta^4+64\theta^3+304\theta^2+240\theta+71)$ $+2^{20}z^3(32\theta^4+192\theta^3+80\theta^2-48\theta-39)$ $+2^{28}z^4(16\theta^4-64\theta^3-176\theta^2-144\theta-39)-2^{40}z^5(\theta+1)^4$
	$A_n=\left\{\sum_{k=0}^{n}4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}\right\}^2$
116	$D=\theta^4-2^5z(10\theta^4+26\theta^3+20\theta^2+7\theta+1)$ $+2^8z^2(52\theta^4+472\theta^3+832\theta^2+492\theta+103)$ $+2^{16}z^3(14\theta^4+12\theta^3-96\theta^2-105\theta-29)$ $-2^{18}z^4(2\theta+1)(56\theta^3+468\theta^2+646\theta+249)$ $-2^{24}z^5(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	$A_n=\binom{2n}{n}^2\sum_{k=0}^{n}4^{n-k}\binom{n}{k}^2\binom{n+k}{k}\binom{2k}{k}\binom{2n}{2k}^{-1}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
117	$D = 3^2\theta^4 + 12z(256\theta^4 + 176\theta^3 + 133\theta^2 + 45\theta + 6) + 2^7z^2(2588\theta^4 + 1952\theta^3 + 584\theta^2 + 15\theta - 15) + 2^{12}z^3(3183\theta^4 + 2466\theta^3 + 1801\theta^2 + 711\theta + 111) + 2^{17}\cdot 7z^4(134\theta^4 + 250\theta^3 + 180\theta^2 + 55\theta + 5) - 2^{22}\cdot 7^2z^5(\theta + 1)^4$
	a formula for A_n is not known
118	$D = \theta^4 - z(465\theta^4 + 594\theta^3 + 431\theta^2 + 134\theta + 16) + 2^4z^2(2625\theta^4 + 1911\theta^3 - 946\theta^2 - 884\theta - 176) + 2^6z^3(-16105\theta^4 + 3624\theta^3 + 5241\theta^2 + 1284\theta + 36) - 2^{11}\cdot 7z^4(155\theta^4 + 334\theta^3 + 306\theta^2 + 139\theta + 26) + 2^{16}\cdot 7^2z^5(\theta + 1)^4$
	a formula for A_n is not known
119	$D = 9\theta^4 - 12z(256\theta^4 + 320\theta^3 + 271\theta^2 + 111\theta + 18) + 2^7z^2(3104\theta^4 + 7040\theta^3 + 8012\theta^2 + 4452\theta + 927) - 2^{15}z^3(752\theta^4 + 2304\theta^3 + 3042\theta^2 + 1854\theta + 405) + 2^{21}z^4(2\theta + 1)(176\theta^3 + 552\theta^2 + 622\theta + 231) - 2^{31}z^5(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \sum_{k=0}^{n} \binom{n}{k} \frac{(4k)!}{k!^2(2k)!} \frac{(4n-4k)!}{(n-k)!^2(2n-2k)!^2}$
120	$D = \theta^4 - 4z(8\theta^2 + 8\theta + 3)(10\theta^2 + 10\theta + 3) + 2^4z^2(1600\theta^4 + 8128\theta^3 + 11408\theta^2 + 6560\theta + 1473) + 2^{10}\cdot 3^2z^3(80\theta^4 - 480\theta^3 - 1466\theta^2 - 1122\theta - 315) - 2^{13}\cdot 3^2z^4(1744\theta^4 + 3488\theta^3 - 4256\theta^2 - 6000\theta - 2079) + 2^{18}\cdot 3^4z^5(80\theta^4 + 800\theta^3 + 454\theta^2 - 50\theta - 99) + 2^{20}\cdot 3^4z^6(1600\theta^4 - 1728\theta^3 - 3376\theta^2 - 1728\theta - 207) - 2^{26}\cdot 3^6z^7(8\theta^2 + 8\theta + 3)(10\theta^2 + 10\theta + 3) + 2^{32}\cdot 3^8z^8(\theta + 1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2k}{k} \cdot \sum_{k=0}^{n} 4^{n-k} \binom{2k}{k}^2 \binom{2n-2k}{n-k}$
121	$D = \theta^4 - 4z(8\theta^2 + 8\theta + 3)(11\theta^2 + 11\theta + 3) + 2^4z^2(1936\theta^4 + 7552\theta^3 + 10464\theta^2 + 5824\theta + 1159) + 2^{10}z^3(-88\theta^4 + 528\theta^3 + 1615\theta^2 + 1227\theta + 333) + 2^{13}z^4(1920\theta^4 + 3840\theta^3 - 2592\theta^2 - 4512\theta - 1353) + 2^{18}z^5(88\theta^4 + 880\theta^3 + 497\theta^2 - 67\theta - 105) + 2^{20}z^6(1936\theta^4 + 192\theta^3 - 576\theta^2 + 192\theta + 183) + 2^{26}z^7(8\theta^2 + 8\theta + 3)(11\theta^2 + 11\theta + 3) + 2^{30}z^8(\theta + 1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k} \cdot \sum_{k=0}^{n} 4^{n-k} \binom{2k}{k}^2 \binom{2n-2k}{n-k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
122	$D = \theta^4 - 2^4 z(3\theta^2 + 3\theta + 1)(8\theta^2 + 8\theta + 3) + 2^9 z^2(72\theta^4 + 480\theta^3 + 680\theta^2 + 400\theta + 97) + 2^{17} z^3(24\theta^4 - 144\theta^3 - 439\theta^2 - 339\theta - 99) + 2^{23} z^4(-88\theta^4 - 176\theta^3 + 320\theta^2 + 408\theta + 151) + 2^{30} z^5(24\theta^4 + 240\theta^3 + 137\theta^2 - 11\theta - 31) + 2^{35} z^6(72\theta^4 - 192\theta^3 - 328\theta^2 - 192\theta - 31) - 2^{43} z^7(3\theta^2 + 3\theta + 1)(8\theta^2 + 8\theta + 3) + 2^{52} z^8(\theta + 1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k} \cdot \sum_{k=0}^{n} 4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}$
123	$D = \theta^4 - 4z(3\theta^2 + 3\theta + 1)(10\theta^2 + 10\theta + 3) + 2^4 z^2(209\theta^4 + 1052\theta^3 + 1471\theta^2 + 838\theta + 183) + 2^7 \cdot 3^2 z^3(30\theta^4 - 180\theta^3 - 551\theta^2 - 417\theta - 111) - 2^{10} \cdot 3^2 z^4(227\theta^4 + 454\theta^3 - 550\theta^2 - 777\theta - 261) + 2^{12} \cdot 3^4 z^5(30\theta^4 + 300\theta^3 + 169\theta^2 - 25\theta - 35) + 2^{14} \cdot 3^4 z^6(209\theta^4 - 216\theta^3 - 431\theta^2 - 216\theta - 27) - 2^{17} \cdot 3^6 z^7(3\theta^2 + 3\theta + 1)(10\theta^2 + 10\theta + 3) + 2^{20} \cdot 3^8 z^8(\theta + 1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n+k}{k}^2\binom{2k}{k} \cdot \sum_{k=0}^{n} 4^{n-k}\binom{n}{k}^2\binom{2k}{k}$
124	$D = 61^2\theta^4 - 61z(3029\theta^4 + 5572\theta^3 + 4677\theta^2 + 1891\theta + 305) + z^2(1215215\theta^4 + 3428132\theta^3 + 4267228\theta^2 + 2572675\theta + 611586) - 3^4 z^3(39370\theta^4 + 140178\theta^3 + 206807\theta^2 + 142191\theta + 37332) + 3^8 z^4(566\theta^4 + 2230\theta^3 + 3356\theta^2 + 2241\theta + 558) - 3^{13} z^5(\theta + 1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}^2\binom{n}{l}\binom{k}{l}\binom{k+l}{k}\binom{2n-k-l}{n-k}$
125	$D = \theta^4 - z(11669\theta^4 + 23338\theta^3 + 15886\theta^2 + 4217\theta + 361) + z^2(\theta + 1)^2(46666\theta^2 + 93332\theta + 55095) - z^3(\theta + 1)(\theta + 2)(69994\theta^2 + 209982\theta + 167533) + 46661z^4(\theta + 1)(\theta + 2)^2(\theta + 3) - 11665z^5(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}\frac{(6k)!}{k!^4(2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
126	$D = \theta^4 - z(1866656\theta^4 + 466676\theta^3 + 84434\theta^2 - 149004\theta - 7813) + z^2(1306591993 6\theta^4 + 65351997792\theta^3 + 14536431198\theta^2 - 1059907748\theta + 1115889227) - z^3(4065533460392296\theta^4 + 3050717916094408\theta^3 + 806142990417712\theta^2 + 303350982703888\theta - 5908917544614) + z^4(474650926983970969 6\theta^4 + 4751387282863861504\theta^3 + 1455612685803281696\theta^2 + 132330243679138384\theta - 845722995408775) - 2^4 \cdot 5 \cdot 2333 z^5(4\theta - 1)(1016383365098 24\theta^3 + 2287254526670088\theta^2 + 1934627026093488\theta + 59317557294355) + 2^5 \cdot 5^2 \cdot 2333^2 z^6(4\theta - 1)(4\theta + 3)(65329599968\theta^2 + 163335198832\theta + 11222488415) - 2^8 \cdot 5^3 \cdot 2333^3 z^7(4\theta - 1)(4\theta + 3)(4\theta + 7)(466664\theta + 81665) + 2^8 \cdot 5^4 \cdot 2333^4 z^8(4\theta - 1)(4\theta + 3)(4\theta + 7)(4\theta + 11)$
	same $K(q)$ as in #82 the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(116669\theta^4 + 233338\theta^3 + 158886\theta^2 + 42217\theta + 361) + 4z^2(\theta + 1)(2\theta + 1)(2\theta + 3)(46666\theta^2 + 93332\theta + 55095) - 8z^3(2\theta + 1)(2\theta + 3)(2\theta + 5)(69994\theta^2 + 209982\theta + 167533) + 746576z^4(\theta + 2)(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7) - 373280z^5(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)(2\theta + 9)$
	$A'_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k} \frac{(6k)!}{k!^4 (2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
127	$D = \theta^4 - z(186640\theta^4 + 46660\theta^3 + 8430\theta^2 - 14900\theta - 7811)$ $+ z^2(130636800096\theta^4 + 65318400048\theta^3 + 14525827774\theta^2$ $- 1051509948\theta + 1116311607)$ $- z^3(4064488156940800\theta^4 + 3048366117705600\theta^3 + 805228191453600\theta^2$ $+ 30399976916340\theta - 5858109970482)$ $+ z^4(47448824294227970560\theta^4 + 47448824294227970560\theta^3$ $+ 14524777266725837760\theta^2 + 1348070946437952160\theta$ $+ 727318797282433)$ $- 2^7 \cdot 3^2 z^5(658447081424409600\theta^4 + 823058851780512000\theta^3$ $+ 571627422712188000\theta^2 + 331495111102024800\theta + 9595488553244821)$ $+ 2^{12} \cdot 3^8 z^6(169305294044160\theta^4 + 253957941066240\theta^3 + 210453534408960\theta^2$ $+ 86408601200640\theta - 514138329761)$ $- 2^{19} \cdot 3^{14} z^7(48377088800\theta^4 + 84659904000\theta^3 + 69204888800\theta^2$ $+ 18225396000\theta + 22046293)$ $+ 2^{24} \cdot 3^{22} z^8(4\theta + 1)(4\theta + 3)(12\theta + 5)(12\theta + 7)$
	same $K(q)$ as in #82 the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 + z(46676\theta^5 + 116650\theta^4 + 110180\theta^3 + 48620\theta^2 + 9874\theta + 722)$ $- z^2(933280\theta^5 + 2799520\theta^4 + 4069720\theta^3 + 3965960\theta^2$ $+ 2452340\theta + 678212)$ $+ z^3(7465600\theta^5 + 26128320\theta^4 + 45620640\theta^3 + 47278800\theta^2$ $+ 24206400\theta + 3155112)$ $- 2^4 z^4(1866320\theta^5 + 7465120\theta^4 + 14204360\theta^3 + 14307920\theta^2$ $+ 6634825\theta + 1290242)$ $+ 2^5 z^5(1866272\theta^5 + 8398160\theta^4 + 16537040\theta^3 + 16096360\theta^2$ $+ 7704010\theta + 1451521)$ $- 4608z^6(\theta + 1)(3\theta + 2)(3\theta + 4)(6\theta + 5)(6\theta + 7)$
	$A'_n = \sum_{k=0}^{n} \binom{2n-2k}{n-k} \frac{(6k)!}{k!^6}$
128	$D = \theta^4 - z(3145\theta^4 + 6282\theta^3 + 4403\theta^2 + 1262\theta + 122)$ $+ 4z^2(2\theta + 1)(6270\theta^3 + 18804\theta^2 + 20058\theta + 7523)$ $- 8z^3(2\theta + 1)(2\theta + 3)(9395\theta^2 + 28181\theta + 22544)$ $+ 16z^4(2\theta + 1)(2\theta + 3)(2\theta + 5)(6260\theta + 2519)$ $- 50064z^5(2\theta + 1)(2\theta + 3)(2\theta + 5)(2\theta + 7)$
	same $K(q)$ as in #1
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} \binom{n}{k} \frac{(5k)!}{k!^3 (2k)!}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
129	$D = \theta^4 - 2\cdot 3z\theta(4\theta+1)(6\theta^2+1) + 2^2\cdot 3(3z)^2\theta(92\theta^3+46\theta^2+33\theta+9)$ $- 2^4(3z)^3\theta(1012\theta^3+759\theta^2+583\theta+171)$ $+ 2^4\cdot 7(3z)^4\theta(1518\theta^3+1518\theta^2+1243\theta+388)$ $- 2^5\cdot 3\cdot 7(3z)^5\theta(2024\theta^3+2530\theta^2+2200\theta+725)$ $+ 2^5(3z)^6(269200\theta^4+403800\theta^3+371615\theta^2+128340\theta-434)$ $- 2^6(3z)^7(692352\theta^4+1211616\theta^3+1176528\theta^2+422499\theta-6076)$ $+ 2^7(3z)^8(1472166\theta^4+2944332\theta^3+3008574\theta^2+1113993\theta-39494)$ $- 2^8(3z)^9(2621536\theta^4+5898456\theta^3+6326976\theta^2+2395311\theta-157976)$ $+ 2^9\cdot 7(3z)^{10}(563856\theta^4+1409640\theta^3+1583800\theta^2+608575\theta-62062)$ $- 2^{10}\cdot 7(3z)^{11}(722976\theta^4+1988184\theta^3+2335176\theta^2+906129\theta-124124)$ $+ 2^8(3z)^{12}(44454688\theta^4+133364064\theta^3+163448032\theta^2 + 63949536\theta-10415783)$ $- 2^{12}(3z)^{13}(52470240\theta^4+170528280\theta^3+217709560\theta^2 + 86118220\theta-1478855)$ $+ 2^{12}(3z)^{14}(85467360\theta^4+299135760\theta^3+397187160\theta^2 + 159916260\theta-2532173)$ $- 2^{14}(3z)^{15}(30066080\theta^4+112747800\theta^3+155461000\theta^2 + 64298850\theta-794437)$ $+ 2^{13}(3z)^{16}(73077840\theta^4+292311360\theta^3+417944640\theta^2 + 179198760\theta-1365581)$ $- 2^{16}(3z)^{17}(9563040\theta^4+40642920\theta^3+60176160\theta^2+26913330\theta-83545)$ $+ 2^{17}(3z)^{18}(4288000\theta^4+19296000\theta^3+29547150\theta^2+13806900\theta-2429)$ $- 2^{18}(3z)^{19}(1631040\theta^4+7747440\theta^3+12254440\theta^2+5966290\theta+4256)$ $+ 2^{16}(3z)^{20}(4143360\theta^4+20716800\theta^3+33811200\theta^2+17049600\theta+5957)$ $- 2^{21}(3z)^{21}\theta(66880\theta^3+351120\theta^2+590680\theta+30597)$ $+ 2^{23}(3z)^{22}\theta(\theta+1)(6720\theta^2+30240\theta+3379)$ $- 2^{27}\cdot 3(3z)^{23}\theta(\theta+1)(\theta+2)(4\theta+11) + 2^{28}(3z)^{24}\theta(\theta+1)(\theta+2)(\theta+3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 6z\theta(\theta^2+\theta+1)(3\theta^2+3\theta+1)$ $+ (6z)^2(\theta+1)(15\theta^4+60\theta^3+105\theta^2+90\theta+31)$ $- 10(6z)^3(\theta+1)(\theta+2)(2\theta+3)(\theta^2+3\theta+3)$ $+ 5(6z)^4(\theta+1)(\theta+2)(\theta+3)(3\theta^2+12\theta+13)$ $- 3(6z)^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$ $+ 2(6z)^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5)$
	$A'_n = \sum_{k=0}^{n}(-1)^k 6^{n-6k}\binom{n}{6k}\frac{(6k)!}{k!^6}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
130	$D = \theta^4 - z(224\theta^4 + 56\theta^3 + 28\theta^2 - 3)$ $+ z^2(219520\theta^4 + 109760\theta^3 + 5998\theta^2 + 1020\theta + 261)$ $- z^3(1238528\theta^4 + 928896\theta^3 + 551280\theta^2 + 139800\theta + 29316)$ $+ z^4(445742208\theta^4 + 445742208\theta^3 + 285750008\theta^2 + 84154456\theta + 1270689)$ $- 2^4 z^5(670100480\theta^4 + 837625600\theta^3 + 577329920\theta^2 + 183303360\theta + 2276415)$ $+ 2^5 z^6(5490928640\theta^4 + 8236392960\theta^3 + 6078867360\theta^2 + 2023474560\theta + 21851403)$ $- 2^8 z^7(7675028480\theta^4 + 13431299840\theta^3 + 10577670880\theta^2 + 3639496560\theta + 34797501)$ $+ 2^8 z^8(57784814080\theta^4 + 115569628160\theta^3 + 96820369600\theta^2 + 34325534400\theta + 350349201)$ $- 2^{13} \cdot 3^2 z^9(988328960\theta^4 + 2223740160\theta^3 + 1976144160\theta^2 + 730724720\theta + 9376113)$ $+ 2^{16} \cdot 3^4 z^{10}(42040320\theta^4 + 105100800\theta^3 + 98779520\theta^2 + 38749760\theta + 592815)$ $- 2^{21} \cdot 3^6 z^{11}(4\theta + 1)(6272\theta^3 + 15680\theta^2 + 13172\theta + 3783)$ $+ 2^{24} \cdot 3^8 z^{12}(4\theta + 1)(4\theta + 3)^2(4\theta + 5)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(14\theta^4 + 28\theta^3 + 28\theta^2 + 14\theta + 3)$ $+ 4z^2(\theta + 1)^3(196\theta^2 + 392\theta + 255) - 1152z^3(\theta + 1)^2(\theta + 2)^2(2\theta + 3)$
	$A'_n = \sum_{i+j+k+l+m+s=n} \left(\frac{n!}{i!j!k!l!m!s!} \right)^2$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
131	$D=\theta^4-5z\theta(24\theta^3+6\theta^2+4\theta+1)+\cdots$ $+3^4\cdot 5^{24}z^{24}\theta(\theta+1)(\theta+2)(\theta+4)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-5z(2\theta+1)(\theta^2+\theta+1)(3\theta^2+3\theta+1)$ $+5^2z^2(\theta+1)(15\theta^4+60\theta^3+105\theta^2+90\theta+31)$ $-2\cdot 5^4z^3(\theta+1)(\theta+2)(2\theta+3)(\theta^2+3\theta+3)$ $+5^5z^4(\theta+1)(\theta+2)(\theta+3)(3\theta^2+12\theta+12)$ $-5^5z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)(2\theta+5)$ $-3\cdot 5^6z^6(\theta+1)(\theta+2)(\theta+3)(\theta+4)(\theta+5)$
	$A'_n=\sum_{k=0}^{n}(-1)^k5^{n-5k}\binom{2k}{k}\binom{n}{5k}\frac{(5k)!}{k!^5}$
132	$D=\theta^4-5z(80\theta^4+20\theta^3+10\theta^2-1)+\cdots$ $+2^{30}\cdot 5^{20}z^{16}\theta(\theta+2)(2\theta+1)(2\theta+3)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-10z(2\theta+1)(5\theta^4+10\theta^3+10\theta^2+5\theta+1)$ $+500z^2(\theta+1)(2\theta+1)(2\theta+3)(2\theta^2+4\theta+3)$ $-5000z^3(2\theta+1)(2\theta+3)(2\theta+5)(2\theta^2+6\theta+5)$ $+50000z^4(\theta+2)(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A'_n=\binom{2n}{n}\sum_{k=0}^{n}(-1)^k5^{n-5k}\binom{n}{5k}\frac{(5k)!}{k!^5}$
cases #133–143 are described in [1], Section 7	

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
144	$D = \theta^4 - z(73\theta^4 + 578\theta^3 + 493\theta^2 + 204\theta + 36) + 2^3 \cdot 3^2 z^2(-145\theta^4 + 290\theta^3 + 1387\theta^2 + 1072\theta + 300) + 2^6 \cdot 3^4 z^3(145\theta^4 + 870\theta^3 + 353\theta^2 - 252\theta - 180) - 2^9 \cdot 3^6 z^4(-73\theta^4 + 286\theta^3 + 803\theta^2 + 660\theta + 180) - 2^{15} \cdot 3^{10} z^5(\theta+1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{g}) * (\mathrm{g})$ (see [1], Section 7)
145	$D = \theta^4 - 3^2 z(81\theta^4 + 648\theta^3 + 576\theta^2 + 252\theta + 49) + 2 \cdot 3^8 z^2(-81\theta^4 + 162\theta^3 + 765\theta^2 + 612\theta + 187) + 2 \cdot 3^{14} z^3(81\theta^4 + 486\theta^3 + 207\theta^2 - 108\theta - 97) + 3^{20} z^4(81\theta^4 - 324\theta^3 - 882\theta^2 - 720\theta - 194) - 3^{30} z^5(\theta+1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{h}) * (\mathrm{h})$ (see [1], Section 7)
146	$D = \theta^4 - 4z(5\theta^4 + 10\theta^3 + 10\theta^2 + 5\theta + 1) + 80z^2(\theta+1)^2(2\theta^2 + 4\theta + 3) - 320z^3(\theta+1)(\theta+2)(2\theta^2 + 6\theta + 5) + 2304z^4(\theta+1)(\theta+2)^2(\theta+3) - 5120z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n = \sum_{k=0}^{n} (-1)^k 4^{n-4k} \binom{2k}{k} \binom{n}{4k} \frac{(4k)!}{k!^4}$
147	$D = \theta^4 - 8z(2\theta+1)^2(2\theta^2 + 2\theta + 1) + 64z^2(2\theta+1)(2\theta+3)(6\theta^2 + 12\theta + 7) - 1024z^3(2\theta+1)(2\theta+3)^2(2\theta+5) + 8192z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n = \binom{2n}{n} \sum_{k=0}^{n} (-1)^k 4^{n-4k} \binom{n}{4k} \frac{(4k)!}{k!^4}$
148	$D = \theta^4 - 5z(5\theta^4 + 10\theta^3 + 10\theta^2 + 5\theta + 1) + 125z^2(\theta+1)^2(2\theta^2 + 4\theta + 3) - 625z^3(\theta+1)(\theta+2)(2\theta^2 + 6\theta + 5) - 3125z^4(\theta+1)(\theta+2)^2(\theta+3)$
	$A_n = \sum_{k=0}^{n} (-1)^k 5^{n-5k} \binom{n}{5k} \frac{(5k)!}{k!^5}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
149	$D = \theta^4 - 2^2 3z(4896\theta^4 + 1224\theta^3 + 265\theta^2 - 347\theta - 186)$ $+ 2^6 3^4 z^2(2498400\theta^4 + 1249200\theta^3 + 322255\theta^2 + 16190\theta + 21824)$ $- 2^{10} 3^7 z^3(56744640\theta^4 + 42558480\theta^3 + 12765090\theta^2 + 519897\theta - 79028)$ $+ 2^{14} 3^{10} z^4(486077040\theta^4 + 4860770400\theta^3 + 166150030\theta^2$ $+ 21788950\theta + 94752)$ $- 2^{18} 3^{13} z^5(56744640\theta^4 + 70930800\theta^3 + 28921550\theta^2 - 3695530\theta - 546818)$ $+ 2^{22} 3^{16} z^6(2498400\theta^4 + 3747600\theta^3 + 1745250\theta^2 + 16890\theta + 14384)$ $- 2^{26} 3^{19} z^7\theta(4896\theta^3 + 8568\theta^3 + 4447\theta + 595)$ $+ 2^{30} 3^{22} z^8\theta(\theta + 1)(6\theta + 1)(6\theta + 5)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 12z(2\theta + 1)(6\theta + 1)(6\theta + 5)(17\theta^2 + 17\theta + 5)$ $+ 144z^2(\theta + 1)(6\theta + 1)(6\theta + 5)(6\theta + 7)(6\theta + 11)$
	$A'_n = \frac{(6n)!}{n!(2n)!(3n)!} \sum_{k=0}^{n} \binom{n}{k}^2 \binom{n+k}{k}^2$
150	$D = \theta^4 - 2^2 z(224\theta^4 + 56\theta^3 + 19\theta^2 - 9\theta - 6)$ $+ 2^6 z^2(6000\theta^4 + 3000\theta^3 + 1139\theta^2 - 537\theta - 420)$ $- 2^{10} z^3(98336\theta^4 + 73752\theta^3 + 31007\theta^2 - 5469\theta + 1524)$ $+ 2^{14} z^4(1073176\theta^4 + 1073176\theta^3 + 495055\theta^2 + 348510\theta + 112248)$ $- 2^{18} 3^4 z^5(98336\theta^4 + 122920\theta^3 + 61737\theta^2 + 13173\theta + 6210)$ $+ 2^{18} 3^8 z^6(96000\theta^4 + 144000\theta^3 + 78224\theta^2 + 19792\theta - 576)$ $- 2^{26} 3^{12} z^7\theta(224\theta^3 + 392\theta^2 + 229\theta + 49) + 2^{30} 3^{16} z^8\theta(\theta + 1)(2\theta + 1)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 4z(2\theta + 1)^3(7\theta^2 + 7\theta + 3) + 1296z^2(\theta + 1)(2\theta + 1)^2(2\theta + 3)^2$
	$A'_n = \binom{2n}{n}^2 \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \binom{n+k}{k} \frac{(3k)!}{k!^3}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
151	$D = \theta^4 - 3z(504\theta^4 + 126\theta^3 + 41\theta^2 - 22\theta - 14) + 3^2z^2(1215000\theta^4 + 607500\theta^3 + 222221\theta^2 - 117790\theta - 8762) - 3^5z^3(19913040\theta^4 + 14934780\theta^3 + 6071490\theta^2 - 1335060\theta + 26716) + 3^8z^4(217318140\theta^4 + 217318140\theta^3 + 97230330\theta^2 + 3781260\theta + 2244916) - 3^{15}z^5(19913040\theta^4 + 24891300\theta^3 + 12156030\theta^2 + 2301660\theta + 125122) + 3^{22}z^6(1215000\theta^4 + 1822500\theta^3 + 964710\theta^2 + 224460\theta - 698) - 3^{31}z^7\theta(504\theta^3 + 882\theta^2 + 503\theta + 98) + 3^{38}z^8\theta(\theta+1)(3\theta+1)(3\theta+2)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 3z(2\theta+1)(3\theta+1)(3\theta+2)(7\theta^2 + 7\theta + 3) + 729z^2(\theta+1)(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A'_n = \frac{(3n)!}{n!^3} \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \binom{n+k}{k} \frac{(3k)!}{k!^3}$
152	$D = \theta^4 - 2^2z(896\theta^4 + 224\theta^3 + 69\theta^2 - 43\theta - 26) + 2^7z^2(480000\theta^4 + 240000\theta^3 + 83620\theta^2 - 51100\theta - 3589) - 2^{14}z^3(3933440\theta^4 + 2950080\theta^3 + 1148090\theta^2 - 319910\theta + 4246) + 2^{20}z^4(42927040\theta^4 + 42927040\theta^3 + 18460730\theta^2 - 61990\theta + 436401) - 2^{26}3^4z^5(3933440\theta^4 + 4916800\theta^3 + 2315830\theta^2 + 364310\theta + 24552) + 2^{31}3^8z^6(480000\theta^4 + 720000\theta^3 + 368620\theta^2 + 75820\theta - 261) - 2^{38}3^{12}z^7\theta(896\theta^3 + 1568\theta^2 + 867\theta + 147) + 2^{44}3^{16}z^8\theta(\theta+1)(4\theta+1)(4\theta+3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 4z(2\theta+1)(4\theta+1)(4\theta+3)(7\theta^2 + 7\theta + 3) + 1296z^2(\theta+1)(4\theta+1)(4\theta+3)(4\theta+5)(4\theta+7)$
	$A'_n = \frac{(4n)!}{n!^2(2n)!} \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \binom{n+k}{k} \frac{(3k)!}{k!^3}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
153	$D=\theta^4-2^2\cdot 3z(2016\theta^4+504\theta^3+143\theta^2-109\theta-62)$ $+2^6 3^2 z^2(486000\theta^4+243000\theta^3+78759\theta^2-58149\theta-38156)$ $-2^{10}3^5 z^3(7965216\theta^4+5973912\theta^3+2179683\theta^2-807129\theta+56452)$ $+2^{14}3^8 z^4(869272256\theta^4+869272256\theta^3+35270163\theta^2$ $-24187777\theta+8633800)$ $-2^{18}3^{15} z^5(7965216\theta^4+9956520\theta^3+4447557\theta^2+481617\theta+492250)$ $+2^{22}3^{21} z^6(1458000\theta^4+2187000\theta^3+1066527\theta^2+175635\theta-7332)$ $-2^{26}3^{31} z^7\theta(2016\theta^3+3528\theta^2+1865\theta+245)$ $+2^{30}3^{38} z^8\theta(\theta+1)(6\theta+1)(6\theta+5)$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-12z(2\theta+1)(6\theta+1)(6\theta+5)(7\theta^2+7\theta+3)$ $+11664z^2(\theta+1)(6\theta+1)(6\theta+5)(6\theta+7)(6\theta+11)$
	$A'_n=\dfrac{(6n)!}{n!(2n)!(3n)!}\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\binom{n+k}{k}\dfrac{(3k)!}{k!^3}$
154	$D=\theta^4+2^2 3z(36\theta^4-144\theta^3-99\theta^2-27\theta-3)$ $+2^4 3^5 z^2(312\theta^2+156\theta+25)$ $+2^{10}3^8 z^3(12\theta^4+72\theta^3+57\theta^2+18\theta+2)+2^{12}3^{12}z^4(2\theta+1)^4$
	$A_n=\binom{2n}{n}^2\sum_{k=0}^{n}(-1)^k 3^{2n-3k}\binom{2n}{3k}\dfrac{(3k)!}{k!^3}$
155	$D=\theta^4-2^4 z(256\theta^4+2048\theta^3+1856\theta^2+832\theta+169)$ $-2^{16}z^2(512\theta^4-1024\theta^3-4800\theta^2-3904\theta-1239)$ $+2^{28}z^3(512\theta^4+3072\theta^3+1344\theta^2-576\theta-599)$ $+2^{40}z^4(256\theta^4-1024\theta^3-2752\theta^2-2240\theta-599)-2^{60}z^5(\theta+1)^4$
	$A_n=\left\{64^n\sum_{k}(-1)^k\binom{-3/4}{k}\binom{-1/4}{n-k}^2\right\}^2$
156	$D=\theta^4-6z(2\theta+1)^2(2\theta^2+2\theta+1)$ $+36z^2(2\theta+1)(2\theta+3)(6\theta^2+12\theta+7)$ $-3888z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\binom{2k}{k}\dfrac{(3k)!}{k!^3}$
157	$D=\theta^4-3z(5\theta^4+10\theta^3+10\theta^2+3\theta+1)+45z^2(\theta+1)^2(2\theta^2+4\theta+3)$ $+27z^3(\theta+1)(\theta+2)(6\theta^2+18\theta+11)-2187z^4(\theta+1)(\theta+2)^2(\theta+3)$ $+3645z^5(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	$A_n=\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\binom{2k}{k}^2\dfrac{(3k)!}{k!^3}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
158	$D=\theta^4-2\cdot 3z(12\theta^4+16\theta^3+14\theta^2+6\theta+1)$ $+2^2 3^2 z^2(60\theta^4+160\theta^3+198\theta^2+116\theta+25)$ $-2^2 3^3 z^3(2\theta+1)(106\theta^3+263\theta^2+231\theta+86)$ $-2^4 3^4 z^4(2\theta+1)(2\theta+3)(21\theta^2+178\theta+249)$ $+2^4 3^5 z^5(2\theta+1)(2\theta+3)(2\theta+5)(114\theta+355)$ $-2^6 3^6 23 z^6(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\binom{3k}{k}\frac{(3k)!}{k!^3}$
159	$D=\theta^4-2\cdot 5z(14\theta^4+16\theta^3+14\theta^2+6\theta+1)$ $+2^2 5^2 z^2(84\theta^4+192\theta^3+226\theta^2+128\theta+27)$ $-2^4 5^3 z^3(140\theta^4+480\theta^3+710\theta^2+480\theta+114)$ $+2^4 5^5 z^4(2\theta+1)(56\theta^3+228\theta^2+342\theta+181)$ $-2^4 5^5 z^5(2\theta+1)(2\theta+3)(332\theta^2+1216\theta+1189)$ $+2^7 5^6 z^6(2\theta+1)(2\theta+3)(2\theta+5)(26\theta+57)$ $-2^8 3\cdot 5^7 z^7(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=0}^{n}(-1)^k 5^{n-5k}\binom{n}{5k}\binom{2k}{k}^{-1}\frac{(5k)!}{k!^5}$
160	$D=\theta^4-3z(3\theta^2+3\theta+1)(7\theta^2+7\theta+3)$ $+3^2 z^2(171\theta^4+396\theta^3+555\theta^2+318\theta+64)$ $+2^3 3^4 z^3(-21\theta^4+126\theta^3+386\theta^2+291\theta+76)$ $+2^4 3^5 z^4(147\theta^4+294\theta^3+102\theta^2-45\theta-14)$ $+2^6 3^7 z^5(21\theta^4+210\theta^3+118\theta^2-19\theta-24)$ $+2^6 3^8 z^6(171\theta^4+288\theta^3+393\theta^2+288\theta+76)$ $+2^9 3^{10} z^7(3\theta^2+3\theta+1)(7\theta^2+7\theta+3)+2^{12}3^{12}z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^3\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\frac{(3k)!}{k!^3}$
161	$D=\theta^4-3z(3\theta^2+3\theta+1)(11\theta^2+11\theta+3)$ $+3^2 z^2(366\theta^4+1428\theta^3+1980\theta^2+1104\theta+221)$ $+3^4 z^3(-33\theta^4+198\theta^3+607\theta^2+456\theta+117)$ $+3^5 z^4(726\theta^4+1452\theta^3-978\theta^2-1704\theta-515)$ $+3^7 z^5(33\theta^4+330\theta^3+185\theta^2-32\theta-37)$ $+3^8 z^6(366\theta^4+36\theta^3-108\theta^2+36\theta+35)$ $+3^{10} z^7(3\theta^2+3\theta+1)(11\theta^2+11\theta+3)+3^{12}z^8(\theta+1)^4$
	$A_n=\sum_{k=0}^{n}\binom{n}{k}^2\binom{n+k}{k}\sum_{k=0}^{n}(-1)^k 3^{n-3k}\binom{n}{3k}\frac{(3k)!}{k!^3}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
162	$D = \theta^4 - 3z(3\theta^2+3\theta+1)(10\theta^2+10\theta+3) + 3^3z^2(91\theta^4+472\theta^3+659\theta^2+374\theta+81) + 3^6z^3(30\theta^4-180\theta^3-551\theta^2-417\theta-111) + 3^8z^4(-200\theta^4-400\theta^3+514\theta^2+714\theta+237) + 3^{11}z^5(30\theta^4+300\theta^3+169\theta^2-25\theta-35) + 3^{13}z^6(91\theta^4-108\theta^3-211\theta^2-108\theta-15) - 3^{16}z^7(3\theta^2+3\theta+1)(10\theta^2+10\theta+3) + 3^{20}z^8(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}^2 \binom{2k}{k} \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \frac{(3k)!}{k!^3}$
163	$D = \theta^4 - 2^2 3z(3\theta^2+3\theta+1)^2 + 2^4 3^2 z^2(21\theta^4+156\theta^3+219\theta^2+126\theta+29) + 2^7 3^4 z^3(3\theta^2+3\theta+1)(3\theta^2-21\theta-35) + 2^{10}3^5z^4(-27\theta^4-54\theta^3+114\theta^2+141\theta+49) + 2^{12}3^7z^5(3\theta^2+3\theta+1)(3\theta^2+27\theta-11) + 2^{14}3^8z^6(21\theta^4-72\theta^3-123\theta^2-72\theta-13) - 2^{17}3^{10}z^7(3\theta^2+3\theta+1)^2 + 2^{20}3^{12}z^8(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k} \cdot \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \frac{(3k)!}{k!^3}$
164	$D = \theta^4 - 2^2 3z(3\theta^2+3\theta+1)(8\theta^2+8\theta+3) + 2^4 3^2 z^2(144\theta^4+1152\theta^3+1632\theta^2+960\theta+235) + 2^{10}3^4z^3(24\theta^4-144\theta^3-439\theta^2-339\theta-99) + 2^{13}3^5z^4(-192\theta^4-384\theta^3+864\theta^2+1056\theta+389) + 2^{18}3^7z^5(24\theta^4+240\theta^3+137\theta^2-11\theta-31) + 2^{20}3^8z^6(144\theta^4-576\theta^3-960\theta^2-576\theta-101) - 2^{26}3^{10}z^7(3\theta^2+3\theta+1)(8\theta^2+8\theta+3) + 2^{32}3^{12}z^8(\theta+1)^4$
	$A_n = \sum_{k=0}^{n} 4^{n-k} \binom{2k}{k}^2 \binom{2n-2k}{n-k} \cdot \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \frac{(3k)!}{k!^3}$
165	$D = \theta^4 - 3^2z(3\theta+1)(6\theta^2+3\theta+1) + 3^5z^2(-3\theta^4+6\theta^3+39\theta^2+30\theta+8) + 3^8z^3(3\theta^4+18\theta^3-3\theta^2-18\theta-8) - 3^{11}z^4(3\theta+2)(6\theta^2+9\theta+4) - 3^{15}z^5(\theta+1)^4$
	$A_n = \left\{ \sum_{k=0}^{n} (-1)^k 3^{n-3k} \binom{n}{3k} \frac{(3k)!}{k!^3} \right\}^2$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
166	$D = \theta^4 - 2^4 3^2 z(1296\theta^4 + 103680\theta^3 + 96480\theta^2 + 44640\theta + 961)$ $- 2^{12} 3^8 z^2(2592\theta^4 - 5184\theta^3 - 24048\theta^2 - 20016\theta - 6671)$ $+ 2^{20} 3^{14} z^3(2592\theta^4 + 15552\theta^3 + 7056\theta^2 - 2160\theta - 2927)$ $+ 2^{28} 3^{20} z^4(1296\theta^4 - 5184\theta^3 - 13680\theta^2 - 11088\theta - 2927)$ $- 2^{40} 3^{30} z^5(\theta + 1)^4$
	$A_n = \left\{ 432^n \sum_k (-1)^k \binom{-5/6}{k} \binom{-1/6}{n-k}^2 \right\}^2$
167	$D = \theta^4 - 3z(7\theta^2 + 7\theta + 2)(18\theta^2 + 18\theta + 7)$ $+ 3^2 z^2(3969\theta^4 + 8100\theta^3 + 11025\theta^2 + 5850\theta + 832)$ $+ 2^3 3^7 z^3(-126\theta^4 + 756\theta^3 + 2309\theta^2 + 1767\theta + 496)$ $+ 2^4 3^8 z^4(3321\theta^4 + 6642\theta^3 + 3330\theta^2 + 9\theta + 526)$ $+ 2^6 3^{13} z^5(126\theta^4 + 1260\theta^3 + 715\theta^2 - 79\theta - 156)$ $+ 2^6 3^{14} z^6(3969\theta^4 + 7776\theta^3 + 10593\theta^2 + 7776\theta + 1876)$ $+ 2^9 3^{19} z^7(7\theta^2 + 7\theta + 2)(18\theta^2 + 18\theta + 7) + 2^{12} 3^{24} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (a) * (h)$ (see [1], Section 7)
168	$D = \theta^4 - 3z(11\theta^2 + 11\theta + 3)(18\theta^2 + 18\theta + 7)$ $+ 3^2 z^2(9801\theta^4 + 38232\theta^3 + 52965\theta^2 + 29466\theta + 5855)$ $+ 3^7 z^3(-198\theta^4 + 1188\theta^3 + 3631\theta^2 + 2769\theta + 765)$ $+ 3^8 z^4(19440\theta^4 + 38880\theta^3 - 26262\theta^2 - 45702\theta - 13679)$ $+ 3^{13} z^5(198\theta^4 + 1980\theta^3 + 1121\theta^2 - 137\theta - 241)$ $+ 3^{14} z^6(9801\theta^4 + 972\theta^3 - 2925\theta^2 + 972\theta + 923)$ $+ 3^{19} z^7(11\theta^2 + 11\theta + 3)(18\theta^2 + 18\theta + 7) + 3^{24} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (b) * (h)$ (see [1], Section 7)

