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The space $M_4(\Gamma_0\,(100,(5/.))$ and Representation Numbers of Some Octonary Quadratic Forms

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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Abstract

The determination of the number of representations of a positive integer by certain octonary quadratic forms are given in the literature. For instance, the formulas $N(1^{2a},2^{2b},3^{2c},6^{2d};n)$ for the **nine octonary** quadratic forms are given with $a=1, b=2, c=3$ and $d=6$. Moreover, the formulas for $N(1^a,3^b,9^c;n)$ for several **octonary** quadratic forms have been given by Alaca. Here, by using MAGMA, we determine the formulas, for $N(1^a,5^b,25^c;n)$ by Eisenstein series and eta quotients for several octonary quadratic forms whose theta functions are in $M_4\left(\Gamma_0\left(100\right),\chi\right)$.

Keywords: Octonary quadratic forms; representations; theta functions; Dedekind eta function; Eisenstein series; modular forms; Dirichlet character.

Mathematics Subject Classification 2010: 11E25, 11E20, 11F11, 11F20, 11F27

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1 Introduction

It is interesting and important to determine explicit formulas of the representation number of positive definite quadratic forms.

The work on representation number $\#\{(x_1, x_2) \in \mathbb{Z}^2 | n = x_1^2 + x_2^2\}$ of quadratic form $x^2 + y^2$ has been started by Fermat in 1640. It would be helpful to obtain such simple formulas for other positive definite quadratic forms Q so that the author would be able to understand the number of solutions of the equation $Q = n$ for any positive integer n.

Later the formula,

$$\#\{(x_1, x_2) \in \mathbb{Z}^2 | n = x_1^2 + x_2^2\} = 4 \left(\sum_{d|n, d \text{ is odd}} (-1)^{\frac{d-1}{2}} \right)$$

has been proved by Euler. First systematic treatment of binary quadratic forms is due to Legendre. Afterwards it was advanced by Jacobi, with the proof of

$$\#\{(x_1, ..., x_4) \in \mathbb{Z}^4 | n = x_1^2 + x_2^2 + x_3^2 + x_4^2\} = 8 \left(\sum_{d|n, 4 \nmid d} d \right).$$

The theory was advanced much further by Gauss in Disquisitiones Arithmetica. The research of Gauss strongly influenced both the arithmetical theory of quadratic forms in more than two variables and subsequent development of algebraic number theory. Since then, there are many more representation number formulas obtained for quadratic forms. Especially, by means of the deep theorems of Hecke [1] and Schoeneberg [2], modular forms have been used in the representation number of several quadratic forms.

The generalized theta series ([3],[4]), quasimodular forms ([5],[6],[7]) and several other methods have been also used for the representation number formulas.

For $a_1, ..., a_8 \in \mathbb{N}$ and a nonnegative integer n, defines

$$N(a_1, ..., a_8; n) := card\{(x_1, ..., x_8) \in \mathbb{Z}^8 | n = a_1 x_1^2 + \cdots + a_8 x_8^2\}.$$

Clearly $N(a_1, ..., a_8; 0) = 1$ and, without loss of generality can assume that,

$$a_1 \leq ... \leq a_8, \gcd\{a_1, \ldots, a_8\} = 1$$

The formulas for $N(1^i, 3^j, 9^k; n)$ for several **octonary** quadratic forms have been given by Alaca [8]. Here, determines formulae, for $N(1^i, 5^j, 25^k; n)$ for several octonary quadratic forms**.**

The divisor function $\sigma_i(n)$ is defined for a positive integer i by

$$\sigma_i(n) := \begin{cases} \sum_{d \text{ positive integer}, d|n} d^i, \text{if } n \text{ is a positive integer} \\ 0 \text{ if n is not a positive integer.} \end{cases} \quad (1)$$

The Dedekind eta function and the theta function are defined by

$$\eta(z) := q^{1/24} \prod_{n=1}^{\infty} (1 - q^n), \varphi(q) := \sum_{n \in \mathbb{Z}} q^{n^2}, \quad (2)$$

where,

$$q := e^{2\pi i z}, z \in H = \{x + iy : y > 0\} \quad (3)$$

and, an eta quotient of level N is defined by

$$f(z) := \prod_{m|N} \eta(mz)^{a_m}, N, m \in \mathbb{N}, a_m \in \mathbb{Z}. \quad (4)$$

Here, the author gives the following Lemma, see[[9] Theorem 1.64] about the modularity of an eta quotient.

Lemma 1: An eta quotient of level N is a meromorphic modular form of weight $k = \frac{1}{2} \sum_{m|N} a_m$ on $\Gamma_0(N)$,with character χ, having rational coefficients with respect to q if

$$\begin{aligned} & a) \sum_{m|N} a_m \text{ is even,} \\ b) \sum_{m|N} m a_m \equiv & \sum_{m|N} \frac{N}{m} a_m \equiv 0 \bmod 24, \\ & c) \chi(d) = \left(\frac{(-1)^k \prod_{m|N} m^{a_m}}{d} \right), d \in \mathbb{N}. \end{aligned}$$

Now, let's consider octonary quadratic forms of the form

$$Q := x_1^2 + \cdots + x_a^2 + 5(x_{a+1}^2 + \cdots + x_{a+b}^2) + 25(x_{a+b+1}^2 + \cdots + x_{a+b+c}^2),$$

where $a, b, c \in \mathbb{Z}$, $0 < a \leq 8$, $0 \leq b \leq 8, b \equiv 1 mod 2, 0 \leq c \leq 8$, and $a+b+c = 8$.We list those (a, b, c) in Table 1.

We write $N(1^a, 5^b, 25^c; n)$ to denote the number of representations of n by an octonary quadratic form (a, b, c). Its theta function is obviously

Table1.

a	b	c	a	b	c	a	b	c	a	b	c
1	1	6	1	5	2	2	1	5	2	5	1
1	3	4	1	7	0	2	3	3	3	1	4
3	3	2	4	1	3	5	1	2	6	1	1
3	5	0	4	3	1	5	3	0	7	1	0

$$\Theta_Q = \varphi^a(q)\,\varphi^b\left(q^5\right)\varphi^c\left(q^{25}\right).$$

Formulas for $N(1^{2i}, 2^{2j}, 3^{2k}, 6^{2l}; n)$ for the nine octonary quadratic forms $(2i, 2j, 2k, 2l) = (8, 0, 0, 0)$, $(2, 6, 0, 0)$, $(4, 4, 0, 0)$, $(6, 2, 0, 0)$, $(2, 0, 6, 0)$, $(4, 0, 4, 0)$, $(6, 0, 2, 0)$, $(4, 0, 0, 4)$,and $(0, 4, 4, 0)$ appear in the literature, [10],[11],[12],[13],[14]. Moreover, the formulas for $N(1^i, 3^j, 9^k; n)$ for twenty **octonary** quadratic forms have been given by Alaca. Here, the author determines formulae, for $N(1^i, 5^j, 25^k; n)$ for sixteen octonary quadratic forms**.**

Here, the author will classify all triples (a, b, c) for which Θ_Q is a modular form of level 100 and weight 4 with nebentypus χ, where χ is the Dirichlet character mod 100 determined by the Kronecker Symbol $\left(\frac{5}{n}\right)$. Then we will obtain their representation numbers in terms of the coefficients of Eisenstein series and some eta quotients.

First, by the following Theorem, we characterize the facts that

$$\varphi^a(q)\,\varphi^b\left(q^5\right)\varphi^c\left(q^{25}\right)$$

are in $M_4(\Gamma_0(100), \chi)$.

Theorem 2 Let

$$Q := x_1^2 + \cdots + x_a^2 + 5(x_{a+1}^2 + \cdots + x_{a+b}^2) + 25(x_{a+b+1}^2 + \cdots + x_{a+b+c}^2)$$

where, $a, b, c \in \mathbb{Z}$, $0 < a \leq 8$, $0 \leq b \leq 8, 0 \leq c \leq 8$ and $a+b+c = 8$, be an octonary quadratic form. Then its theta series is of the form

$$\begin{aligned}\Theta_Q &= \varphi^a(q)\,\varphi^b\left(q^5\right)\varphi^c\left(q^{25}\right) = \\ &\quad \eta^{-2a}(q)\,\eta^{5a}\left(q^2\right)\eta^{-2a}\left(q^4\right)\eta^{-2b}\left(q^5\right)\eta^{5b}\left(q^{10}\right)\eta^{-2b}\left(q^{20}\right)\eta^{-2c}\left(q^{25}\right)\eta^{5c}\left(q^{50}\right)\eta^{-2c}\left(q^{100}\right)\end{aligned}$$

Moreover, it is in $M_4(\Gamma_0(100), \chi)$ if and only if $b \equiv 1 mod 2$, i.e.,(a, b, c) is given in the Table 1.