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
169	$D = \theta^4 - 3z(10\theta^2 + 10\theta + 3)(18\theta^2 + 18\theta + 7) + 3^4z^2(900\theta^2 + 4592\theta^3 + 6426\theta^2 + 3708\theta + 841) + 3^9z^3(180\theta^4 - 1080\theta^3 - 3296\theta^2 - 2532\theta - 723) + 3^{12}z^4(-1962\theta^4 - 3924\theta^3 + 4770\theta^2 + 6732\theta + 2359) + 3^{17}z^5(180\theta^4 + 1800\theta^3 + 1024\theta^2 - 100\theta - 227) + 3^{20}z^6(900\theta^4 - 972\theta^3 - 1890\theta^2 - 972\theta - 113) - 3^{25}z^7(10\theta^2 + 10\theta + 3)(18\theta^2 + 18\theta + 7) + 3^{32}z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (c) * (h)$ (see [1], Section 7)
170	$D = \theta^4 - 2^2 3z(3\theta^2 + 3\theta + 1)(18\theta^2 + 18\theta + 7) + 2^4 3^2 z^2(729\theta^4 + 4860\theta^3 + 6903\theta^2 + 4086\theta + 1007) + 2^7 3^7 z^3(54\theta^4 - 324\theta^3 - 987\theta^2 - 765\theta - 227) + 2^{10}3^8 z^4(-891\theta^4 - 1782\theta^3 + 3222\theta^2 + 4113\theta + 1549) + 2^{12}3^{13}z^5(54\theta^4 + 540\theta^3 + 309\theta^2 - 21\theta - 71) + 2^{14}3^{14}z^6(729\theta^4 - 1944\theta^3 - 3303\theta^2 - 1944\theta - 307) - 2^{17}3^{19}z^7(3\theta^2 + 3\theta + 1)(18\theta^2 + 18\theta + 7) + 2^{20}3^{24}z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (d) * (h)$ (see [1], Section 7)
171	$D = \theta^4 - 2^2 3z(72\theta^4 + 288\theta^3 + 254\theta^2 + 110\theta + 21) + 2^4 3^2 z^2(-1296\theta^4 + 15552\theta^3 + 33696\theta^2 + 23472\theta + 6625) + 2^9 3^5 z^3(2592\theta^4 + 5184\theta^3 - 9000\theta^2 - 11592\theta - 4499) + 2^{12}3^8 z^4(-1296\theta^4 - 20736\theta^3 - 20736\theta^2 - 7920\theta + 1) + 2^{18}3^{13}z^5(-72\theta^4 + 178\theta^2 + 178\theta + 51) + 2^{24}3^{18}z^6(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (e) * (h)$ (see [1], Section 7)

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
172	$D = \theta^4 - 3^2 z(3\theta^2 + 3\theta + 1)(18\theta^2 + 18\theta + 7) + 3^5 z^2(243\theta^4 + 1944\theta^3 + 2763\theta^2 + 1638\theta + 409) + 3^{11} z^3(54\theta^4 - 324\theta^3 - 987\theta^2 - 765\theta - 227) + 3^{14} z^4(-648\theta^4 - 1296\theta^3 + 2898\theta^2 + 3456\theta + 1333) + 3^{20} z^5(54\theta^4 + 540\theta^3 + 309\theta^2 - 21\theta - 7) + 3^{23} z^6(243\theta^4 - 972\theta^3 - 1611\theta^2 - 972\theta - 167) - 3^{29} z^7(3\theta^2 + 3\theta + 1)(18\theta^2 + 18\theta + 7) + 3^{36} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = \text{(f)} * \text{(h)}$ (see [1], Section 7)
173	$D = \theta^4 - z(7\theta^2 + 7\theta + 2)(17\theta^2 + 17\theta + 6) + 2^6 z^2(55\theta^4 + 112\theta^3 + 155\theta^2 + 86\theta + 15) + 2^6 3^2 z^3(-119\theta^4 + 714\theta^3 + 2185\theta^2 + 1656\theta + 444) + 2^{12} 3^2 z^4(92\theta^4 + 184\theta^3 + 98\theta^2 + 6\theta + 9) + 2^{12} 3^4 z^5(119\theta^4 + 1190\theta^3 + 671\theta^2 - 96\theta - 140) + 2^{18} 3^4 z^6(55\theta^4 + 108\theta^3 + 149\theta^2 + 108\theta + 27) + 2^{18} 3^6 z^7(7\theta^2 + 7\theta + 2)(17\theta^2 + 17\theta + 6) + 2^{24} 3^8 z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = \text{(a)} * \text{(g)}$ (see [1], Section 7)
174	$D = \theta^4 - z(11\theta^2 + 11\theta + 3)(17\theta^2 + 17\theta + 6) + z^2(8711\theta^4 + 33980\theta^3 + 47095\theta^2 + 26230\theta + 5232) + 2^3 3^2 z^3(-187\theta^4 + 1122\theta^3 + 3436\theta^2 + 2595\theta + 684) + 2^4 3^2 z^4(8639\theta^4 + 17278\theta^3 - 11650\theta^2 - 20289\theta - 6102) + 2^6 3^4 z^5(187\theta^4 + 1870\theta^3 + 1052\theta^2 - 163\theta - 216) + 2^6 3^4 z^6(8711\theta^4 + 864\theta^3 - 2579\theta^2 + 864\theta + 828) + 2^9 3^6 z^7(11\theta^2 + 11\theta + 3)(17\theta^2 + 17\theta + 6) + 2^{12} 3^8 z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = \text{(b)} * \text{(g)}$ (see [1], Section 7)
175	$D = \theta^4 - z(10\theta^2 + 10\theta + 3)(17\theta^2 + 17\theta + 6) + 3^4 z^2(89\theta^4 + 452\theta^3 + 633\theta^2 + 362\theta + 80) + 2^3 3^4 z^3(170\theta^4 - 1020\theta^3 - 3119\theta^2 - 2373\theta - 648) + 2^4 3^8 z^4(-97\theta^4 - 194\theta^3 + 238\theta^2 + 335\theta + 114) + 2^6 3^8 z^5(170\theta^4 + 1700\theta^3 + 961\theta^2 - 125\theta - 204) + 2^6 3^{12} z^6(89\theta^4 - 96\theta^3 - 189\theta^2 - 96\theta - 12) - 2^9 3^{12} z^7(10\theta^2 + 10\theta + 3)(17\theta^2 + 17\theta + 6) + 2^{12} 3^{16} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = \text{(c)} * \text{(g)}$ (see [1], Section 7)

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
176	$D = \theta^4 - 2^2 z(3\theta^2 + 3\theta + 1)(17\theta^2 + 17\theta + 6)$ $+ 2^5 z^2(325\theta^4 + 2164\theta^3 + 3053\theta^2 + 1778\theta + 420)$ $+ 2^{10}3^2 z^3(51\theta^4 - 306\theta^3 - 934\theta^2 - 717\theta - 204)$ $+ 2^{14}3^2 z^4(-397\theta^4 - 794\theta^3 + 1454\theta^2 + 1851\theta + 666)$ $+ 2^{18}3^4 z^5(51\theta^4 + 510\theta^3 + 290\theta^2 - 29\theta - 64)$ $+ 2^{21}3^4 z^6(325\theta^4 - 864\theta^3 - 1489\theta^2 - 864\theta - 144)$ $- 2^{26}3^6 z^7(3\theta^2 + 3\theta + 1)(17\theta^2 + 17\theta + 6) + 2^{32}3^8 z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{d}) * (\mathrm{g})$ (see [1], Section 7)
177	$D = \theta^4 - 2^2 z(8\theta^2 + 8\theta + 3)(17\theta^2 + 17\theta + 6)$ $+ 2^7 z^2(578\theta^4 + 4040\theta^3 + 5746\theta^2 + 3412\theta + 849)$ $+ 2^{13}3^2 z^3(136\theta^4 - 816\theta^3 - 2485\theta^2 - 1929\theta - 576)$ $+ 2^{19}3^2 z^4(-722\theta^4 - 1444\theta^3 + 2764\theta^2 + 3486\theta + 1323)$ $+ 2^{24}3^4 z^5(136\theta^4 + 1360\theta^3 + 779\theta^2 - 49\theta - 180)$ $+ 2^{29}3^4 z^6(578\theta^4 - 1728\theta^3 - 2906\theta^2 - 1728\theta - 279)$ $- 2^{35}3^6 z^7(8\theta^2 + 8\theta + 3)(17\theta^2 + 17\theta + 6) + 2^{44}3^8 z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{e}) * (\mathrm{g})$ (see [1], Section 7)
178	$D = \theta^4 - 3z(3\theta^2 + 3\theta + 1)(17\theta^2 + 17\theta + 6)$ $+ 3^3 z^2(217\theta^4 + 1732\theta^3 + 2441\theta^2 + 1418\theta + 336)$ $+ 2^3 3^6 z^3(51\theta^4 - 306\theta^3 - 934\theta^2 - 717\theta - 204)$ $+ 2^4 3^8 z^4(-289\theta^4 - 578\theta^3 + 1310\theta^2 + 1599\theta + 570)$ $+ 2^6 3^{11} z^5(51\theta^4 + 510\theta^3 + 290\theta^2 - 29\theta - 64)$ $+ 2^6 3^{13} z^6(217\theta^4 - 864\theta^3 - 1453\theta^2 - 864\theta - 156)$ $- 2^9 3^{16} z^7(3\theta^2 + 3\theta + 1)(17\theta^2 + 17\theta + 6) + 2^{12}3^{20} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{f}) * (\mathrm{g})$ (see [1], Section 7)
179	$D = \theta^4 - 3z(17\theta^2 + 17\theta + 6)(18\theta^2 + 18\theta + 7)$ $+ 3^4 z^2(2601\theta^4 + 18180\theta^3 + 25929\theta^2 + 15498\theta + 3920)$ $+ 2^3 3^9 z^3(306\theta^4 - 1836\theta^3 - 5587\theta^2 - 4353\theta - 1320)$ $+ 2^4 3^{12} z^4(-3249\theta^4 - 6498\theta^3 + 12366\theta^2 + 15615\theta + 6034)$ $+ 2^6 3^{17} z^5(306\theta^4 + 3060\theta^3 + 1757\theta^2 - 89\theta - 412)$ $+ 2^6 3^{20} z^6(2601\theta^4 - 7776\theta^3 - 13005\theta^2 - 7776\theta - 1228)$ $- 2^9 3^{25} z^7(17\theta^2 + 17\theta + 6)(18\theta^2 + 18\theta + 7) + 2^{12}3^{32} z^8(\theta + 1)^4$
	$\sum_{n=0}^{\infty} A_n z^n = (\mathrm{g}) * (\mathrm{h})$ (see [1], Section 7)

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
180	$D = \theta^4 - 2^4 3z(198\theta^4 + 72\theta^3 + 69\theta^2 + 33\theta + 5)$ $+ 2^9 3^2 z^2(7614\theta^4 + 7128\theta^3 + 6813\theta^2 + 2529\theta + 340)$ $- 2^{14} 3^5 z^3(15714\theta^4 + 27216\theta^3 + 26343\theta^2 + 11151\theta + 1685)$ $+ 2^{19} 3^9 z^4(3\theta + 1)(3\theta + 2)(576\theta^2 + 1008\theta + 605)$ $- 2^{27} 3^{13} z^5(3\theta + 1)(3\theta + 2)(3\theta + 4)(3\theta + 5)$
	$A_n = \binom{2n}{n} \sum_k \binom{n}{k} \binom{2n}{2k}^{-1} \frac{(6k)!}{k!(2k)!(3k)!} \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!}$
181	$D = \theta^4 - 18z(324\theta^4 + 648\theta^3 + 765\theta^2 + 441\theta + 97)$ $+ 236196z^2(\theta + 1)^2(6\theta + 5)(6\theta + 7)$
	a formula for A_n is not known
182	$D = \theta^4 - z(43\theta^4 + 86\theta^3 + 77\theta^2 + 34\theta + 6)$ $+ 12z^2(\theta + 1)^2(6\theta + 5)(6\theta + 7)$
	a formula for A_n is not known
183	$D = \theta^4 - 4z(2\theta + 1)^2(7\theta^2 + 7\theta + 3)$ $+ 48z^2(2\theta + 1)(2\theta + 3)(4\theta + 3)(4\theta + 5)$
	$A_0 = 1,\ A_n = 3\binom{2n}{n} \sum_{k=0}^{[n/3]} (-1)^k \frac{n-2k}{2n-3k} \binom{n}{k} \binom{2k}{k} \binom{2n-2k}{n+k} \binom{2n-3k}{n}$
184	$D = \theta^4 - 2z(2\theta + 1)^2(11\theta^2 + 11\theta + 5)$ $+ 500z^2(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_0 = 1, \quad A_n = 5\binom{2n}{n} \sum_{k=0}^{[n/5]} (-1)^k \frac{n-2k}{4n-5k} \binom{n}{k}^3 \binom{4n-5k}{3n}$
185	$D = \theta^4 - 6z(2\theta + 1)^2(3\theta^2 + 3\theta + 1)$ $- 108z^2(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k} \binom{n}{l} \binom{k+l}{k}^2 \binom{n}{k+l}$
186	$D = 19^2\theta^4 - 19z(700\theta^4 + 1238\theta^3 + 999\theta^2 + 380\theta + 57)$ $- z^2(64745\theta^4 + 368006\theta^3 + 609133\theta^2 + 412756\theta + 102258)$ $+ 3^3 z^3(6397\theta^4 + 12198\theta^3 - 11923\theta^2 - 27360\theta - 11286)$ $+ 3^6 z^4(64\theta^4 + 1154\theta^3 + 2425\theta^2 + 1848\theta + 486)$ $- 3^{11} z^5(\theta + 1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l} \binom{k+l}{k} \binom{2n-k-l}{n} \binom{2k}{n-l}$
187	$D = \theta^4 + z(-64\theta^4 + 898\theta^3 + 653\theta^2 + 204\theta + 27)$ $+ 3^2 z^2(-6397\theta^4 - 13390\theta^3 + 10135\theta^2 + 7492\theta + 1850)$ $+ 3^4 z^3(64745\theta^4 - 109026\theta^3 - 106415\theta^2 - 39528\theta - 4626)$ $+ 3^9 19z^4(700\theta^4 + 1562\theta^3 + 1485\theta^2 + 704\theta + 138)$ $- 3^{14} 19^2 z^5(\theta + 1)^4$
	the reflection of #186 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
188	$D = \theta^4 - 2z(280\theta^4 + 70\theta^3 + 28\theta^2 - 7\theta - 6)$ $+ 2^2 z^2(33544\theta^4 + 16772\theta^3 + 7451\theta^2 + 223\theta + 354)$ $- 2^5 z^3(562360\theta^4 + 421770\theta^3 + 206211\theta^2 + 30144\theta + 6888)$ $+ 2^6 z^4(232196644\theta^4 + 232196644\theta^3 + 123999919\theta^2 + 23437190\theta + 158340)$ $- 2^{10} z^5(765993200\theta^4 + 957491500\theta^3 + 554949820\theta^2 + 116743190\theta + 584280)$ $+ 2^{11} z^6(13007670320\theta^4 + 19511505480\theta^3 + 12206895870\theta^2$ $+ 2748774630\theta + 6995856)$ $- 2^{14} z^7(34913807600\theta^4 + 61099163300\theta^3 + 41078269610\theta^2$ $+ 9353526700\theta - 69427776)$ $+ 2^{15} z^8(227369026220\theta^4 + 454738052440\theta^3 + 327454168030\theta^2$ $+ 70357111310\theta - 1066887690)$ $- 2^{17} 15^2 z^9(1883478320\theta^4 + 4237826220\theta^3 + 3260670720\theta^2$ $+ 672459370\theta - 10221330)$ $+ 2^{18} 15^4 z^{10}(1735944\theta^4 + 4339860\theta^3 + 3554495\theta^2 + 820435\theta + 24846)$ $- 2^{21} 15^6 z^{11}\theta(2\theta + 1)(1036\theta^2 + 2331\theta + 1308)$ $+ 2^{22} 15^8 z^{12}\theta(\theta + 1)(2\theta + 1)(2\theta + 3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(35\theta^4 + 70\theta^3 + 63\theta^2 + 28\theta + 5)$ $+ 4z^2(\theta + 1)(2\theta + 1)(2\theta + 3)(259\theta^2 + 518\theta + 285)$ $- 1800z^3(\theta + 1)(\theta + 2)(2\theta + 1)(2\theta + 3)(2\theta + 5)$
	$A'_n = \binom{2n}{n} \sum_{i+j+k+l+m=n} \left(\frac{n!}{i!j!k!l!m!}\right)^2$
189	$D = \theta^4 - z(1040\theta^4 + 260\theta^3 + 80\theta^2 - 50\theta - 31)$ $+ z^2(409696\theta^4 + 204848\theta^3 + 71714\theta^2 + 15832\theta + 34347)$ $- 2^2 z^3(183747200\theta^4 + 137810400\theta^3 + 54177000\theta^2 + 2280015\theta - 228513)$ $+ z^4(54067202560\theta^4 + 54067202560\theta^3 + 23700208960\theta^2$ $+ 4707409760\theta - 45885347)$ $- 2^7 z^5(5879910400\theta^4 + 7349888000\theta^3 + 3708946400\theta^2$ $+ 268742800\theta - 35246511)$ $+ 2^{12} z^6(1048821760\theta^4 + 1573232640\theta^3 + 888264960\theta^2$ $+ 163952640\theta + 8271969)$ $- 2^{21} z^7(5324800\theta^4 + 9318400\theta^3 + 5776000\theta^2 + 1601600\theta + 10273)$ $+ 2^{28} z^8(8\theta + 1)(8\theta + 3)(8\theta + 5)(8\theta + 7)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(2\theta + 1)(65\theta^4 + 130\theta^3 + 105\theta^2 + 40\theta + 6)$ $+ 16z^2(\theta + 1)(2\theta + 1)(2\theta + 3)(4\theta + 3)(4\theta + 5)$
	$A'_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{k+l}{n}^2$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
190	$D = \theta^4 - z(41112\theta^4 + 10028\theta^3 + 262\theta^2 - 252\theta - 143)$ $+ z^2(63570088\theta^4 + 31785544\theta^3 + 949302\theta^2 + 146956\theta + 559863)$ $- 2z^3(21980120032\theta^4 + 16485090024\theta^3 + 5679452888\theta^2 + 2541777786\theta - 23879293)$ $+ z^4(11688361331200\theta^4 + 11688361331200\theta^3 + 4654720779200\theta^2 + 1054217175200\theta + 12297022465)$ $- 2^{13}z^5(21980120032\theta^4 + 27475150040\theta^3 + 20685108000\theta^2 + 11999974450\theta + 333111035)$ $+ 2^{24}z^6(63570088\theta^4 + 95356320\theta^3 + 83385180\theta^2 + 35630320\theta - 95477)$ $- 2^{32}z^7(657920\theta^4 + 1151360\theta^3 + 986080\theta^2 + 287840\theta + 4107)$ $+ 2^{44}z^8(2\theta + 1)^4$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(522\theta^5 + 1285\theta^4 + 1290\theta^3 + 650\theta^2 + 165\theta + 17)$ $+ 5 \cdot 2^2 z^2(1032\theta^5 + 3080\theta^4 + 4622\theta^3 + 4618\theta^2 + 2881\theta + 805)$ $- 5 \cdot 2^3 z^3(41120\theta^5 + 143600\theta^4 + 256360\theta^3 + 271540\theta^2 + 143360\theta + 2101)$ $+ 5 \cdot 2^4 z^4(82080\theta^5 + 328000\theta^4 + 635280\theta^3 + 655520\theta^2 + 317490\theta + 6554)$ $- 2^5 z^5(409920\theta^5 + 1844000\theta^4 + 3687200\theta^3 + 3686800\theta^2 + 1843300\theta + 36865)$ $- 2^{20} z^6(\theta + 1)^5$
	$A'_n = \sum_k \binom{2n-2k}{n-k}\binom{2k}{k}^5$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
191	$D = \theta^4 - z(27664\theta^4 + 6916\theta^3 + 1422\theta^2 - 2036\theta - 1091) + z^2(287096928\theta^4 + 1435484640\theta^3 + 355434780\theta^2 + 6821400\theta + 24820311) - 2z^3(662746448000\theta^4 + 497059836000\theta^3 + 144112489416\theta^2 + 5815934985 0\theta - 9469320873) + z^4(230368370098201 6\theta^4 + 2303683700982016\theta^3 + 768404767144032\theta^2 + 101811826189072\theta + 5044177631041) - 2^7 3 z^5(954354885120000\theta^4 + 1192943606400000\theta^3 + 852182571407840\theta^2 + 494849722671120\theta + 14178690000383) + 2^{12} 3^2 z^6(59532418990080\theta^4 + 89298628485120\theta^3 + 75442933612800\theta^2 + 31453513804800\theta - 150788399663) - 2^{21} 3^5 z^7(11472814080\theta^4 + 20077424640\theta^3 + 16689352320\theta^2 + 4566219840\theta + 58834537) + 2^{28} 3^8 z^8(24\theta + 7)(24\theta + 11)(24\theta + 13)(24\theta + 17)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(3466\theta^5 + 8645\theta^4 + 8338\theta^3 + 3862\theta^2 + 857\theta + 73) + 2^2 z^2(34600\theta^5 + 103720\theta^4 + 152470\theta^3 + 149954\theta^2 + 93053\theta + 25841) - 2^3 z^3(138320\theta^5 + 483960\theta^4 + 851700\theta^3 + 889722\theta^2 + 460680\theta + 62757) + 2^4 z^4(276560\theta^5 + 1106080\theta^4 + 2117960\theta^3 + 2152016\theta^2 + 1013833) - 2^5 z^5(276512\theta^5 + 1244240\theta^4 + 2463440\theta^3 + 2420968\theta^2 + 1177258\theta + 226801) + 3 \cdot 2^{12} z^6(\theta + 1)(4\theta + 3)(4\theta + 5)(6\theta + 5)(6\theta + 7)$
	$A'_n = \sum_k \binom{2n-2k}{n-k} \frac{(3k)!\,(4k)!}{k!^7}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
192	$D = \theta^4 - z(442384\theta^4 + 110596\theta^3 + 18054\theta^2 - 37244\theta - 19343)$ $+ 3z^2(24463540256\theta^4 + 12231770128\theta^3 + 2506663954\theta^2$ $- 374614268\theta + 2063881213)$ $- 2z^3(2705798010765440\theta^4 + 2029348508074080\theta^3 + 500517564438600\theta^2$ $+ 178669097012730\theta - 39466352094909)$ $+ z^4(149673916892499149056\theta^4 + 149673916892499149056\theta^3$ $+ 43170889056861388896\theta^2 + 2898231542674452496\theta$ $- 195585894794578943)$ $- 2^{11}3z^5(389634913550223360\theta^4 + 487043641937779200\theta^3$ $+ 331475300236995440\theta^2 + 191938784333046600\theta$ $+ 55636145439400469)$ $+ 2^{20}3^2z^6(1521827912245248\theta^4 + 2282741868367872\theta^3$ $+ 1865287735567488\theta^2 + 756921798415872\theta - 52441938125015)$ $- 2^{33}3^5z^7(183465492480\theta^4 + 321064611840\theta^3 + 259270485120\theta^2$ $+ 66331056960\theta + 751215433)$ $+ 2^{44}3^8z^8(24\theta + 5)(24\theta + 11)(24\theta + 13)(24\theta + 19)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 2z(55306\theta^5 + 138245\theta^4 + 128650\theta^3 + 54730\theta^2 + 10469\theta + 721)$ $+ 2^2z^2(553000\theta^5 + 1658920\theta^4 + 2392390\theta^3 + 2315570\theta^2$ $+ 1429445\theta + 394553)$ $- 2^3z^3(2211920\theta^5 + 7741560\theta^4 + 13440180\theta^3 + 13847130\theta^2$ $+ 7036800\theta + 889929)$ $+ 2^4z^4(4423760\theta^5 + 17694880\theta^4 + 33515720\theta^3 + 33546320\theta^2$ $+ 15386905\theta + 2949122)$ $- 2^5z^5(4423712\theta^5 + 19906640\theta^4 + 39045200\theta^3 + 37739560\theta^2$ $+ 17863690\theta + 3317761)$ $+ 2^{18}3z^6(\theta + 1)(3\theta + 2)(3\theta + 4)(4\theta + 3)(4\theta + 5)$
	$A'_n = \sum_k \binom{2k}{k}\binom{2n-2k}{n-k}\frac{(4k)!}{k!^2(2k)!}\,\frac{(6k)!}{k!(2k)!(3k)!}$
193	$D = 7^2\theta^4 - 7z(1135\theta^4 + 2204\theta^3 + 1683\theta^2 + 581\theta + 77)$ $+ z^2(28723\theta^4 + 40708\theta^3 + 13260\theta^2 - 1337\theta - 896)$ $- z^3(32126\theta^4 + 38514\theta^3 + 26511\theta^2 + 10731\theta + 1806)$ $+ 7 \cdot 11z^4(130\theta^4 + 254\theta^3 + 192\theta^2 + 65\theta + 8) + 11^2z^5(\theta + 1)^4$
	$A_n = \sum_{i,j} \binom{n}{i}^2\binom{n}{j}^2\binom{i+j}{j}\binom{n+i+j}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
194	$D = 17^2\theta^4 - 17z(1465\theta^4 + 2768\theta^3 + 2200\theta^2 + 816\theta + 119) + 2z^2(62015\theta^4 + 131582\theta^3 + 125017\theta^2 + 65926\theta + 15300) - 2\cdot 3^3 z^3(4325\theta^4 + 10914\theta^3 + 12803\theta^2 + 7446\theta + 1700) + 3^6 z^4(265\theta^4 + 836\theta^3 + 1118\theta^2 + 700\theta + 168) - 3^{10}z^5(\theta+1)^4$
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j}^2$
195	$D = 29^2\theta^4 - 29z(3026\theta^4 + 5848\theta^3 + 4577\theta^2 + 1653\theta + 232) + z^2(258647\theta^4 + 424220\theta^3 + 239159\theta^2 + 57768\theta + 5568) - z^3(272743\theta^4 + 532614\theta^3 + 581647\theta^2 + 336864\theta + 76560) + 2^2 17z^4(1922\theta^4 + 6193\theta^3 + 8121\theta^2 + 4894\theta + 1112) - 2^2 3\cdot 17^2 z^5(\theta+1)^2(3\theta+2)(3\theta+4)$
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j}\binom{n+i}{n}$
196	$D = 47^2\theta^4 - 47z(2489\theta^4 + 4984\theta^3 + 4043\theta^2 + 1551\theta + 235) - z^2(208867\theta^4 + 790072\theta^3 + 1135848\theta^2 + 701851\theta + 161022) + z^3(370085\theta^4 + 6376440\theta^3 + 3839120\theta^2 + 1493190\theta + 38352) + z^4(2911610\theta^4 - 5118200\theta^3 - 4424049\theta^2 - 5161283\theta - 1770676) - z^5(406192\theta^4 + 749482\theta^3 + 750755\theta^2 + 260936\theta - 2151) + 3^3 z^6(5305\theta^4 + 90750\theta^3 + 152551\theta^2 + 91194\theta + 17914) + 2\cdot 3^6 z^7(106\theta^4 + 230\theta^3 + 197\theta^2 + 82\theta + 15) - 2^2 3^{10} z^8(\theta+1)^4$
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j}\binom{n+i-j}{n}$
197	$D = 13^2\theta^4 - 13^2 z(41\theta^4 + 82\theta^3 + 67\theta^2 + 26\theta + 4) - 13\cdot 2^3 z^2(471\theta^4 + 1788\theta^3 + 2555\theta^2 + 1534\theta + 338) + 13\cdot 2^6 z^3(251\theta^4 + 1014\theta^3 + 1798\theta^2 + 1413\theta + 405) + 2^9 z^4(749\theta^4 + 436\theta^3 - 4908\theta^2 - 6266\theta - 2145) - 2^{12} z^5(379\theta^4 + 1270\theta^3 + 967\theta^2 - 42\theta - 178) + 2^{15} z^6(-9\theta^4 + 156\theta^3 + 273\theta^2 - 156\theta - 28) + 2^{18} z^7(13\theta^4 + 26\theta^3 + 20\theta^2 + 7\theta + 1) - 2^{21} z^8(\theta+1)^4$
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{j}{i}\binom{i+j}{j}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
198	$D = 11^2\theta^4 - 7\cdot 11z(130\theta^4 + 266\theta^3 + 210\theta^2 + 77\theta + 11)$ $- z^2(321226\theta^4 + 89990\theta^3 + 103725\theta^2 + 55253\theta + 11198)$ $+ z^3(28723\theta^4 + 74184\theta^3 + 63474\theta^2 + 20625\theta + 1716)$ $- 7z^4(1135\theta^4 + 2336\theta^3 + 1881\theta^2 + 713\theta + 110) + 7^2z^5(\theta+1)^4$
	the reflection of #193 at infinity
	$A_n = (-1)^n \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j} \binom{2n-i}{n}$
199	$D = \theta^4 - z(265\theta^4 + 224\theta^3 + 200\theta^2 + 88\theta + 15)$ $+ 2\cdot 3z^2(4325\theta^4 + 6386\theta^3 + 6011\theta^2 + 2718\theta + 468)$ $- 2\cdot 3^2z^3(62015\theta^4 + 116478\theta^3 + 102361\theta^2 + 37422\theta + 4824)$ $+ 17\cdot 3^6z^4(1465\theta^4 + 3092\theta^3 + 2686\theta^2 + 1140\theta + 200)$ $- 17^2 3^{10}z^5(\theta+1)^4$
	the reflection of #194 at infinity
	a formula for A_n is not known
200	$D = 2^2\theta^4 - 2z(106\theta^4 + 194\theta^3 + 143\theta^2 + 46\theta + 6)$ $+ 3z^2(-5305\theta^4 + 6953\theta^3 + 87869\theta^2 + 37122\theta + 6174)$ $+ 3^2z^3(406192\theta^4 + 875286\theta^3 + 939461\theta^2 + 616896\theta + 144378)$ $+ 3^6z^4(-291161\theta^4 - 1676464\theta^3 + 1141623\theta^2 + 986711\theta + 230461)$ $- 3^{10}z^5(370857\theta^4 + 845784\theta^3 + 696122\theta^2 + 189001\theta + 6158)$ $+ 3^{14}z^6(208867\theta^4 + 45396\theta^3 + 18834\theta^2 + 35097\theta + 13814)$ $+ 47\cdot 3^{18}z^7(2489\theta^4 + 4972\theta^3 + 4025\theta^2 + 1539\theta + 232)$ $- 47^2 3^{22}z^8(\theta+1)^4$
	the reflection of #196 at infinity
	a formula for A_n is not known
201	$D = \theta^4 - 2^4z(13\theta^4 + 26\theta^3 + 20\theta^2 + 7\theta + 1)$ $+ 2^8z^2(9\theta^4 + 192\theta^3 + 249\theta^2 + 114\theta + 20)$ $+ 2^{12}z^3(379\theta^4 + 246\theta^3 - 569\theta^2 - 318\theta - 60)$ $+ 2^{16}z^4(-749\theta^4 - 2560\theta^3 + 1722\theta^2 + 1862\theta + 474)$ $- 13\cdot 2^{20}z^5(251\theta^4 - 10\theta^3 + 262\theta^2 + 145\theta + 27)$ $+ 13\cdot 2^{24}z^6(471\theta^4 + 96\theta^3 + 17\theta^2 + 96\theta + 42)$ $+ 13^2 2^{28}z^7(41\theta^4 + 82\theta^3 + 67\theta^2 + 26\theta + 4) - 13^2 2^{35}z^8(\theta+1)^4$
	the reflection of #197 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
202	$D = 19^2\theta^4 - 19z(1370\theta^4 + 2620\theta^3 + 2089\theta^2 + 778\theta + 114) + z^2(39521\theta^4 - 3916\theta^3 - 106779\theta^2 - 95266\theta - 25384) + 2^3z^3(1649\theta^4 + 19779\theta^3 + 29667\theta^2 + 17613\theta + 3876) - 5\cdot 2^4z^4(\theta+1)(499\theta^3 + 1411\theta^2 + 1378\theta + 456) + 5^2 2^9 z^5(\theta+1)^4$
	$A_n = \sum_{i,j}\binom{n}{i}^2\binom{n}{j}^2\binom{i+j}{j}\binom{n+i-j}{n-j}$
203	$D = 5^2\theta^4 - 5z\theta(499\theta^3 + 86\theta^2 + 53\theta + 10) + 2^4z^2(1649\theta^4 - 131183\theta^3 - 19776\theta^2 - 110020\theta - 2200) + 2^6z^3(39521\theta^4 + 1620000\theta^3 + 1420095\theta^2 + 515400\theta + 6540) - 19\cdot 2^{11}z^4(1370\theta^4 + 2860\theta^3 + 2449\theta^2 + 1019\theta + 174) + 19^2 2^{16}z^5(\theta+1)^4$
	the reflection of #202 at infinity
	a formula for A_n is not known
204	$D = \theta^4 - 16z(128\theta^4 + 256\theta^3 + 304\theta^2 + 176\theta + 39) + 2^{20}z^2(\theta+1)^4$
	self-dual at infinity
	a formula for A_n is not known
205	$D = \theta^4 - z(59\theta^4 + 118\theta^3 + 105\theta^2 + 46\theta + 8) + 96z^2(\theta+1)^2(3\theta+2)(3\theta+4)$
	$A_0 = 1, \quad A_n = 4\sum_{k=0}^{[n/4]}\frac{n-2k}{3n-4k}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3n-4k}{2n}$
206	$D = \theta^4 - 2^2z\theta(\theta+1)(2\theta+1)^2 - 2^5z^2(2\theta+1)(2\theta+3)(11\theta^2 + 22\theta + 12) - 2^4\cdot 3\cdot 5^2z^3(2\theta+1)(2\theta+3)^2(2\theta+5) - 2^8\cdot 19z^4(2\theta+1)(2\theta+3)(2\theta+5)(2\theta+7)$
	A_n is the constant term of S^{2n} (Batyrev #14.16326; Kreuzer $X^{65}_{44,92}$), where $S = x + y + x + t + \frac{z}{xy} + \frac{zt}{y} + \frac{y}{xz} + \frac{t}{xy} + \frac{y}{xt} + \frac{1}{x^2z} + \frac{1}{x^2y} + \frac{1}{x^2t} + \frac{1}{x^3zt} + \frac{y}{x^2zt}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
207	$D=\theta^4+2^4z(-1072\theta^4+178224\theta^3+108888\theta^2+1976\theta+145)$ $+2^{17}z^2(-510888\theta^4-1163688\theta^3+452664\theta^2+142228\theta+1397)$ $+13\cdot 2^{28}z^3(731104\theta^4+1536\theta^3-488\theta^2+384\theta+97)$ $-13^2 2^{44}z^4(2\theta+1)^4$
	the reflection of #99 at infinity
	a formula for A_n is not known
208	$D=7^2\theta^4-14z(1056\theta^4+1884\theta^3+1397\theta^2+455\theta+56)$ $+2^2z^2(68280\theta^4+410016\theta^3-676111\theta^2-543488\theta-10752)$ $+2^4z^3(-533312\theta^4+1621120\theta^3+1951172\theta^2+785611\theta+11130)$ $-19\cdot 2^6z^4(2\theta+1)^2(11189\theta^2+25333\theta+1646)$ $+19^2 2^{11}z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n=\binom{2n}{n}^2\sum_k\binom{n}{k}^2\binom{n+2k}{n}$
209	$D=17^2\theta^4-34z(1902\theta^4+3708\theta^3+2789\theta^2+935\theta+119)$ $+2^2z^2(62408\theta^4+685576\theta^3-100029\theta^2-241066\theta-5661)$ $-2^2z^3(66180\theta^4+330048\theta^3+207855\theta^2+177999\theta+4794)$ $+2^7z^4(2\theta+1)(196\theta^3+498\theta^2+487\theta+169)$ $-2^{12}z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=\binom{2n}{n}\sum_k\binom{n}{k}^2\binom{n+k}{n}\binom{n+2k}{n}$
210	$D=5^2\theta^4-20z(688\theta^4+1352\theta^3+981\theta^2+305\theta+35)$ $+2^4z^2(58560\theta^4+70088\theta^3+96\theta^2-1260\theta-265)$ $+2^{10}z^3(176\theta^4+120\theta^3+69\theta^2+30\theta+5)$ $+2^{12}z^4(2\theta+1)^4$
	$A_n=\binom{2n}{n}\sum_k(-1)^k\binom{2n}{k}^4$
211	$D=\theta^4+2^4z(704\theta^4+928\theta^3+612\theta^2+148\theta+13)$ $+2^{12}z^2(5856\theta^4+4704\theta^3-1632\theta^2-972\theta-121)$ $+2^{20}\cdot 5z^3(2752\theta^4+96\theta^3-60\theta^2+24\theta+7)$ $+2^{28}\cdot 5^2z^4(2\theta+1)^4$
	the reflection of #210 at infinity
	$A_n=(-1)^n\binom{2n}{n}^4\Bigl(\sum_{k=0}^{n}(-1)^k\binom{n}{k}^2\binom{2k}{k}\binom{4n-2k}{2n-k}\binom{n+k}{n}^{-2}\binom{2n}{k}^{-1}$ $+\sum_{k=1}^{n}\binom{n}{k}^2\binom{2n+k}{2n}\binom{4n+2k}{2n+k}\binom{n+k}{n}^{-2}\binom{2k}{k}^{-1}\Bigr)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
212	$D = 7^2\theta^4 - 14z(134\theta^4 + 286\theta^3 + 234\theta^2 + 91\theta + 14) - 2^2 z^2(3183\theta^4 + 10266\theta^3 + 13501\theta^2 + 8225\theta + 1918) - 2^3 z^3(2588\theta^4 + 8400\theta^3 + 10256\theta^2 + 5649\theta + 1190) - 2^4 \cdot 3z^4(256\theta^4 + 848\theta^3 + 1141\theta^2 + 717\theta + 174) - 2^8 \cdot 3^2 z^5(\theta + 1)^4$
	the reflection of #117 at infinity
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j} \binom{2n-i-j}{n}$
213	$D = 17^2\theta^4 - 34z(647\theta^4 + 1240\theta^3 + 977\theta^2 + 357\theta + 51) - 2^2 z^2(14437\theta^4 + 89752\theta^3 + 147734\theta^2 + 92123\theta + 20400) + 2^2 z^3(646140\theta^4 + 770400\theta^3 - 1259370\theta^2 - 1684530\theta - 52326) + 2^3 z^4(519200\theta^4 + 1663840\theta^3 - 831490\theta^2 - 2170170\theta - 79362) + 2^4 \cdot 3z^5(-93600\theta^4 + 267840\theta^3 + 438130\theta^2 + 219650\theta + 3496) + 2^5 \cdot 3z^6(-101600\theta^4 + 960\theta^3 + 105350\theta^2 + 53850\theta + 438) - 2^8 \cdot 3^2 z^7(288\theta^4 + 864\theta^3 + 1082\theta^2 + 641\theta + 147) - 2^{11} \cdot 3^2 z^8(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = \sum_{i,j} \binom{n}{i}^2 \binom{n}{j}^2 \binom{i+j}{j} \binom{2i}{n}$
214	$D = \theta^4 - 2z(90\theta^4 + 188\theta^3 + 141\theta^2 + 47\theta + 6) - 2^2 z^2(564\theta^4 + 1520\theta^3 + 1705\theta^2 + 934\theta + 192) - 2^4 z^3(2\theta + 1)(286\theta^3 + 813\theta^2 + 851\theta + 294) - 2^6 \cdot 3z^4(2\theta + 1)(2\theta + 3)(4\theta + 3)(4\theta + 5)$
	$A_n = \binom{2n}{n} \sum_k \binom{n}{k}^2 \binom{n+k}{n} \binom{3k}{n}$
215	$D = 3^2\theta^4 - 12z(268\theta^4 + 632\theta^3 + 463\theta^2 + 147\theta + 18) + 2^7 z^2(-448\theta^4 + 1616\theta^3 + 4280\theta^2 + 2418\theta + 441) + 2^{12} z^3(416\theta^4 + 2016\theta^3 + 756\theta^2 - 288\theta - 135) + 2^{19} z^4(2\theta + 1)^2(8\theta^2 - 28\theta - 33) - 2^{24} z^5(2\theta + 1)^2(2\theta + 3)^2$
	$A_n = \binom{2n}{n}^2 \sum_k \binom{n}{k}^2 \binom{4k}{2n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
216	$D = \theta^4 - z\theta(27\theta^3 + 18\theta^2 + 11\theta + 2) - 2\cdot 3^3 z^2(72\theta^4 + 414\theta^3 + 603\theta^2 + 330\theta + 64) + 2^2\cdot 3^5 z^3(93\theta^4 - 720\theta^3 - 708\theta^2 - 184) + 2^3\cdot 3^7 z^4(2\theta+1)(54\theta^3 + 405\theta^2 + 544\theta + 200) - 2^4\cdot 3^{10} z^5(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n}\sum_k \binom{n}{k}^2\binom{3k}{n}\binom{3n-3k}{n}$
217	$D = 7^2\theta^4 + 7z\theta(13\theta^3 - 118\theta^2 - 73\theta - 14) - 2^3\cdot 3z^2(3378\theta^4 + 13446\theta^3 + 18869\theta^2 + 11158\theta + 2352) - 2^4\cdot 3^3 z^3(3628\theta^4 + 17920\theta^3 + 31668\theta^2 + 22596\theta + 5383) - 2^8\cdot 3^3 z^4(2\theta+1)(572\theta^3 + 2370\theta^2 + 2896\theta + 1095) - 2^{10}\cdot 3^4 z^5(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	$A_n = \binom{2n}{n}\sum_k \binom{n}{k}^2\binom{3k}{n}\binom{2n-2k}{n}$
218	$D = 7^2\theta^4 - 2\cdot 3\cdot 7z(192\theta^4 + 396\theta^3 + 303\theta^2 + 105\theta + 14) + 2^2\cdot 3z^2(1188\theta^4 + 11736\theta^3 + 20431\theta^2 + 12152\theta + 2436) + 2^2\cdot 3^3 z^3(532\theta^4 + 504\theta^3 - 3455\theta^2 - 3829\theta - 1036) - 2^4\cdot 3^4 z^4(2\theta+1)(36\theta^3 + 306\theta^2 + 421\theta + 156) - 2^6\cdot 3^4 z^5(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n}\sum_k \binom{n}{k}^2\binom{2k}{n}\binom{3k}{n}$
219	$D = 5^2\theta^4 - 2\cdot 5z(464\theta^4 + 1036\theta^3 + 763\theta^2 + 245\theta + 30) - 2^2\cdot 3^2 z^2(7064\theta^4 + 22472\theta^3 + 26699\theta^2 + 13200\theta + 2340) - 2^4\cdot 3^4 z^3(3440\theta^4 + 13320\theta^3 + 18784\theta^2 + 10665\theta + 2070) - 2^6\cdot 3^8 z^4(2\theta+1)^2(19\theta^2 + 59\theta + 45) - 2^8\cdot 3^9 z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2\sum_k \binom{n}{k}^2\binom{3k}{n}$
220	$D = \theta^4 - 2^4 z(20\theta^4 + 56\theta^3 + 38\theta^2 + 10\theta + 1) - 2^{10} z^2(84\theta^4 + 240\theta^3 + 261\theta^2 + 134\theta + 25) - 2^{16} z^3(2\theta+1)^2(23\theta^2 + 55\theta + 39) - 2^{23} z^4(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^3\Bigg((-1)^n\sum_{k=0}^{[n/2]}\binom{n}{k}^2\binom{n}{2k}\binom{2n}{4k}^{-1} + \sum_{k=[n/2]+1}^{n}\binom{n}{k}^2\binom{4k}{2n}\binom{2k}{n}^{-1}\Bigg)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
221	$D = 5^2\theta^4 - 5\cdot 2^2 z(404\theta^4 + 1096\theta^3 + 773\theta^2 + 225\theta + 25)$ $- 2^4 z^2(66896\theta^4 + 137408\theta^3 + 1010960\theta^2 + 528000\theta + 11625)$ $- 2^8\cdot 3\cdot 5z^3(2\theta+1)(5672\theta^3 + 9500\theta^2 + 8422\theta + 2689)$ $- 2^{15}\cdot 3^2 z^4(2\theta+1)(1208\theta^3 + 2892\theta^2 + 2842\theta + 969)$ $- 2^{20}\cdot 3^3 z^5(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	$A_n = \binom{2n}{n}^2 \Bigg((-1)^n \sum_{k=0}^{[n/2]} \binom{n}{k}^2 \binom{n+k}{n}\binom{n}{2k}\binom{2n}{4k}^{-1}$ $+ \sum_{k=[n/2]+1}^{n} \binom{n}{k}^2\binom{n+k}{n}\binom{4k}{2n}\binom{2k}{n}^{-1}\Bigg)$
222	$D = 5^2\theta^4 - 5z(407\theta^4 + 1198\theta^3 + 909\theta^2 + 310\theta + 40)$ $- 2^7 z^2(2103\theta^4 + 6999\theta^3 + 8358\theta^2 + 4050\theta + 680)$ $- 2^{12} z^3(1387\theta^4 + 3840\theta^3 + 3081\theta^2 + 960\theta + 100) - 2^{21} z^4(2\theta+1)^4$
	$A_n = \binom{2n}{n}^2 \sum_k \binom{n}{k}\binom{2k}{n}\binom{2n}{n-k}$
223	$D = \theta^4 + 6z\theta(48\theta^3 - 12\theta^2 - 7\theta - 1)$ $+ 2^2 3^2 z^2(392\theta^4 + 488\theta^3 + 775\theta^2 + 376\theta + 64)$ $+ 2^4 3^5 z^3(1184\theta^4 + 3288\theta^3 + 3512\theta^2 + 1635\theta + 278)$ $+ 2^6 3^8 z^4(2\theta+1)^2(169\theta^2 + 361\theta + 238) + 2^{11}3^{11} z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}\sum_k (-1)^k 3^{2n-3k}\binom{2n}{3k}\binom{2k}{n}\frac{(3k)!}{k!^3}$
224	$D = 5^2\theta^4 - 5z(1057\theta^4 + 1058\theta^3 + 819\theta^2 + 290\theta + 40)$ $+ 2^5 z^2(10123\theta^4 + 11419\theta^3 + 5838\theta^2 + 1510\theta + 180)$ $- 2^8 z^3(30980\theta^4 + 46560\theta^3 + 48211\theta^2 + 25500\theta + 5100)$ $+ 2^{14}\cdot 11z^4(2\theta+1)(234\theta^3 + 591\theta^2 + 581\theta + 202)$ $- 2^{20}\cdot 11^2 z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = 2^{-n}\binom{2n}{n}^2 \sum_k (-1)^{n+k}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2k}{n}\binom{2n}{2k}^{-1}$
225	$D = \theta^4 + 2^4 z(22192\theta^4 - 17056\theta^3 - 9576\theta^2 - 1048\theta - 49)$ $+ 2^{20} z^2(336480\theta^4 - 446880\theta^3 + 162240\theta^2 + 17640\theta + 17)$ $+ 5\cdot 2^{34} z^3(65120\theta^4 - 61440\theta^3 - 44400\theta^2 - 15360\theta - 193)$ $- 5^2\cdot 2^{55} z^4(2\theta+1)^4$
	the reflection of #222 at infinity
	$A_n = \binom{2n}{n}^2 \sum_k \binom{n}{k}\binom{n+2k}{k}\binom{3n-2k}{n-k}\binom{2n+4k}{n+2k}\binom{6n-4k}{3n-2k}$ $\times \big(1 + k(-2H_k + 2H_{n-k} - H_{n+k} + H_{2n-k} - 2H_{n+2k}$ $+ 2H_{3n-2k} + 4H_{2n+4k} - 4H_{6n-4k})\big)$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
226	$D = 5^2\theta^4 - 2\cdot 5z(328\theta^4+692\theta^3+551\theta^2+205\theta+30) + 2^2\cdot 3z^2(5352\theta^4+25416\theta^3+38387\theta^2+23020\theta+4860) - 2^4\cdot 3^3z^3(352\theta^4+4520\theta^3+12108\theta^2+10205\theta+2630) - 2^6\cdot 3^3z^4(2\theta+1)(586\theta^4+3039\theta^2+3947\theta+1527) - 2^8\cdot 3^4z^5(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	$A_n = \binom{2n}{n}\sum_k(-1)^{n+k}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3k}{n}$
227	$D = \theta^4 - 2^2\cdot 3^2z(132\theta^4+264\theta^3+201\theta^2+69\theta+10) + 2^9\cdot 3^6z^2(20\theta^4+80\theta^3+107\theta^2+54\theta+10) + 2^{12}\cdot 3^{10}z^3(2\theta+1)^2(2\theta+5)^2$
	$A_n = 432^n\binom{2n}{n}\sum_k(-1)^k\binom{n}{k}\binom{3k}{n}\binom{-1/6}{k}\binom{-5/6}{k}$
228	$D = \theta^4 - 2^2z(176\theta^4+352\theta^3+289\theta^2+113\theta+18) + 2^{11}z^2(80\theta^4+320\theta^3+449\theta^2+258\theta+54) - 3\cdot 2^{16}z^3(2\theta+1)(2\theta+5)(4\theta+3)(4\theta+9)$
	$A_n = 64^n\binom{2n}{n}\sum_k(-1)^{n+k}\binom{n}{k}\binom{3k}{n}\binom{-1/4}{k}\binom{-3/4}{k}$
229	$D = \theta^4 - 2^2z(256\theta^4+728\theta^3+506\theta^2+142\theta+15) + 2^4\cdot 3^2z^2(-2336\theta^4-2336\theta^3+1768\theta^2+1176\theta+189) + 2^9\cdot 3^4z^3(-512\theta^4+432\theta^3+404\theta^2+108\theta+9) + 2^{12}\cdot 3^8z^4(2\theta+1)^4$
	$A_n = \binom{2n}{n}^2\sum_{i+j+k=2n}\left(\frac{(2n)!}{i!j!k!}\right)^2$
230	$D = \theta^4 + 3z(945\theta^4-162\theta^3-49\theta^2+32\theta+8) + 2\cdot 3^2z^2(17928\theta^4+2970\theta^3+10187\theta^2+3376\theta+408) + 2^2\cdot 3^7z^3(156285\theta^4+200016\theta^3+19630\theta^2+84378\theta+13964) + 2^4\cdot 3^{10}\cdot 19z^4(2\theta+1)^2(4743\theta^2+8199\theta+4922) + 2^9\cdot 3^{15}\cdot 19^2z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = 27^n\binom{2n}{n}^2\sum_k(-1)^k\binom{n}{k}\binom{2k}{n}\binom{n+k}{n}^{-1}\binom{-1/3}{k}\binom{-2/3}{k}$
231	$D = 9\theta^4 - 2^2z(84\theta^4+3048\theta^3+2217\theta^2+693\theta+90) + 2^9z^2(-1168\theta^4+968\theta^3+9518\theta^2+5325\theta+1005) + 2^{16}z^3(988\theta^4+8208\theta^3-743\theta^2-4230\theta-1245) + 2^{24}\cdot 5z^4(2\theta+1)^2(9\theta^2-279\theta-277) - 2^{33}\cdot 5^2z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^3\Bigg(\sum_{k=0}^{[n/2]}(-1)^k\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{n}{2k}\binom{2n}{4k}^{-1}\binom{n+k}{n}^{-1} + \sum_{k=[n/2]+1}^{n}(-1)^{n+k}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{4k}{2n}\binom{2k}{n}^{-1}\binom{n+k}{n}^{-1}\Bigg)$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
232	$D = 5^2\theta^4 - 5z(26170^4 + 4658\theta^3 + 3379\theta^2 + 1050\theta + 120)$ $- 2^6\cdot 3z^2(-673\theta^4 + 4871\theta^3 + 102820^2 + 5410\theta + 860)$ $+ 2^{10}\cdot 3^2z^3(955\theta^4 + 4320\theta^3 + 3477\theta^2 + 1020\theta + 100)$ $- 2^{17}\cdot 3^3z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n = \binom{2n}{n}^2\sum_k\binom{n}{k}^2\binom{3n}{n+k}$
233	$D = \theta^4 - 2^4z(83\theta^4 + 94\theta^3 + 71\theta^2 + 24\theta + 3)$ $+ 3\cdot 2^{11}z^2(101\theta^4 + 191\theta^3 + 174\theta^2 + 71\theta + 10)$ $- 3^2 2^{16}z^3(203\theta^4 + 432\theta^3 + 333\theta^2 + 102\theta + 11)$ $+ 3^3 2^{23}z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n = \binom{2n}{n}^3\sum_k\binom{n}{k}^2\binom{3n}{n+k}\binom{2n}{2k}^{-1}$
234	$D = 7^2\theta^4 - 7\cdot 2z\theta(192\theta^3 + 60\theta^2 + 37\theta + 7)$ $- 2^2z^2(176080\theta^4 + 1151440\theta^3 + 1667150\theta^2 + 945560\theta + 18816)$ $+ 2^4\cdot 3^2z^3(202880\theta^4 + 572880\theta^3 + 275240\theta^2 - 74550\theta - 5026)$ $- 2^6\cdot 3^5z^4(2\theta+1)(458\theta^3 - 657\theta^2 - 1799\theta - 846)$ $- 2^{12}\cdot 3^8z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_k\binom{n}{k}^2\binom{2k}{n-k}\binom{2n-2k}{k}$
235	$D = 7^2\theta^4 - 2\cdot 7z\theta(46\theta^3 + 52\theta^2 + 33\theta + 7)$ $- 2^2z^2(7332\theta^4 + 28848\theta^3 + 42633\theta^2 + 26670\theta + 6272)$ $- 2^4z^3(2860\theta^4 + 44760\theta^3 + 120483\theta^2 + 111279\theta + 35098)$ $+ 2^9z^4(2230\theta^4 + 5920\theta^3 - 741\theta^2 - 6509\theta - 3049)$ $+ 2^{14}z^5(174\theta^4 + 1320\theta^3 + 1971\theta^2 + 1095\theta + 190)$ $+ 2^{19}z^6(-22\theta^4 - 24\theta^3 + 9\theta^2 + 21\theta + 7)$ $- 2^{25}z^7(\theta+1)^4$
	$A_n = \sum_k\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2k}{n-k}\binom{2n-2k}{k}$
236	$D = \theta^4 + 2^4z(22\theta^4 + 64\theta^3 + 51\theta^2 + 19\theta + 3)$ $+ 2^9z^2(-174\theta^4 + 624\theta^3 + 945\theta^2 + 417\theta + 80)$ $+ 2^{14}z^3(-2230\theta^4 - 3000\theta^3 + 5121\theta^2 + 3813\theta + 971)$ $+ 2^{19}z^4(2860\theta^4 - 33320\theta^3 + 3363\theta^2 + 6847\theta + 2402)$ $+ 2^{27}z^5(7332\theta^4 + 480\theta^3 + 81\theta^2 + 1380\theta + 719)$ $+ 2^{36}\cdot 7z^6(\theta+1)(46\theta^3 + 86\theta^2 + 67\theta + 20)$ $+ 2^{45}\cdot 7^2z^7(\theta+1)^4$
	the reflection of #235 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
237	$D=\theta^4-2^4z(46\theta^4+128\theta^3+91\theta^2+27\theta+3)$ $+2^9\cdot 3z^2(-74\theta^4+16\theta^3+231\theta^2+127\theta+20)$ $+2^{14}\cdot 3^2z^3(14\theta^4+216\theta^3+175\theta^2+51\theta+5)$ $+2^{19}\cdot 3^3z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n=\binom{2n}{n}^2\sum_k\binom{n}{k}^3\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}\binom{2n}{k}^{-1}\binom{2n}{n-k}^{-1}$
238	$D=\theta^4+2^2z(500\theta^4+976\theta^3+677\theta^2+189\theta+19)$ $+2^4z^2(3968\theta^4+3968\theta^3-1336\theta^2-1164\theta-177)$ $+2^{10}z^3(500\theta^4+24\theta^3-37\theta^2+6\theta+3)+2^{12}z^4(2\theta+1)^4$
	$A_n=\binom{2n}{n}\sum_k\binom{n}{k}\binom{n+k}{n}\binom{2n+2k}{n+k}\binom{2n+k}{2n-k}$
239	$D=\theta^4-2^4\cdot 3z(-9\theta^4+198\theta^3+131\theta^2+32\theta+39)$ $-2^{11}\cdot 3^2z^2(486\theta^4+1215\theta^3+81\theta^2-27\theta-5)$ $-2^{16}\cdot 3^5z^3(891\theta^4+972\theta^3+675\theta^2+216\theta+25)$ $-2^{23}\cdot 3^8z^4(3\theta+1)^2(3\theta+2)^2$
	$A_n=\frac{(3n)!}{n!^3}\sum_k\binom{n}{k}\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}$
240	$D=13^2\theta^4-13z(1449\theta^4+4050\theta^3+3143\theta^2+1118\theta+156)$ $+2^4z^2(-22760\theta^4+271120\theta^3+1210460\theta^2+823160\theta+17589)$ $+2^8z^3(38240\theta^4+399360\theta^3-342920\theta^2-634920\theta-19539)$ $-2^{16}\cdot 3z^4(2\theta+1)(40\theta^3+684\theta^2+1013\theta+399)$ $-2^{20}\cdot 3^2z^5(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	$A_n=\sum_k\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{n+2k}{n}\binom{3n-2k}{n}$
241	$D=\theta^4-2^4z(152\theta^4+160\theta^3+110\theta^2+30\theta+3)$ $+2^{10}\cdot 3z^2(428\theta^4+176\theta^3-299\theta^2-170\theta-25)$ $+2^{17}\cdot 3^2z^3(-136\theta^4+216\theta^3+180\theta^2+51\theta+5)$ $-2^{24}\cdot 3^3z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n=\binom{2n}{n}\sum_k\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}\binom{n+k}{n-k}\binom{2n-k}{k}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
242	$D=\theta^4+2\cdot 3z(72\theta^4+108\theta^3+91\theta^2+37\theta+6)$ $+2^2\cdot 3^3z^2(648\theta^2+1800\theta^3+2211\theta^2+1248\theta+260)$ $+2^4\cdot 3^5z^3(1344\theta^4+4968\theta^3+7320\theta^2+4749\theta+1072)$ $+2^6\cdot 3^7z^4(2\theta+1)(630\theta^3+2241\theta^2+2617\theta+971)$ $+2^8\cdot 3^{10}z^5(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	$A_n=\binom{2n}{n}\sum_{k=[n/3]}^{[2n/3]}\binom{n}{k}^2\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3k}{n}\binom{3n-3k}{n}$ $\times\big(1+k(-4H_k+4H_{n-k}+2H_{2k}-2H_{2n-2k}$ $+3H_{3k}-3H_{3n-3k}+3H_{2n-3k}-3H_{3k-n})\big)$ $+3\binom{2n}{n}\sum_{k=0}^{[(n-1)/3]}(-1)^{n+k}\frac{n-2k}{n-3k}\binom{n}{k}^2$ $\times\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3n-3k}{n}\binom{n}{3k}^{-1}$
243	$D=\theta^4+z(295\theta^4+572\theta^3+424\theta^2+138\theta+17)$ $+2z^2(843\theta^4+744\theta^2-473\theta^2-481\theta-101)$ $+2z^3(1129\theta^4-516\theta^3-725\theta^2-159\theta+4)$ $-3z^4(173\theta^4+352\theta^3+290\theta^2+114\theta+18)-3^2z^5(\theta+1)^4$
	the reflection of #27 at infinity
	$A_n=(-1)^n\sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{n+k+l}{n}\binom{n}{l-k}$
244	$D=\theta^4+z(416\theta^4+104\theta^3+36\theta^2-16\theta-11)$ $+z^2(631168\theta^4+315840\theta^3+121158\theta^2+48280\theta+6973)$ $+2^2z^3(990080\theta^4+742560\theta^3+311828\theta^2+192658\theta-33281)$ $+z^4(620354560\theta^4+620354560\theta^3+263958080\theta^2+56615360\theta+7849233)$ $-2^4\cdot 3z^5(356428800\theta^4+445536000\theta^3+244681280\theta^2$ $+19161120\theta+4807463)$ $+2^5\cdot 3^2z^6(409328640\theta^4+613992960\theta^3+382937760\theta^2$ $+94965120\theta+4807463)$ $-2^8\cdot 3^5z^7(5391360\theta^4+9434880\theta^3+6475680\theta^2+2293200\theta+23377)$ $+2^8\cdot 3^8z^8(12\theta+5)^2(12\theta+7)^2$
	the pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5+2z(2\theta+1)(26\theta^4+52\theta^3+44\theta^2+18\theta+3)$ $-12z^2(\theta+1)^3(6\theta+5)(6\theta+7)$
	$A'_n=\sum_k\binom{n}{k}^6\binom{2k}{k}\binom{2n-2k}{n-k}$ $\times\big(1+k(-8H_k+8H_{n-k}+2H_{2k}-2H_{2n-2k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
245	$D = \theta^4 - 3z(144\theta^4 + 72\theta^3 + 32\theta^2 - 4\theta - 5) + 3^2 z^2(7776\theta^4 + 7776\theta^3 + 4086\theta^2 + 828\theta + 589) - 2^3 \cdot 3^7 z^3(288\theta^4 + 432\theta^3 + 262\theta^2 + 81\theta + 6) + 3^{12} z^4(4\theta + 1)^2(4\theta + 3)^2$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 6z(2\theta + 1)(18\theta^4 + 36\theta^3 + 34\theta^2 + 16\theta + 3) + 2916z^2(\theta + 1)^3(2\theta + 1)(2\theta + 3)$
	$A'_n = 3\binom{2n}{n}^2 \sum_{k=0}^{[n/3]} (-1)^k \frac{n - 2k}{2n - 3k} \binom{n}{k}^4 \binom{3n - 3k}{2n} \binom{2n}{3k}^{-1}$
246	$D = 5^2\theta^4 - 2^2 \cdot 5z(12\theta^4 + 48\theta^3 + 49\theta^2 + 25\theta + 5) - 2^4 z^2(544\theta^4 + 1792\theta^3 + 2444\theta^2 + 1580\theta + 405) + 2^9 z^3(112\theta^4 + 960\theta^3 + 2306\theta^2 + 2130\theta + 685) + 2^{12} z^4(144\theta^4 + 768\theta^3 + 1308\theta^2 + 924\theta + 235) + 2^{20} z^5(\theta + 1)^4$
	$A_n = \sum_k \binom{n}{k}^3 \binom{2k}{k}^2 \binom{2n - 2k}{n - k}^2 \times \big(1 + k(-7H_k + 7H_{n-k} + 4H_{2k} - 4H_{2n-2k})\big)$
247	$D = \theta^4 - 2^4 z(-144\theta^4 + 192\theta^3 + 132\theta^2 + 36\theta + 5) + 2^{13} z^2(112\theta^4 - 512\theta^3 + 98\theta^2 + 50\theta + 13) - 2^{20} z^3(544\theta^4 + 384\theta^3 + 332\theta^2 + 108\theta + 21) + 2^{30} \cdot 5z^4(-12\theta^4 + 23\theta^3 + 23\theta + 7) + 2^{40} \cdot 5^2 z^5(\theta + 1)^4$
	the reflection of #246 at infinity
	$A_n = 4^{-n} \sum_k \binom{n}{k}^{-3} \binom{2k}{k}^5 \binom{2n - 2k}{n - k}^5 \times \big(1 + k(-7H_k + 7H_{n-k} + 10H_{2k} - 10H_{2n-2k})\big)$
248	$D = 3^2\theta^4 - 3z(106\theta^4 + 146\theta^3 + 115\theta^2 + 42\theta + 6) - z^2(4511^4 + 243140\theta^3 + 378290\theta^2 + 235980\theta + 5286) + 2^2 z^3(104570\theta^4 + 321840\theta^3 + 244490\theta^2 + 36270\theta - 1317) - 2^2 \cdot 11z^4(1596\theta^4 + 2040\theta^3 - 101\theta^2 - 1085\theta - 386) - 2^4 \cdot 11^2 z^5(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = (-1)^n \sum_k \binom{n}{k}^3 \binom{n + k}{n} \binom{2n - k}{n} \binom{2k}{k} \binom{2n - 2k}{n - k} \times \big(1 + k(-6H_k + 6H_{n-k} + H_{n+k} - H_{2n-k} + 2H_{2k} - 2H_{2n-2k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
249	$D = 5^2\theta^4 + 2^2 \cdot 5z(148\theta^4 + 392\theta^3 + 341\theta^2 + 145\theta + 25)$ $+ 2^4 z^2(4096\theta^4 + 32128\theta^3 + 57016\theta^2 + 37920\theta + 9175)$ $+ 2^8 z^3(-6656\theta^4 - 7680\theta^3 + 36960\theta^2 + 49920\theta + 16985)$ $- 2^{15} z^4(512\theta^4 + 4864\theta^3 + 9136^2 + 6464\theta + 1587)$ $+ 2^{20} z^5(4\theta + 3)^2(4\theta + 5)^2$
	$A_n = (-1)^n \sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2$ $\times \big(1 + k(-6H_k + 6H_{n-k} + H_{n+k} - H_{2n-k} + 4H_{2k} - 4H_{2n-k})\big)$
250	$D = 23^2\theta^4 - 23z(3271\theta^4 + 5078\theta^3 + 3896\theta^2 + 1357\theta + 184)$ $+ z^2(1357863\theta^4 + 999924\theta^3 - 787393\theta^2 - 850862\theta - 205712)$ $+ 2^3 z^3(-775799\theta^4 + 272481\theta^3 + 218821\theta^2 - 176709\theta - 100234)$ $+ 2^4 \cdot 61z^4(-1005\theta^4 + 15654\theta^3 + 36317\theta^2 + 27938\theta + 7304)$ $- 2^9 \cdot 61^2 z^5(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = (-1)^n \sum_k \binom{n}{k}^3\binom{2k}{k}\binom{2n-2k}{n-k}\binom{n+2k}{n}\binom{3n-2k}{n}$ $\times \big(1 + k(-5H_k + 5H_{n-k} + 2H_{n+2k} - 2H_{3n-2k})\big)$
251	$D = \theta^4 - 3z\theta(27\theta^3 + 18\theta^2 + 11\theta + 2)$ $- 2 \cdot 3^2 z^2(39\theta^4 + 480\theta^3 + 474\theta^2 + 276\theta + 64)$ $+ 2^3 \cdot 3^4 z^3(348\theta^4 + 1152\theta^3 + 1759\theta^2 + 1110\theta + 260)$ $- 2^3 \cdot 3^5 z^4(3420\theta^4 + 15912\theta^3 + 28437\theta^2 + 20544\theta + 5296)$ $+ 2^4 \cdot 3^7 z^5(1125\theta^4 + 12546\theta^3 + 31089\theta^2 + 26448\theta + 7480)$ $+ 2^5 \cdot 3^9 z^6(1395\theta^4 + 3240\theta^3 - 3378\theta^2 - 7146\theta - 2696)$ $- 2^7 \cdot 3^{11} z^7(351\theta^4 + 2646\theta^3 + 4767\theta^2 + 3309\theta + 800)$ $- 2^7 \cdot 3^{13} z^8(3\theta + 2)(3\theta + 4)(6\theta + 5)(6\theta + 7)$
	$A_n = \sum_k \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3k}{n}\binom{3n-3k}{n}$
252	$D = 5^2\theta^4 - 5z(-36\theta^4 + 636\theta^3 + 488\theta^2 + 170\theta + 25)$ $+ 2^4 z^2(-21301\theta^4 - 27148\theta^3 + 86889\theta^2 + 63110\theta + 14975)$ $+ 2^8 z^3(-19535\theta^4 + 294315\theta^3 + 126425\theta^2 - 54390\theta - 35755)$ $- 2^{10} \cdot 59z^4(-10981\theta^4 + 29878\theta^3 + 89811\theta^2 + 70372\theta + 17759)$ $- 2^{15} \cdot 3 \cdot 59^2 z^5(3\theta + 2)(3\theta + 4)(4\theta + 3)(4\theta + 5)$
	$A_n = \sum_k \binom{n}{k}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2\binom{n+2k}{n}\binom{3n-2k}{n}$ $\times \big(1 + k(-5H_k + 5H_{n-k} + 2H_{2k} - 2H_{2n-2k} + 2H_{n+2k} - 2H_{3n-2k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
253	$D = \theta^4 - 2^2 z(64\theta^4 + 32\theta^3 + 15\theta^2 - \theta - 2) + 2^8 z^2(96\theta^4 + 96\theta^3 + 53\theta^2 + 13\theta + 8) - 2^{12} z^3(256\theta^4 + 384\theta^3 + 244\theta^2 + 84\theta + 7) + 2^{18} z^4(2\theta + 1)^2(4\theta + 1)(4\theta + 3)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 - 4z(2\theta + 1)(16\theta^4 + 32\theta^3 + 31\theta^2 + 15\theta + 3) + 16z^2(\theta + 1)(4\theta + 3)^2(4\theta + 5)^2$
	$A'_n = \sum_k \binom{n}{k}^2 \binom{n+k}{n} \binom{2n-k}{n} \binom{2k}{k}^2 \binom{2n-2k}{n-k}^2 \times \big(1 + k(-7H_k + 7H_{n-k} + H_{n+k} - H_{2n-k} + 4H_{2k} - 4H_{2n-2k})\big)$
254	$D = \theta^4 + 2^4 z(-2608\theta^4 + 544\theta^3 + 200\theta^2 - 72\theta - 15) + 2^{15} \cdot 3z^2(6128\theta^4 - 208\theta^3 + 2328\theta^2 + 452\theta + 25) - 2^{24} \cdot 3^2 \cdot 5z^3(4592\theta^4 + 3456\theta^3 + 2632\theta^2 + 816\theta + 95) + 2^{38} \cdot 3^3 \cdot 5^2 z^4(2\theta + 1)^2(3\theta + 1)(3\theta + 2)$
	$A_n = \sum_k \binom{n}{k} \binom{n+k}{n} \binom{2n-k}{n} \binom{2n+2k}{n+k}^2 \binom{4n-2k}{2n-k}^2 \times \big(1 + k(-2H_k + 2H_{n-k} - 3H_{n+k} + 3H_{2n-k} + 4H_{2n+2k} - 4H_{4n-2k})\big)$
255	$D = \theta^4 + 2^2 z(256\theta^4 + 128\theta^3 + 77\theta^2 + 13\theta - 2) + 2^7 z^2(3072\theta^4 + 3072\theta^3 + 1960\theta^2 + 536\theta + 141) + 2^{12} z^3(16384\theta^4 + 24576\theta^3 + 16576\theta^2 + 5184\theta + 491) + 2^{22} z^4(4\theta + 1)(4\theta + 3)(8\theta + 3)(8\theta + 5)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 + 4z(2\theta + 1)(64\theta^4 + 128\theta^3 + 141\theta^2 + 77\theta + 17) + 16z^2(\theta + 1)(8\theta + 5)(8\theta + 7)(8\theta + 9)(8\theta + 11)$
	$A'_n = \sum_k \binom{n}{k}^2 \binom{n+k}{n} \binom{2n-k}{n} \frac{(4k)!}{k!^2(2k)!} \frac{(4n-4k)!}{(n-k)!^2(2n-2k)!} \times \big(1 + k(-5H_k + 5H_{n-k} + H_{n+k} - H_{2n-k} - 2H_{2k} + 2H_{2n-2k} + 4H_{4k} - 4H_{4n-}$
256	$D = \theta^4 + 2^5 z(24\theta^4 + 42\theta^3 + 30\theta^2 + 9\theta + 1) + 2^8 z^2(164\theta^4 + 104\theta^3 - 144\theta^2 - 100\theta - 17) + 2^{14} z^3(28\theta^4 - 48\theta^3 - 44\theta^2 - 12\theta - 1) - 2^{18} z^4(2\theta + 1)^4$
	$A_n = \sum_k \binom{n}{k}^3 \binom{n+k}{n} \binom{2n-k}{n} \binom{2n+2k}{n+k} \binom{4n-2k}{2n-k} \times \big(1 + k(-4H_k + 4H_{n-k} - H_{n+k} + H_{2n-k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
257	$D = \theta^4 - 2^4 z(112\theta^4 + 416\theta^3 + 280\theta^2 + 72\theta + 7) + 2^{12} z^2(-656\theta^4 - 896\theta^3 + 216\theta^2 + 160\theta + 23) - 2^{23} z^3(96\theta^4 + 24\theta^3 + 12\theta^2 + 6\theta + 1) - 2^{30} z^4(2\theta + 1)^4$
	the reflection of #256 at infinity
	$A_n = (-1)^n \binom{2n}{n}^2 \sum_k \binom{n}{k}\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}\binom{n+k}{n-k}\binom{2n-k}{k} \times \big(1 + k(-2H_k + 2H_{n-k} - H_{n+k} + H_{2n-k} - 2H_{2k} + 2H_{2n-2k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$
258	$D = \theta^4 - 2^4 z(16\theta^4 + 224\theta^3 + 156\theta^2 + 44\theta + 5) + 2^{14} z^2(-48\theta^4 - 48\theta^3 + 120\theta^2 + 66\theta + 11) + 2^{22} z^3(-16\theta^4 + 192\theta^3 + 156\theta^2 + 48\theta + 5) + 2^{32} z^4(2\theta + 1)^4$
	the case is self-dual at infinity
	$A_n = \sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k} \times \big(1 + k(-4H_k + 4H_{n-k} - H_{n+k} + H_{2n-k} + 2H_{2k} - 2H_{2n-2k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$
259	$D = \theta^4 + 10z(40000\theta^4 - 17500\theta^3 - 8125\theta^2 + 625\theta + 238) + 2^2 \cdot 5^6 z^2(835000\theta^4 - 365000\theta^3 + 371125\theta^2 + 58500\theta + 2116) + 2^4 \cdot 5^{11} z^3(3130000\theta^4 + 1815000\theta^3 + 1662000\theta^2 + 625875\theta + 96914) + 2^6 \cdot 5^{19} \cdot 13 z^4(2\theta + 1)^2(625\theta^2 + 745\theta + 351) + 2^8 \cdot 5^{25} \cdot 13^2 z^5(2\theta + 1)^2(2\theta + 3)^2$
	$A_n = (-1)^n \sum_k \binom{2n}{k}\binom{2n}{n-k}\frac{(5k)!\,(5n-5k)!}{n!^3 k!^2 (n-k)!^2} \times \big(1 + k(-3H_k + 3H_{n-k} - H_{n+k} + H_{2n-k} + 5H_{5k} - 5H_{5n-5k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
260	$D = 5^2\theta^4 + 2^2 \cdot 5z(596\theta^4 + 544\theta^3 + 397\theta^2 + 125\theta + 15) + 2^4 \cdot 3z^2(300048\theta^4 + 147784\theta^3 - 133312\theta^2 - 109940\theta - 2115) + 2^8 \cdot 3^3 z^3(6368\theta^4 - 6720\theta^3 - 9052\theta^2 - 4080\theta - 655) - 2^{12} \cdot 3^6 z^4(2\theta+1)^2(76\theta^2 + 196\theta + 139) - 2^{16} \cdot 3^9 z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2 \sum_{k=[n/3]}^{[2n/3]} \binom{n}{k}^3 \binom{2k}{n-k}\binom{2n-2k}{k} \times \big(1 + k(-4H_k + 4H_{n-k} + 2H_{2k} - 2H_{2n-2k} + 3H_{2n-3k} - 3H_{3k-n})\big) + 3\binom{2n}{n}^2 \sum_{k=0}^{[(n-1)/3]} (-1)^{n+k} \frac{n-2k}{n-3k} \binom{n}{k}^3 \binom{2n-2k}{k}\binom{n-k}{2k}^{-1}$
261	$D = 5^2\theta^4 + 2^2 \cdot 5z(292\theta^4 + 368\theta^3 + 289\theta^2 + 105\theta + 15) + 2^4 z^2(247736\theta^4 + 436448\theta^3 + 389336\theta^2 + 189980\theta + 3735) + 2^9 \cdot 3^2 z^3(25120\theta^4 + 57600\theta^3 + 63280\theta^2 + 33300\theta + 655) + 2^{12} \cdot 3^4 z^4(2\theta+1)(232\theta^3 + 588\theta^2 + 590\theta + 207) + 2^{18} \cdot 3^6 z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n} \sum_{k=[n/3]}^{[2n/3]} \binom{n}{k}^2 \binom{2k}{k}\binom{2n-2k}{n-k}\binom{2k}{n-k}\binom{2n-2k}{k} \times \big(1 + k(-5H_k + 5H_{n-k} + 4H_{2k} - 4H_{2n-2k} + 3H_{2n-3k} - 3H_{3k-n})\big) + 3\binom{2n}{n} \sum_{k=0}^{[(n-1)/3]} (-1)^{n+k} \frac{n-2k}{n-3k} \binom{n}{k}^2 \times \binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n-2k}{k}\binom{n-k}{2k}^{-1}$
262	$D = 5^2\theta^4 + 2^2 \cdot 5z(136\theta^4 + 224\theta^3 + 197\theta^2 + 85\theta + 15) + 2^4 z^2(5584\theta^4 + 16192\theta^3 + 21924\theta^2 + 14800\theta + 3955) + 2^{11} z^3(608\theta^4 + 2280\theta^3 + 3642\theta^2 + 2745\theta + 780) + 2^{14} z^4(464\theta^4 + 1888\theta^3 + 2956\theta^2 + 2012\theta + 501) + 2^{24} z^5(\theta+1)^4$
	$A_n = \sum_{k=[n/3]}^{[2n/3]} \binom{n}{k}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2\binom{2k}{n-k}\binom{2n-2k}{k} \times \big(1 + k(-6H_k + 6H_{n-k} + 6H_{2k} - 6H_{2n-2k} + 3H_{2n-3k} - 3H_{3k-n})\big) + 3\sum_{k=0}^{[(n-1)/3]} (-1)^{n+k} \frac{n-2k}{n-3k} \binom{n}{k}\binom{2k}{k}^2\binom{2n-2k}{n-k}^2\binom{2n-2k}{k}\binom{n-k}{2k}^{-1}$
263	$D = \theta^4 + 2^4 z(464\theta^4 - 32\theta^3 + 76\theta^2 + 92\theta + 21) + 2^{15} z^2(608\theta^4 + 152\theta^3 + 450\theta^2 + 131\theta + 5) + 2^{22} z^3(5584\theta^4 + 6144\theta^3 + 6852\theta^2 + 2808\theta + 471) + 2^{34} \cdot 5z^4(136\theta^4 + 320\theta^3 + 341\theta^2 + 181\theta + 39) + 2^{46} z^5(\theta+1)^4$
	the reflection of #262 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
264	$D=\theta^4-2^4z(-3392\theta^4+9344\theta^3+5764\theta^2+1092\theta+93)$ $+2^{17}\cdot 3z^2(-1952\theta^4-15200\theta^3+7758\theta^2+2593\theta+323)$ $+2^{26}\cdot 3^2\cdot 7z^3(-11584\theta^4+6912\theta^3+5364\theta^2+1632\theta+167)$ $+2^{42}\cdot 3^3\cdot 7^2z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n=16^{-n}\binom{2n}{n}^2\Big(\sum_{k=0}^{n}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n+2k}{n+k}^2\binom{4n-2k}{2n-k}^2$ $\times\binom{2n}{k}^{-1}\binom{2n}{n-k}^{-1}\big(1+k(-2H_k+2H_{n-k}-3H_{n+k}+3H_{2n-k}$ $+2H_{2k}-2H_{2n-2k}+4H_{2n+2k}-4H_{4n-2k})\big)$ $+\sum_{k=1}^{n}\frac{n+2k}{k}\binom{2n+k}{2n}\binom{2n+2k}{n+k}\binom{2n-2k}{n-k}^2\binom{4n+2k}{2n+k}^2$ $\times\binom{2k}{k}^{-1}\binom{n+k}{n}^{-1}\binom{2n}{n+k}^{-1}\Big)$
265	$D=\theta^4-2^4\cdot 3z(-96\theta^4+96\theta^3+6\theta^2+12\theta+1)$ $+2^{13}\cdot 3z^2(288\theta^4-144\theta^3+526\theta^2+206\theta+27)$ $+2^{20}\cdot 3^3z^3(288\theta^4+864\theta^3+652\theta^2+204\theta+23)$ $+2^{30}\cdot 3^5z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n=\sum_k\binom{n}{k}^3\binom{n+k}{n}\binom{2n-k}{n}\binom{2n+2k}{n+k}^2\binom{4n-2k}{2n-k}^2$ $\times\binom{2n}{k}^{-1}\binom{2n}{n-k}^{-1}\cdot\big(1+k(-3H_k+3H_{n-k}-2H_{n+k}$ $+2H_{2n-k}+4H_{2n+2k}-4H_{4n-2k)}\big)$
266	$D=5^2\theta^4-3\cdot 5z(27\theta^4+108\theta^3+124\theta^2+70\theta+15)$ $-3^2z^2(2754\theta^4+9072\theta^2+13014\theta^2+8910\theta+2440)$ $+3^5z^3(1134\theta^4+9720\theta^3+23166\theta^2+21330\theta+6890)$ $+3^8z^4(729\theta^4+3888\theta^3+6606\theta^2+4662\theta+1184)+3^{15}z^5(\theta+1)^4$
	$A_n=\sum_k\binom{n}{k}^3\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3}$ $\times\big(1+k(-6H_k+6H_{n-k}+3H_{3k}-3H_{3n-3k})\big)$
267	$D=\theta^4+3^2z(729\theta^4-972\theta^3-684\theta^2-198\theta-31)$ $+2\cdot 3^8z^2(567\theta^4-2592\theta^3+405\theta^2+189\theta+70)$ $-2\cdot 3^{14}z^3(1377\theta^4+972\theta^3+1161\theta^2+459\theta+113)$ $+3^{22}\cdot 5z^4(-27\theta^4+38\theta^2+38\theta+12)+3^{30}\cdot 5^2z^5(\theta+1)^4$
	the reflection of #266 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
268	$D = 5^2\theta^4 - 2^2 \cdot 3 \cdot 5z(108\theta^4 + 432\theta^3 + 661\theta^2 + 445\theta + 105)$ $- 2^4 \cdot 3^2 z^2(440640\theta^4 + 145150\theta^3 + 239004\theta^2 + 186300\theta + 58045)$ $+ 2^9 \cdot 3^5 z^3(90720\theta^4 + 77760\theta^3 + 180954\theta^2 + 164970\theta + 53965)$ $+ 2^{12} \cdot 3^8 z^4(116640\theta^4 + 622080\theta^3 + 1049400\theta^2 + 738360\theta + 18659)$ $+ 2^{20} \cdot 3^{15} z^5(\theta + 1)^4$
	$A_n = \sum_k \binom{n}{k}^3 \frac{(6k)!}{k!(2k)!(3k)!} \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!}$ $\times \big(1 + k(-4H_k + 4H_{n-k} + 6H_{6k} - 6H_{6n-6k} - 3H_{3k}$ $+ 3H_{3n-3k} - 2H_{2k} + 2H_{2n-2k})\big)$
269	$D = \theta^4 + 2^4 \cdot 3^2 z(11664\theta^4 - 15552\theta^3 - 11700\theta^2 - 3924\theta - 781)$ $+ 2^{13} \cdot 3^8 z^2(9072\theta^4 - 41472\theta^3 + 2106^2 - 54\theta + 1261)$ $- 2^{20} \cdot 3^{14} z^3(44064\theta^4 + 31104\theta^3 + 67932\theta^2 + 32508\theta + 9661)$ $- 2^{30} \cdot 3^{22} \cdot 5z^4(108\theta^4 + 13\theta^2 + 13\theta - 3)$ $+ 2^{40} \cdot 3^{30} \cdot 5^2 z^5(\theta + 1)^4$
	the reflection of #268 at infinity
	a formula for A_n is not known
270	$D = 5^2\theta^4 - 2^2 \cdot 5z(48\theta^4 + 192\theta^3 + 251\theta^2 + 155\theta + 35)$ $- 2^4 z^2(8704\theta^4 + 28672\theta^3 + 43664\theta^2 + 31760\theta + 9265)$ $+ 2^{11} z^3(1792\theta^4 + 15360\theta^3 + 36248\theta^2 + 33240\theta + 10795)$ $+ 2^{16} z^4(2304\theta^4 + 12288\theta^3 + 20816\theta^2 + 14672\theta + 3719) + 2^{30} z^5(\theta + 1)^4$
	$A_n = \sum_k \binom{n}{k}^3 \frac{(4k)!}{k!^2(2k)!} \frac{(4n-4k)!}{(n-k)!^2(2n-2k)!}$ $\times \big(1 + k(-5H_k + 5H_{n-k} + 4H_{4k} - 4H_{4n-4k} + 2H_{2n-2k} - 2H_{2k})\big)$
271	$D = \theta^4 - 2^4 z(-2304\theta^4 + 3072\theta^3 + 2224\theta^2 + 668\theta + 121)$ $+ 2^{17} z^2(1792\theta^4 - 8192\theta^3 + 920\theta^2 + 344\theta + 235)$ $- 2^{28} z^3(8704\theta^4 + 6144\theta^3 + 9872\theta^2 + 4368\theta + 1201)$ $+ 2^{44} \cdot 5z^4(-48\theta^4 + 37\theta^2 + 37\theta + 13) + 2^{60} \cdot 5^2 z^5(\theta + 1)^4$
	the reflection of #270 at infinity
	a formula for A_n is not known
272	$D = 5^2\theta^4 - 2^2 \cdot 3 \cdot 5z(1332\theta^4 + 3528\theta^3 + 3289\theta^2 + 1525\theta + 285)$ $+ 2^4 \cdot 3^2 z^2(331776\theta^4 + 1602368\theta^3 + 453333\theta^2 + 2996640\theta + 724415)$ $+ 2^8 \cdot 3^5 z^3(539136\theta^4 + 622080\theta^3 - 3024864\theta^2 - 4008960\theta - 1315985)$ $- 2^{15} \cdot 3^8 z^4(41472\theta^4 + 393984\theta^3 + 735984\theta^2 + 510912\theta + 120811)$ $- 2^{20} \cdot 3^{11} z^5(12\theta + 7)(12\theta + 11)(12\theta + 13)(12\theta + 17)$
	$A_n = \sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n} \frac{(6k)!}{k!(2k)!(3k)!}$ $\times \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!} \cdot \big(1 + k(-3H_k + 3H_{n-k} + H_{n+k}$ $- H_{2n-k} + 6H_{6k} - 6H_{6n-6k} - 3H_{3k} + 3H_{3n-3k} - 2H_{2k} + 2H_{2n-2k})\big)$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
273	$D = 5^2\theta^4 - 3\cdot 5z(333\theta^4 + 882\theta^3 + 781\theta^2 + 340\theta + 60) + 2^2\cdot 3^2 z^2(51840\theta^4 + 406620\theta^3 + 718290\theta^2 + 477000\theta + 11540) + 2^2\cdot 3^5 z^3(84240\theta^4 + 97200\theta^3 - 468990\theta^2 - 630450\theta - 21260) - 2^4\cdot 3^8 z^4(1296\theta^4 + 12312\theta^3 + 23094\theta^2 + 16263\theta + 3956) - 2^6\cdot 3^{11} z^5(3\theta+2)(3\theta+4)(6\theta+5)(6\theta+7)$
	$A_n = \sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3} \times \big(1 + k(-5H_k + 5H_{n-k} + H_{n+k} - H_{2n-k} + 3H_{3k} - 3H_{3n-3k})\big)$
274	$D = 5^2\theta^4 - 5z(757\theta^4 + 1298\theta^3 + 1049\theta^2 + 400\theta + 60) + 2^2\cdot 3^2 z^2(5456\theta^4 + 17498\theta^3 + 22121\theta^2 + 11940\theta + 2340) - 2^2\cdot 3^4 z^3(15128\theta^4 + 68040\theta^3 + 112171\theta^2 + 73845\theta + 16380) + 2^4\cdot 3^8 z^4(2\theta+1)(216\theta^3 + 864\theta^2 + 1015\theta + 356) - 2^6\cdot 3^{10} z^5(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = (-1)^n 9^{-n}\binom{2n}{n}\sum_{k=[n/3]}^{[2n/3]}\binom{3k}{n}\binom{3n-3k}{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3} \times \big(1 + k(-3H_k + 3H_{n-k} + 6H_{3k} - 6H_{3n-3k} + 3H_{2n-3k} - 3H_{3k-n})\big) + 3\cdot 9^{-n}\binom{2n}{n}\sum_{k=0}^{[(n-1)/3]}(-1)^k\frac{n-2k}{n-3k}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3}\binom{3n-3k}{n}\binom{n}{3k}^{-1}$
275	$D = 5^2\theta^4 - 2^2\cdot 5z(592\theta^4 + 1568\theta^3 + 1419\theta^2 + 635\theta + 115) + 2^4 z^2(65530\theta^4 + 514048\theta^3 + 902816\theta^2 + 598400\theta + 144735) + 2^{10} z^3(106496\theta^4 + 122880\theta^3 - 594816\theta^2 - 794880\theta - 265065) - 2^{19} z^4(8192\theta^4 + 77824\theta^3 + 145728\theta^2 + 102016\theta + 24527) - 2^{26} z^5(8\theta+5)(8\theta+7)(8\theta+9)(8\theta+11)$
	$A_n = \sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n}\frac{(4k)!}{k!^2(2k)!}\frac{(4n-4k)!}{(n-k)!^2(2n-2k)!} \times \big(1 + k(-4H_k + 4H_{n-k} + H_{n+k} - H_{2n-k} + 4H_{4k} - 4H_{4n-4k} + 2H_{2n-2k} - 2H_{2k})\big)$
276	$D = \theta^4 + 2^4\cdot 3z(-18432\theta^4 + 4608\theta^3 + 1024\theta^2 - 1280\theta - 221) + 2^{17}\cdot 3^4 z^2(253440\theta^4 - 2304\theta^3 + 11680\theta^2 + 1472\theta - 33) - 2^{28}\cdot 3^8 z^3(18432\theta^4 + 13824\theta^3 + 11392\theta^2 + 3264\theta + 359) + 2^{46}\cdot 3^{12} z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n = \binom{2n}{n}\sum_k \binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}\frac{(6k)!}{k!(2k)!(3k)!} \times \frac{(6n-6k)!}{(n-k)!(2n-2k)!(3n-3k)!}\cdot\big(1 + k(-H_k + H_{n-k} - 2H_{2k} + 2H_{2n-2k} - 3H_{3k} + 3H_{3n-3k} + 6H_{6k} - 6H_{6n-6k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
277	$D = \theta^4 - 2^4 z(-576\theta^4 + 1152\theta^3 + 724\theta^2 + 148\theta + 13)$ $+ 2^{17} z^2(-32\theta^4 - 992\theta^2 + 166\theta^2 + 57\theta + 6)$ $- 2^{26} \cdot 3z^3(832\theta^4 + 768\theta^3 + 556\theta^2 + 192\theta + 25) - 2^{40} \cdot 3^2 z^4(2\theta + 1)^4$
	the reflection of #55 at infinity
	$A_n = \binom{2n}{n}^2 \sum_k \binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}$ $\times \big(1 + k(-3H_k + 3H_{n-k} + 2H_{2k} - 2H_{2n-2k} + 2H_{2n-k}$ $+ 2H_{n+k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$
278	$D = \theta^4 - 3z(279\theta^4 + 882\theta^3 + 641\theta^2 + 200\theta + 24)$ $+ 2 \cdot 3^5 z^2(-72\theta^4 + 1710\theta^3 + 3665\theta^2 + 1864\theta + 296)$ $+ 2^2 \cdot 3^9 z^3(909\theta^4 + 3888\theta^3 + 3082\theta^2 + 918\theta + 92)$ $+ 2^4 \cdot 3^{15} z^4(2\theta + 1)^2(3\theta + 1)(3\theta + 2)$
	$A_n = \binom{2n}{n}^2 \binom{3n}{n} \sum_k \frac{(3k)!}{k!^3} \frac{(3n-3k)!}{(n-k)!^3} \binom{n+k}{n}^{-1} \binom{2n-k}{n}^{-1}$
279	$D = 17^2\theta^4 + 17z(286\theta^4 + 734\theta^3 + 656\theta^2 + 289\theta + 51)$ $+ 3^2 z^2(4110\theta^4 + 22074\theta^3 + 37209\theta^2 + 26265\theta + 6800)$ $- 3^5 z^3(1521\theta^4 + 7344\theta^3 + 12936\theta^2 + 9945\theta + 2822)$ $+ 3^8 z^4(123\theta^4 + 552\theta^3 + 879\theta^2 + 603\theta + 152) - 3^{12} z^5(\theta + 1)^4$
	$A_n = 3 \sum_{k=[2(n+1)/3]}^{n} (-1)^k \binom{n}{k} \frac{n-2k}{n-3k} \frac{(3k)!}{k!^3} \frac{(3n-3k)!}{(n-k)!^3} \binom{n}{3n-3k} \binom{3k}{n}^{-1}$
280	$D = \theta^4 + 3^2 z(123\theta^4 - 60\theta^3 - 39\theta^2 - 9\theta - 1)$ $+ 3^5 z^2(1521\theta^2 - 1260\theta^3 + 30\theta^2 - 21\theta - 10)$ $+ 3^8 z^3(4110\theta^4 - 5634\theta^3 - 4353\theta^2 - 1629\theta - 220)$ $- 3^{12} \cdot 17z^4(286\theta^4 + 410\theta^3 + 170\theta^2 - 35\theta - 30) + 3^{18} \cdot 17^2 z^5(\theta + 1)^4$
	the reflection of #279 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
281	$D = \theta^4 + z(328\theta^4 + 82\theta^3 + 33\theta^2 - 8\theta - 7)$ $+ z^2(52844\theta^4 + 26422\theta^3 + 11771\theta^2 - 3472\theta - 3676)$ $+ z^3(5280472\theta^4 + 3960354\theta^3 + 1932893\theta^2 - 37864\theta + 197467)$ $+ z^4(355955926\theta^4 + 355955926\theta^3 + 188833541\theta^2$ $+ 39149936\theta + 53236566)$ $+ 5z^5(3300295000\theta^4 + 4125368750\theta^3 + 2363161375\theta^2$ $+ 789584250\theta + 300065632)$ $+ 5^6 z^6(33027500\theta^4 + 49541250\theta^3 + 30476125\theta^2 + 10997750\theta + 305303)$ $+ 5^{11} z^7(205000\theta^4 + 358750\theta^3 + 235875\theta^2 + 71750\theta + 6104)$ $+ 5^{16} z^8(5\theta + 1)(5\theta + 2)(5\theta + 3)(5\theta + 4)$
	the pullback of the 5th-order differential equation $D'y = 0$, where
	$D' = \theta^5 + z(2\theta + 1)(41\theta^4 + 82\theta^3 + 74\theta^2 + 33\theta + 6)$ $+ 5z^2(\theta + 1)(5\theta + 3)(5\theta + 4)(5\theta + 6)(5\theta + 7)$
	$A'_n = 3 \sum_{k=0}^{[n/3]} (-1)^k \binom{n}{k}^3 \frac{n - 2k}{2n - 3k} \binom{n + k}{n} \binom{2n - k}{n} \binom{2n - 3k}{n}$
282	$D = 5^2\theta^4 - 2^2 \cdot 5z(1348\theta^4 + 752\theta^3 + 521\theta^2 + 145\theta + 15)$ $+ 2^4 \cdot 3^4 z^2(5696\theta^4 - 1792\theta^3 - 7304\theta^2 - 3740\theta - 585)$ $+ 2^{10} \cdot 3^8 z^3(-20\theta^4 + 360\theta^3 + 289\theta^2 + 90\theta + 10)$ $- 2^{12} \cdot 3^{13} z^4(2\theta + 1)^4$
	$A_n = (-1)^n \binom{2n}{n} \sum_{k=[n/3]}^{[2n/3]} \binom{2n}{3k} \binom{2n}{3n - 3k} \frac{(3k)!}{k!^3} \frac{(3n - 3k)!}{(n - k)!^3}$ $\times \big(1 + k(-3H_k + 3H_{n-k} + 3H_{2n-3k} - 3H_{3k-n})\big)$ $+ 3\binom{2n}{n} \sum_{k=0}^{[(n-1)/3]} (-1)^{n+k} \frac{n - 2k}{2n - 3k} \frac{(3k)!}{k!^3} \frac{(3n - 3k)!}{(n - k)!^3} \binom{2n}{3n - 3k} \binom{3k}{2n}^{-1}$
283	$D = \theta^4 + 2^2 z(20\theta^4 + 400\theta^3 + 281\theta^2 + 81\theta + 9)$ $- 2^4 \cdot 3z^2(5696\theta^4 + 13184\theta^3 + 3928\theta^2 + 628\theta + 39)$ $+ 2^{10} \cdot 3^2 \cdot 5z^3(1348\theta^4 + 1944\theta^4 + 1415\theta^2 + 486\theta + 63)$ $- 2^{12} \cdot 3^7 \cdot 5^2 z^4(2\theta + 1)^4$
	the reflection of #282 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
284	$D = 38^2\theta^4 - 38z(3014\theta^4 + 5878\theta^3 + 4725\theta^2 + 1786\theta + 266)$ $+ z^2(689717\theta^4 + 2305502\theta^3 + 3057079\theta^2 + 1810054\theta + 402002)$ $- z^3(14388080\theta^4 + 58123500\theta^3 + 91424570\theta^2 + 62959920\theta + 1576582)$ $+ z^4(13954910\theta^4 + 50753920\theta^3 + 62974450\theta^2 + 33758330\theta + 663471)$ $- z^5(8341630\theta^4 + 26572240\theta^3 + 24077680\theta^2 + 6040050\theta - 52928)$ $+ z^6(2775430\theta^4 + 6924840\theta^3 + 5725760\theta^2 + 1483590\theta - 4832)$ $+ 11z^7(4625\theta^4 + 9100\theta^3 + 6395\theta^2 + 1845\theta + 178) - 11^2z^8(\theta + 1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{n}{k+l}\binom{n+k-l}{n-l}$
285	$D = 11^2\theta^4 + 11z(4625\theta^4 + 9400\theta^3 + 6845\theta^2 + 2145\theta + 253)$ $- z^2(834163\theta^4 + 417688\theta^3 + 160382\theta^2 + 29513\theta + 4444)$ $+ z^3(8341630\theta^4 + 6794280\theta^3 - 5589260\theta^2 - 4234890\theta - 72226)$ $- z^4(13954910\theta^4 + 5065720\theta^3 - 5557850\theta^2 - 4251550\theta - 94818)$ $+ z^5(14388080\theta^4 + 571180\theta^3 + 3382550\theta^2 + 3071040\theta + 49505)$ $- z^6(6897170\theta^4 + 4533660\theta^3 + 2788750\theta^2 + 1464660\theta + 33242)$ $+ 38z^7(3014\theta^4 + 6178\theta^3 + 5175\theta^2 + 2086\theta + 341) - 38^2z^8(\theta + 1)^4$
	the reflection of #284 at infinity
	a formula for A_n is not known
286	$D = 3^2\theta^4 - 3^2z(38\theta^4 + 82\theta^3 + 67\theta^2 + 26\theta + 4)$ $+ 3z^2(2045\theta^4 + 5702\theta^3 + 7535\theta^2 + 4170\theta + 852)$ $+ 2^3 \cdot 3z^3(2208\theta^4 + 5925\theta^3 + 7925\theta^2 + 5607\theta + 1512)$ $+ 2^3z^4(60287\theta^4 + 56374\theta^3 - 215983\theta^2 - 268986\theta - 85452)$ $- 2^4z^5(205651\theta^4 + 605608\theta^3 + 603579\theta^2 + 204622\theta + 8104)$ $+ 2^7z^6(-51414\theta^4 + 273267\theta^3 + 502700\theta^2 + 305649\theta + 63398)$ $+ 2^8 \cdot 37z^7(7909\theta^4 + 18122\theta^3 + 17595\theta^2 + 8462\theta + 1672)$ $- 2^{13} \cdot 37^2z^8(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = \sum_{k,l} \binom{n}{k}\binom{n}{l}\binom{2n-k}{n}\binom{n}{k-l}\binom{2k}{n}\binom{2l}{n}$
287	$D = 21^2\theta^4 - 21z(3289\theta^4 + 6098\theta^3 + 4645\theta^2 + 1596\theta + 210)$ $+ 2^2z^2(38560\theta^4 - 230840\theta^3 - 534425\theta^2 - 337050\theta - 68145)$ $+ 2^4z^3(106636\theta^4 + 493416\theta^3 + 420211\theta^2 + 116361\theta + 6090)$ $- 5 \cdot 2^8z^4(2\theta + 1)(1916\theta^3 + 2622\theta^2 + 1077\theta + 91)$ $- 5^2 \cdot 2^{12}z^5(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \binom{2n}{n}\sum_{i,j} \binom{n}{i}\binom{n}{j}\binom{n+j}{n}\binom{i+j}{n}\binom{n}{i-j}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
288	$D = \theta^4 - 2^4 z(496\theta^4 + 1568\theta^3 + 1060\theta^2 + 276\theta + 27)$ $+ 3 \cdot 2^{15} z^2(-320\theta^4 + 760\theta^3 + 1570\theta^2 + 651\theta + 81)$ $+ 3^2 2^{22} z^3(1616\theta^4 + 6912\theta^3 + 5092\theta^2 + 1416\theta + 135)$ $+ 3^3 2^{34} z^4(3\theta + 1)(3\theta + 2)(4\theta + 1)(4\theta + 3)$
	$A_n == \binom{2n}{n}\binom{3n}{n}\binom{4n}{2n}\sum_k \frac{(4k)!}{k!^2(2k)!}\frac{(4n-4k)!}{(n-k)!^2(2n-2k)!}$ $\times \binom{n+k}{n}^{-1}\binom{2n-k}{n}^{-1}$
289	$D = \theta^4 - 2^4 z(400\theta^4 + 2720\theta^3 + 1752\theta^2 + 392\theta + 33)$ $+ 2^{15} z^2(-4272\theta^4 - 6288\theta^3 + 3184\theta^2 + 1484\theta + 177)$ $+ 2^{24} \cdot 5 z^3(-4688\theta^4 + 1536\theta^3 + 1384\theta^2 + 336\theta + 27)$ $+ 2^{36} \cdot 5^2 z^4(2\theta + 1)^2(4\theta + 1)(4\theta + 3)$
	$A_n = (-1)^n \binom{2n}{n}\binom{4n}{2n}\sum_k \binom{n}{k}\binom{n+k}{n}\binom{2n-k}{n}\binom{2n}{k}\binom{2n}{n-k}$ $\times \binom{2n+2k}{n+k}\binom{4n-2k}{2n-k}\binom{2k}{k}^{-1}\binom{2n-2k}{n-k}^{-1}\big(1 + k(-H_k + H_{n-k}$ $- 2H_{n+k} + 2H_{2n-k} - 2H_{2k} + 2H_{2n-2k} + 2H_{2n+2k} - 2H_{4n-2k})\big)$
290	$D = \theta^4 + 3z(-279\theta^4 + 252\theta^3 + 160\theta^2 + 34\theta + 3)$ $+ 2 \cdot 3^5 z^2(423\theta^4 - 468\theta^3 + 457\theta^2 + 215\theta + 37)$ $- 2 \cdot 3^9 z^3(531\theta^4 + 1296\theta^3 + 1243\theta^2 + 567\theta + 104)$ $+ 3^{15} \cdot 5 z^4(51\theta^4 + 120\theta^3 + 126\theta^2 + 66\theta + 14)$ $- 3^{20} \cdot 5^2 z^5(\theta + 1)^4$
	the reflection of #17 at infinity
	a formula for A_n is not known
291	$D = \theta^4 - z(566\theta^4 + 34\theta^3 + 62\theta^2 + 45\theta + 9)$ $+ 3z^2(39370\theta^4 + 17302\theta^3 + 22493\theta^2 + 8369\theta + 1140)$ $- 3^2 z^3(1215215\theta^4 + 1432728\theta^3 + 1274122\theta^2 + 538245\theta + 93222)$ $+ 3^7 \cdot 61 z^4(3029\theta^4 + 6544\theta^3 + 6135\theta^2 + 2863\theta + 548)$ $- 3^{12} \cdot 61^2 z^5(\theta + 1)^4$
	the reflection of #124 at infinity
	a formula for A_n is not known
292	$D = 3^2\theta^4 - 2^2 \cdot 3z(4636\theta^2 + 7928\theta^3 + 5347\theta^2 + 1383\theta + 126)$ $+ 2^9 z^2(590480\theta^4 + 508888\theta^3 - 262480\theta^2 - 168270\theta - 2205)$ $+ 2^{16} \cdot 7 z^3(-9004\theta^4 + 2304\theta^3 + 2511\theta^2 + 504\theta + 27)$ $- 2^{24} \cdot 7^2 z^4(2\theta + 1)^2(4\theta + 1)(4\theta + 3)$
	$A_n = \binom{2n}{n}\sum_k (-1)^{n+k} 4^{n-k}\binom{n}{k}\binom{2n+k}{n}^2\binom{4n+2k}{2n+k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
293	$D = \theta^4 - 2^2 z(54\theta^4 + 66\theta^3 + 49\theta^2 + 16\theta + 2) + 2^4 z^2(417\theta^4 - 306\theta^3 - 1219\theta^2 - 776\theta - 154) + 2^8 z^3(166\theta^4 + 1920\theta^3 + 1589\theta^2 + 432\theta + 23) - 2^{12} \cdot 7z^4(2\theta+1)(38\theta^3 + 45\theta^2 + 12\theta - 2) - 2^{14} \cdot 7^2 z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \sum_{k,l} \binom{n}{k}\binom{n}{l}\binom{k+l}{n}\binom{2k}{n}\binom{2l}{n}\binom{2n}{k+l}$
294	$D = \theta^4 + 2^4 z(-188000\theta^4 + 146240\theta^3 + 81840\theta^2 + 872\theta + 33) + 2^{18} z^2(1017440\theta^4 - 1079200\theta^3 + 749680\theta^2 + 151000\theta + 1191) - 2^{30} \cdot 17z^3(400480\theta^4 + 491520\theta^3 + 358480\theta^2 + 107520\theta + 1143) + 2^{50} \cdot 17^2 z^4(2\theta+1)^2(4\theta+1)(4\theta+3)$
	$A_n = \frac{(4n)!}{n!^2(2n)!} \sum_k \binom{2n}{2k}\binom{n+2k}{k}\binom{3n-2k}{n-k}\binom{2n+4k}{n+2k}\binom{6n-4k}{3n-3k} \times \big(1 + k(-H_k + H_{n-k} - H_{n+k} + H_{2n-k} - 2H_{2k} + 2H_{2n-2k} + 2H_{3n-2k} - 2H_{n+2k} + 4H_{2n+4k} - 4H_{6n-4k})\big)$
295	$D = \theta^4 + 2^4 z(816\theta^4 - 1440\theta^3 - 904\theta^2 - 184\theta - 17) + 2^{18} z^2(80\theta^4 - 592\theta^3 + 432\theta^2 + 164\theta + 23) + 2^{30} z^3(-80\theta^4 + 384\theta^3 + 296\theta^2 + 96\theta + 11) + 2^{45} z^4(2\theta+1)^4$
	$A_n = \binom{3n}{n} \sum_k \binom{2k}{k}\binom{2n-2k}{n-k}\binom{2n}{2k}\binom{n+2k}{k} \times \binom{3n-2k}{n-k}\binom{2n+4k}{n+2k}\binom{6n-4k}{3n-2k}\binom{3n}{n+k}^{-1} \times \big(1 + k(-3H_k + 3H_{n-k} - 2H_{n+2k} + 2H_{3n-2k} + 4H_{2n+4k} - 4H_{6n-4k})\big)$
296	$D = \theta^4 - 2^4 z(5\theta^4 + 34\theta^3 + 25\theta^2 + 8\theta + 1) + 2^{11} z^2(5\theta^4 + 47\theta^3 + 90\theta^2 + 47\theta + 8) + 2^{16} z^3(51\theta^4 + 192\theta^3 + 155\theta^2 + 48\theta + 5) + 2^{23} z^4(2\theta+1)^4$
	the reflection of #295 at infinity
	$A_n = \binom{2n}{n}^3 \sum_k (-1)^{n+k} 4^{n-k} \binom{n}{k}^2 \binom{2k}{n}\binom{2n}{n-k}\binom{2n}{2k}^{-1}\binom{2n-2k}{n-k}^{-1}$
297	$D = 7^2\theta^4 - 2 \cdot 7z\theta(520\theta^3 + 68\theta^2 + 41\theta + 7) - 2^2 \cdot 3z^2(94800\theta^4 + 153912\theta^3 + 212893\theta^2 + 108080\theta + 18816) + 2^4 \cdot 3^3 z^3(93968\theta^4 + 341544\theta^3 + 319592\theta^2 + 125853\theta + 18242) - 2^6 \cdot 3^7 z^4(2\theta+1)^2(2257\theta^2 + 3601\theta + 1942) + 2^{11} \cdot 3^{11} z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n} \sum_k \binom{n}{k}\binom{2n}{2k}\binom{2k}{n-k}\binom{2n-2k}{k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
298	$D = 3^4\theta^4 - 3^2 z(1993\theta^4 + 3218\theta^3 + 2437\theta^2 + 828\theta + 108)$ $+ 2^5 z^2(17486\theta^4 + 251840\theta^3 + 122239\theta^2 + 2790\theta + 297)$ $- 2^8 z^3(236200\theta^4 + 347760\theta^3 + 289050\theta^2 + 124470\theta + 2106)$ $+ 2^{15} z^4(2\theta + 1)(340\theta^3 + 618\theta^2 + 455\theta0129)$ $- 2^{22} z^5(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \sum_{k,l} \binom{n}{k}\binom{n}{l}\binom{k+l}{k}\binom{k+l}{n}^2\binom{2n}{k+l}$
299	$D = \theta^4 - 6z(144\theta^4 + 36\theta^3 + 47\theta^2 + 29\theta + 6)$ $+ 6^2 z^2(8376\theta^4 + 6648\theta^3 + 8157\theta^2 + 3900\theta + 724)$ $- 6^4 z^3(42672\theta^4 + 68616\theta^3 + 81056\theta^2 + 44841\theta + 9964)$ $+ 2^6 \cdot 3^5 z^4(374028\theta^4 + 962040\theta^3 + 1262091\theta^2 + 794463\theta + 195335)$ $- 2^8 \cdot 3^7 z^5(633840\theta^4 + 2243328\theta^3 + 3405968\theta^2 + 2385208\theta + 6529129)$ $+ 2^{12} \cdot 3^8 z^6(438960\theta^4 + 1884384\theta^3 + 3176664\theta^2 + 2380392\theta + 652943)$ $- 2^{19} \cdot 3^{10} z^7(5760\theta^4 + 25128\theta^3 + 39548\theta^2 + 26606\theta + 6517)$ $+ 12^{11} z^8(6\theta + 5)^2(6\theta + 7)^2$
	$A_n = (-1)^n\binom{2n}{n}\sum_{k=[n/3]}^{[2n/3]}\binom{n}{k}^3\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3k}{n}\binom{3n-3k}{n}\binom{2n}{2k}^{-1}$ $\times \big(1 + k(-5H_k + 5H_{n-k} + 4H_{2k} - 4H_{2n-2k}$ $+ 3H_{3k} - 3H_{3k-n} + 3H_{2n-3k} - 3H_{3n-3k})\big)$ $+ 3\binom{2n}{n}\sum_{k=0}^{[(n-1)/3]}(-1)^k\frac{n-2k}{n-3k}\binom{n}{k}^3\binom{2k}{k}\binom{2n-2k}{n-k}$ $\times \binom{3n-3k}{n}\binom{2n}{2k}^{-1}\binom{n}{3k}^{-1}$
300	$D = \theta^4 + 2^4 z(371\theta^4 + 862\theta^3 + 591\theta^2 + 160\theta + 15)$ $+ 5 \cdot 2^{11} z^2(224\theta^4 + 2069\theta^3 + 3277\theta^2 + 1363\theta + 159)$ $- 5^2 \cdot 2^{16} z^3(2089\theta^4 + 7500\theta^3 + 5533\theta^2 + 1500\theta + 135)$ $+ 5^3 \cdot 2^{23} z^4(5\theta + 1)(5\theta + 2)(5\theta + 3)(5\theta + 4)$
	$A_n = \binom{2n}{n}\sum_k(-1)^k 4^{n-k}\binom{n}{k}\binom{2n+k}{n}\binom{2k}{n}\binom{4n+2k}{2n+k}$
301	$D = 11^2\theta^4 - 11z(1517\theta^4 + 3136\theta^3 + 2393\theta^2 + 825\theta + 110)$ $- z^2(90362\theta^4 + 207620\theta^3 + 202166\theta^2 + 106953\theta + 24266)$ $- z^3(245714\theta^4 + 507996\theta^3 + 415082\theta^2 + 217437\theta + 53130)$ $- z^4(407863\theta^4 + 785972\theta^3 + 564786\theta^2 + 183269\theta + 15226)$ $- z^5(434831\theta^4 + 790148\theta^3 + 728323\theta^2 + 279826\theta + 25160)$ $- 2^3 z^6(36361\theta^4 + 70281\theta^3 + 73343\theta^2 + 37947\theta + 7644)$ $- 2^4 \cdot 5z^7(1307\theta^4 + 3430\theta^3 + 3877\theta^2 + 2162\theta + 488)$ $- 2^9 \cdot 5^2 z^8(\theta + 1)^4$
	$A_n = \sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{k+l}{k}\binom{2l}{n}\binom{n}{l-k}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
302	$D = 5^2\theta^4 + 5z(1307\theta^4 + 1798\theta^3 + 1429\theta^2 + 530\theta + 80)$ $+ 2^4z^2(36361\theta^4 + 75163\theta^3 + 80666\theta^2 + 43340\theta + 9120)$ $+ 2^6z^3(434831\theta^4 + 949176\theta^3 + 966865\theta^2 + 545700\theta + 118340)$ $+ 2^{11}z^4(407863\theta^4 + 845480\theta^3 + 654048\theta^2 + 219839\theta + 18634)$ $+ 2^{16}z^5(245714\theta^4 + 474860\theta^3 + 365378\theta^2 + 71595\theta - 11507)$ $+ 2^{21}z^6(90362\theta^4 + 153828\theta^3 + 121478\theta^2 + 35967\theta + 2221)$ $+ 2^{26} \cdot 11z^7(1517\theta^4 + 2932\theta^3 + 2087\theta^2 + 621\theta + 59)$ $- 2^{31} \cdot 11^2z^8(\theta + 1)^4$
	the reflection of #301 at infinity
	a formula for A_n is not known
303	$D = 13^2\theta^4 - 13z(1505\theta^4 + 2746\theta^3 + 2127\theta^2 + 754\theta + 104)$ $+ 2^2z^2(22961\theta^4 - 2086\theta^3 - 55741\theta^2 - 41574\theta - 9256)$ $+ 2^5z^3(7524\theta^4 + 28098\theta^3 + 16131\theta^2 + 2691\theta - 52)$ $- 2^7z^4(7241\theta^4 + 6214\theta^3 + 17522\theta^2 + 15423\theta + 4146)$ $+ 2^8z^5(-6087\theta^4 - 1806\theta^3 + 3905\theta^2 + 3796\theta + 1036)$ $+ 2^{10}z^6(553\theta^4 + 4062\theta^3 + 4405\theta^2 + 1752\theta + 220)$ $+ 2^{14}z^7(82\theta^4 + 230\theta^3 + 275\theta^2 + 160\theta + 37)$ $+ 2^{18}z^8(\theta + 1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}\binom{n}{l}\binom{k+l}{n}\binom{2k}{n}\binom{2l}{n}\binom{n}{l-k}$
304	$D = \theta^4 + z(82\theta^4 + 98\theta^3 + 77\theta^2 + 28\theta + 4)$ $- z^2(-553\theta^4 + 1850\theta^3 + 4463\theta^2 + 2916\theta + 636)$ $- 2^2z^3(6087\theta^4 + 22542\theta^3 + 27199\theta^2 + 14916\theta + 3136)$ $- 2^5z^4(7241\theta^4 + 22750\theta^3 + 42326\theta^2 + 29943\theta + 7272)$ $+ 2^7z^5(7524\theta^4 + 1998\theta^3 - 23019\theta^2 - 24627\theta - 7186)$ $+ 2^8z^6(22961\theta^4 + 93930\theta^3 + 88283\theta^2 + 28194\theta + 1624)$ $- 2^{10} \cdot 13z^7(1505\theta^4 + 3274\theta^3 + 2919\theta^2 + 1282\theta + 236)$ $+ 2^{14} \cdot 13^2z^8(\theta + 1)^4$
	the reflection of #303 at infinity
	$A_n = (-1)^n \sum_{k,l} \binom{n}{k}^2\binom{n}{l}\binom{n+l}{n}\binom{2n-2k}{n}\binom{2k}{n-l}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
305	$D=\theta^4+2^4\cdot 3z(81552\theta^4-94944\theta^3-53688\theta^2-6216\theta-379)$ $+2^{20}\cdot 3z^2(1091952\theta^4-2917008\theta^3+1388032\theta^2+225284\theta+19545)$ $+2^{34}\cdot 3^3\cdot 7z^3(-207504\theta^4+221184\theta^3+157480\theta^2+52224\theta+5855)$ $+2^{59}\cdot 3^5\cdot 7z^4(2\theta+1)^2(3\theta+1)(3\theta+2)$
	$A_n=\binom{2n}{n}^2\sum_{k=0}^{n}\binom{n+2k}{k}\binom{3n-2k}{n-k}\binom{2n+4k}{n+2k}\binom{6n-4k}{3n-2k}\binom{3n}{n+k}$ $\times\big(1+k(-H_k+H_{n-k}-2H_{n+k}+2H_{2n-k}+2H_{3n-2k}$ $-2H_{n+2k}+4H_{2n+4k}-4H_{6n-4k})\big)$ $+\binom{2n}{n}^2\sum_{k=1}^{[(n-1)/2]}(-1)^k\frac{n+2k}{k}\binom{3n+2k}{n+k}\binom{2n-4k}{n-2k}$ $\times\binom{6n+4k}{3n+2k}\binom{3n}{n-k}\binom{n-k}{n-2k}^{-1}$ $+\binom{2n}{n}^2\sum_{k=[(n+1)/2]}^{n}(-1)^{n+k}\frac{n+2k}{k}\binom{3n+2k}{n+k}\binom{k}{n-k}$ $\times\binom{6n+4k}{3n+2k}\binom{3n}{n-k}\binom{4k-2n}{2k-n}^{-1}$
306	$D=3^2\theta^4-3z(592\theta^4+1100\theta^3+829\theta^2+279\theta+36)$ $+z^2(13801\theta^4+6652\theta^3-18041\theta^2-14904\theta-3312)$ $-2z^3\theta(8461\theta^3-29160\theta^2-28365\theta-7236)$ $-2^2\cdot 3\cdot 7z^4(513\theta^4+864\theta^3+487\theta^2+64\theta-16)$ $+2^3\cdot 3\cdot 7^2z^5(\theta+1)^2(3\theta+2)(3\theta+4)$
	$A_n=\sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{2l}{n}\binom{n}{l-k}$
307	$D=11^2\theta^4-11z(1083\theta^4+1590\theta^3+1257\theta^2+462\theta+66)$ $+2^2z^2(47008\theta^4+45904\theta^3-3251\theta^2-17094\theta-4851)$ $-2^4\cdot 3z^3(31436\theta^4+86856\theta^3+160363\theta^2+122133\theta+30294)$ $+2^9\cdot 3^2z^4(2\theta+1)(1252\theta^3+5442\theta^2+6767\theta+2625)$ $-2^{14}\cdot 3^6z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=\binom{2n}{n}\sum_{k,l}\binom{n}{k}\binom{n}{l}\binom{n}{k+l}^2\binom{k+l}{k}$
308	$D=29^2\theta^4-2\cdot 29z(1318\theta^4+2336\theta^3+1806\theta^2+638\theta+87)$ $-2^2z^2(90996\theta^4+744384\theta^3+1267526\theta^2+791584\theta-168345)$ $+2^2\cdot 5^2z^3(34172\theta^4+77256\theta^3-46701\theta^2-110403\theta-36540)$ $+2^4\cdot 5^4z^4(2\theta+1)(68\theta^3+1842\theta^2+2899\theta+1215)$ $-2^6\cdot 5^7z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=\binom{2n}{n}\sum_{k,l}\binom{n}{k}\binom{k}{l}\binom{n+k-l}{n}\binom{2l}{l}\binom{2l}{k-l}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
309	$D = 3^4\theta^4 - 3^2z(1993\theta^4 + 3218\theta^3 + 2437\theta^2 + 828\theta + 108) + 2^5z^2(17486\theta^4 + 25184\theta^3 + 12239\theta^2 + 2790\theta + 297) - 2^8z^3(23620\theta^4 + 34776\theta^3 + 28905\theta^2 + 12447\theta + 2106) + 2^{15}z^4(2\theta+1)(340\theta^3 + 618\theta^2 + 455\theta + 129) - 2^{22}z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{n+l}{n}\binom{2k}{n-l}$
310	$D = 11^2\theta^4 - 11z(1673\theta^4 + 3046\theta^3 + 2337\theta^2 + 814\theta + 110) + 2\cdot 5z^2(19247\theta^4 + 28298\theta^3 + 13285\theta^2 + 3454\theta + 660) - 2^2z^3(167497\theta^4 + 245982\theta^3 + 227451\theta^2 + 115434\theta + 22968) + 2^3\cdot 5^2z^4(4079\theta^4 + 10270\theta^3 + 11427\theta^2 + 6226\theta + 1340) - 2^5\cdot 5^4z^5(\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n = \sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{n+k}{n}\binom{n+l}{n}\binom{2k}{n-l}$
311	$D = 13^2\theta^4 - 13z(327\theta^4 + 1038\theta^3 + 857\theta^2 + 338\theta + 52) - 2^4z^2(12848\theta^4 + 42008\theta^3 + 52082\theta^2 + 28548\theta + 5707) + 2^{11}z^3(-122\theta^4 + 1872\theta^3 + 6341\theta^2 + 5772\theta + 1547) + 2^{16}z^4(2\theta+1)(76\theta^3 + 426\theta^2 + 570\theta + 227) + 2^{23}z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{2l}{n}\binom{2k}{n+l}$
312	$D = 7^2\theta^4 - 7z(39\theta^4 + 234\theta^3 + 201\theta^2 + 84\theta + 14) - 2z^2(12073\theta^4 + 43222\theta^3 + 57461\theta^2 + 34328\theta + 7756) + 2^2z^3(-28923\theta^4 - 48421\theta^3 + 33393\theta^2 + 80976\theta + 32032) + 2^3\cdot 13z^4(359\theta^4 + 9790\theta^3 + 20805\theta^2 + 15784\theta + 4124) + 2^5\cdot 3\cdot 13^2z^5(\theta+1)^2(6\theta+5)(6\theta+7)$
	$A_n = \sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{n+k-l}{n-l}\binom{2l}{n}\binom{2k}{n+l}$
313	$D = \theta^4 - z(\theta+1)(285\theta^3 + 321\theta^2 + 128\theta + 18) + 2z^2(-1640\theta^4 - 1322\theta^3 + 1337\theta^2 + 1178\theta + 240) + 2^2\cdot 3^2z^3(-213\theta^4 + 256\theta^3 + 286\theta^2 + 80\theta + 5) + 2^3\cdot 3^3z^4(2\theta+1)(22\theta^3 + 37\theta^2 + 24\theta + 6) + 2^4\cdot 3^3z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{n+k-l}{n-l}\binom{3k}{n+l}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
314	$D = 2^4\theta^4 - 2^2z(1282\theta^4 + 2618\theta^3 + 1909\theta^2 + 600\theta + 72) - 3^2z^2(9503\theta^4 + 26810\theta^3 + 31755\theta^2 + 15944\theta + 2936) - 3^4z^3(-15627\theta^4 + 18288\theta^3 + 91412\theta^2 + 53256\theta + 9688) + 2\cdot 3^6z^4(15106\theta^4 + 20300\theta^3 - 20421\theta^2 - 23443\theta - 5907) + 2^2\cdot 3^8z^5(-2072\theta^4 + 18256\theta^3 + 2563\theta^2 - 4626\theta - 1495) - 2^2\cdot 3^{10}z^6(6204\theta^4 + 360\theta^3 - 281\theta^2 + 1017\theta + 434) - 2^5\cdot 3^{12}z^7(2\theta+1)(100\theta^3 + 162\theta^2 + 95\theta + 21) + 2^8\cdot 3^{14}z^8(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{2n-l}{n}\binom{3k}{n+l}$
315	$D = 5^2\theta^4 - 5^2z(239\theta^4 + 496\theta^3 + 368\theta^2 + 120\theta + 15) - 3\cdot 5z^2(3454\theta^4 + 6412\theta^3 + 4682\theta^2 + 2180\theta + 490) - 3^2\cdot 5z^3(1519\theta^4 + 7338\theta^3 + 14271\theta^2 + 8340\theta + 1690) - 3^3z^4(-10358\theta^4 + 16622\theta^3 + 49763\theta^2 + 37900\theta + 10210) + 3^4z^5(4610\theta^4 + 17630\theta^3 - 6785\theta^2 - 15140\theta - 5155) + 3^5z^6(-1219\theta^4 + 6030\theta^3 + 6441\theta^2 + 1740\theta - 160) - 2^2\cdot 3^6z^7(162\theta^4 + 234\theta^3 + 65\theta^2 - 52\theta - 25) - 2^4\cdot 3^8z^8(\theta+1)^4$
	$A_n = \sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{2n-l}{n}\binom{n+k-l}{n-l}\binom{3k}{n+l}$
316	$D = 11^2\theta^4 - 2^2\cdot 11z(1092\theta^4 + 2472\theta^3 + 1792\theta^3 + 561\theta + 66) - 2^4z^2(124328\theta^4 + 168992\theta^3 + 24998\theta^2 - 128040\theta - 3168) - 2^4\cdot 3z^3(484016\theta^4 + 474144\theta^3 + 366952\theta^2 + 161832\theta + 27027) - 2^{11}\cdot 3^2z^4(2\theta+1)^2(964\theta^2 + 1360\theta + 669) - 2^{16}\cdot 3^4z^5(2\theta+1)^2(2\theta+3)^2$
	$A_n = \binom{2n}{n}^2\sum_{k,l}\binom{n}{k}^2\binom{n}{l}\binom{3k}{n+l}$
317	$D = 2^4\theta^4 - 2^2\cdot 3z(162\theta^4 + 414\theta^3 + 335\theta^2 + 128\theta + 20) + 3^3z^2(1219\theta^4 + 10906\theta^3 + 18963\theta^2 + 11824\theta + 2708) + 3^5\cdot 5z^3(-922\theta^4 - 162\theta^3 + 6403\theta^2 + 6576\theta + 1964) - 3^7z^4(10358\theta^4 + 58054\theta^3 + 62251\theta^2 + 29672\theta + 4907) + 3^9\cdot 5z^5(1519\theta^4 - 1262\theta^3 + 1371\theta^2 + 4264\theta + 1802) + 2\cdot 3^{11}\cdot 5z^6(1727\theta^4 + 3702\theta^3 + 3085\theta^2 + 882\theta + 17) + 3^{13}\cdot 5^2z^7(239\theta^4 + 460^3 + 314\theta^2 + 84\theta + 6) - 3^{16}\cdot 5^2z^8(\theta+1)^4$
	the reflection of #315 at infinity
	a formula for A_n is not known