Proof. It follows from the Lemma 1, holomorphicity criterion in [[15] Corollary 2.3,p.37] and the fact that

$$\varphi(q) = \frac{\eta^5\left(q^2\right)}{\eta^2(q)\,\eta^2\left(q^4\right)}.$$

The condition

$$\begin{aligned} & 1^{-2a}2^{5a}4^{-2a}5^{-2b}10^{5b}20^{-2b}25^{-2c}50^{5c}100^{-2c} \\ = & \; 2^{5a-4a+5b-4b+5c-4c}5^{-2b+5b-2b-4c+10c-4c} = 2^{a+b+c}5^{2c}5^{b} \end{aligned}$$

implies that $b \equiv 1 mod 2$ if and only if $\chi(m) = \left(\frac{5}{m}\right)$. Now, consider an eta quotient of the form

$$F = \eta^{a_1}(q)\,\eta^{a_2}(2q)\,\eta^{a_3}(4q)\,\eta^{a_4}(5q)\,\eta^{a_5}(10q)\,\eta^{a_6}(20q)\,\eta^{a_7}(25q)\,\eta^{a_8}(50q)\,\eta^{a_9}(100q).$$

Since

$$1^{a_1}2^{a_2}4^{a_3}5^{a_4}10^{a_5}20^{a_6}25^{a_7}50^{a_8}100^{a_9} = 2^{a_2+2a_3+a_5+2a_6+a_8+2a_9}5^{a_4+a_5+a_6+2a_7+2a_8+2a_9},$$

F is in $M_4(\Gamma_0(100), \chi)$ if and only if $a_2 + a_5 + a_8 \equiv 0$ mod 2, $a_4 + a_5 + a_6 \equiv 1$ mod 2.
Now let ψ be the Dirichlet character mod 5 sending 2 to i, and consider the following Eisenstein

series:

$$\begin{aligned} E_4^{\psi^2,1}(z) &= \sum_{n=1}^{+\infty}\left(\sum_{d|n}\psi^2\left(\frac{n}{d}\right)d^3\right)q^n, \\ E_4^{1,\psi^2}(z) &= 1 - \frac{8}{B_{4,\psi^2}}\sum_{n=1}^{+\infty}\left(\sum_{d|n}\psi^2(d)\,d^3\right)q^n = 1 + \sum_{n=1}^{+\infty}\left(\sum_{d|n}\psi^2(d)\,d^3\right)q^n. \end{aligned}$$

$\left\{E_4^{\psi^2,1}(z), E_4^{1,\psi^2}(z)\right\}$ span the Eisenstein subspace of $M_4\left(\Gamma_0(5), \left(\frac{5}{d}\right)\right)$, where $\left(\frac{5}{d}\right)$ is the Kronecker character modulo 5.

Let $\mathbb{Z}_{25}^*$ be the Dirichlet Group of invertible integers modulo 25. $\mathbb{Z}_{25}^*$ is obviously generated by 2. Let γ be the Dirichlet character such that $\gamma(2) = -1$.Then it can be verified easily that γ is the induced Dirichlet character from the Kronecker character $\left(\frac{5}{n}\right)$ modulo 5 and there are two Eisenstein series as newforms in $M_4(\Gamma_0(25), \gamma)$:

$$E251 := q + 9iq^2 - 28iq^3 - 73q^4 + 252q^6 + 344iq^7 - 585iq^8 - 757q^9 + 1332q^{11} + O(q^{12})$$
$$E252 := q - 9iq^2 + 28iq^3 - 73q^4 + 252q^6 - 344iq^7 + 585iq^8 - 757q^9 + 1332q^{11} + O(q^{12}).$$

Let $\mathbb{Z}_{100}^*$ be the Dirichlet Group of invertible integers modulo 100. $\mathbb{Z}_{100}^*$ is obviously generated by 51 and 77. Let α and β be the Dirichlet characters such that $\alpha(51) = -1, \alpha(77) = 1$ and $\beta(51) = 1, \beta(77) = -1$ respectively.Then it can be verified easily that β^{10} is the induced Dirichlet character from the Kronecker character $\left(\frac{5}{n}\right)$ modulo 5.The dimension of the whole space $M_4(\Gamma_1(100))$ is 970. But here, we will only describe the subspace $M_4\left(\Gamma_0(100), \beta^{10}\right)$.The dimension of $M_4\left(\Gamma_0(100), \beta^{10}\right)$ is 54 and its Eisenstein subspace is 18 dimensional.

The set

$$\begin{aligned} &\{E_4^{1,\psi^2}(z), E_4^{1,\psi^2}(2z), E_4^{1,\psi^2}(4z), E_4^{1,\psi^2}(5z), E_4^{1,\psi^2}(10z), E_4^{1,\psi^2}(20z) \\ &E_4^{\psi^2,1}, E_4^{\psi^2,1}(2z), E_4^{\psi^2,1}(4z), E_4^{\psi^2,1}(5z), E_4^{\psi^2,1}(10z), E_4^{\psi^2,1}(20z), \\ &E251, E251(2z), E251(4z), E252, E252(2z), E252(4z), \end{aligned}$$

generates Eisenstein subspace of $M_4\left(\Gamma_0(100), \beta^{10}\right)$.

Moreover, let

$$
\begin{aligned}
B_1(q) &:= \frac{\eta(2z)^3\eta(4z)^5\eta(5z)^4\eta(50z)}{\eta(z)^3\eta(20z)\eta(25z)}, B_2(q) := \frac{\eta(2z)^4\eta(4z)\eta(5z)^4\eta(50z)\eta(100z)}{\eta(z)^3\eta(10z)^3\eta(20z)^2\eta(25z)},\\
B_3(q) &:= \frac{\eta(2z)^9\eta(4z)\eta(5z)^3\eta(50z)^4}{\eta(z)^5\eta(10z)\eta(25z)^2\eta(100z)}, B_4(q) := \frac{\eta(2z)\,10\eta(5z)^8\eta(20z)^3\eta(50z)^7}{\eta(z)^5\eta(4z)^4\eta(10z)^5\eta(25z)^3\eta(100z)^3},\\
B_5(q) &:= \frac{\eta(2z)^{10}\eta(5z)^6\eta(20z)^4\eta(50z)^2}{\eta(z)^5\eta(4z)^3\eta(10z)^4\eta(25z)\eta(100z)}, B_6(q) = \frac{\eta(2z)^{10}\eta(5z)^6\eta(20z)\eta(50z)^5}{\eta(z)^5\eta(4z)^3\eta(10z)^3\eta(25z)\eta(100z)^2},\\
B_7(q) &:= \frac{\eta(2z)^{10}\eta(5z)^4\eta(20z)^2}{\eta(z)^5\eta(4z)^2\eta(10z)^2\eta(25z)}, B_8(q) = \frac{\eta(2z)^{10}\eta(5z)^6\eta(100z)^2}{\eta(z)^5\eta(4z)^2\eta(10z)^2\eta(25z)},\\
B_9(q) &:= \frac{\eta(2z)^{10}\eta(5z)\eta(10z)^3\eta(100z)}{\eta(z)^5\eta(4z)\eta(50z)}, B_{10}(q) := \frac{\eta(2z)^{10}\eta(5z)^2\eta(25z)^3\eta(100z)}{\eta(z)^5\eta(4z)\eta(50z)^2},\\
B_{11}(q) &:= \frac{\eta(2z)^7\eta(5z)^9\eta(20z)^4\eta(50z)^2}{\eta(z)^4\eta(4z)^3\eta(10z)^5\eta(25z)\eta(100z)}, B_{12}(q) := \frac{\eta(2z)^6\eta(5z)^9\eta(50z)\eta(100z)}{\eta(z)^4\eta(4z)\eta(10z)^3\eta(25z)},\\
B_{13}(q) &:= \frac{\eta(2z)^6\eta(5z)^9\eta(50z)}{\eta(z)^4\eta(10z)^3\eta(25z)}, B_{14}(q) := \frac{\eta(2z)^6\eta(5z)^6\eta(50z)^4}{\eta(z)^4\eta(4z)\eta(10z)^2\eta(25z)^2\eta(100z)},\\
B_{15}(q) &:= \frac{\eta(2z)^7\eta(5z)^6\eta(10z)\eta(50z)^4}{\eta(z)^4\eta(4z)^2\eta(20z)\eta(25z)^2\eta(100z)}, B_{16}(q) := \frac{\eta(2z)^7\eta(5z)^7\eta(20z)^2\eta(25z)}{\eta(z)^4\eta(4z)^2\eta(10z)^3},\\
B_{17}(q) &:= \frac{\eta(2z)^7\eta(5z)^6\eta(50z)^3\eta(100z)}{\eta(z)^4\eta(4z)\eta(10z)^2\eta(25z)^2}, B_{18}(q) := \frac{\eta(2z)^7\eta(5z)^4\eta(100z)}{\eta(z)^4\eta(4z)\eta(10z)^2\eta(50z)},\\
B_{19}(q) &:= \frac{\eta(2z)^7\eta(10z)^5\eta(25z)}{\eta(z)^4\eta(4z)^2\eta(5z)\eta(20z)^2}, B_{20}(q) := \frac{\eta(2z)^7\eta(5z)^6\eta(50z)^3}{\eta(z)^4\eta(10z)^2\eta(25z)^2},\\
B_{21}(q) &:= \frac{\eta(2z)^7\eta(5z)\eta(10z)^3\eta(50z)^2}{\eta(z)^4\eta(4z)\eta(25z)\eta(100z)}, B_{22}(q) := \frac{\eta(2z)^7\eta(5z)^2\eta(25z)^2\eta(50z)}{\eta(z)^4\eta(4z)\eta(100z)},\\
B_{23}(q) &:= \frac{\eta(2z)^8\eta(5z)^6\eta(50z)^2\eta(100z)^3}{\eta(z)^4\eta(4z)^3\eta(10z)^2\eta(25z)^2}, B_{24}(q) := \frac{\eta(2z)^8\eta(5z)\eta(10z)^6\eta(50z)^2}{\eta(z)^4\eta(4z)^2\eta(20z)\eta(25z)\eta(100z)},\\
B_{25}(q) &:= \frac{\eta(4z)^2\eta(5z)^9\eta(10z)\eta(50z)^3}{\eta(z)^2\eta(20z)^2\eta(25z)^3}, B_{26}(q) := \frac{\eta(4z)^4\eta(5z)^7\eta(20z)\eta(50z)^2}{\eta(z)^2\eta(10z)^2\eta(25z)\eta(100z)},\\
B_{27}(q) &:= \frac{\eta(2z)^2\eta(4z)^2\eta(5z)^9\eta(10z)\eta(50z)}{\eta(z)^3\eta(20z)^2\eta(25z)^2}, B_{28}(q) := \frac{\eta(2z)^3\eta(5z)^9\eta(10z)\eta(100z)^2}{\eta(z)^3\eta(20z)^2\eta(25z)^2},\\
B_{29}(q) &:= \frac{\eta(2z)^3\eta(4z)\eta(5z)^9\eta(50z)^4}{\eta(z)^3\eta(10z)^3\eta(25z)^2\eta(100z)}, B_{30}(q) := \frac{\eta(4z)^5\eta(5z)^5\eta(25z)}{\eta(z)^2\eta(20z)},\\
B_{31}(q) &:= \frac{\eta(2z)^3\eta(4z)^5\eta(5z)^2\eta(10z)\eta(25z)}{\eta(z)^3\eta(20z)}, B_{32}(q) := \frac{\eta(2z)^5\eta(10z)^7\eta(20z)^2\eta(100z)}{\eta(z)\eta(4z)^3\eta(5z)^3},\\
B_{33}(q) &:= \frac{\eta(2z)^5\eta(10z)\eta(20z)^6\eta(50z)^6}{\eta(z)\eta(4z)^3\eta(5z)\eta(25z)^2\eta(100z)^3}, B_{34}(q) := \frac{\eta(2z)^6\eta(10z)^5\eta(25z)^2\eta(50z)}{\eta(4z)^2\eta(5z)^2\eta(20z)\eta(100z)},\\
B_{35}(q) &:= \frac{\eta(2z)^8\eta(5z)^2\eta(20z)\eta(50z)^5}{\eta(4z)^4\eta(10z)\eta(25z)^2\eta(100z)},\\
B_{36}(q) &:= \frac{\eta(5z)^3\eta(10z)^{10}\eta(20z)^9\eta(25z)^3\eta(50z)^8\eta(100z)^5}{\eta(z)^{10}\eta(2z)^{10}\eta(4z)^{10}}.
\end{aligned}
$$