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
318	$D = 5^2\theta^4 - 5z(473\theta^4 + 892\theta^3 + 696\theta^2 + 250\theta + 35) - 2z^2(-1973\theta^4 + 4636\theta^3 + 14417\theta^2 + 10895\theta + 2745) + 2\cdot 3^2z^3(343\theta^4 + 1920\theta^3 + 1147\theta^2 - 345\theta - 320) + 3^4z^4(-83\theta^4 + 104\theta^3 + 458\theta^2 + 406\theta + 114) - 3^8z^5(\theta+1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{n+k-l}{n-l} \binom{2k+l}{n+l}$
319	$D = \theta^4 + z(83\theta^4 + 436\theta^3 + 352\theta^2 + 134\theta + 21) + 2\cdot 3^2z^2(-343\theta^4 + 548\theta^3 + 2555\theta^2 + 1749\theta + 405) - 3^4z^3(3946\theta^4 + 25056\theta^3 + 22658\theta^2 + 7722\theta + 684) + 3^8\cdot 5z^4(473\theta^4 + 1000\theta^3 + 858\theta^2 + 358\theta + 62) - 3^{12}\cdot 5^2z^5(\theta+1)^4$
	the reflection of #318 at infinity
	a formula for A_n is not known
320	$D = 11^2\theta^4 - 11z(4843\theta^4 + 8918\theta^3 + 6505\theta^2 + 2046\theta + 242) + 2^2z^2(312184\theta^4 + 343456\theta^3 - 23371\theta^2 - 73942\theta - 14883) - 2^4z^3(511972\theta^4 + 256344\theta^3 + 144969\theta^2 + 78639\theta + 15642) + 2^{11}z^4(2\theta+1)(1964\theta^3 + 3078\theta^2 + 1853\theta + 419) - 2^{18}z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k}^2 \binom{n}{l} \binom{2n-l}{n} \binom{n+2k}{n+l}$
321	$D = 3^4\theta^4 - 3^2z(191\theta^4 + 862\theta^3 + 683\theta^2 + 252\theta + 36) - 2^5z^2(7225\theta^4 + 24835\theta^3 + 30634\theta^2 + 16173\theta + 3069) - 2^8z^3(13251\theta^4 + 35856\theta^3 + 27641\theta^2 + 6966\theta + 180) - 2^{12}\cdot 5z^4(2\theta+1)(314\theta^3 + 363\theta^2 + 68\theta - 31) + 2^{16}\cdot 5^2z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k}^2 \binom{n}{l} \binom{2l}{n} \binom{n+k}{n+l}$
322	$D = 3^2\theta^4 - 3z(-5\theta^4 + 122\theta^3 + 100\theta^2 + 39\theta + 6) - z^2(8603\theta^4 + 32600\theta^3 + 41729\theta^2 + 23736\theta + 5052) - 2^2z^3(33304\theta^4 + 108297\theta^3 + 122347\theta^2 + 61470\theta + 11712) - 2^2z^4(180401\theta^4 + 547606\theta^3 + 638125\theta^2 + 339248\theta + 69036) - 2^4z^5(94934\theta^4 + 298745\theta^3 + 355667\theta^2 + 189660\theta + 38224) - 2^4z^6(73291\theta^4 + 204216\theta^3 + 190453\theta^2 + 68916\theta + 6964) - 2^7\cdot 3z^7(811\theta^4 + 1886\theta^3 + 1804\theta^2 + 861\theta + 174) - 2^{10}\cdot 3^2z^8(\theta+1)^4$
	$A_n = \sum_{k,l} \binom{n}{k}^2 \binom{n}{l} \binom{n+k-l}{n-l} \binom{2l}{n} \binom{n+k}{n+l}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
323	$D = 3^2\theta^4 + 3z(811\theta^4 + 1358\theta^3 + 1012\theta^2 + 333\theta + 42) + z^2(73291\theta^4 + 88948\theta^3 + 17551\theta^2 - 7494\theta - 2424) + 2^3z^3(94934\theta^4 + 80991\theta^3 + 29036\theta^2 + 5175\theta + 420) + 2^4z^4(180401\theta^4 + 173998\theta^3 + 77713\theta^2 + 15788\theta + 708) + 2^7z^5(33304\theta^4 + 24919\theta^3 - 2720\theta^2 - 8451\theta - 2404) + 2^8z^6(8603\theta^4 + 1812\theta^3 - 4453\theta^2 - 3666\theta - 952) - 2^{11}\cdot 3z^7(5\theta^4 + 142\theta^3 + 296\theta^2 + 225\theta + 60) - 2^{14}\cdot 3^2z^8(\theta+1)^4$
	the reflection of #322 at infinity
	$A_n = (-1)^n \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{n+2k}{n}\binom{n+k-l}{n-l}$
324	$D = 11^2\theta^4 - 2^2\cdot 11z(432\theta^4 + 624\theta^3 + 477\theta^2 + 165\theta + 22) + 2^5z^2(-12944\theta^4 + 4736\theta^3 - 15491\theta^2 - 12914\theta - 2860) + 2^4 5z^3(-10688\theta^4 + 114048\theta^3 + 159132\theta^2 + 83028\theta + 15455) - 2^{11}\cdot 5^2z^4(2\theta+1)(4\theta+3)(76\theta^2 + 189\theta + 125) + 2^{14}\cdot 5^2z^5(2\theta+1)(2\theta+3)(4\theta+3)(4\theta+5)$
	A_n is the constant term of S^{2n} (Batyrev #11.7658), where $S = x + \frac{1}{x} + \frac{y}{x} + \frac{z}{x} + \frac{x}{yz} + \frac{t}{x}(1 + y + z + yz) + \frac{x}{t}\left(\frac{1}{y} + \frac{1}{z} + \frac{1}{yz}\right)$
325	$D = 19^2\theta^4 - 19z(4333\theta^4 + 6212\theta^3 + 4778\theta^2 + 1672\theta + 228) + z^2(430749\theta^4 + 760048\theta^3 + 621640\theta^2 + 280242\theta + 530556) - z^3(937393\theta^4 + 213316800\theta^3 + 2360371196\theta^2 + 1257486120 + 25260804) + z^4(2408138000\theta^4 + 7785292000\theta^3 + 10414477590\theta^2 + 6318028090 + 138510993) - 2^2\cdot 409z^5(\theta+1)(2851324\theta^3 + 100355\theta^2 + 112212410 + 3481470) + 2^2\cdot 3^2\cdot 19^2\cdot 409^2z^6(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	A_n is the constant term of S^{2n} (Batyrev #11.7661), where $S = \frac{1}{x} + \frac{y}{x} + \frac{x}{y} + \frac{z}{x} + \frac{x}{z} + \frac{yz}{x} + \frac{x}{yz} + \frac{t}{x}(1 + y + yz) + \frac{x}{t}\left(1 + \frac{1}{y} + \frac{1}{yz}\right)$
326	$D = 13^2\theta^4 - 13z\theta(56\theta^3 + 178\theta^2 + 115\theta + 26) - z^2(28466\theta^4 + 109442\theta^3 + 165603\theta^2 + 117338\theta + 32448) - z^3(233114\theta^4 + 1257906\theta^3 + 2622815\theta^2 + 2467842\theta + 872352) - z^4(989585\theta^4 + 6852298\theta^3 + 17737939\theta^2 + 19969754\theta + 8108448) - z^5(\theta+1)(2458967\theta^3 + 18007287\theta^2 + 44047582\theta + 35386584) - 9z^6(\theta+1)(\theta+2)(393163\theta^2 + 2539029\theta + 4164444) - 297z^7(\theta+1)(\theta+2)(\theta+3)(8683\theta + 34604) + 3^3\cdot 11^2\cdot 13\cdot 17z^8(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	A_n is the constant term of S^n (Batyrev #20.1454; Kreuzer $X^{37}_{117,114}$), where $S = x + \frac{1}{x} + y + \frac{1}{y} + z + \frac{1}{z} + t + \frac{1}{t} + \frac{x}{z} + \frac{t}{x} + \frac{z}{y} + \frac{x}{y} + \frac{1}{xy} + \frac{1}{yt} + \frac{1}{zt} + \frac{z}{xy} + \frac{zt}{x} + \frac{x}{zt} + \frac{yt}{x} + \frac{z}{yt}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
327	$D = 29^2\theta^4 + 2\cdot 29z\theta(24\theta^3 - 198\theta^2 - 128\theta - 29) - 2^2z^2(44284\theta^4 + 172954\theta^3 + 248589\theta^2 + 172057\theta + 47096) - 2^2z^3(525708\theta^4 + 2414772\theta^3 + 4447643\theta^2 + 3839049\theta + 1275594) - 2^3z^4(1415624\theta^4 + 7911004\theta^3 + 17395449\theta^2 + 17396359\theta + 6496262) - 2^4z^5(\theta+1)(2152040\theta^3 + 12186636\theta^2 + 24179373\theta + 16560506) - 2^5z^6(\theta+1)(\theta+2)(1912256\theta^2 + 9108540\theta + 11349571) - 2^8\cdot 41z^7(\theta+1)(\theta+2)(\theta+39(5671\theta + 16301) - 2^8\cdot 3\cdot 19\cdot 41^2z^8(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	A_n is the constant term of S^n (Batyrev #20.1268; Kreuzer $X^{41}_{116,116}$), where $S = x + \frac{1}{x} + y + \frac{1}{y} + z + \frac{1}{z} + t + \frac{1}{t} + \frac{x}{t} + \frac{t}{y} + \frac{t}{x} + zt + \frac{1}{xy} + \frac{1}{xz} + \frac{zt}{x} + \frac{zt}{y} + \frac{y}{zt} + \frac{t}{xy} + \frac{zt}{xy} + \frac{xy}{zt}$
328	$D = \theta^4 - 2^3z(33\theta^4 + 58\theta^3 + 44\theta^2 + 15\theta + 2) + 2^6z^2(174\theta^4 + 448\theta^3 + 493\theta^2 + 262\theta + 52) - 2^9z^3(2\theta+1)(166\theta^3 + 465\theta^2 + 477\theta + 158) + 2^{13}\cdot 3z^4(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n}\sum_k(-1)^{n+k}4^{n-k}\binom{n}{k}\binom{2k}{k}\binom{n+k}{n}\binom{2k}{n}$
329	$D = \theta^4 - 2^4z(8\theta^4 + 34\theta^3 + 25\theta^2 + 8\theta + 1) - 2^8z^2(87\theta^4 + 150\theta^3 + 32\theta^2 + 2\theta + 1) - 2^{12}z^3(202\theta^4 + 240\theta^3 + 211\theta^2 + 102\theta + 19) - 2^{16}\cdot 3z^4(2\theta+1)(22\theta^3 + 45\theta^2 + 38\theta + 12) - 2^{20}\cdot 3^2z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_k(-1)^{n+k}4^{n-k}\binom{n}{k}\binom{2k}{k}\binom{2k}{n}^2$
330	$D = \theta^4 + 2^4z(112\theta^4 - 64\theta^3 - 32\theta^2 + 1) + 2^{14}z^2(56\theta^4 - 64\theta^3 + 3\theta^2 - 10\theta - 4) + 2^{20}z^3(32\theta^4 - 384\theta^3 - 436\theta^2 - 264\theta - 55) - 2^{29}\cdot 3z^4(2\theta+1)(10\theta+7)(2\theta^2 + 4\theta + 3) - 2^{38}\cdot 3^2z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_k(-1)^{n+k}4^{n-k}\binom{n}{k}^{-1}\binom{2k}{k}^3\binom{2n-2k}{n-k}^2$
331	$D = \theta^4 + 2^4z(-18\theta^4 + 48\theta^3 + 33\theta^2 + 9\theta + 1) - 2^9z^2(86\theta^4 + 512\theta^3 + 125\theta^2 + 45\theta + 10) + 2^{14}z^3(1138\theta^4 + 2040\theta^3 + 1883\theta^2 + 879\theta + 157) - 2^{19}\cdot 7z^4(2\theta+1)(186\theta^3 + 375\theta^2 + 317\theta + 100) + 2^{27}\cdot 7^2z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_k 4^{n-k}\binom{2k}{k}^2\binom{2n-2k}{n-k}\binom{2k}{n}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
332	$D = 3^2\theta^4 + 2^2\cdot 3z(67\theta^4+122\theta^3+100\theta^2+39\theta+6)$ $+ 2^5z^2(1172\theta^4+4298\theta^3+5831\theta^2+3315\theta+678)$ $+ 2^8z^3(302\theta^4+15912\theta^3+29314\theta^2+20925\theta+4926)$ $+ 2^{11}z^4(2\theta+1)(826\theta^3+3543\theta^2+4321\theta+1594)$ $+ 2^{16}z^5(2\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n = 2^n\binom{2n}{n}\sum_k(-1)^{n+k}4^{-k}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n}\binom{n+k}{n}$
333	$D = \theta^4 + z\theta^2(71\theta^2-2\theta-1)$ $+ 2^3\cdot 3z^2(154\theta^4+334\theta^3+461\theta^2+248\theta+48)$ $+ 2^6\cdot 3^2z^3(5\theta+3)(31\theta^3+39\theta^2-25\theta-21)$ $+ 2^9\cdot 3^6z^4(2\theta+1)(2\theta^3-33\theta^2-56\theta-24)$ $- 12^6z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \sum_k(-1)^k3^{2n-3k}\binom{2n}{3k}\binom{2k}{n}^2\frac{(3k)!}{k!^3}$
334	$D = 3^2\theta^4 - 3z(166\theta^4+320\theta^3+271\theta^2+111\theta+18)$ $+ z^2(11155\theta^4+42652\theta^3+60463\theta^2+36876\theta+8172)$ $- 9z^3(4705\theta^4+23418\theta^3+42217\theta^2+31152\theta+7932)$ $+ 12z^4(3514\theta^4+16403\theta^3+25581\theta^2+16442\theta+3744)$ $- 20z^5(5\theta+3)(5\theta+4)(5\theta+6)(5\theta+7)$
	$A_n = \sum_{k,l}(-1)^l3^{n-3l}\binom{n}{k}^2\binom{n}{3l}\binom{k+l}{k}\frac{(3l)!}{l!^3}$
335	$D = \theta^4 - z(61\theta^4+122\theta^3+125\theta^2+64\theta+12)$ $- 2^3z^2(193\theta^4+772\theta^3+1033\theta^2+522\theta+72)$ $+ 2^9\cdot 3z^3(146\theta^4+876\theta^3+1838\theta^2+1572\theta+405)$ $- 2^{12}\cdot 3^2z^4(204\theta^4+1632\theta^3+4449\theta^2+4740\theta+1400)$ $+ 2^{16}\cdot 3^3z^5(2\theta+5)^2(16\theta^2+80\theta+35)$ $- 2^{19}\cdot 3^4z^6(2\theta+1)(2\theta+5)(2\theta+7)(2\theta+11)$
	$A_n = \binom{2n}{n}\sum_{k,l}(-8)^{n-k}\binom{n}{k}\binom{k}{l}^3\binom{3k}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
336	$\begin{aligned} D = {} & \theta^4 - z(205\theta^4 + 410\theta^3 + 305\theta^2 + 100\theta + 12) \\ & - 2^5 z^2(127\theta^4 + 508\theta^3 + 742^2 + 468\theta + 99) \\ & - 2^2 \cdot 3z^3(2588\theta^4 + 15528\theta^3 + 32639\theta^2 + 28041\theta + 7290) \\ & - 2^6 \cdot 3^2 z^4(204\theta^4 + 1632\theta^3 + 4449\theta^2 + 4740\theta + 1400) \\ & - 2^7 \cdot 3^3 z^5(2\theta + 5)^2(16\theta^2 + 80\theta + 35) \\ & - 2^7 \cdot 3^4 z^6(2\theta + 1)(2\theta + 5)(2\theta + 7)(2\theta + 11) \end{aligned}$
	$A_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k} \binom{k}{l}^3 \binom{3k}{n}$
337	$\begin{aligned} D = {} & 5^2\theta^4 - 5 \cdot 3z(3483\theta^4 + 6102\theta^3 + 4241\theta^2 + 1190\theta + 120) \\ & + 2^5 \cdot 3^2 z^2(31428\theta^4 + 35559\theta^3 + 243\theta^2 - 4320\theta - 740) \\ & - 2^8 \cdot 3^5 z^3(7371\theta^4 + 4860\theta^3 + 2997\theta^2 + 1080\theta + 140) \\ & + 2^{13} \cdot 3^8 z^4(3\theta + 1)^2(3\theta + 2)^2 \end{aligned}$
	$A_n = \binom{2n}{n}^2 \sum_k (-1)^{n+k} 4^{n-k} \binom{n}{k} \binom{2n+k}{2n} \binom{3n+2k}{n+k}$
338	$\begin{aligned} D = {} & 3^2\theta^4 + 2^2 \cdot 3z(278\theta^4 + 424\theta^3 + 311\theta^2 + 99\theta + 12) \\ & + 2^3 z^2(20840\theta^4 + 15776\theta^3 - 10540\theta^2 - 9732\theta - 1968) \\ & + 2^8 z^3(8190\theta^4 - 3528\theta^3 - 3991\theta^2 - 585\theta + 114) \\ & - 2^{11} \cdot 11z^4(2\theta + 1)(86\theta^3 + 57\theta^2 - 39\theta - 329) \\ & + 2^{15} \cdot 11^2 z^5(\theta + 1)^2(2\theta + 1)(2\theta + 3) \end{aligned}$
	$A_n = \binom{2n}{n} \sum_k (-1)^k 4^{n-k} \binom{n}{k} \binom{2k}{k} \binom{n+k}{n} \binom{n+2k}{n}$
339	$\begin{aligned} D = {} & \theta^4 - 2^2 z(10\theta^4 + 50\theta^3 + 39\theta^2 + 14\theta + 2) \\ & + 2^4 z^2(177\theta^4 + 1158\theta^3 + 2007\theta^2 + 1158\theta + 230) \\ & + 2^8 z^3(539\theta^4 + 1344\theta^3 - 300\theta^2 - 1068\theta - 340) \\ & + 2^{10} \cdot 5z^4(2\theta + 1)(4\theta^3 - 642\theta^2 - 1002\theta - 385) \\ & - 2^{13} \cdot 3 \cdot 5^2 z^5(2\theta + 1)(2\theta + 3)(3\theta + 2)(3\theta + 4) \end{aligned}$
	$A_n = 2^{-n} \binom{2n}{n} \sum_k (-1)^k 4^{n-k} \binom{n}{k} \binom{2k}{k} \binom{2n-2k}{n} \binom{n+2k}{n}$
340	$\begin{aligned} D = {} & 3^2\theta^4 - 2^2 \cdot 3z(124\theta^4 + 1064\theta^3 + 769\theta^2 + 237\theta + 30) \\ & + 2^7 z^2(-8092\theta^4 - 5848\theta^3 + 22175\theta^2 + 13869\theta + 2751) \\ & + 2^{12} z^3(-5412\theta^4 + 92376\theta^3 + 67609\theta^2 + 15615\theta + 96) \\ & + 2^{17} \cdot 17z^4(2\theta + 1)(2242\theta^3 + 1419\theta^2 - 1047\theta - 733) \\ & - 2^{23} \cdot 3 \cdot 17^2 z^5(2\theta + 1)(2\theta + 3)(3\theta + 2)(3\theta + 4) \end{aligned}$
	$A_n = \binom{2n}{n}^2 \sum_k 4^{n-k} \binom{n}{k}^2 \binom{n+k}{n} \binom{n+2k}{k} \binom{2n}{2k}^{-1}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
341	$D = 13^2\theta^4 - 13z(1217\theta^4 + 1474\theta^3 + 1127\theta^2 + 390\theta + 52) - 2^4z^2(51340\theta^4 + 83956\theta^3 + 142024\theta^2 + 83616\theta + 16575) + 2^6z^3(14292\theta^4 + 565032\theta^3 + 604615\theta^2 + 269841\theta + 44070) - 2^{11}\cdot 5z^4(2\theta+1)(4324\theta^3 + 10698\theta^2 + 9903\theta + 3110) + 2^{16}\cdot 3\cdot 5^2z^5(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_n = \binom{2n}{n}\sum_k \binom{n}{k}^2\binom{2k}{n}\binom{3n-2k}{n}$
342	$D = \theta^4 + 2z(50\theta^4 + 64\theta^3 + 52\theta^2 + 20\theta + 3) + 2^2\cdot 3z^2(380\theta^4 + 992\theta^3 + 1166\theta^2 + 612\theta + 117) + 2^2\cdot 3^2z^3(2140\theta^4 + 5832\theta^3 + 5651\theta^2 23349\theta + 360) + 2^4\cdot 3^6z^4(2\theta+1)(20\theta^3 + 42\theta^2 + 35\theta + 11) + 2^6\cdot 3^7z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n = \binom{2n}{n}\sum_{k,l}(-1)^{n+k}3^{n-3k}\binom{n}{3k}\binom{2k}{l}\frac{(3k)!}{k!^3}\binom{n}{l}$
343	$D = \theta^4 + z(91\theta^4 + 116\theta^3 + 96\theta^2 + 38\theta + 6) + z^2(3649\theta^4 + 9388\theta^3 + 11076\theta^2 + 5950\theta + 1218) + z^3(63585\theta^4 + 203832\theta^3 + 258070\theta^2 + 148542\theta + 32814) + 2z^4(244543\theta^4 + 938432\theta^3 + 1417427\theta^2 + 933049\theta + 226317) + 2^2z^5(374407\theta^4 + 1908784\theta^3 + 3407293\theta^2 + 2501538\theta + 653454) + 2^2\cdot 3z^6(130530\theta^4 + 686256\theta^3 + 1382165\theta^2 + 1159645\theta + 333030) - 2^3z^7(-276464\theta^4 + 92912\theta^3 + 3194335\theta^2 + 3755703\theta + 1224450) + 2^4z^8(341712\theta^4 + 1614816\theta^3 + 1576879\theta^2 + 219863\theta - 145632) - 2^5z^9(29968\theta^4 + 412128\theta^3 + 489227\theta^2 + 156573\theta - 3258) + 2^8\cdot 3z^{10}(6368\theta^4 + 13600\theta^3 + 11014\theta^2 + 4187\theta + 681) - 2^{11}\cdot 3^3z^{11}(\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n = \sum_{k,l}(-1)^{n+k}3^{n-3k}\binom{n}{3k}\binom{2k}{l}\frac{(3k)!}{k!^3}\binom{n}{l}\binom{2n-l}{n}$
344	$D = 7^2\theta^4 - 7z\theta(29\theta^3 - 50\theta^2 - 32\theta - 7) + 3z^2\theta(1235\theta^3 + 512\theta^2 + 1165\theta + 532) - 2\cdot 3^2z^3(5373\theta^4 + 29040\theta^3 + 61493\theta^2 + 51786\theta + 15876) + 2^2\cdot 3^3z^4(10813\theta^4 + 68120\theta^3 + 160529\theta^2 + 154570\theta + 53396) - 2^3\cdot 3^4z^5(13929\theta^4 + 84348\theta^3 + 181015\theta^2 + 171080\theta + 59172) + 2^5\cdot 3^5z^6(6160\theta^4 + 35964\theta^3 + 69935\theta^2 + 58677\theta + 18110) - 2^8\cdot 3^6z^7(944\theta^4 + 5308\theta^3 + 10916\theta^2 + 9657\theta + 3109) + 2^{11}\cdot 3^7z^8(\theta+1)^2(96\theta^2 + 300\theta + 265) - 2^{15}\cdot 3^9z^9(\theta+1)^2(\theta+2)^2$
	$A_n = \sum_{k,l}(-1)^{n+k}3^{n-3k}\binom{n}{3k}\binom{2k}{l}\frac{(3k)!}{k!^3}\binom{n}{l}\binom{2l}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
345	$D = 11^2\theta^4 - 11\cdot 3z(113\theta^4 + 184\theta^3 + 158\theta^2 + 66\theta + 11)$ $+ 2z^2(28397^4 + 951380\theta^3 + 1284200\theta^2 + 777150\theta + 17622)$ $- 3z^3(3165\theta^4 + 1808220\theta^3 + 5606110\theta^2 + 5390220\theta + 167508)$ $- 3z^4(233330\theta^4 + 1052614\theta^3 + 1424797\theta^2 + 774518\theta + 145896)$ $- 3^2z^5(12866\theta^4 - 98902\theta^3 - 52127\theta^2 + 102028\theta + 63723)$ $+ 3^2z^6(183763\theta^4 + 473778\theta^3 + 427847\theta^2 + 147060\theta + 11268)$ $- 2^3\cdot 3^3z^7(5006\theta^4 + 13414\theta^3 + 14935\theta^2 + 8228\theta + 1869)$ $+ 2^6\cdot 3^7z^8(\theta+1)^4$
	$A_n = \sum_{k,l}(-1)^{n+k}3^{n-3k}\binom{n}{3k}\frac{(3k)!}{k!^3}\binom{k+l}{k}\binom{n}{l}\binom{2k}{n-l}$
346	$D = 8^2\theta^4 - 8z(5006\theta^4 + 6610\theta^3 + 4729\theta^2 + 1424\theta + 168)$ $+ 3^3z^2(183763\theta^4 + 261274\theta^3 + 109091\theta^2 + 22352\theta + 2040)$ $- 3^7z^3(12866\theta^4 + 150366\theta^3 + 321775\theta^2 + 141888\theta + 21336)$ $+ 3^{10}z^4(-233330\theta^4 + 119294\theta^3 + 333065\theta^2 + 149446\theta + 23109)$ $- 3^{14}z^5(3165\theta^4 - 168162\theta^3 + 37135\theta^2 + 52394\theta + 11440)$ $+ 2\cdot 3^{17}z^6(28397\theta^4 + 18450\theta^3 + 13388\theta^2 + 7299\theta + 1586)$ $+ 3^{22}\cdot 11z^7(113\theta^4 + 268\theta^3 + 284\theta^2 + 150\theta + 32)$ $+ 3^{25}\cdot 11^2z^8(\theta+1)^4$
	the reflection of #345 at infinity
	a formula for A_n is not known
347	$D = \theta^4 - 3z(213\theta^4 + 186\theta^3 + 149\theta^2 + 56\theta + 8)$ $+ 2^3\cdot 3^3z^2(702\theta^4 + 1078\theta^3 + 949\theta^2 + 392\theta + 60)$ $- 2^6\cdot 3^3z^3(9277\theta^4 + 18432\theta^3 + 16008\theta^2 + 6000\theta + 840)$ $+ 2^{13}\cdot 3^4\cdot 5z^4(2\theta+1)^2(51\theta^2 + 69\theta + 32)$ $- 2^{14}\cdot 3^6\cdot 5^2z^5(2\theta+1)^2(2\theta+3)^2$
	$A_0 = 1, \quad A_n = 6\binom{2n}{n}^2\sum_{k=0}^{[n/6]}\frac{n-2k}{5n-6k}\binom{n}{k}^2\binom{5n-6k}{4n}$
348	$D = \theta^4 + 2^2z(70\theta^4 + 194\theta^3 + 145\theta^2 + 48\theta + 6)$ $+ 2^4\cdot 3z^2(-141\theta^4 + 858\theta^3 + 2111\theta^2 + 1192\theta + 206)$ $+ 2^8\cdot 3^2z^3(-18\theta^4 + 324\theta^3 + 2364\theta^2 + 1953\theta + 403)$ $- 2^{10}\cdot 3^4z^4(3\theta+1)(3\theta+2)(42\theta^2 + 258\theta + 223)$ $+ 2^{14}\cdot 3^6z^5(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_n = \binom{3n}{n}\sum_{k,l}(-1)^{k+l}\binom{n}{k}\binom{n}{l}\binom{2n}{k+l}\binom{2n-2k}{n}\binom{2l}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
349	$D = 7^2\theta^4 + 2 \cdot 3 \cdot 7z(111\theta^4 + 120\theta^3 + 102\theta^2 + 42\theta + 7)$ $+ 3z^2(673208\theta^4 + 1360032\theta^3 + 1538556\theta^2 + 833844\theta + 17976)$ $+ 3^3z^3(178553\theta^4 + 439878\theta^3 + 528099\theta^2 + 313502\theta + 74536)$ $+ 2 \cdot 3^3z^4(1355053\theta^4 + 3438698\theta^3 + 3854711\theta^2 + 2221354\theta + 519896)$ $+ 2^2 \cdot 3^4z^5(2406561\theta^4 + 5708802\theta^3 + 5082043\theta^2 + 2161754\theta + 336752)$ $+ 2^3 \cdot 3^5z^6(3133411\theta^4 + 6625998\theta^3 + 4266961\theta^2 + 238710\theta - 485736)$ $+ 2^6 \cdot 3^6z^7(746186\theta^4 + 1366021\theta^3 + 743388\theta^2 - 203279\theta - 212552)$ $+ 2^7 \cdot 3^7z^8(506499\theta^4 + 760668\theta^3 + 404459\theta^2 - 112958\theta - 117216)$ $+ 2^{11} \cdot 3^8z^9(27992\theta^4 + 34962\theta^3 + 7197\theta^2 - 14685\theta - 7604)$ $+ 2^{14} \cdot 3^9z^{10}(1381\theta^4 + 1244\theta^3 - 2460\theta^2 - 4030\theta - 1571)$ $- 2^{18} \cdot 3^{10}z^{11}(\theta + 1)^2(22\theta^2 + 98\theta + 105)$ $- 2^{22} \cdot 3^{11}z^{12}(\theta + 1)^2(\theta + 2)^2$
	$A_n = \sum_{k,l} (-1)^{n+k} 3^{n-3k} \binom{n}{3k} \frac{(3k)!}{k!^3} \binom{2k}{n-l} \binom{n}{l} \binom{2l}{n}$
350	$D = \theta^4 - z(289\theta^4 + 722\theta^3 + 545\theta^2 + 184\theta + 24)$ $+ 2^3 \cdot 3z^2(214\theta^4 + 2734\theta^3 + 4861\theta^2 + 2640\theta + 468)$ $+ 2^6 \cdot 3^2z^3(1391\theta^4 + 5184\theta^3 + 4252\theta^2 + 1296\theta + 126)$ $+ 2^{10} \cdot 3^6z^4(2\theta + 1)^4$
	$A_n = 3\binom{2n}{n}^3 \sum_{k=0}^{[n/3]} (-1)^k \frac{n-2k}{2n-3k} \binom{n}{k}^2 \binom{2n-2k}{n+k} \binom{2n-k}{2k}^{-1}$
351	$D = \theta^4 + 2^4z(22256\theta^4 - 38432\theta^3 - 23000\theta^2 - 3784\theta - 321)$ $+ 2^{18} \cdot 3^3z^2(1712\theta^4 - 18448\theta^3 + 8648\theta^2 + 2220\theta + 279)$ $+ 2^{30} \cdot 3^6z^3(-4624\theta^4 + 2304\theta^3 + 1672\theta^2 + 576\theta + 63)$ $+ 2^{46} \cdot 3^{10}z^4(2\theta + 1)^4$
	the reflection of #350 at infinity
	a formula for A_n is not known
352	$D = \theta^4 - z(70\theta^4 + 86\theta^3 + 77\theta^2 + 34\theta + 6)$ $+ 3z^2(675\theta^4 + 1602\theta^3 + 1933\theta^2 + 1130\theta + 258)$ $- 2^2 \cdot 3^3z^3(271\theta^4 + 888\theta^3 + 1259\theta^2 + 831\theta + 207)$ $+ 2^2 \cdot 3^5z^4(212\theta^4 + 808\theta^3 + 1189\theta^2 + 773\theta + 186)$ $- 2^4 \cdot 3^7z^5(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = 3 \sum_{k=0}^{[n/3]} (-1)^k \frac{n-2k}{2n-3k} \binom{n}{k}^2 \binom{2k}{k} \binom{2n-2k}{n-k} \binom{2n-3k}{n}$