be some eta quotients of level 100 and weight 4 with nebentypus χ.

Theorem 3 The set

$$\{E_4^{1,\psi^2}(z), E_4^{1,\psi^2}(2z), E_4^{1,\psi^2}(4z), E_4^{1,\psi^2}(5z), E_4^{1,\psi^2}(10z), E_4^{1,\psi^2}(20z)$$
$$E_4^{\psi^2,1}, E_4^{\psi^2,1}(2z), E_4^{\psi^2,1}(4z), E_4^{\psi^2,1}(5z), E_4^{\psi^2,1}(10z), E_4^{\psi^2,1}(20z),$$
$$E251, E251(2z), E251(4z), E252, E252(2z), E252(4z),$$

is a basis of Eisenstein subspace of $M_4(\Gamma_0(100), \chi)$ and $\{B_1, B_2, \ldots, B_{36}\}$ is a basis of cuspidal subspace of $M_4(\Gamma_0(100), \chi)$.

Proof $M_4(\Gamma_0(100), \chi)$ is 54 dimensional and $S_4(\Gamma_0(100), \chi)$ is 36 dimensional, see [16] (Chapter 3, pg.87 and Chapter 5, pg.197). So the first statement is clear. Second statement follows from lemma 1 and holomorphicity criterion in [[15] Corollary 2.3,p.37].

Corollary 4 Θ_Q can be expressed as linear combinations of the basis elements

$$\{E_4^{1,\psi^2}(z), E_4^{1,\psi^2}(2z), E_4^{1,\psi^2}(4z), E_4^{1,\psi^2}(5z), E_4^{1,\psi^2}(10z), E_4^{1,\psi^2}(20z)$$
$$E_4^{\psi^2,1}, E_4^{\psi^2,1}(2z), E_4^{\psi^2,1}(4z), E_4^{\psi^2,1}(5z), E_4^{\psi^2,1}(10z), E_4^{\psi^2,1}(20z),$$
$$E251, E251(2z), E251(4z), E252, E252(2z), E252(4z), B_1, B_2, \ldots, B_{36}\}$$

for Q in the Table 1. The formulas are given in Table 2.

Theorem 5 Each B_i can be represented as linear combinations of newforms and their rescalings

$$\Delta_{\chi,10,4,1}, \Delta_{\chi,10,4,1}(2z), \Delta_{\chi,10,4,1}(5z), \Delta_{\chi,10,4,1}(10z),$$
$$\Delta_{\chi,10,4,2}\left(\text{conjugate of } \Delta_{\chi,10,4,1} \text{ by } x^2+4\right), \Delta_{\chi,10,4,2}(2z), \Delta_{\chi,10,4,2}(5z), \Delta_{\chi,10,4,2}(10z),$$
$$\Delta_{\chi,20,4,1}(z), \Delta_{\chi,20,4,1}(5z),$$
$$\Delta_{\chi,20,4,2}(z)\left(\text{conjugate of } \Delta_{\chi,20,4,1} \text{ by } x^2+76\right), \Delta_{\chi,20,4,2}(5z),$$
$$\Delta_{\chi,25,4,1}(z), \Delta_{\chi,25,4,1}(2z), \Delta_{\chi,25,4,1}(4z),$$
$$\Delta_{\chi,25,4,2}(z)\left(\text{conjugate of } \Delta_{\chi,25,4,1} \text{ by } x^2+16\right), \Delta_{\chi,25,4,2}(2z), \Delta_{\chi,25,4,2}(4z),$$
$$\Delta_{\chi,25,4,3}(z), \Delta_{\chi,25,4,3}(2z), \Delta_{\chi,25,4,3}(4z),$$
$$\Delta_{\chi,25,4,4}(z)\left(\text{conjugate of } \Delta_{\chi,25,4,3} \text{ by } x^2+1\right), \Delta_{\chi,25,4,4}(2z), \Delta_{\chi,25,4,4}(4z),$$
$$\Delta_{\chi,50,4,1}(z), \Delta_{\chi,50,4,1}(2z),$$
$$\Delta_{\chi,50,4,2}(z)\left(\text{conjugate of } \Delta_{\chi,50,4,1} \text{ by } x^2+64\right), \Delta_{\chi,50,4,2}(2z),$$
$$\Delta_{\chi,50,4,3}(z), \Delta_{\chi,50,4,3}(2z),$$
$$\Delta_{\chi,50,4,4}(z)\left(\text{conjugate of } \Delta_{\chi,50,4,3} \text{ by } x^2+49\right), \Delta_{\chi,50,4,4}(2z),$$
$$\Delta_{\chi,100,4,1}(z), \Delta_{\chi,100,4,2}(z)\left(\text{conjugate of } \Delta_{\chi,100,4,1} \text{ by } x^2+1\right),$$
$$\Delta_{\chi,100,4,3}(z), \Delta_{\chi,100,4,4}(z), \left(\text{conjugate of } \Delta_{\chi,100,4,3} \text{ by } x^2+16\right)$$

as in the table 3.

2 Conclusion

As a consequence of Table 2, we immediately get the following corollary:

Let $\kappa(n) := \sum_{0<d|n} \psi\left(\frac{n}{d}\right) d^3, \lambda(n) := -\frac{8}{B_{4,\psi}} \sum_{0<d|n} \psi(d) d^3.$

Corollary 6 The following formulas for the representation numbers are valid.

$$\begin{aligned}
N(1,5,25^6;n) &= \frac{1}{2125}\lambda(n) + \frac{16}{2125}\lambda\left(\frac{n}{4}\right) + \frac{124}{2125}\lambda\left(\frac{n}{5}\right) + \frac{1984}{2125}\lambda\left(\frac{n}{20}\right) \\
&+ \frac{2}{2125}\kappa(n) + \frac{32}{2125}\kappa\left(\frac{n}{4}\right) + \frac{124}{2125}\kappa\left(\frac{n}{5}\right) + \frac{1984}{2125}\kappa\left(\frac{n}{20}\right) + \frac{130\,976}{31\,875}b_1(n) \\
&- \frac{607\,168}{82\,875}b_2(n) + \frac{1408\,934}{31\,875}b_3(n) - \frac{4604\,747}{82\,875}b_4(n) + \frac{11\,422}{975}b_5(n) - \frac{244\,672}{27\,625}b_6(n) \\
&+ \frac{1936}{1275}b_7(n) - \frac{371\,378}{82\,875}b_8(n) - \frac{91\,349}{82\,875}b_9(n) + \frac{31\,906}{3315}b_{10}(n) + \frac{2265\,466}{82\,875}b_{11}(n) \\
&- \frac{663\,761}{16\,575}b_{12}(n) + \frac{1288\,472}{414\,375}b_{13}(n) - \frac{7611\,518}{414\,375}b_{14}(n) + \frac{176}{425}b_{15}(n) \\
&- \frac{345\,164}{82\,875}b_{16}(n) + \frac{39\,827}{27\,625}b_{17}(n) + \frac{92\,077}{82\,875}b_{18}(n) - \frac{155\,202}{5525}b_{19}(n) + \frac{2421\,214}{82\,875}b_{20}(n) \\
&- \frac{26\,576}{4875}b_{21}(n) + \frac{121\,729}{16\,575}b_{22}(n) + \frac{8826}{2125}b_{23}(n) + \frac{49\,798}{2125}b_{24}(n) - \frac{675\,713}{16\,575}b_{25}(n) \\
&+ \frac{2574}{2125}b_{26}(n) + \frac{128}{425}b_{27}(n) + \frac{488}{425}b_{28}(n) + \frac{7688}{2125}b_{29}(n) + \frac{1384}{425}b_{30}(n) \\
&+ \frac{4192}{1275}b_{31}(n) - \frac{501\,164}{82\,875}b_{33}(n) + \frac{372}{2125}b_{34}(n) - \frac{2852}{2125}b_{35}(n) + \frac{1674}{2125}b_{36}(n),
\end{aligned}$$

$$\begin{aligned}
N(1,5^3,25^4;n) &= \frac{1}{425}\lambda(n) + \frac{16}{425}\lambda\left(\frac{n}{4}\right) + \frac{24}{425}\lambda\left(\frac{n}{5}\right) + \frac{384}{425}\lambda\left(\frac{n}{20}\right) \\
&+ \frac{2}{425}\kappa(n) + \frac{32}{425}\kappa\left(\frac{n}{4}\right) + \frac{24}{425}\kappa\left(\frac{n}{5}\right) + \frac{384}{425}\kappa\left(\frac{n}{20}\right) + \frac{87\,616}{6375}b_1(n) \\
&- \frac{153\,728}{16\,575}b_2(n) + \frac{564\,844}{6375}b_3(n) - \frac{1946\,182}{16\,575}b_4(n) + \frac{42\,412}{3315}b_5(n) - \frac{32\,512}{5525}b_6(n) \\
&+ \frac{32}{255}b_7(n) - \frac{145\,828}{16\,575}b_8(n) - \frac{25\,114}{16\,575}b_9(n) + \frac{73\,444}{3315}b_{10}(n) + \frac{1009\,796}{16\,575}b_{11}(n) \\
&- \frac{290\,986}{3315}b_{12}(n) + \frac{570\,352}{82\,875}b_{13}(n) - \frac{2322\,988}{82\,875}b_{14}(n) - \frac{224}{85}b_{15}(n) - \frac{194\,104}{16\,575}b_{16}(n) \\
&- \frac{1058}{5525}b_{17}(n) + \frac{53\,402}{16\,575}b_{18}(n) - \frac{33\,444}{1105}b_{19}(n) + \frac{562\,604}{16\,575}b_{20}(n) - \frac{107\,552}{16\,575}b_{21}(n) \\
&+ \frac{8842}{663}b_{22}(n) + \frac{3036}{425}b_{23}(n) + \frac{11\,668}{425}b_{24}(n) - \frac{248\,962}{3315}b_{25}(n) + \frac{524}{425}b_{26}(n) \\
&+ \frac{128}{85}b_{27}(n) + \frac{112}{85}b_{28}(n) + \frac{128}{425}b_{29}(n) + \frac{768}{85}b_{30}(n) + \frac{1472}{255}b_{31}(n) \\
&- \frac{194\,104}{16\,575}b_{33}(n) + \frac{72}{425}b_{34}(n) - \frac{552}{425}b_{35}(n) + \frac{324}{425}b_{36}(n),
\end{aligned}$$

$$\begin{aligned}
N(1,5^5,25^2;n) &= \frac{1}{85}\lambda(n) + \frac{16}{85}\lambda\left(\frac{n}{4}\right) + \frac{4}{85}\lambda\left(\frac{n}{5}\right) + \frac{64}{85}\lambda\left(\frac{n}{20}\right) \\
&+ \frac{2}{85}\kappa(n) + \frac{32}{85}\kappa\left(\frac{n}{4}\right) + \frac{4}{85}\kappa\left(\frac{n}{5}\right) + \frac{64}{85}\kappa\left(\frac{n}{20}\right) + \frac{18\,016}{1275}b_1(n) \\
&- \frac{26\,048}{3315}b_2(n) + \frac{135\,994}{1275}b_3(n) - \frac{436\,357}{3315}b_4(n) + \frac{10\,210}{663}b_5(n) + \frac{16\,448}{1105}b_6(n) \\
&- \frac{784}{51}b_7(n) + \frac{51\,602}{3315}b_8(n) + \frac{8261}{3315}b_9(n) - \frac{6986}{663}b_{10}(n) + \frac{139\,046}{3315}b_{11}(n) \\
&- \frac{64\,111}{663}b_{12}(n) + \frac{57\,352}{16\,575}b_{13}(n) - \frac{611\,938}{16\,575}b_{14}(n) - \frac{304}{17}b_{15}(n) - \frac{184\,564}{3315}b_{16}(n) \\
&+ \frac{557}{1105}b_{17}(n) + \frac{124\,547}{3315}b_{18}(n) + \frac{3746}{221}b_{19}(n) + \frac{26\,594}{3315}b_{20}(n) - \frac{1712}{3315}b_{21}(n) \\
&- \frac{545}{39}b_{22}(n) + \frac{246}{85}b_{23}(n) - \frac{1942}{85}b_{24}(n) - \frac{90\,607}{663}b_{25}(n) + \frac{114}{85}b_{26}(n) \\
&+ \frac{128}{17}b_{27}(n) - \frac{72}{17}b_{28}(n) - \frac{1112}{85}b_{29}(n) + \frac{264}{17}b_{30}(n) - \frac{160}{51}b_{31}(n) \\
&- \frac{153\,364}{3315}b_{33}(n) + \frac{12}{85}b_{34}(n) - \frac{92}{85}b_{35}(n) + \frac{54}{85}b_{36}(n),
\end{aligned}$$

$$\begin{aligned}
N(1,5^7;n) &= \frac{1}{17}\lambda(n) + \frac{16}{17}\lambda\left(\frac{n}{4}\right) + \frac{2}{17}\kappa(n) + \frac{32}{17}\kappa\left(\frac{n}{4}\right) - \frac{13\,312}{255}b_1(n) \\
&+ \frac{128}{51}b_2(n) - \frac{3088}{255}b_3(n) + \frac{6568}{51}b_4(n) + \frac{1408}{51}b_5(n) + \frac{512}{17}b_6(n) \\
&- \frac{2560}{51}b_7(n) + \frac{2320}{51}b_8(n) + \frac{4120}{51}b_9(n) - \frac{9920}{51}b_{10}(n) - \frac{18\,560}{51}b_{11}(n) \\
&+ \frac{18\,320}{51}b_{12}(n) - \frac{928}{255}b_{13}(n) - \frac{3968}{255}b_{14}(n) - \frac{1600}{17}b_{15}(n) - \frac{4928}{51}b_{16}(n) \\
&+ \frac{1072}{17}b_{17}(n) + \frac{88}{51}b_{18}(n) + \frac{368}{17}b_{19}(n) + \frac{3424}{51}b_{20}(n) + \frac{1664}{51}b_{21}(n) \\
&- \frac{4120}{51}b_{22}(n) - \frac{1944}{17}b_{23}(n) - \frac{1944}{17}b_{24}(n) + \frac{16\,040}{51}b_{25}(n) \\
&+ \frac{32}{17}b_{26}(n) + \frac{640}{17}b_{27}(n) - \frac{3520}{51}b_{31}(n) - \frac{2048}{51}b_{33}(n),
\end{aligned}$$

$$\begin{aligned}
N(1,5^2,25^5;n) &= \frac{1}{17}\lambda\left(\frac{n}{5}\right) + \frac{16}{17}\lambda\left(\frac{n}{20}\right) + \frac{4}{2125}\kappa(n) \\
&+ \frac{64}{2125}\kappa\left(\frac{n}{4}\right) + \frac{6}{17}\kappa\left(\frac{n}{5}\right) + \frac{96}{17}\kappa\left(\frac{n}{20}\right) + \frac{130\,408}{10\,625}b_1(n) \\
&- \frac{21\,288}{1625}b_2(n) + \frac{1005\,897}{10\,625}b_3(n) - \frac{6842\,057}{55\,250}b_4(n) + \frac{602\,219}{27\,625}b_5(n) \\
&- \frac{212\,392}{27\,625}b_6(n) - \frac{848}{425}b_7(n) - \frac{387\,227}{27\,625}b_8(n) + \frac{513}{2210}b_9(n) \\
&+ \frac{151\,563}{5525}b_{10}(n) + \frac{382\,767}{5525}b_{11}(n) - \frac{1114\,131}{11\,050}b_{12}(n) + \frac{1485\,226}{138\,125}b_{13}(n) \\
&- \frac{6266\,519}{138\,125}b_{14}(n) - \frac{432}{85}b_{15}(n) - \frac{432\,294}{27\,625}b_{16}(n) - \frac{413\,849}{55\,250}b_{17}(n) \\
&+ \frac{15\,463}{55\,250}b_{18}(n) - \frac{237\,617}{5525}b_{19}(n) + \frac{1250\,797}{27\,625}b_{20}(n) - \frac{129\,768}{27\,625}b_{21}(n) \\
&+ \frac{251\,403}{11\,050}b_{22}(n) + \frac{20\,969}{2125}b_{23}(n) + \frac{123\,699}{2125}b_{24}(n) - \frac{1083\,267}{11\,050}b_{25}(n) \\
&+ \frac{6871}{2125}b_{26}(n) - \frac{16}{425}b_{27}(n) + \frac{1584}{425}b_{28}(n) + \frac{3704}{425}b_{29}(n) + \frac{5704}{425}b_{30}(n) \\
&- \frac{32}{85}b_{31}(n) + \frac{16}{5}b_{32}(n) - \frac{267\,974}{27\,625}b_{33}(n) + \frac{338}{2125}b_{34}(n) \\
&- \frac{546}{425}b_{35}(n) + \frac{13}{17}b_{36}(n),
\end{aligned}$$

$$N(1^2,5^3,25^3;n) = \frac{1}{17}\lambda\left(\frac{n}{5}\right) + \frac{16}{17}\lambda\left(\frac{n}{20}\right) + \frac{4}{425}\kappa(n)$$