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
353	$D=\theta^4-2^2z(52\theta^4+40\theta^3+37\theta^2+17\theta+3)$ $+2^4z^2(960\theta^4+1536\theta^3+1512\theta^2+688\theta+123)$ $-2^8z^3(1792\theta^4+4608\theta^3+5184\theta^2+2816\theta-597)$ $-2^{14}z^4(4\theta+3)^2(4\theta+5)^2$
	$A_n=3\binom{2n}{n}\sum_{k=0}^{[n/3]}(-1)^k\frac{n-2k}{2n-3k}\binom{n}{k}^3\binom{n+k}{n}\binom{2n-k}{n}\times\binom{2n-2k}{n+k}\binom{2n-k}{2k}^{-1}\binom{2n}{2k}^{-1}$
354	$D=\theta^4-5z(170\theta^4+160\theta^3+125\theta^2+45\theta+6)$ $+3\cdot5^3z^2(725\theta^4+1220\theta^3+1105\theta^2+460\theta+68)$ $-3^2\cdot5^5z^3(1421\theta^4+3186\theta^3+3053\theta^2+1272\theta+188)$ $+2^2\cdot3^3\cdot5^7z^4(3\theta+1)(3\theta+2)(34\theta^2+61\theta+36)$ $-2^2\cdot3^4\cdot5^9z^5(3\theta+1)(3\theta+2)(3\theta+4)(3\theta+5)$
	$A_0=1,\ A_n=5\binom{2n}{n}\binom{3n}{n}\sum_{k=0}^{[n/5]}(-1)^k\frac{n-2k}{4n-5k}\binom{n}{k}^2\binom{4n-5k}{3n}$
355	$D=\theta^4-z\big(344(\theta+\frac12)^4+326(\theta+\frac12)^2+11\big)$ $+z^2\big(43408(\theta+1)^4+51724(\theta+1)^2+4816\big)$ $-48z^3\big(49536(\theta+\frac32)^4+43504(\theta+\frac32)^2+861\big)$ $+2^{14}\cdot3^2z^4(3\theta+5)(3\theta+7)(6\theta+11)(6\theta+13)$
	the YY-pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2z(2\theta+1)(43\theta^4+86\theta^3+77\theta^2+34\theta+6)$ $+48z^2(\theta+1)(2\theta+1)(2\theta+3)(6\theta+5)(6\theta+7)$
	a formula for A'_n is not known
356	$D=\theta^4-z\big(472(\theta+\frac12)^4+446(\theta+\frac12)^2+15\big)$ $+z^2\big(83344(\theta+1)^4+102060(\theta+1)^2+9252\big)$ $-z^3\big(6524928(\theta+\frac32)^4+5576448(\theta+\frac32)^2+69888\big)$ $+9216z^4(12\theta+19)(12\theta+23)(12\theta+25)(12\theta+29)$
	the YY-pullback of the 5th-order differential equation $D'y=0$, where
	$D'=\theta^5-2z(2\theta+1)(59\theta^4+118\theta^3+105\theta^2+46\theta+8)$ $+384z^2(\theta+1)(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A'_n=4\binom{2n}{n}\sum_{k=0}^{[n/4]}\frac{n-2k}{3n-4k}\binom{n}{4k}\binom{4n-4k}{n}^{-1}\binom{2n}{2k}^{-1}\frac{(4k)!}{k!^4}\frac{(4n-4k)!}{(n-k)!^4}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
357	$D = 13^2\theta^4 - 13z(441\theta^4 + 690\theta^3 + 631\theta^2 + 286\theta + 52) + 2^4z^2(51210\theta^4 + 155760\theta^3 + 212150\theta^2 + 137020\theta + 3445) - 2^{10}z^3(640\theta^4 + 2847\theta^3 + 5078\theta^2 + 4056\theta + 1196) + 2^{14}z^4(125\theta^4 + 562\theta^3 + 905\theta^2 + 624\theta + 157) - 2^{21}z^5(\theta+1)^4$
	$A_0 = 1, \quad A_n = 4\sum_{k=0}^{[n/4]} \frac{n-2k}{3n-4k}\binom{n}{k}^4\binom{3n-4k}{2n}$
358	$D = \theta^4 - 2^4z(125\theta^4 - 62\theta^3 - 31\theta^2 + 1) + 2^{11}z^2(640\theta^4 - 287\theta^3 + 377\theta^2 + 119\theta + 11) - 2^{16}z^3(5121\theta^4 + 4908\theta^3 + 5213\theta^2 + 2484\theta + 503) + 2^{23}\cdot 13z^4(441\theta^4 + 1074\theta^3 + 1207\theta^2 + 670\theta + 148) - 2^{34}\cdot 13^2z^5(\theta+1)^4$
	the reflection of #357 at infinity
	a formula for A_n is not known
359	$D = 5^2\theta^4 + 30z(51\theta^4 + 84\theta^3 + 72\theta^2 + 30\theta + 5) + 2^2\cdot 3z^2(3297\theta^4 + 10236\theta^3 + 13562\theta^2 + 8110\theta + 1830) + 2^2\cdot 3^3z^3(3866\theta^4 + 14088\theta^3 + 21137\theta^2 + 14355\theta + 3600) + 2^3\cdot 3^3z^4(11680\theta^4 + 38792\theta^3 + 45641\theta^2 + 24205\theta + 4854) + 2^4\cdot 3^5z^5(2624\theta^4 + 8240\theta^3 + 8275\theta^2 + 2971\theta + 216) + 2^5\cdot 3^5z^6(3248\theta^4 + 8832\theta^3 + 9739\theta^2 + 4803\theta + 882) + 2^7\cdot 3^7z^7(144\theta^4 + 384\theta^3 + 428\theta^2 + 233\theta + 51) + 2^9\cdot 3^7z^8(\theta+1)^2(4\theta+3)(4\theta+5)$
	$A_n = \sum_{k,l}(-1)^{n+k}3^{n-3k}\binom{n}{3k}\binom{n}{l}\binom{k}{n-l}\binom{2l}{n}\frac{(3k)!}{k!^3}$
360	$D = 17^2\theta^4 - 17z(-10622\theta^4 + 19904\theta^3 + 13913\theta^2 + 3961\theta + 510) + 3^2z^2(15968910\theta^4 - 108214444\theta^3 + 105808470\theta^2 + 63588840\theta + 1355036) + 3^5z^3(-5472387\theta^4 + 81131922\theta^3 + 52565469\theta^2 + 9898488\theta - 1434596) + 2^2\cdot 3^8\cdot 127z^4(318018\theta^4 + 157911\theta^3 - 445563\theta^2 - 476706\theta - 130792) - 2^2\cdot 3^{12}\cdot 5\cdot 127^2z^5(5\theta+3)(5\theta+4)(5\theta+6)(5\theta+7)$
	$A_n = \sum_k \binom{n}{k}\binom{n+3k}{n}\binom{4n-3k}{n}\frac{(3k)!}{k!^3}\frac{(3n-3k)!}{(n-k)!^3} \times \big(1 + k(-4H_k + 4H_{n-k} + 3H_{n+3k} - 3H_{4n-3k})\big)$
361	$D = \theta^4 - 2^2z(80\theta^4 + 88\theta^3 + 67\theta^2 + 23\theta + 3) + 2^4\cdot 3z^2(928\theta^4 + 2080\theta^3 + 2176\theta^2 + 972\theta + 153) - 2^{10}\cdot 3^2z^3(272\theta^4 + 648\theta^3 + 511\theta^2 + 162\theta + 18) + 2^{12}\cdot 3^6z^4(2\theta+1)^4$
	$A_0 = 1, \quad A_n = 3\binom{2n}{n}^2\sum_{k=0}^{[n/3]}(-1)^k\frac{n-2k}{2n-3k}\binom{n}{k}\binom{2n}{2k}\binom{2n-3k}{n}$

#	differential operator D and coefficients A_n, $n=0,1,2,\ldots$
362	$D=\theta^4+2^4z(-1088\theta^4+416\theta^3+212\theta^2+4\theta-3)$ $+2^{12}\cdot3^3z^2(928\theta^4-224\theta^3+448\theta^2+108\theta+9)$ $-2^{20}\cdot3^6z^3(320\theta^4+288\theta^3+220\theta^2+72\theta+9)$ $+2^{28}\cdot3^{10}z^4(2\theta+1)^4$
	the reflection of #361 at infinity
	a formula for A_n is not known
363	$D=\theta^4+3^2z(231\theta^4+318\theta^3+231\theta^2+72\theta+8)$ $+2^3\cdot3^5z^2(774\theta^4+1854\theta^3+1869\theta^2+768\theta+100)$ $+2^6\cdot3^8z^3(951\theta^4+2304\theta^3+1740\theta^2+504\theta+50)$ $+2^{10}\cdot3^{12}z^4(2\theta+1)^2(4\theta+1)(4\theta+3)$
	$A_0=1,\ A_n=3\frac{(4n)!}{n!^2(2n)!}\sum_{k=0}^{[n/3]}(-1)^{n+k}\frac{n-2k}{2n-3k}\binom{2n-3k}{n}\binom{2n}{k}\binom{2n}{n-k}$
364	$D=5^2\theta^4-5z(553\theta^4+722\theta^3+611\theta^2+250\theta+40)$ $+2^6z^2(1914\theta^4+4722\theta^3+5519\theta^2+3010\theta+610)$ $-2^{12}z^3(685\theta^4+2400\theta^3+3466\theta^2+2220\theta+500)$ $+2^{19}z^4(2\theta+1)(30\theta^3+105\theta^2+122\theta+46)$ $-2^{25}z^5(\theta+1)^2(2\theta+1)(2\theta+3)$
	$A_n=4\binom{2n}{n}\sum_{k=0}^{[n/4]}\frac{n-2k}{3n-4k}\binom{n}{k}^3\binom{3n-4k}{2n}$
365	$D=\theta^4-2^2z(99\theta^4+78\theta^3+65\theta^2+26\theta+4)$ $+2^6z^2(938\theta^4+1382\theta^3+1269\theta^2+554\theta+92)$ $-2^{10}z^3(4171\theta^4+8736\theta^3+8690\theta^2+3948\theta+680)$ $+2^{15}\cdot5z^4(2\theta+1)(418\theta^3+951\theta^2+846\theta+260)$ $-2^{19}\cdot3\cdot5^2z^5(2\theta+1)(2\theta+3)(3\theta+2)(3\theta+4)$
	$A_0=1,\ A_n=4\binom{2n}{n}\sum_{k=0}^{[n/4]}\frac{n-2k}{3n-4k}\binom{n}{k}\binom{2k}{k}\binom{2n-2k}{n-k}\binom{3n-4k}{2n}$
366	$D=\theta^4+z\theta(39\theta^3-30\theta^2-19\theta-4)$ $+2z^2(16\theta^4-1070\theta^3-1057\theta^2-676\theta-192)$ $-2^23^2z^3(3\theta+2)(171\theta^3+566\theta^2+600\theta+316)$ $-2^53^3z^4(384\theta^4+1542\theta^3+2635\theta^2+2173\theta+702)$ $-2^63^3z^5(\theta+1)(1393\theta^3+5571\theta^2+8378\theta+4584)$ $-2^{10}3^5z^6(\theta+1)(\theta+2)(31\theta^2+105\theta+98)$ $-2^{12}3^7z^7(\theta+1)(\theta+2)^2(\theta+3)$
	$A_n=\sum_{i,j,k,l,m}\binom{2i}{i}\binom{2j}{j}\binom{2k}{k}\binom{l+m}{m}\binom{2(n-i-j-k)}{n-i-j-k}\binom{n}{2(n-i-j-k)}$ $\times\binom{2(n-i-j-k)}{l+m}\binom{2i+2j+2k-n}{n-2i-l-m}\binom{4i+2j+2k+l+m-2n}{2i+2j+m-n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
367	$D = 3^2\theta^4 - 2^2 3z(760\theta^4 + 2048\theta^3 + 1423\theta^2 + 399\theta + 42)$ $+ 2^7 z^2(-20440\theta^4 - 25216\theta^3 + 4415\theta^2 + 4845\theta + 795)$ $+ 2^{12} z^3(39928\theta^4 + 16512\theta^3 + 23719\theta^2 + 11637\theta + 1830)$ $+ 2^{17} z^4(2928\theta^4 - 41856\theta^3 - 42871\theta^2 - 16873\theta - 2425)$ $+ 2^{23} z^5(608\theta^4 + 3968\theta^3 + 10676\theta^2 + 6177\theta + 1089)$ $+ 2^{29} z^6(272\theta^4 + 1056\theta^3 + 861\theta^2 + 264\theta + 27)$ $+ 2^{35} z^7(2\theta + 1)^4$
	$A_n = \binom{2n}{n} \sum_k (-1)^k 4^{n-k} \binom{n}{k}\binom{n+k}{n}\binom{n+2k}{n}\binom{2n+2k}{n+k}$
368	$D = \theta^4 + 2^4 z(1088\theta^4 - 2048\theta^3 - 1260\theta^2 - 236\theta - 19)$ $+ 2^{15} z^2(1216\theta^4 - 5504\theta^3 + 11272\theta^2 + 3654\theta + 423)$ $+ 2^{24} z^3(117120\theta^4 + 190848\theta^3 + 97220\theta^2 + 27432\theta + 2835)$ $+ 2^{35} z^4(159712\theta^4 + 253376\theta^3 + 235372^2 + 78648\theta + 9491)$ $+ 2^{46} z^5(-81760\theta^4 - 62656\theta^3 + 46316\theta^2 + 33048\theta + 5403)$ $+ 2^{57} 3z^6(3040\theta^4 - 2112\theta^3 - 2036\theta^2 - 528\theta - 41)$ $+ 2^{69} 3^2 z^7(2\theta + 1)^4$
	the reflection of #367 at infinity
	a formula for A_n is not known
369	$D = 3^2\theta^4 - 3z(112\theta^4 + 140\theta^3 + 133\theta^2 + 63\theta + 12)$ $+ z^2(4393\theta^4 + 9340\theta^3 + 10903\theta^2 + 6360\theta + 1488)$ $- 2z^3(11669\theta^4 + 27720\theta^3 + 27019\theta^2 + 8460\theta - 912)$ $+ 2^2 z^4(6799\theta^4 - 10288\theta^3 - 82183\theta^2 - 119168\theta - 52672)$ $- 2^3 7z^5(\theta + 1)(2611\theta^3 + 15537\theta^2 + 26998\theta + 14360)$ $- 2^6 7^2 z^6(\theta + 1)(\theta + 2)(83\theta^2 + 105\theta - 66)$ $- 2^{10} 7^3 z^7(\theta + 1)(\theta + 2)^2(\theta + 3)$
	the Hurwitz product (a)∘(a)
	$A_n = \sum_{k=0}^{n}\sum_{j=0}^{k}\sum_{l=0}^{n-k} \binom{n}{k}\binom{k}{j}^3\binom{n-k}{l}^3$
370	$D = 3^2\theta^4 - 3z(176\theta^4 + 220\theta^3 + 206\theta^2 + 96\theta + 18)$ $+ z^2(11692\theta^4 + 26440\theta^3 + 32164\theta^2 + 19632\theta + 4824)$ $- z^3(123365\theta^4 + 374814\theta^3 + 519741\theta^2 + 346176\theta + 89676)$ $+ 2z^4(309657\theta^4 + 1102938\theta^3 + 1591157\theta^2 + 1032920\theta + 249740)$ $- 2^3 \cdot 11z^5(\theta + 1)(12897\theta^3 + 35469\theta^2 + 31181\theta + 8042)$ $- 2^3 \cdot 11^2 z^6(\theta + 1)(\theta + 2)(355\theta^2 + 1047\theta + 806)$ $- 2^4 \cdot 11^3 z^7(\theta + 1)(\theta + 2)^2(\theta + 3)$
	the Hurwitz product (b)∘(b)
	$A_n = \sum_{k=0}^{n}\sum_{j=0}^{k}\sum_{l=0}^{n-k} \binom{n}{k}\binom{k}{j}^2\binom{k+j}{k}\binom{n-k}{l}^2\binom{n-k+l}{n-k}$