$$
\begin{aligned}
&+\tfrac{64}{425}\kappa\left(\tfrac{n}{4}\right)+\tfrac{26}{17}\kappa\left(\tfrac{n}{5}\right)+\tfrac{416}{17}\kappa\left(\tfrac{n}{20}\right)+\tfrac{34\,808}{2125}b_1(n)-\tfrac{96\,056}{5525}b_2(n)\\
&+\tfrac{308\,147}{2125}b_3(n)-\tfrac{1941\,907}{11\,050}b_4(n)+\tfrac{170\,329}{5525}b_5(n)+\tfrac{85\,448}{5525}b_6(n)-\tfrac{848}{85}b_7(n)\\
&+\tfrac{21\,383}{5525}b_8(n)+\tfrac{3195}{442}b_9(n)-\tfrac{167}{1105}b_{10}(n)+\tfrac{28\,869}{1105}b_{11}(n)-\tfrac{189\,921}{2210}b_{12}(n)\\
&+\tfrac{254\,526}{27\,625}b_{13}(n)-\tfrac{1801\,469}{27\,625}b_{14}(n)-\tfrac{240}{17}b_{15}(n)-\tfrac{230\,754}{5525}b_{16}(n)\\
&-\tfrac{44\,099}{11\,050}b_{17}(n)+\tfrac{137\,693}{11\,050}b_{18}(n)-\tfrac{7467}{1105}b_{19}(n)+\tfrac{136\,447}{5525}b_{20}(n)\\
&+\tfrac{11\,272}{5525}b_{21}(n)+\tfrac{11\,273}{2210}b_{22}(n)-\tfrac{3181}{425}b_{23}(n)+\tfrac{8049}{425}b_{24}(n)\\
&-\tfrac{192\,977}{2210}b_{25}(n)+\tfrac{1421}{425}b_{26}(n)-\tfrac{16}{85}b_{27}(n)-\tfrac{16}{85}b_{28}(n)-\tfrac{936}{85}b_{29}(n)\\
&+\tfrac{2504}{85}b_{30}(n)-\tfrac{32}{17}b_{31}(n)+16b_{32}(n)-\tfrac{191\,234}{5525}b_{33}(n)+\tfrac{38}{425}b_{34}(n)\\
&-\tfrac{86}{85}b_{35}(n)+\tfrac{11}{17}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
&N(1^2,5^5,25;n)=\tfrac{1}{17}\lambda\left(\tfrac{n}{5}\right)+\tfrac{16}{17}\lambda\left(\tfrac{n}{20}\right)+\tfrac{4}{85}\kappa(n)+\tfrac{64}{85}\kappa\left(\tfrac{n}{4}\right)\\
&+\tfrac{126}{17}\kappa\left(\tfrac{n}{5}\right)+\tfrac{2016}{17}\kappa\left(\tfrac{n}{20}\right)+\tfrac{15\,688}{425}b_1(n)-\tfrac{3176}{1105}b_2(n)+\tfrac{130\,517}{425}b_3(n)\\
&-\tfrac{38\,981}{130}b_4(n)-\tfrac{2001}{1105}b_5(n)+\tfrac{225\,528}{1105}b_6(n)-\tfrac{848}{17}b_7(n)+\tfrac{5969}{65}b_8(n)\\
&+\tfrac{38\,241}{442}b_9(n)-\tfrac{50\,097}{221}b_{10}(n)-\tfrac{25\,373}{221}b_{11}(n)-\tfrac{36\,631}{442}b_{12}(n)\\
&-\tfrac{590\,014}{5525}b_{13}(n)-\tfrac{500\,459}{5525}b_{14}(n)+\tfrac{80}{17}b_{15}(n)-\tfrac{278\,574}{1105}b_{16}(n)\\
&-\tfrac{68\,069}{2210}b_{17}(n)+\tfrac{361\,243}{2210}b_{18}(n)+\tfrac{59\,235}{221}b_{19}(n)-\tfrac{189\,783}{1105}b_{20}(n)\\
&+\tfrac{43\,832}{1105}b_{21}(n)-\tfrac{56\,337}{442}b_{22}(n)-\tfrac{2571}{85}b_{23}(n)-\tfrac{17\,801}{85}b_{24}(n)\\
&-\tfrac{135\,687}{442}b_{25}(n)+\tfrac{331}{85}b_{26}(n)-\tfrac{16}{17}b_{27}(n)-\tfrac{336}{17}b_{28}(n)-\tfrac{504}{17}b_{29}(n)\\
&+\tfrac{504}{17}b_{30}(n)-\tfrac{160}{17}b_{31}(n)+80b_{32}(n)-\tfrac{334\,734}{1105}b_{33}(n)-\tfrac{22}{85}b_{34}(n)\\
&+\tfrac{6}{17}b_{35}(n)+\tfrac{1}{17}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
&N(1^3,5,25^4;n)=\tfrac{1}{425}\lambda(n)+\tfrac{16}{425}\lambda\left(\tfrac{n}{4}\right)+\tfrac{24}{425}\lambda\left(\tfrac{n}{5}\right)+\tfrac{384}{425}\lambda\left(\tfrac{n}{20}\right)\\
&+\tfrac{6}{425}\kappa(n)+\tfrac{96}{425}\kappa\left(\tfrac{n}{4}\right)+\tfrac{24}{425}\kappa\left(\tfrac{n}{5}\right)+\tfrac{384}{425}\kappa\left(\tfrac{n}{20}\right)+\tfrac{40\,832}{1275}b_1(n)\\
&-\tfrac{312\,896}{16\,575}b_2(n)+\tfrac{250\,124}{1275}b_3(n)-\tfrac{874\,118}{3315}b_4(n)+\tfrac{468\,692}{16\,575}b_5(n)+\tfrac{8896}{5525}b_6(n)\\
&-\tfrac{1696}{255}b_7(n)-\tfrac{485\,812}{16\,575}b_8(n)+\tfrac{67\,166}{16\,575}b_9(n)+\tfrac{203\,764}{3315}b_{10}(n)+\tfrac{2995\,076}{16\,575}b_{11}(n)\\
&-\tfrac{177\,050}{663}b_{12}(n)+\tfrac{203\,624}{16\,575}b_{13}(n)-\tfrac{1339\,316}{16\,575}b_{14}(n)-\tfrac{864}{85}b_{15}(n)-\tfrac{793\,576}{16\,575}b_{16}(n)\\
&-\tfrac{27\,018}{1105}b_{17}(n)+\tfrac{231\,314}{16\,575}b_{18}(n)-\tfrac{296\,196}{5525}b_{19}(n)+\tfrac{222\,604}{3315}b_{20}(n)-\tfrac{57\,056}{16\,575}b_{21}(n)\\
&+\tfrac{174\,266}{3315}b_{22}(n)+\tfrac{14\,028}{425}b_{23}(n)+\tfrac{1668}{17}b_{24}(n)-\tfrac{947\,098}{3315}b_{25}(n)+\tfrac{444}{85}b_{26}(n)\\
&+\tfrac{384}{85}b_{27}(n)+\tfrac{656}{85}b_{28}(n)+\tfrac{2848}{425}b_{29}(n)+\tfrac{4032}{85}b_{30}(n)-\tfrac{128}{51}b_{31}(n)\\
&-\tfrac{718\,696}{16\,575}b_{33}(n)+\tfrac{72}{425}b_{34}(n)-\tfrac{552}{425}b_{35}(n)+\tfrac{324}{425}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
&N(1^3,5^3,25^2;n)=\tfrac{1}{85}\lambda(n)+\tfrac{16}{85}\lambda\left(\tfrac{n}{4}\right)+\tfrac{4}{85}\lambda\left(\tfrac{n}{5}\right)+\tfrac{64}{85}\lambda\left(\tfrac{n}{20}\right)\\
&+\tfrac{6}{85}\kappa(n)+\tfrac{96}{85}\kappa\left(\tfrac{n}{4}\right)+\tfrac{4}{85}\kappa\left(\tfrac{n}{5}\right)+\tfrac{64}{85}\kappa\left(\tfrac{n}{20}\right)+\tfrac{160}{51}b_1(n)-\tfrac{4832}{255}b_2(n)\\
&+\tfrac{39\,506}{255}b_3(n)-\tfrac{8453}{51}b_4(n)+\tfrac{15\,194}{255}b_5(n)+\tfrac{4032}{85}b_6(n)-\tfrac{2512}{51}b_7(n)\\
&+\tfrac{20\,186}{255}b_8(n)+\tfrac{3497}{255}b_9(n)-\tfrac{4322}{51}b_{10}(n)-\tfrac{4498}{255}b_{11}(n)-\tfrac{6235}{51}b_{12}(n)\\
&-\tfrac{128}{51}b_{13}(n)-\tfrac{5410}{51}b_{14}(n)-\tfrac{944}{17}b_{15}(n)-\tfrac{40\,852}{255}b_{16}(n)-\tfrac{139}{17}b_{17}(n)\\
&+\tfrac{31\,583}{255}b_{18}(n)+\tfrac{9618}{85}b_{19}(n)-\tfrac{1982}{51}b_{20}(n)+\tfrac{5008}{255}b_{21}(n)-\tfrac{3733}{51}b_{22}(n)\\
&+\tfrac{358}{85}b_{23}(n)-\tfrac{1726}{17}b_{24}(n)-\tfrac{16\,891}{51}b_{25}(n)+\tfrac{90}{17}b_{26}(n)+\tfrac{384}{17}b_{27}(n)\\
&-\tfrac{344}{17}b_{28}(n)-\tfrac{5192}{85}b_{29}(n)+\tfrac{1352}{17}b_{30}(n)-\tfrac{2272}{51}b_{31}(n)-\tfrac{32\,692}{255}b_{33}(n)\\
&+\tfrac{12}{85}b_{34}(n)-\tfrac{92}{85}b_{35}(n)+\tfrac{54}{85}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
&N(1^3,5^5;n)=\tfrac{1}{17}\lambda(n)+\tfrac{16}{17}\lambda\left(\tfrac{n}{4}\right)+\tfrac{6}{17}\kappa(n)+\tfrac{96}{17}\kappa\left(\tfrac{n}{4}\right)-\tfrac{66\,496}{255}b_1(n)\\
&+\tfrac{31\,808}{663}b_2(n)-\tfrac{118\,624}{255}b_3(n)+\tfrac{689\,152}{663}b_4(n)+\tfrac{57\,880}{663}b_5(n)+\tfrac{41\,536}{221}b_6(n)\\
&-\tfrac{11\,200}{51}b_7(n)+\tfrac{138\,976}{663}b_8(n)+\tfrac{207\,040}{663}b_9(n)-\tfrac{554\,480}{663}b_{10}(n)-\tfrac{1129\,952}{663}b_{11}(n)\\
&+\tfrac{1155\,080}{663}b_{12}(n)-\tfrac{50\,632}{3315}b_{13}(n)+\tfrac{41\,608}{3315}b_{14}(n)-\tfrac{4800}{17}b_{15}(n)-\tfrac{190\,256}{663}b_{16}(n)\\
&+\tfrac{43\,376}{221}b_{17}(n)-\tfrac{30\,656}{663}b_{18}(n)+\tfrac{44\,992}{221}b_{19}(n)+\tfrac{87\,376}{663}b_{20}(n)+\tfrac{91\,712}{663}b_{21}(n)\\
&-\tfrac{207\,040}{663}b_{22}(n)-\tfrac{8360}{17}b_{23}(n)-\tfrac{8360}{17}b_{24}(n)+\tfrac{981\,440}{663}b_{25}(n)+\tfrac{96}{17}b_{26}(n)\\
&+\tfrac{1920}{17}b_{27}(n)-\tfrac{14\,080}{51}b_{31}(n)-\tfrac{77\,936}{663}b_{33}(n),
\end{aligned}
$$