<table>
<tr><th>#</th><th>differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$</th></tr>
<tr><td rowspan="3">371</td><td>$D = 3^2\theta^4 - 3z(272\theta^4 + 340\theta^3 + 347\theta^2 + 177\theta + 36)$
$+ z^2(31273\theta^4 + 76540\theta^3 + 103783\theta^2 + 71112\theta + 19728)$
$- 2z^3(328219\theta^4 + 1181160\theta^3 + 1977957\theta^2 + 1620036\theta + 522288)$
$+ 2^2z^4(2036999\theta^4 + 9602752\theta^3 + 19022113\theta^2 + 17726192\theta + 6309408)$
$- 2^3 17z^5(\theta + 1)(439669\theta^3 + 2114103^2 + 3708554\theta + 2306280)$
$+ 2^6 3^3 17^2 z^6(\theta + 1)(\theta + 2)(481\theta^2 + 1875\theta + 1962)$
$- 2^{10} 3^4 17^3 z^7(\theta + 1)(\theta + 2)^2(\theta + 3)$</td></tr>
<tr><td>the Hurwitz product (g)∘(g)</td></tr>
<tr><td>$A_n = \sum_{k=0}^{n} \sum_{i,j,l,m} (-1)^{i+l} 8^{n-i-l} \binom{n}{k}\binom{k}{i}\binom{i}{j}^3 \binom{n-k}{l}\binom{l}{m}^3$</td></tr>
<tr><td rowspan="3">372</td><td>$D = \theta^4 - 3z(96\theta^4 + 120^3 + 127\theta^2 + 67\theta + 14)$
$+ 3^2z^2(3897\theta^4 + 9540\theta^3 + 13209^2 + 9246\theta + 2608)$
$- 2 \cdot 3^4 z^3(14445\theta^4 + 52002\theta^3 + 88179\theta^2 + 73278\theta + 23920)$
$+ 2^2 3^6 z^4(31671\theta^4 + 149364\theta^3 + 298089\theta^2 + 280512\theta + 100780)$
$- 2^3 3^{12} z^5(\theta + 1)(507\theta^3 + 2439\theta^2 + 4306\theta + 2704)$
$+ 2^6 3^{14} z^6(\theta + 1)(\theta + 2)(90\theta^2 + 351\theta + 370)$
$- 2^7 3^{19} z^7(\theta + 1)(\theta + 2)^2(\theta + 3)$</td></tr>
<tr><td>the Hurwitz product (h)∘(h)</td></tr>
<tr><td>$A_n = 27^n \sum_{k=0}^{n} \sum_{j=0}^{k} \sum_{l=0}^{n-k} (-1)^{j+l} \binom{n}{k}\binom{-2/3}{j}\binom{-2/3}{l}\binom{-1/3}{k-j}^2 \binom{-1/3}{n-k-l}^2$</td></tr>
<tr><td rowspan="2">373</td><td>$D = \theta^4 - 2z(190\theta^4 + 308\theta^3 + 227\theta^2 + 73\theta + 9)$
$+ 2^2z^2(4780\theta^4 + 6304\theta^3 + 2395\theta^2 + 642\theta + 135)$
$- 2^4 3z^3(6700\theta^4 + 8472\theta^3 + 7607\theta^2 + 3615\theta + 648)$
$+ 2^7 3^2 z^4(2\theta + 1)(760\theta^3 + 1464\theta^2 + 1211\theta + 375)$
$- 2^{10} 3^6 z^5(\theta + 1)^2(2\theta + 1)(2\theta + 3)$</td></tr>
<tr><td>$A_n = \binom{2n}{n} \sum_{k,l} \binom{n}{k}^2 \binom{n}{l}^2 \binom{2k+2l}{2k}$</td></tr>
</table>

#	differential operator D and coefficients A_n, $n=0,1,2,\dots$
374	$D = 97^2\theta^4 - 97z\theta(-1727\theta^3 + 2018\theta^2 + 1300\theta + 291)$ $- z^2(1652135\theta^4 + 134288812\theta^3 + 161743938\theta^2 + 10216234\theta + 2709792)$ $- 3z^3(272511145\theta^4 + 1213753398\theta^3 + 1895464499\theta^2 + 1477051198\theta + 46000116)$ $- 2z^4(5877514310\theta^4 + 27116972320\theta^3 + 50031892850\theta^2 + 44347077760\theta + 1524637512)$ $- z^5(97262503970\theta^4 + 505074292340\theta^3 + 1061080234510\theta^2 + 1039641023350\theta + 38537290992)$ $- 2\cdot 3z^6(87938226490\theta^4 + 520624058040\theta^3 + 1221756100250\theta^2 + 1302546298140\theta + 51340027968)$ $- 2^2\cdot 3^2z^7(54292620530\theta^4 + 364777565300\theta^3 + 944313072790\theta^2 + 1083637043380\theta + 44982230808)$ $- 2^4\cdot 3^2z^8(\theta+1)(34326474790\theta^3 + 224873637870\theta^2 + 508086147110\theta + 38959393614)$ $- 2^4\cdot 3^3z^9(\theta+1)(\theta+2)(19034936290\theta^2 + 102628645550\theta + 14314039440)$ $- 2^5\cdot 3^4\cdot 13^2z^{10}(\theta+1)(\theta+2)(\theta+3)(18629870\theta + 5992902)$ $- 2^6\cdot 3^3\cdot 13^4\cdot 7457z^{11}(\theta+1)(\theta+2)(\theta+3)(\theta+4)$
	A_n is the constant term of S^n, where $S = x+y+z+\frac{1}{x}+\frac{1}{y}+\frac{1}{z}+\frac{x}{z}+\frac{y}{x}+\frac{z}{y} + t\left(1+\frac{1}{x}+\frac{1}{y}+\frac{1}{xy}+\frac{z}{x}+\frac{z}{y}+\frac{z}{xy}\right) + \frac{1}{t}\left(1+x+y+\frac{1}{z}+\frac{x}{z}+\frac{y}{z}+\frac{xy}{z}\right)$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \dots$
375	$D = 7^2 \cdot 13^2\theta^4 - 7 \cdot 13z\theta(-782\theta^3 + 1874\theta^2 + 1210\theta + 273)$ $- z^2(2515785\theta^4 + 11622522\theta^3 + 15227939\theta^2 + 9962953\theta + 2649920)$ $- z^3(59827597\theta^4 + 258678126\theta^3 + 432607868\theta^2$ $+ 348819198\theta + 110445426)$ $- 2z^4(306021521\theta^4 + 1499440609\theta^3 2950997910\theta^2$ $+ 2719866190\theta + 957861945)$ $- 3z^5(1254280114\theta^4 + 7075609686\theta^3 + 15834414271\theta^2$ $+ 16174233521\theta + 6159865002)$ $- z^6(15265487382\theta^4 + 98210309094\theta^3 + 244753624741\theta^2$ $+ 271941545379\theta + 110147546634)$ $- 2z^7(21051636001\theta^4 + 152243816141\theta^3 + 415982528557\theta^2$ $+ 495914741301\theta + 211134581226)$ $- z^8(\theta + 1)(39253400626\theta^3 + 2751089630001\theta^2$ $+ 654332416678\theta + 521254338620)$ $- z^9(\theta + 1)(\theta + 2)(94987355517\theta^2 + 545340710193\theta + 799002779040)$ $- 2^2 \cdot 5 \cdot 7 \cdot 11z^{10}(\theta + 1)(\theta + 2)(\theta + 3)(437651590\theta + 149264765)$ $- 2^2 3 \cdot 5^2 \cdot 7^2 \cdot 11^2 \cdot 11971z^{11}(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)$
	A_n is the constant term of S^n, where $S = x + y + z + \frac{1}{x} + \frac{1}{y} + \frac{1}{z} + yz + \frac{1}{xy} + \frac{1}{xz} + \frac{1}{yz} + \frac{1}{xyz}$ $+ t(1 + x + z + yz + xz + xyz)$ $+ \frac{1}{t}\left(1 + \frac{1}{x} + \frac{1}{y} + \frac{1}{z} + \frac{1}{xy} + \frac{1}{xz} + \frac{1}{yz} + \frac{1}{xyz}\right)$
376	$D = 2^4\theta^4 - 2^2z\theta(2\theta^3 + 82\theta^2 + 53\theta + 12)$ $- z^2(4895\theta^4 + 18410\theta^3 + 26199\theta^2 + 18308\theta + 5120)$ $- z^3(60679\theta^4 + 272424\theta^3 + 497452^2 + 430092\theta + 143808)$ $- z^4(344527^4 + 1870838\theta^3 + 4034628\theta^2 + 3987101\theta + 1478544)$ $- z^5(\theta + 1)(1076509\theta^3 + 5847783\theta^3 + 11226106\theta + 7492832)$ $- 2z^6(\theta + 1)(\theta + 2)(944887\theta^2 + 4249317\theta + 5045304)$ $- 2^8 \cdot 13z^7(\theta + 1)(\theta + 2)(\theta + 3)(518\theta + 1381)$ $- 2^5 \cdot 5 \cdot 13^2 \cdot 23z^8(\theta + 1)(\theta + 2)(\theta + 3)(\theta + 4)$
	A_n is the constant term of S^n, where $S = x + y + z + \frac{1}{x} + \frac{1}{y} + \frac{1}{z} + \frac{x}{y} + \frac{y}{x} + \frac{x}{z} + \frac{z}{x} + \frac{x}{yz}$ $+ t\left(1 + z + \frac{1}{y} + \frac{z}{x} + \frac{z}{y} + \frac{z}{xy}\right) + \frac{1}{t}\left(1 + y + \frac{x}{z} + \frac{y}{z} + \frac{y}{x} + \frac{xy}{z}\right)$
377	$D = 3^2\theta^4 - 2^3 3z(61\theta^4 + 74\theta^3 + 58\theta^2 + 21\theta + 3)$ $+ 2^4z^2(3883\theta^4 + 5356\theta^3 + 3451\theta^2 + 1278\theta + 228)$ $- 2^7z^3(8067\theta^4 + 13410\theta^3 + 12875\theta^2 + 6336\theta + 1236)$ $+ 2^{14}z^4(413\theta^4 + 1069\theta^3 + 1206\theta^2 + 658\theta + 140)$ $- 2^{19}3z^5(\theta + 1)^2(3\theta + 2)(3\theta + 4)$
	$A_n = \sum_{k,l} (-1)^{n+k} 4^{n-k} \binom{n}{k}\binom{n}{l}\binom{2k}{k}\binom{k}{l}\binom{n+k}{n}\binom{n+k}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
378	$D = 3^2\theta^4 - 2^2 3^2 z(23\theta^4 + 58\theta^3 + 44\theta^2 + 15\theta + 2)$ $- 2^5 3 z^2(254\theta^4 + 662\theta^3 + 623\theta^2 + 309\theta + 66)$ $- 2^8 z^3(1707\theta^4 + 3276\theta^3 + 1806\theta^2 + 855\theta + 234)$ $- 2^{11} z^4(2266\theta^4 + 4076\theta^3 + 2167\theta^2 + 537\theta + 18)$ $- 2^{16} z^5(519\theta^4 + 798\theta^3 + 821\theta^2 + 391\theta + 62)$ $- 2^{19} z^6(305\theta^4 + 558\theta^3 + 625\theta^2 + 360\theta + 82)$ $- 2^{26} z^7(26\theta^4 + 70\theta^3 + 83\theta^2 + 48\theta + 11)$ $- 2^{29} z^8(\theta + 1)^4$
	$A_n = \sum_{k,l} (-1)^{n+k} 4^{n-k} \binom{n}{k}\binom{n}{l}\binom{2k}{k}\binom{k}{l}\binom{2k}{n}\binom{2l}{n}$
379	$D = 7^2\theta^4 - 2 \cdot 7z(452\theta^4 + 640\theta^3 + 509\theta^2 + 189\theta + 28)$ $+ 2^2 z^2(47156\theta^4 + 78224\theta^3 + 63963\theta^2 + 31010\theta + 7000)$ $- 2^5 z^3(77224\theta^4 + 150936\theta^3 + 155876\theta^2 + 86751\theta + 19838)$ $+ 2^8 z^4(65988\theta^4 + 160584\theta^3 + 193653\theta^2 + 117501\theta + 28198)$ $- 2^{12} z^5(15712\theta^4 + 46888\theta^3 + 63382\theta^2 + 41163\theta + 10338)$ $+ 2^{16} z^6(2088\theta^4 + 7272\theta^3 + 10589\theta^2 + 7140\theta + 1828)$ $- 2^{22} z^7(36\theta^4 + 138\theta^3 + 206\theta^2 + 137\theta + 34)$ $+ 2^{27} z^8(\theta + 1)^4$
	$A_n = \sum_{k,l} (-1)^{n+k} 4^{n-k} \binom{n}{k}\binom{n}{l}\binom{2k}{k}\binom{k}{l}\binom{k+l}{l}\binom{2l}{n}$
380	$D = \theta^4 - 2z(60\theta^4 + 90\theta^3 + 68\theta^2 + 23\theta + 3)$ $+ 2^2 z^2(313\theta^4 - 398\theta^3 - 1417\theta^2 - 1033\theta - 252)$ $+ 2^3 z^3(654\theta^4 + 5064\theta^3 + 3574\theta^2 + 129\theta - 405)$ $+ 2^4 5 z^4(-628\theta^4 + 40\theta^3 + 1699\theta^2 + 1661\theta + 480)$ $- 2^6 3 \cdot 5^2 z^5(\theta + 1)^2(6\theta + 5)(6\theta + 7)$
	$A_n = \sum_{k,l} (-1)^{n+k} 4^{n-k} \binom{n}{k}\binom{n}{l}\binom{2k}{k}\binom{k}{l}\binom{k+l}{l}\binom{n+l}{n}$
381	$D = 5^2\theta^4 + 2^2 5z(19\theta^4 + 86\theta^3 + 73\theta^2 + 30\theta + 5)$ $+ 2^4 z^2(709\theta^4 + 4252\theta^3 + 7339\theta^2 + 4830\theta + 1165)$ $+ 2^8 z^3(-420\theta^4 - 114\theta^3 + 3294\theta^2 + 3960\theta + 1325)$ $- 2^{10} z^4(949\theta^4 + 6782\theta^3 + 11350\theta^2 + 7719\theta + 1889)$ $+ 2^{12} z^5(1315\theta^4 + 4282\theta^3 + 7199\theta^2 + 5744\theta + 1691)$ $+ 2^{14} z^6(613\theta^4 + 1560\theta^3 + 973\theta^2 - 216\theta - 249)$ $+ 2^{18} z^7(11\theta^4 - 2\theta^3 - 40\theta^2 - 39\theta - 11)$ $- 2^{20} z^8(\theta + 1)^4$
	$A_n = \sum_{k,l} (-1)^{n+k} 4^{n-k} \binom{n}{k}\binom{n}{l}\binom{2k}{k}\binom{k}{l}\binom{2n-2k}{n}\binom{n+l}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
382	$D = \theta^4 + 2^2 z(26\theta^4 + 34\theta^3 + 29\theta^2 + 12\theta + 2) + 2^4 z^2(305\theta^4 + 662\theta^3 + 781\theta^2 + 436\theta + 94) + 2^8 z^3(519\theta^4 + 1278\theta^3 + 1541\theta^2 + 933\theta + 213) - 2^{10} z^4(2266\theta^4 + 4988\theta^3 + 3535\theta^2 + 633\theta - 162) + 2^{14} 3 z^5(569\theta^4 + 1184\theta^3 + 740\theta^2 - 81\theta - 128) + 2^{18} 3 z^6(254\theta^4 + 354\theta^3 + 161\theta^2 - 33\theta - 28) + 2^{22} 3^2 z^7(23\theta^4 + 34\theta^3 + 8\theta^2 - 9\theta - 4) - 2^{27} 3^2 z^8(\theta + 1)^4$
	the reflection of #378 at infinity
	a formula for A_n is not known
383	$D = \theta^4 - 2^5 z(36\theta^4 + 6\theta^3 + 8\theta^2 + 5\theta + 1) + 2^8 z^2(2088\theta^4 + 1080\theta^3 + 1301\theta^2 + 574\theta + 93) - 2^{13} z^3(15712\theta^4 + 15960\theta^3 + 16990\theta^2 + 7785\theta + 1381) + 2^{18} z^4(65988\theta^4 + 103368\theta^3 + 107829\theta^2 + 52005\theta + 9754) - 2^{24} z^5(77224\theta^4 + 157960\theta^3 + 166412\theta^2 + 81089\theta + 15251) + 2^{30} z^6(47156\theta^4 + 110400\theta^3 + 112227\theta^2 + 50868\theta + 8885) - 2^{38} 7 z^7(452\theta^4 + 1168\theta^3 + 1301\theta^2 + 717\theta + 160) + 2^{46} 7^2 z^8(\theta + 1)^4$
	the reflection of #379 at infinity
	a formula for A_n is not known
384	$D = \theta^4 - 2^5 z(11\theta^4 + 46\theta^3 + 32\theta^2 + 9\theta + 1) + 2^8 z^2(-613\theta^4 - 892\theta^3 + 29\theta^2 + 66\theta + 7) - 2^{13} z^3(1315\theta^4 + 978\theta^3 + 2243\theta^2 + 1068\theta + 179) + 2^{18} z^4(949\theta^4 - 2986\theta^3 - 3302\theta^2 - 1569\theta - 313) + 2^{23} z^5(420\theta^4 + 1566\theta^3 - 1116\theta^2 - 1290\theta - 353) + 2^{26} z^6(-709\theta^4 + 1416\theta^3 + 1163\theta^2 + 72\theta - 131) + 2^{31} 5 z^7(-19\theta^4 + 10\theta^3 + 71\theta^2 + 66\theta + 19) - 2^{36} 5^2 z^8(\theta + 1)^4$
	the reflection of #381 at infinity
	a formula for A_n is not known
385	$D = \theta^4 - 3z(42\theta^4 + 84\theta^3 + 77\theta^2 + 35\theta + 6) + 3^3 z^2(291\theta^4 + 1164\theta^3 + 1747\theta^2 + 1166\theta + 264) - 2^2 \cdot 3^5 z^3(360\theta^4 + 2160\theta^3 + 4553\theta^2 + 3939\theta + 1035) + 2^3 \cdot 3^8 z^4(204\theta^4 + 1632\theta^3 + 4449\theta^2 + 4740\theta + 1400) - 2^4 \cdot 3^{11} z^5(2\theta + 5)^2(16\theta^2 + 80\theta + 35) + 2^4 \cdot 3^{14} z^6(2\theta + 1)(2\theta + 5)(2\theta + 7)(2\theta + 11)$
	$A_n = \binom{2n}{n} \sum_{k,l} (-9)^{n-k} \binom{n}{k} \binom{k}{l}^2 \binom{2l}{l} \binom{3k}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
386	$D = \theta^4 - 2z(422\theta^4 + 844\theta^3 + 751\theta^2 + 327\theta + 57)$ $+ 2^2 \cdot 3^4 z^2(\theta+1)^2(716\theta^2 + 1432\theta + 579)$ $- 2^4 \cdot 3^8 \cdot 7^2 z^3(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	a formula for A_n is not known; [6, # $G_{7/9}$]
387	$D = \theta^4 - 2z(456\theta^4 + 912\theta^3 + 770\theta^2 + 314\theta + 57)$ $+ 2^{11} z^2(\theta+1)^2(132\theta^2 + 264\theta + 109)$ $- 2^{18} \cdot 5^2 z^3(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	a formula for A_n is not known; [6, # $G_{5/4}$]
388	$D = \theta^4 - 2z(582\theta^4 + 1164\theta^3 + 815\theta^2 + 233\theta + 25)$ $+ 4z^2(\theta+1)^2(2316\theta^2 + 4632\theta + 1907)$ $- 2^4 \cdot 17^2 z^3(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	a formula for A_n is not known; [6, # G_{17}]
389	$D = \theta^4 - 2z(742\theta^4 + 1484\theta^3 + 1295\theta^2 + 553\theta + 95)$ $+ 500z^2(\theta+1)^2(1468\theta^2 + 2936\theta + 1211)$ $- 2^4 \cdot 5^6 \cdot 11^2 z^3(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	a formula for A_n is not known; [6, # $G_{11\sqrt{5}/25}$]
390	$D = \theta^4 - z(561\theta^4 + 1122\theta^3 + 975\theta^2 + 414\theta + 70)$ $+ 196z^2(\theta+1)^2(534\theta^2 + 10646\theta + 433)$ $- 2^2 \cdot 7^4 \cdot 13^2 z^3(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	a formula for A_n is not known; [6, # $J_{13i\sqrt{3}/9}$]
391	$D = \theta^4 - 2z(6720\theta^4 + 11536\theta^3 + 8770\theta^2 + 3002\theta + 372)$ $+ 2^{10} \cdot 3^2 z^2(4\theta+3)(1732\theta^3 + 4475\theta^2 + 3531\theta + 645)$ $- 2^{14} \cdot 3^4 \cdot 17^2 z^3(4\theta+1)(4\theta+3)(4\theta+7)(4\theta+9)$
	a formula for A_n is not known; [6, # H_{17}]
392	$D = \theta^4 - 2z(230\theta^4 + 446\theta^3 + 323\theta^2 + 75\theta + 6)$ $- 12z(6\theta+5)(1866\theta^3 + 5341\theta^2 + 4760\theta + 1084)$ $- 2^4 \cdot 3^2 \cdot 13^2 z^3(3\theta+1)(3\theta+7)(6\theta+5)(6\theta+11)$
	a formula for A_n is not known; [6, # $G_{13i\sqrt{3}/9}$]
393	$D = \theta^4 - 2z(1264\theta^4 + 2240\theta^3 + 1792\theta^2 + 672\theta + 96)$ $+ 768z(6\theta+5)(462\theta^3 + 1255\theta^2 + 1052\theta + 235)$ $+ 2^{13} \cdot 3^2 \cdot 5^2 z^3(3\theta+1)(3\theta+7)(6\theta+5)(6\theta+11)$
	a formula for A_n is not known; [6, # $G_{5\sqrt{3}/9}$]