$$
\begin{aligned}
&N(1^4,5,25^3;n)=\tfrac{1}{17}\lambda\left(\tfrac{n}{5}\right)+\tfrac{16}{17}\lambda\left(\tfrac{n}{20}\right)+\tfrac{24}{425}\kappa(n)+\tfrac{384}{425}\kappa\left(\tfrac{n}{4}\right)\\
&+\tfrac{26}{17}\kappa\left(\tfrac{n}{5}\right)+\tfrac{416}{17}\kappa\left(\tfrac{n}{20}\right)+\tfrac{231\,544}{6375}b_1(n)-\tfrac{531\,848}{16\,575}b_2(n)+\tfrac{1878\,121}{6375}b_3(n)\\
&-\tfrac{12\,043\,001}{33\,150}b_4(n)+\tfrac{860\,507}{16\,575}b_5(n)+\tfrac{291\,128}{5525}b_6(n)-\tfrac{4384}{255}b_7(n)+\tfrac{88\,709}{16\,575}b_8(n)
\end{aligned}
$$

$$
\begin{aligned}
&+\tfrac{30\,721}{1326}b_9(n)+\tfrac{40\,459}{3315}b_{10}(n)+\tfrac{444\,919}{3315}b_{11}(n)-\tfrac{2055\,683}{6630}b_{12}(n)-\tfrac{829\,382}{82\,875}b_{13}(n)\\
&-\tfrac{11\,486\,167}{82\,875}b_{14}(n)-\tfrac{64}{17}b_{15}(n)-\tfrac{1814\,182}{16\,575}b_{16}(n)-\tfrac{380\,739}{11\,050}b_{17}(n)+\tfrac{1985\,479}{33\,150}b_{18}(n)\\
&+\tfrac{37\,093}{1105}b_{19}(n)+\tfrac{169\,421}{16\,575}b_{20}(n)+\tfrac{308\,056}{16\,575}b_{21}(n)+\tfrac{193\,339}{6630}b_{22}(n)+\tfrac{11\,659}{425}b_{23}(n)\\
&+\tfrac{16\,089}{425}b_{24}(n)-\tfrac{164\,083}{390}b_{25}(n)+\tfrac{3101}{425}b_{26}(n)-\tfrac{96}{85}b_{27}(n)-\tfrac{16}{85}b_{28}(n)\\
&-\tfrac{4336}{85}b_{29}(n)+\tfrac{12\,704}{85}b_{30}(n)-\tfrac{32}{51}b_{31}(n)+32b_{32}(n)-\tfrac{2169\,862}{16\,575}b_{33}(n)\\
&+\tfrac{38}{425}b_{34}(n)-\tfrac{86}{85}b_{35}(n)+\tfrac{11}{17}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
N(1^4,5^3,25;n)&=\tfrac{1}{17}\lambda(n)+\tfrac{16}{17}\lambda\left(\tfrac{n}{4}\right)+\tfrac{24}{85}\kappa(n)+\tfrac{384}{85}\kappa\left(\tfrac{n}{4}\right)\\
&+\tfrac{126}{17}\kappa\left(\tfrac{n}{5}\right)+\tfrac{2016}{17}\kappa\left(\tfrac{n}{20}\right)+\tfrac{141\,544}{1275}b_1(n)-\tfrac{16\,568}{3315}b_2(n)+\tfrac{949\,471}{1275}b_3(n)\\
&-\tfrac{5116\,751}{6630}b_4(n)-\tfrac{60\,403}{3315}b_5(n)+\tfrac{599\,848}{1105}b_6(n)-\tfrac{4384}{51}b_7(n)+\tfrac{1075\,619}{3315}b_8(n)\\
&+\tfrac{224\,483}{1326}b_9(n)-\tfrac{378\,611}{663}b_{10}(n)+\tfrac{25\,153}{663}b_{11}(n)-\tfrac{898\,133}{1326}b_{12}(n)\\
&-\tfrac{6569\,882}{16\,575}b_{13}(n)-\tfrac{3670\,417}{16\,575}b_{14}(n)+\tfrac{960}{17}b_{15}(n)-\tfrac{2585\,962}{3315}b_{16}(n)\\
&-\tfrac{340\,789}{2210}b_{17}(n)+\tfrac{4439\,089}{6630}b_{18}(n)+\tfrac{200\,899}{221}b_{19}(n)-\tfrac{2265\,829}{3315}b_{20}(n)\\
&+\tfrac{324\,136}{3315}b_{21}(n)-\tfrac{543\,971}{1326}b_{22}(n)+\tfrac{12\,269}{85}b_{23}(n)-\tfrac{57\,361}{85}b_{24}(n)\\
&-\tfrac{133\,093}{78}b_{25}(n)+\tfrac{651}{85}b_{26}(n)-\tfrac{96}{17}b_{27}(n)-\tfrac{1696}{17}b_{28}(n)-\tfrac{2544}{17}b_{29}(n)\\
&+\tfrac{2544}{17}b_{30}(n)-\tfrac{160}{51}b_{31}(n)+160b_{32}(n)-\tfrac{3228\,682}{3315}b_{33}(n)-\tfrac{22}{85}b_{34}(n)\\
&+\tfrac{6}{17}b_{35}(n)+\tfrac{1}{17}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
N(1^5,5,25^2;n)&=\tfrac{1}{85}\lambda(n)+\tfrac{16}{85}\lambda\left(\tfrac{n}{4}\right)+\tfrac{4}{85}\lambda\left(\tfrac{n}{5}\right)+\tfrac{64}{85}\lambda\left(\tfrac{n}{20}\right)\\
&+\tfrac{26}{85}\kappa(n)+\tfrac{416}{85}\kappa\left(\tfrac{n}{4}\right)+\tfrac{4}{85}\kappa\left(\tfrac{n}{5}\right)+\tfrac{64}{85}\kappa\left(\tfrac{n}{20}\right)-\tfrac{13\,216}{255}b_1(n)\\
&-\tfrac{13\,952}{255}b_2(n)+\tfrac{31\,682}{255}b_3(n)-\tfrac{4253}{51}b_4(n)+\tfrac{45\,794}{255}b_5(n)+\tfrac{5312}{85}b_6(n)\\
&-\tfrac{272}{3}b_7(n)+\tfrac{70\,826}{255}b_8(n)+\tfrac{2897}{255}b_9(n)-\tfrac{13\,202}{51}b_{10}(n)-\tfrac{50\,338}{255}b_{11}(n)\\
&-\tfrac{4435}{51}b_{12}(n)-\tfrac{11\,704}{255}b_{13}(n)-\tfrac{61\,874}{255}b_{14}(n)-\tfrac{1424}{17}b_{15}(n)-\tfrac{88\,132}{255}b_{16}(n)\\
&-\tfrac{155}{17}b_{17}(n)+\tfrac{103\,463}{255}b_{18}(n)+\tfrac{37\,218}{85}b_{19}(n)-\tfrac{15\,758}{51}b_{20}(n)+\tfrac{19\,408}{255}b_{21}(n)\\
&-\tfrac{15\,853}{51}b_{22}(n)+\tfrac{374}{5}b_{23}(n)-\tfrac{7326}{17}b_{24}(n)-\tfrac{40\,291}{51}b_{25}(n)+\tfrac{154}{17}b_{26}(n)\\
&+\tfrac{576}{17}b_{27}(n)-\tfrac{1704}{17}b_{28}(n)-\tfrac{25\,592}{85}b_{29}(n)+\tfrac{6792}{17}b_{30}(n)-\tfrac{4672}{51}b_{31}(n)\\
&-\tfrac{75\,652}{255}b_{33}(n)+\tfrac{12}{85}b_{34}(n)-\tfrac{92}{85}b_{35}(n)+\tfrac{54}{85}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
N(1^5,5^3;n)&=\tfrac{1}{17}\lambda(n)+\tfrac{16}{17}\lambda\left(\tfrac{n}{4}\right)+\tfrac{26}{17}\kappa(n)+\tfrac{416}{17}\kappa\left(\tfrac{n}{4}\right)\\
&-\tfrac{175\,744}{255}b_1(n)+\tfrac{100\,928}{663}b_2(n)-\tfrac{498\,016}{255}b_3(n)+\tfrac{2250\,208}{663}b_4(n)\\
&+\tfrac{74\,608}{663}b_5(n)+\tfrac{87\,552}{221}b_6(n)-\tfrac{1280}{3}b_7(n)+\tfrac{326\,464}{663}b_8(n)+\tfrac{20\,480}{39}b_9(n)\\
&-\tfrac{1164\,320}{663}b_{10}(n)-\tfrac{2625\,920}{663}b_{11}(n)+\tfrac{2763\,320}{663}b_{12}(n)-\tfrac{23\,968}{3315}b_{13}(n)\\
&+\tfrac{845\,392}{3315}b_{14}(n)-\tfrac{7200}{17}b_{15}(n)-\tfrac{219\,008}{663}b_{16}(n)+\tfrac{84\,632}{221}b_{17}(n)\\
&-\tfrac{168\,032}{663}b_{18}(n)+\tfrac{109\,216}{221}b_{19}(n)+\tfrac{75\,664}{663}b_{20}(n)+\tfrac{190\,784}{663}b_{21}(n)\\
&-\tfrac{20\,480}{39}b_{22}(n)-\tfrac{17\,592}{17}b_{23}(n)-\tfrac{17\,592}{17}b_{24}(n)+\tfrac{2232\,800}{663}b_{25}(n)\\
&+\tfrac{144}{17}b_{26}(n)+\tfrac{2880}{17}b_{27}(n)-\tfrac{26\,080}{51}b_{31}(n)-\tfrac{50\,528}{663}b_{33}(n),
\end{aligned}
$$

$$
\begin{aligned}
N(1^6,5,25;n)&=\tfrac{1}{17}\lambda\left(\tfrac{n}{5}\right)+\tfrac{16}{17}\lambda\left(\tfrac{n}{20}\right)+\tfrac{124}{85}\kappa(n)+\tfrac{1984}{85}\kappa\left(\tfrac{n}{4}\right)\\
&+\tfrac{126}{17}\kappa\left(\tfrac{n}{5}\right)+\tfrac{2016}{17}\kappa\left(\tfrac{n}{20}\right)+\tfrac{472\,504}{1275}b_1(n)-\tfrac{315\,608}{3315}b_2(n)+\tfrac{2826\,511}{1275}b_3(n)\\
&-\tfrac{17\,250\,191}{6630}b_4(n)+\tfrac{343\,517}{3315}b_5(n)+\tfrac{1274\,648}{1105}b_6(n)-\tfrac{2704}{51}b_7(n)\\
&+\tfrac{3461\,459}{3315}b_8(n)+\tfrac{363\,923}{1326}b_9(n)-\tfrac{845\,651}{663}b_{10}(n)+\tfrac{731\,161}{663}b_{11}(n)\\
&-\tfrac{3801\,653}{1326}b_{12}(n)-\tfrac{20\,298\,362}{16\,575}b_{13}(n)-\tfrac{12\,085\,297}{16\,575}b_{14}(n)+\tfrac{2640}{17}b_{15}(n)\\
&-\tfrac{7523\,722}{3315}b_{16}(n)-\tfrac{1069\,269}{2210}b_{17}(n)+\tfrac{16\,296\,769}{6630}b_{18}(n)+\tfrac{614\,643}{221}b_{19}(n)\\
&-\tfrac{8097\,589}{3315}b_{20}(n)+\tfrac{705\,256}{3315}b_{21}(n)-\tfrac{2009\,411}{1326}b_{22}(n)+\tfrac{89\,189}{85}b_{23}(n)\\
&-\tfrac{184\,441}{85}b_{24}(n)-\tfrac{8258\,501}{1326}b_{25}(n)+\tfrac{891}{85}b_{26}(n)-\tfrac{496}{17}b_{27}(n)-\tfrac{8496}{17}b_{28}(n)\\
&-\tfrac{12\,744}{17}b_{29}(n)+\tfrac{12\,744}{17}b_{30}(n)+\tfrac{4160}{51}b_{31}(n)+240b_{32}(n)-\tfrac{8946\,442}{3315}b_{33}(n)\\
&-\tfrac{22}{85}b_{34}(n)+\tfrac{6}{17}b_{35}(n)+\tfrac{1}{17}b_{36}(n),
\end{aligned}
$$

$$
\begin{aligned}
N(1^7,5;n)&=\tfrac{1}{17}\lambda(n)+\tfrac{16}{17}\lambda\left(\tfrac{n}{4}\right)+\tfrac{126}{17}\kappa(n)+\tfrac{2016}{17}\kappa\left(\tfrac{n}{4}\right)-\tfrac{72\,384}{85}b_1(n)\\
&+\tfrac{41\,856}{221}b_2(n)-\tfrac{246\,256}{85}b_3(n)+\tfrac{1030\,808}{221}b_4(n)+\tfrac{12\,312}{221}b_5(n)+\tfrac{80\,448}{221}b_6(n)\\
&-\tfrac{6720}{17}b_7(n)+\tfrac{131\,984}{221}b_8(n)+\tfrac{69\,960}{221}b_9(n)-\tfrac{399\,920}{221}b_{10}(n)-\tfrac{978\,976}{221}b_{11}(n)
\end{aligned}
$$

$$
\begin{aligned}
&+\tfrac{61\,760}{13}b_{12}(n)+\tfrac{24\,392}{1105}b_{13}(n)+\tfrac{30\,856}{65}b_{14}(n)-\tfrac{5600}{17}b_{15}(n)-\tfrac{25\,360}{221}b_{16}(n)\\
&+\tfrac{92\,488}{221}b_{17}(n)-\tfrac{110\,936}{221}b_{18}(n)+\tfrac{119\,440}{221}b_{19}(n)+\tfrac{10\,144}{221}b_{20}(n)\\
&+\tfrac{65\,152}{221}b_{21}(n)-\tfrac{69\,960}{221}b_{22}(n)-\tfrac{19\,144}{17}b_{23}(n)-\tfrac{19\,144}{17}b_{24}(n)\\
&+\tfrac{834\,520}{221}b_{25}(n)+\tfrac{112}{17}b_{26}(n)+\tfrac{2240}{17}b_{27}(n)-\tfrac{7840}{17}b_{31}(n)+\tfrac{18\,320}{221}b_{33}(n).
\end{aligned}
$$

It is nice to obtain all representation numbers by means of Eisenstein series and eta quotients. Of course, in general it is not possible, [17]. But one can obtain similar formulas by applying method for all possible other cases.

All calculations have been done by MAGMA.

Competing Interests

Author has declared that no competing interests exist.

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APPENDIX

Table 2

$$\Theta_Q = \sum_{i=1}^{54} \alpha_i f_i\left(z\right), f_i \text{ basis elements in Corollary1}$$

$\Theta_{(a,b,c)}$	E_4^{1,ψ^2}	$E_4^{1,\psi^2}(4z)$	$E_4^{1,\psi^2}(5z)$	$E_4^{1,\psi^2}(20z)$	$E_4^{\psi^2,1}$	$E_4^{\psi^2,1}(4z)$	$E_4^{\psi^2,1}(5z)$	$E_4^{\psi^2,1}(20z)$
(1 1 6)	$\frac{1}{2125}$	$\frac{16}{2125}$	$\frac{124}{2125}$	$\frac{1984}{2125}$	$\frac{2}{2125}$	$\frac{32}{2125}$	$\frac{124}{2125}$	$\frac{1984}{2125}$
(1 5 2)	$\frac{1}{85}$	$\frac{16}{85}$	$\frac{4}{85}$	$\frac{64}{85}$	$\frac{2}{85}$	$\frac{32}{85}$	$\frac{4}{85}$	$\frac{64}{85}$
(2 1 5)	0	0	$\frac{1}{17}$	$\frac{16}{17}$	$\frac{4}{2125}$	$\frac{64}{2125}$	$\frac{6}{17}$	$\frac{96}{17}$
(2 5 1)	0	0	$\frac{1}{17}$	$\frac{16}{17}$	$\frac{4}{85}$	$\frac{64}{85}$	$\frac{126}{17}$	$\frac{2016}{17}$
(1 3 4)	$\frac{1}{425}$	$\frac{16}{425}$	$\frac{24}{425}$	$\frac{384}{425}$	$\frac{2}{425}$	$\frac{32}{425}$	$\frac{24}{425}$	$\frac{384}{425}$
(1 7 0)	$\frac{1}{17}$	$\frac{16}{17}$	0	0	$\frac{2}{17}$	$\frac{32}{17}$	0	0
(2 3 3)	0	0	$\frac{1}{17}$	$\frac{16}{17}$	$\frac{4}{425}$	$\frac{64}{425}$	$\frac{26}{17}$	$\frac{416}{17}$
(3 1 4)	$\frac{1}{425}$	$\frac{16}{425}$	$\frac{24}{425}$	$\frac{384}{425}$	$\frac{6}{425}$	$\frac{96}{425}$	$\frac{24}{425}$	$\frac{384}{425}$
(3 3 2)	$\frac{1}{85}$	$\frac{16}{85}$	$\frac{4}{85}$	$\frac{64}{85}$	$\frac{6}{85}$	$\frac{96}{85}$	$\frac{4}{85}$	$\frac{64}{85}$
(4 1 3)	0	0	$\frac{1}{17}$	$\frac{16}{17}$	$\frac{24}{425}$	$\frac{384}{425}$	$\frac{26}{17}$	$\frac{416}{17}$
(5 1 2)	$\frac{1}{85}$	$\frac{16}{85}$	$\frac{4}{85}$	$\frac{64}{85}$	$\frac{26}{85}$	$\frac{416}{85}$	$\frac{4}{85}$	$\frac{64}{85}$
(6 1 1)	0	0	$\frac{1}{17}$	$\frac{16}{17}$	$\frac{124}{85}$	$\frac{1984}{85}$	$\frac{126}{17}$	$\frac{2016}{17}$
(3 5 0)	$\frac{1}{17}$	$\frac{16}{17}$	0	0	$\frac{6}{17}$	$\frac{96}{17}$	0	0
(4 3 1)	$\frac{1}{17}$	$\frac{16}{17}$	0	0	$\frac{24}{85}$	$\frac{384}{85}$	$\frac{126}{17}$	$\frac{2016}{17}$
(5 3 0)	$\frac{1}{17}$	$\frac{16}{17}$	0	0	$\frac{26}{17}$	$\frac{416}{17}$	0	0
(7 1 0)	$\frac{1}{17}$	$\frac{16}{17}$	0	0	$\frac{126}{17}$	$\frac{2016}{17}$	0	0

Remark 7 The coefficients of

$E_4^{1,\psi^2}(2z), E_4^{1,\psi^2}(10z), E_4^{\psi^2,1}\left(2z\right), E_4^{\psi^2,1}(10z), E251, E251\left(2z\right), E251\left(4z\right), E252, E252(2z), E252(4z)$

are zero.