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
394	$D = 3^4\theta^4 - 3^3z(367\theta^4 + 398\theta^3 + 295\theta^2 + 96\theta + 12)$ $- 2^4 \cdot 3^3z^2(200\theta^4 + 2081^3 + 3614\theta^2 + 2009\theta + 392)$ $+ 2^6 \cdot 3z^3(724449\theta^4 + 1026840\theta^3 - 485790\theta^2 - 779220\theta - 22536)$ $+ 2^{10}z^4(1098730\theta^4 + 6199700\theta^3 + 562600\theta^2 - 2190270\theta - 78216)$ $+ 2^{14} \cdot 7z^5(-40669\theta^4 + 18266\theta^3 + 36570\theta^2 + 16190\theta + 1955)$ $- 2^{17} \cdot 7z^6(80805\theta^4 + 76590\theta^3 + 51265^2 + 23076\theta + 4780)$ $- 2^{24} \cdot 7^2z^7(437\theta^4 + 1117\theta^3 + 1236\theta^2 + 664\theta + 140)$ $- 2^{29} \cdot 3 \cdot 7^2z^8(\theta + 1)^2(3\theta + 2)(3\theta + 4)$
	$A_n = \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{n+2k}{n}\binom{2n-2l}{n}$
395	$D = \theta^4 - 2^2z\theta(22\theta^3 + 8\theta^2 + 5\theta + 1)$ $+ 2^5z^2(34\theta^4 - 152\theta^3 - 265\theta^2 - 163\theta - 36)$ $+ 2^8z^3(142\theta^4 + 600\theta^3 + 335\theta^2 - 39\theta - 54)$ $+ 2^{11} \cdot 3z^4(-68^4 + 56\theta^3 + 295\theta^2 + 261\theta + 72)$ $- 2^{15}3^2z^5(\theta + 1)^2(4\theta + 3)(4\theta + 5)$
	$A_n = \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{n+k}{n}\binom{2n-2l}{n}$
396	$D = 5^2\theta^4 - 2^2 \cdot 5z(197\theta^4 + 418\theta^3 + 319\theta^2 + 110\theta + 15)$ $+ 2^4z^2(181\theta^4 + 5068^3 + 10291^2 + 6750\theta + 1585)$ $+ 2^6z^3(-1727\theta^4 + 4758\theta^3 + 11365\theta^2 + 4560\theta + 345)$ $+ 2^9z^4(2351^4 + 4552^3 - 11125\theta^2 - 12552\theta - 3833)$ $- 2^{12}z^5(527^4 + 1448\theta^3 + 16\theta^2 - 1811\theta - 887)$ $+ 2^{15}z^6(493^4 - 1527\theta^3 - 789\theta^2 - 363\theta - 116)$ $- 2^{17}z^7(780\theta^4 - 282\theta^3 + 865\theta^2 + 1459\theta + 563)$ $+ 2^{20}z^8(151\theta^4 - 104^3 - 291\theta^2 - 239\theta - 65)$ $- 2^{22}z^9(23\theta^4 + 24\theta^3 + 85\theta^2 + 132\theta + 55)$ $+ 2^{25}z^{10}(\theta + 1)(7\theta^3 + 31\theta^2 + 35\theta + 12)$ $- 2^{28}z^{11}(\theta + 1)^4$
	$A_n = \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{n+k-l}{n-l}\binom{2k}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
397	$D = \theta^4 - 2^4 z\theta(7\theta^3 - 10\theta^2 - 6\theta - 1) + 2^8 z^2(23\theta^4 + 68\theta^3 + 151\theta^2 + 58\theta + 7) - 2^{13} z^3(151\theta^4 + 708\theta^3 + 927\theta^2 + 573\theta + 138) + 2^{17} z^4(780\theta^4 + 3402\theta^3 + 6391\theta^2 + 4237\theta + 1031) - 2^{22} z^5(493^4 + 3499\theta^3 + 6750\theta^2 + 5338\theta + 1478) + 2^{26} z^6(527\theta^4 + 660\theta^3 - 1166\theta^2 - 393\theta + 19) + 2^{30} z^7(-2351\theta^4 - 4852\theta^3 + 10675\theta^2 + 13950\theta + 4607) + 2^{34} z^8(1727\theta^4 + 11666^3 + 13271\theta^2 + 3012\theta - 665) + 2^{39} z^9(-181\theta^4 + 4344\theta^3 + 3827\theta^2 + 648\theta - 239) + 2^{44} \cdot 5 z^{10}(197\theta^4 + 370\theta^3 + 247\theta^2 + 62\theta + 3) - 2^{49} \cdot 5^2 z^{11}(\theta + 1)^4$
	the reflection of #396 at infinity
	a formula for A_n is not known
398	$D = 13^2\theta^4 - 13z(5249\theta^4 + 4930\theta^3 + 3687\theta^2 + 1222\theta + 156) + 2^4 z^2(526803\theta^4 + 564192\theta^3 + 270729\theta^2 + 58266\theta + 4641) - 2^7 z^3(3336915\theta^4 + 3777024\theta^3 + 2377229\theta^2 + 746148\theta + 94185) + 2^{10} z^4(8591694\theta^4 + 11872968\theta^3 + 7381951\theta^2 + 2132674\theta + 236280) - 2^{12} z^5(15421829\theta^4 + 18326342\theta^3 + 7032841\theta^2 + 833608\theta - 2718) + 2^{16} \cdot 3^2 z^6(334895\theta^4 + 615600\theta^3 + 867965\theta^2 + 590850\theta + 138536) - 2^{19} \cdot 3^4 \cdot 7 z^7(\theta + 1)(\theta + 2)(646\theta^2 + 1715\theta + 1044) + 2^{22} \cdot 3^6 \cdot 7^2 z^8(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \binom{2n}{n} \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{n+k+l}{n}$
399	$D = 13^2\theta^4 - 13z(5041\theta^4 + 7634\theta^3 + 5767\theta^2 + 1950\theta + 260) + 2^3 z^2(744635\theta^4 + 1560842\theta^3 + 1510101\theta^2 + 768170\theta + 156078) - 2^6 z^3(3698955\theta^4 + 10227906\theta^3 + 12569064\theta^2 + 7257627\theta + 1555242) + 2^9 z^4(9225025\theta^4 + 33675338\theta^3 + 49289090\theta^2 + 318449807\theta + 7296732) - 2^{12} \cdot 3 \cdot 17 z^5(\theta + 1)(222704\theta^3 + 833160\theta^2 + 989659\theta + 317310) + 2^{15} \cdot 3^3 \cdot 17^2 \cdot 23^2 z^6(\theta + 1)(\theta + 2)(2\theta + 1)(2\theta + 5)$
	$A_n = \binom{2n}{n} \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{2k+l}{n}$
400	$D = 3^2\theta^4 - 2^2 \cdot 3z(29\theta^4 + 178\theta^3 + 134\theta^2 + 45\theta + 6) - 2^5 z^2(2233\theta^4 + 2536\theta^3 + 607\theta^2 + 132\theta + 12) - 2^{10} z^3(1274\theta^4 + 7425\theta^3 + 20002\theta^2 + 12717\theta + 2670) + 2^{13} z^4(2539\theta^4 - 36538\theta^3 - 52775\theta^2 - 31122\theta - 6192) + 2^{20} z^5(1617\theta^4 + 9771\theta^3 + 4484\theta^2 - 674\theta - 556) + 2^{25} z^6(1135\theta^4 + 4272\theta^3 + 3439\theta^2 + 858\theta + 16) - 2^{31} \cdot 3z^7(2\theta + 1)(110\theta^3 + 225\theta^2 + 184\theta + 57) + 2^{37} \cdot 3^2 z^8(\theta + 1)^2(2\theta + 1)(2\theta + 3)$
	$A_n = \binom{2n}{n} \sum_{k,l} (-4)^{n-k} \binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{2k-2l}{n}$

#	differential operator D and coefficients A_n, $n = 0, 1, 2, \ldots$
401	$D = 7^2\theta^4 - 2\cdot 7z(1488\theta^4 + 1452\theta^3 + 1125\theta^2 + 399\theta + 56) + 2^2z^2(766392\theta^4 + 1184952\theta^3 + 1010797\theta^2 + 454076\theta + 83776) - 2^4z^3(12943616\theta^4 + 28354200\theta^3 + 30710572\theta^2 + 16054731\theta + 3215254) + 2^6z^4(1059731888\theta^4 + 3333593304\theta^3 + 4361823381\theta^2 + 2612658857\theta + 57189166) - 2^{11}\cdot 127z^5(\theta+1)(3909720\theta^3 + 13506660\theta^2 + 14867810\theta + 460439) + 2^{14}\cdot 23^2\cdot 127^2z^6(\theta+1)(\theta+2)(2\theta+1)(2\theta+5)$
	$A_n = \binom{2n}{n}\sum_{k,l}(-4)^{n-k}\binom{n}{k}\binom{n}{l}\binom{k}{l}\binom{2k}{k}\binom{k+2l}{n}$
402	$D = \theta^4 + 2z(2\theta+1)^2(3\theta^2 + 3\theta + 1) - 4z^2(2\theta+1)(2\theta+3)(47\theta^2 + 94\theta + 51) + 112z^3(2\theta+1)(2\theta+3)^2(2\theta+5)$
	a formula for A_n is not known; [7, # $\widetilde{C}_9$]
403	$D = \theta^4 + 2z(2\theta+1)^2(7\theta^2 + 7\theta + 3) + 4z^2(2\theta+1)(2\theta+3)(29\theta^2 + 58\theta + 33) + 240z^3(2\theta+1)(2\theta+3)^2(2\theta+5)$
	a formula for A_n is not known; [7, # $\widetilde{C}_{17}$]
403	$D = 5^2\theta^4 + 5z(487\theta^4 + 878\theta^3 + 709\theta^2 + 270\theta + 40) + 2^5z^2(1013\theta^4 + 2639\theta^3 + 2943\theta^2 + 1520\theta + 280) - 2^8z^3(2169\theta^4 + 14488\theta^3 + 30789\theta^2 + 22440\theta + 5240) - 2^{12}z^4(2\theta+1)(518\theta^3 + 2397\theta^2 + 2940\theta + 1048) - 2^{16}\cdot 3z^5(2\theta+1)(2\theta+3)^2(2\theta+5)$
	a formula for A_n is not known; [7, # $\widetilde{C}_{25}$]

Remark 1. In the table there are 32 pairs of differential equations dual at 0 and ∞, respectively. For the pairs (#22,#118), (#21,#71), (#23,#56) we know a simple formula for the coefficients. Then we have the sporadic pairs (#193,#198), (#210,#211), (#117,#212), (#222,#225), (#246,#247), (#55, #277), (#295,#296), where a formula for A_n at ∞ was found by chance. It would be desirable to find formulas for A_n at ∞ also for the remaining cases. An even more interesting question is: What is the geometric meaning of the instanton numbers at ∞, e.g., for the cases #17, #21, #22, #23, #27, where we know the manifold?

Remark 2. Most of the differential equations #242–290 were found by using Maple's `Zeilberger` on

$$\text{“}A_n\text{”} = \sum_k (n-2k)C(n,k)$$

(cf. Subsection 2.2), where a binomial expression $C(n,k)$ sarisfies $C(n,n-k) = C(n,k)$. Using this symmetry one sees that “A_n” $= 0$, but Maple finds several bona fide differential equations and *usually* the correct coefficients are found by differentiation

$$A_n = \frac{\mathrm{d}\text{“}A_n\text{”}}{\mathrm{d}k},$$

which is the case in #244, #246, #247, etc., leading to harmonic sums containing $H_n = \sum_{j=1}^{n} j^{-1}$. However in some cases (like #242, #245, #259, #260, #261, #262, #264, #274, #279, #281, #282, #299) this is not enough. This will be explained in a forthcoming paper [2].

B Table of powers

We found that in most of the cases $q(z)/z$ was a high power of a power series in $\mathbb{Z}[[z]]$ (and $z(q)/q$ the same power of a power series in $\mathbb{Z}[[q]]$). Similarly, $y_0(z)$ was a (not so high) power of an integral power series. In the following table we present (conjectured) powers r, s in

$$q = z(1 + C_1 z + \cdots)^r, \qquad y_0 = (1 + D_1 z + \cdots)^s;$$

the first column is reserved for numeration of cases.

#	r	s	#	r	s	#	r	s	#	r	s
1	10	4	7*	32	8	39	8	2	73	18	6
2	960	24	7**	32	8	40	32	8	74	6	4
3	64	8	8*	72	2	41	2	1	75	2	1
4	180	6	8**	216	2	42	4	4	76	1	1
5	108	4	9*	288	8	43	32	8	77	2	1
6	32	8	9**	864	8	44	4	12	78	1	8
7	64	8	10*	32	8	45	4	4	79	1	1
8	64	12	10**	32	8	46	18	4	80	2	1
9	576	24	13*	432	8	47	144	8	81	1	1
10	960	24	13**	144	8	48	12	4	82	1	6
11	60	12	14*	48	24	49	72	2	83	8	8
12	96	24	$\widehat{1}$	10	–	50	6	3	84	4	4
13	2880	120	$\widehat{2}$	320	8	51	4	2	85	2	1
14	1728	4	$\widehat{3}$	64	8	52	12	4	86	1	1
15	6	2	$\widehat{4}$	18	–	53	6	3	87	2	1
16	4	4	$\widehat{5}$	24	6	54	1	1	88	2	1
17	6	1	$\widehat{6}$	64	8	55	12	4	89	1	24
18	12	2	$\widehat{7}$	64	8	56	8	8	90	2	1
19	1	2	$\widehat{8}$	72	6	57	2	2	91	1	1
20	3	2	$\widehat{9}$	576	8	58	8	2	92	2	2
21	2	2	$\widehat{10}$	64	8	59	6	4	93	108	1
22	5	1	$\widehat{11}$	24	2	60	2	4	94	1	2
23	4	4	$\widehat{12}$	192	8	61	288	24	95	1	1
24	3	3	$\widehat{13}$	576	24	62	12	4	96	32	1
25	4	2	$\widehat{14}$	192	24	63	12	6	97	192	1
26	2	4	30	64	8	64	24	6	98	24	1
27	14	1	31	64	8	65	24	8	99	2	2
28	8	1	32	78	1	66	24	6	100	12	2
29	2	1	33	4	4	67	288	8	101	30	1
2*	160	16	34	8	1	68	4	4	102	1	1
3*	16	8	35	12	4	69	24	6	103	24	3
4*	54	1	36	24	8	70	3	3	104	1	1
4**	18	4	37	24	2	71	32	8	105	1	1
6*	64	8	38	8	8	72	64	1	106	2	2

#	r	s
107	16	8
108	1	1
109	6	8
110	12	12
111	32	8
112	96	24
113	1	3
114	4	4
115	64	8
116	48	8
117	4	4
118	10	4
119	4	4
120	8	6
121	4	2
122	8	8
123	2	2
124	1	1
125	1	1
126	2	1
127	72	1
128	2	1
129	1	6
130	12	1
131	1	1
132	10	1
133	12	2
134	9	3
135	12	6
136	36	6
137	4	4
138	6	6
139	12	12
140	12	12
141	216	2
142	9	3
143	72	6
144	12	6
145	72	3
146	2	2
147	8	4
148	5	1
149	12	12

#	r	s
150	12	4
151	6	1
152	4	4
153	12	4
154	180	6
155	192	8
156	2	1
157	1	1
158	2	1
159	2	1
160	3	1
161	6	3
162	3	3
163	6	2
164	12	6
165	6	3
166	2880	24
167	3	1
168	3	3
169	12	3
170	6	2
171	24	6
172	9	3
173	4	2
174	1	1
175	3	3
176	4	4
177	4	4
178	3	3
179	3	3
180	24	8
181	6	3
182	2	1
183	4	2
184	2	1
185	6	1
186	2	1
187	6	9
188	2	2
189	2	1
190	320	1
191	24	1
192	192	1

#	r	s
193	3	1
194	4	1
195	1	4
196	1	1
197	2	2
198	3	1
199	4	1
200	1	1
201	8	8
202	1	1
203	2	4
204	320	8
205	2	4
206	4	4
207	64	8
208	6	8
209	2	1
210	12	2
211	96	8
212	2	2
213	2	1
214	2	2
215	4	4
216	6	12
217	2	12
218	6	2
219	2	2
220	48	8
221	4	2
222	6	4
223	6	24
224	2	4
225	192	8
226	2	2
227	36	12
228	4	12
229	8	2
230	360	4
231	4	4
232	6	4
233	96	8
234	2	16
235	2	16

#	r	s
236	8	8
237	24	8
238	4	2
239	480	24
240	2	2
241	48	8
242	6	6
243	14	1
244	28	1
245	24	1
246	4	2
247	32	8
248	2	1
249	12	2
250	1	2
251	6	12
252	2	2
253	4	4
254	192	8
255	12	4
256	16	8
257	64	8
258	96	8
259	30	2
260	4	2
261	4	2
262	4	2
263	32	8
264	96	8
265	96	8
266	6	3
267	18	3
268	60	6
269	1440	24
270	12	2
271	192	8
272	12	6
273	6	6
274	4	2
275	4	2
276	576	8
277	96	8
278	12	12

#	r	s	#	r	s	#	r	s	#	r	s
279	1	1	311	2	2	343	2	1	375	1	1
280	9	3	312	2	1	344	1	12	376	1	2
281	10	1	313	2	1	345	2	1	377	6	2
282	4	2	314	6	3	346	2	1	378	4	4
283	4	6	315	6	1	347	24	4	379	2	4
284	1	1	316	12	4	348	24	4	380	2	1
285	1	1	317	6	1	349	6	1	381	2	2
286	1	2	318	2	1	350	8	4	382	4	4
287	2	1	319	2	1	351	64	8	383	16	8
288	96	72	320	2	1	352	1	1	384	16	8
289	64	8	321	4	2	353	4	2	385	3	3
290	9	3	322	1	1	354	15	1	386	2	1
291	1	3	323	1	1	355	8	1	387	2	1
292	4	4	324	4	4	356	2	1	388	2	1
293	16	4	325	4	2	357	2	2	389	2	1
294	64	8	326	1	1	358	32	8	390	2	1
295	64	8	327	1	1	359	12	1	391	6	2
296	32	8	328	4	8	360	1	1	392	6	2
297	2	48	329	16	8	361	4	2	393	48	8
298	4	2	330	64	8	362	32	8	394	2	2
299	6	6	331	8	8	363	72	12	395	4	12
300	160	8	332	4	4	364	2	4	396	2	2
301	1	1	333	4	12	365	4	8	397	8	8
302	2	4	334	1	1	366	2	4	398	2	2
303	2	2	335	2	2	367	4	4	399	2	2
304	2	2	336	2	2	368	32	8	400	4	4
305	192	8	337	6	12	369	1	2	401	2	8
306	9	2	338	4	4	370	1	1	402	2	1
307	6	1	339	12	4	371	1	2	403	2	1
308	2	1	340	12	4	372	3	1	404	2	4
309	4	2	341	2	2	373	2	3			
310	2	1	342	2	1	374	1	1			

C Superseeker of Calabi–Yau differential equations

	N_0	$\|N_1\|$	$\|N_3\|$	Hadamard product	# in Table A
1	1	2	8		184
2	6	2	10	(a)∘(a)	369
3	3	2	13	(b)∘(b)	370
4	1	2	104		41
5	3	3	28		34
6	1	3	64		366
7	3	3	2668		333
8	12	4	20	(g)∘(g)	371
9	1	4	44		253
10	3	4	44		23
11	1	4	84		84
12	5	4	108		246
13	1	4	940		395
14	1	4	3252	(p)∗(p)	3^*
15	1	5	454	(a)∗(a)	100
16	1	6	104	(k)∗(k)	4^*
17	1	6	170		245
18	1	6	325	(a)∗(f)	160
19	13	7	21		357
20	8	8	96		352
21	2	8	280		382
22	1	9	748	(f)∗(f)	165
23	17	10	170		279
24	7	10	295		22
25	7	10	508		235
26	1	10	664	(c)∗(c)	103
27	1	10	870		60
28	1	10	18328		386
29	5	11	71		364
30	6	12	140		130
31	2	12	208		46
32	10	12	236		17
33	3	12	644		16
34	1	12	3204	(A)∗(a)	45
35	1	13	2650	(b)∗(b)	101
36	7	14	756		402
37	2	16	208	(a)∗(d)	105
38	10	16	304		21
39	12	16	380		322
40	1	16	1232	(A)∗(d)	36

	N_0	$\lvert N_1\rvert$	$\lvert N_3\rvert$	Hadamard product	# in Table A
41	1	16	1744	(d)∗(d)	107
42	2	16	2000		42
43	2	16	2106	(a)∗(b)	102
44	1	16	3280		56
45	4	16	5072		365
46	6	18	490		20
47	9	18	3820		199
48	7	18	5676		234
49	1	19	4455		390
50	20	20	100		205
51	28	20	192		312
52	4	20	1680		281
53	5	20	1820		18
54	2	20	2036		244
55	1	20	5924	(a)∗(e)	114, 150
56	1	20	8220		25
57	1	21	15894		15
58	29	24	284		327
59	3	24	1552		188
60	7	26	55644		297
61	3	27	217		385
62	3	27	14201		216
63	1	27	18089	(B)∗(ι)	70
64	1	28	1036	(b)∗(e)	121
65	5	28	1268		262
66	6	28	1820		27
67	3	28	3892		119
68	5	29	1481		404
69	15	30	1540		403
70	6	32	416		332
71	1	32	608		397
72	1	32	1440	(l)∗(l), (A)∗(β)	10^{**}, 40
73	1	32	7584		201
74	1	32	26016	(C)∗(e), (A)∗(θ)	3, 30, 31, 72
75	3	32	38880	(A)∗(e)	111
76	39	33	385		326
77	3	33	3422		335
78	3	33	3600	(b)∗(c)	113
79	7	35	2184		28
80	9	36	556		183
81	63	36	955		344
82	12	36	980	(h)∘(h)	372
83	10	36	1284		266
84	9	36	1580		353

	N_0	$\|N_1\|$	$\|N_3\|$	Hadamard product	# in Table A
85	3	36	3020	(d)∗(f)	163
86	3	36	3284	(A)∗(f)	133
87	6	36	3648		185
88	9	36	3856		342
89	1	36	8076	(B)∗(e)	110
90	1	36	41421	(B)∗(b)	24
91	1	36	128217204	(B)∗(j)	
92	1	37	15270	(g)∗(g)	144
93	13	39	1621		197
94	8	40	5128		304
95	2	40	26376		293
96	6	42	2542	(a)∗(c)	104
97	44	44	308		182
98	5	44	2980		249
99	11	44	3124		206
100	1	44	22500	(C)∗(g)	139
101	1	45	43531		313
102	4	48	112		339
103	20	48	400		381
104	4	48	1424	(b)∗(d)	106
105	1	48	2864	(B)∗(β), (A)∗(h), (k)∗(m)	8^{**}, 49, 141
106	1	48	9104		296
107	4	48	9280		380
108	3	48	11056	(A)∗(c)	58
109	2	48	11664	(B)∗(d)	48
110	1	48	25200		329
111	1	48	32368	(d)∗(e), (A)∗(ε)	122
112	1	48	73328	(C)∗(d)	38
113	19	49	1761		186
114	1	50	68472		373
115	21	51	5095		217
116	20	52	1356		203
117	3	52	52284		117
118	1	52	220220		68
119	1	54	40552		50
120	3	54	64744		223
121	1	55	116555		118
122	24	56	3552		248
123	5	59	22503		224
124	48	60	840		376
125	3	60	1684	(A)∗(g)	137
126	3	60	28820		255
127	1	60	134292		5, 90, 91, 93, 157
128	1	60	307860	(B)∗(i)	

	N_0	$\lvert N_1\rvert$	$\lvert N_3\rvert$	Hadamard product	# in Table A
129	1	63	96866	(f)$*$(h)	172
130	6	64	13504		377
131	1	64	23360		116
132	2	64	32576		328
133	1	64	131904		383
134	1	64	246848	(C)$*$(c)	69
135	7	66	8716		379
136	2	66	59386	(B)$*$(δ)	151
137	1	66	69048		389
138	4	68	95246	(c)$*$(g)	175
139	11	69	8883		307
140	5	70	980		356
141	30	72	1360		359
142	24	72	3496		286
143	12	72	3900	(a)$*$(f)	160
144	4	72	20708	(B)$*$(f)	134
145	3	75	52356		336
146	5	76	10500		270
147	5	76	24836		261
148	3	76	144196		55
149	1	76	415420	(a)$*$(i), (C)$*$(δ)	152
150	28	80	2912		212
151	23	80	4655		19
152	1	80	104976		233
153	1	80	174096		83
154	1	80	249872		236
155	11	84	9052		198
156	6	84	20848		29
157	2	84	83412		243
158	3	84	113304		291
159	13	87	21589		341
160	1	90	151648		73
161	1	92	585396	(C)$*$(b)	51
162	9	93	43174		394
163	1	96	12064	(C)$*$(β)	7^*, 43
164	6	96	15136		378
165	3	96	26208	(c)$*$(e), (A)$*$(α)	39, 120
166	52	100	3500		311
167	1	100	126580	(b)$*$(i), (C)$*$(η)	
168	2	104	89544		348
169	12	108	968	(c)$*$(f)	162
170	6	108	3136		242
171	99	108	3213		345
172	12	108	4916	(b)$*$(f)	161

	N_0	$\|N_1\|$	$\|N_3\|$	Hadamard product	# in Table A
173	4	108	10472	(B)∗(g)	138
174	12	108	12580		251
175	6	108	19598	(f)∗(g)	178
176	3	108	62596	(e)∗(f), (A)∗(ζ)	164
177	2	108	81104	(c)∗(h)	169
178	3	108	206716	(C)∗(f)	135
179	1	108	49457556	(D)∗(g)	140
180	5	109	16777		302
181	11	110	3740		355
182	6	112	35408		400
183	1	112	186800		331
184	1	112	378800		71
185	19	113	8515		202
186	5	116	186172		275
187	1	117	713814		4
188	1	117	844872		280
189	91	118	1876		375
190	17	126	11700		194
191	1	128	263808		393
192	1	128	382592		220
193	1	128	800384		256
194	7	129	41441		193
195	12	132	9736	(a)∗(g)	173
196	4	132	52204		32
197	4	132	118772	(a)∗(h)	167
198	97	136	1768		374
199	36	140	12008		321
200	14	140	24136		26
201	3	140	198276		338
202	12	144	7312	(c)∗(d)	123
203	6	144	30896	(d)∗(g)	176
204	6	146	66714		306
205	15	147	6032		274
206	11	148	44108		324
207	13	151	26293		303
208	6	156	29884		319
209	1	160	9310		19
210	2	160	539680	(e)∗(e), (c)∗(i), (C)∗(θ)	$\widehat{3}$, 6^*, 115, 190, 204
211	1	160	1956896		6, 75, 96, 146
212	1	160	5870688		76
213	3	162	197216		299
214	61	163	4795		124
215	7	178	129516		401
216	4	180	28320	(b)∗(h)	168

	N_0	$\lvert N_1\rvert$	$\lvert N_3\rvert$	Hadamard product	# in Table A
217	4	180	110940	(B)$*$(h)	142
218	9	180	119332		361
219	1	180	21847076	(D)$*$(f)	136
220	15	186	20300		226
221	5	188	450516		260
222	81	189	4843		334
223	47	189	9277		196
224	12	192	156	(b)$*$(g)	174
225	1	192	616896		384
226	11	193	48570		301
227	1	196	2993772		33
228	3	204	18628		228
229	3	204	125636		387
230	9	205	97622		309
231	1	207	621972		363
232	1	208	1218192		237
233	1	208	1863312	(d)$*$(i), (C)$*$(ε)	
234	9	209	97622		298
235	63	216	7371		349
236	54	216	9900		343
237	3	220	267636		215
238	3	228	278988	(e)$*$(g), (A)$*$(γ)	44, 177
239	4	229	297111		314
240	13	231	38037		240
241	10	232	59256		396
242	5	232	122168		252
243	9	234	103520		214
244	34	236	22848		213
245	56	240	6944		59
246	8	240	117056		74
247	1	240	19105840	(D)$*$(d)	65
248	38	241	17458		284
249	1	243	513936		278
250	29	248	38708		308
251	20	252	56064		273
252	4	252	387464	(B)$*$(ζ)	
253	1	252	1162036		154
254	3	252	1522388		35
255	2	270	835370	(g)$*$(h)	53, 179
256	7	274	281388		208
257	30	276	33780		318
258	20	276	116324		222
259	29	285	40626		195
260	1	288	2339616	(e)$*$(h)	$\widehat{5}$, 98, 171

	N_0	$\lvert N_1 \rvert$	$\lvert N_3 \rvert$	Hadamard product	# in Table A
261	1	288	96055968	(D)∗(e), (A)∗(κ)	112
262	1	291	7935104		230
263	23	308	70799		250
264	1	320	19748928		241
265	2	324	1502052		290
266	1	324	10792428		11, 95
267	4	336	595280	(d)∗(h), (B)∗(ε)	170
268	1	336	4761360		358
269	1	352	3284448		330
270	13	359	393749		398
271	21	361	120472		287
272	22	362	94342		310
273	5	364	6324580		282
274	19	370	140636		325
275	1	372	71562236	(D)∗(a)	62
276	5	379	1364199		232
277	1	384	164736	(m)∗(m)	13*, 47
278	3	384	1546624	(c)∗(i), (C)∗(α)	37
279	12	400	292444		323
280	21	414	128592		218
281	14	420	159040		189
282	4	428	485244		187
283	1	432	78259376	(D)∗(c)	64
284	9	441	173876		350
285	5	444	1501908		210
286	1	444	19050964		238
287	3	460	894404		231
288	3	468	3687996	(f)∗(i), (C)∗(ζ)	
289	5	468	59427420		272
290	17	478	285760		209
291	1	480	4215904		258
292	1	480	16034720	(D)∗(β)	9*, 9**, 67
293	3	484	819404		340
294	5	492	872164		221
295	1	492	136094428	(a)∗(j), (D)∗(δ)	153
296	15	498	360988		219
297	20	500	343500		354
298	1	522	9879192	(h)∗(h)	$\widehat{4}$, 145, 181
299	36	540	325680		347
300	3	564	2422620		283
301	13	567	512341		399
302	15	570	392025		315
303	1	575	63441275		1, 79, 87, 128
304	1	608	22293216		247

	N_0	$\|N_1\|$	$\|N_3\|$	Hadamard product	# in Table A
305	1	612	51318900	(b)∗(j), (D)∗(η)	
306	1	624	43406256		180
307	13	647	942613		99
308	72	684	398428		200
309	1	684	195638820	(D)∗(b)	63
310	8	713	2286220		346
311	1	736	26911072	(e)∗(i)	$\widehat{6}$, 77, 78, 97
312	11	741	1526195		320
313	3	798	11433160		388
314	48	828	344760		317
315	5	828	4270932		268
316	11	852	1678156		316
317	1	864	147560800	(c)∗(j), (D)∗(α)	66
318	1	900	8364884		227
319	1	928	170809536		10, 54
320	3	988	14008436		367
321	1	992	63721056		257
322	1	1008	607849200	(D)∗(h), (B)∗(κ)	143
323	3	1020	15174100	(g)∗(i), (C)∗(γ)	52
324	3	1056	15001120		229
325	1	1056	138459552		265
326	1	1116	349462868	(f)∗(j), (D)∗(ζ)	
327	7	1162	71127		392
328	1	1248	683015008		14, 85, 86, 156
329	1	1312	58156708		263
330	1	1344	109320512	(h)∗(i)	$\widehat{11}$, 94
331	7	1434	18676572		109
332	1	1488	517984144	(d)∗(j), (D)∗(ε)	
333	1	1584	171534960		239
334	1	1616	283183120		300
335	1	1818	467810538		267
336	5	2043	88982631		337
337	4	2300	253765100		148
338	1	2400	2956977632		211
339	1	2450	623291900		$\widehat{1}$, 80, 81, 131
340	1	2484	1327731388	(g)∗(j), (D)∗(γ)	149
341	1	2592	81451104	(C)∗(j)	
342	1	2628	3966805740		8, 92, 125, 158
343	1	2656	2493879008		362
344	3	2892	85888580		391
345	44	3180	6378752		285
346	1	3488	1142687008	(i)∗(i)	$\widehat{10}$, 155
347	1	3616	264403872		288
348	1	3936	10892932064	(D)∗(i)	

	N_0	$\lvert N_1\rvert$	$\lvert N_3\rvert$	Hadamard product	# in Table A
349	1	4192	2124587232		277
350	3	4300	1701817028		292
351	1	5408	4296119968		295
352	1	5408	22147077792		254
353	1	5472	6444589536	(e)∗(j)	$\widehat{14}$, 88, 89
354	1	7776	66942277344		12
355	1	8096	9215266592		368
356	1	8224	15542388128		289
357	1	10080	24400330080	(h)∗(j)	$\widehat{8}$, 82, 126, 127, 129
358	1	10912	71557619232		271
359	68	12676	65175340		360
360	1	14752	711860273440		7, 147
361	1	26400	230398034080	(i)∗(j)	$\widehat{12}$
362	1	37216	464865119712		264
363	1	41184	5124430612320	(D)∗(j), (D)∗(κ)	61
364	1	57760	3869123234080		$\widehat{7}$
365	1	67104	28583248229280		13, 57, 108
366	1	70944	3707752060576		207
367	1	80416	15561562691488		294
368	1	82450	22323908689400		259
369	1	93984	25265152551072		225
370	1	177184	45194569320864		351
371	1	188832	101990911789344		276
372	1	201888	40177844666400	(j)∗(j)	$\widehat{13}$, 166
373	1	231200	1700894366474400		2, 159
374	1	549216	5134247872650720		269
375	1	678816	69080128815414048		9
376	1	791200	4288711075194400		$\widehat{2}$
377	1	1565472	28381748186959008		305
378	1	2710944	302270555492914464		$\widehat{9}$

Comments. We list $|N_1|$ and $|N_3|$. The reason for not using N_2 is that it is not invariant under the transformation $q \mapsto -q$. There are many differential equations in the table that are just transformations (by [1], Proposition 8)

$$y_0(z) \mapsto \frac{1}{1-pz} y_0\left(\left(\frac{z}{1-pz}\right)^r\right)$$

which transforms the Yukawa coupling $K(q) \mapsto K(q^r)$ These differential equations should not be in the table but we did not know this transformation when we found them. In the Superseeker table we identify $K(q)$ and $K(q^r)$ as the instanton numbers are just thinned out.

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