$\Theta_{(a,b,c)}$	B_1	B_2	B_3	B_4	B_5	B_6	B_7	B_8
(1 1 6)	$\frac{130\,976}{31\,875}$	$-\frac{607\,168}{82\,875}$	$\frac{1408\,934}{31\,875}$	$-\frac{4604\,747}{82\,875}$	$\frac{11\,422}{975}$	$-\frac{244\,672}{27\,625}$	$\frac{1936}{1275}$	$-\frac{371\,378}{82\,875}$
(1 5 2)	$\frac{18\,016}{1275}$	$-\frac{26\,048}{3315}$	$\frac{135\,994}{1275}$	$-\frac{436\,357}{3315}$	$\frac{10\,210}{663}$	$\frac{16\,448}{1105}$	$-\frac{784}{51}$	$\frac{51\,602}{3315}$
(2 1 5)	$\frac{130\,408}{10\,625}$	$-\frac{21\,288}{1625}$	$\frac{1005\,897}{10\,625}$	$-\frac{6842\,057}{55\,250}$	$\frac{602\,219}{27\,625}$	$-\frac{212\,392}{27\,625}$	$-\frac{848}{425}$	$-\frac{387\,227}{27\,625}$
(2 5 1)	$\frac{15\,688}{425}$	$-\frac{3176}{1105}$	$\frac{130\,517}{425}$	$-\frac{38\,981}{130}$	$-\frac{2001}{1105}$	$\frac{225\,528}{1105}$	$-\frac{848}{17}$	$\frac{5969}{65}$
(1 3 4)	$\frac{87\,616}{6375}$	$-\frac{153\,728}{16\,575}$	$\frac{564\,844}{6375}$	$-\frac{1946\,182}{16\,575}$	$\frac{42\,412}{3315}$	$-\frac{32\,512}{5525}$	$\frac{32}{255}$	$-\frac{145\,828}{16\,575}$
(1 7 0)	$-\frac{13\,312}{255}$	$\frac{128}{51}$	$-\frac{3088}{255}$	$\frac{6568}{51}$	$\frac{1408}{51}$	$\frac{512}{17}$	$-\frac{2560}{51}$	$\frac{2320}{51}$
(2 3 3)	$\frac{34\,808}{2125}$	$-\frac{96\,056}{5525}$	$\frac{308\,147}{2125}$	$-\frac{1941\,907}{11\,050}$	$\frac{170\,329}{5525}$	$\frac{85\,448}{5525}$	$-\frac{848}{85}$	$\frac{21\,383}{5525}$
(3 1 4)	$\frac{40\,832}{1275}$	$-\frac{312\,896}{16\,575}$	$\frac{250\,124}{1275}$	$-\frac{874\,118}{3315}$	$\frac{468\,692}{16\,575}$	$\frac{8896}{5525}$	$-\frac{1696}{255}$	$-\frac{485\,812}{16\,575}$
(3 3 2)	$\frac{160}{51}$	$-\frac{4832}{255}$	$\frac{39\,506}{255}$	$-\frac{8453}{51}$	$\frac{15\,194}{255}$	$\frac{4032}{85}$	$-\frac{2512}{51}$	$\frac{20\,186}{255}$
(4 1 3)	$\frac{231\,544}{6375}$	$-\frac{531\,848}{16\,575}$	$\frac{1878\,121}{6375}$	$-\frac{12\,043\,001}{33\,150}$	$\frac{860\,507}{16\,575}$	$\frac{291\,128}{5525}$	$-\frac{4384}{255}$	$\frac{88\,709}{16\,575}$
(5 1 2)	$-\frac{13\,216}{255}$	$-\frac{13\,952}{255}$	$\frac{31\,682}{255}$	$-\frac{4253}{51}$	$\frac{45\,794}{255}$	$\frac{5312}{85}$	$-\frac{272}{3}$	$\frac{70\,826}{255}$
(6 1 1)	$\frac{472\,504}{1275}$	$-\frac{315\,608}{3315}$	$\frac{2826\,511}{1275}$	$-\frac{17\,250\,191}{6630}$	$\frac{343\,517}{3315}$	$\frac{1274\,648}{1105}$	$-\frac{2704}{51}$	$\frac{3461\,459}{3315}$
(3 5 0)	$-\frac{66\,496}{255}$	$\frac{31\,808}{663}$	$-\frac{118\,624}{255}$	$\frac{689\,152}{663}$	$\frac{57\,880}{663}$	$\frac{41\,536}{221}$	$-\frac{11\,200}{51}$	$\frac{138\,976}{663}$
(4 3 1)	$\frac{141\,544}{1275}$	$-\frac{16\,568}{3315}$	$\frac{949\,471}{1275}$	$-\frac{5116\,751}{6630}$	$-\frac{60\,403}{3315}$	$\frac{599\,848}{1105}$	$-\frac{4384}{51}$	$\frac{1075\,619}{3315}$
(5 3 0)	$-\frac{175\,744}{255}$	$\frac{100\,928}{663}$	$-\frac{498\,016}{255}$	$\frac{2250\,208}{663}$	$\frac{74\,608}{663}$	$\frac{87\,552}{221}$	$-\frac{1280}{3}$	$\frac{326\,464}{663}$
(7 1 0)	$-\frac{72\,384}{85}$	$\frac{41\,856}{221}$	$-\frac{246\,256}{85}$	$\frac{1030\,808}{221}$	$\frac{12\,312}{221}$	$\frac{80\,448}{221}$	$-\frac{6720}{17}$	$\frac{131\,984}{221}$

$\Theta_{(a,b,c)}$	B_9	B_{10}	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}	B_{16}
(1 1 6)	$-\frac{91\,349}{82\,875}$	$\frac{31\,906}{3315}$	$\frac{2265\,466}{82\,875}$	$-\frac{663\,761}{16\,575}$	$\frac{1288\,472}{414\,375}$	$-\frac{7611\,518}{414\,375}$	$\frac{176}{425}$	$-\frac{345\,164}{82\,875}$
(1 5 2)	$\frac{8261}{3315}$	$-\frac{6986}{663}$	$\frac{139\,046}{3315}$	$-\frac{64\,111}{663}$	$\frac{57\,352}{16\,575}$	$-\frac{611\,938}{16\,575}$	$-\frac{304}{17}$	$-\frac{184\,564}{3315}$
(2 1 5)	$\frac{513}{2210}$	$\frac{151\,563}{5525}$	$\frac{382\,767}{5525}$	$-\frac{1114\,131}{11\,050}$	$\frac{1485\,226}{138\,125}$	$-\frac{6266\,519}{138\,125}$	$-\frac{432}{85}$	$-\frac{432\,294}{27\,625}$
(2 5 1)	$\frac{38\,241}{442}$	$-\frac{50\,097}{221}$	$-\frac{25\,373}{221}$	$-\frac{36\,631}{442}$	$-\frac{590\,014}{5525}$	$-\frac{500\,459}{5525}$	$\frac{80}{17}$	$-\frac{278\,574}{1105}$
(1 3 4)	$-\frac{25\,114}{16\,575}$	$\frac{73\,444}{3315}$	$\frac{1009\,796}{16\,575}$	$-\frac{290\,986}{3315}$	$\frac{570\,352}{82\,875}$	$-\frac{2322\,988}{82\,875}$	$-\frac{224}{85}$	$-\frac{194\,104}{16\,575}$
(1 7 0)	$\frac{4120}{51}$	$-\frac{9920}{51}$	$-\frac{18\,560}{51}$	$\frac{18\,320}{51}$	$-\frac{928}{255}$	$-\frac{3968}{255}$	$-\frac{1600}{17}$	$-\frac{4928}{51}$
(2 3 3)	$\frac{3195}{442}$	$-\frac{167}{1105}$	$\frac{28\,869}{1105}$	$-\frac{189\,921}{2210}$	$\frac{254\,526}{27\,625}$	$-\frac{1801\,469}{27\,625}$	$-\frac{240}{17}$	$-\frac{230\,754}{5525}$
(3 1 4)	$\frac{67\,166}{16\,575}$	$\frac{203\,764}{3315}$	$\frac{2995\,076}{16\,575}$	$-\frac{177\,050}{663}$	$\frac{203\,624}{16\,575}$	$-\frac{1339\,316}{16\,575}$	$-\frac{864}{85}$	$-\frac{793\,576}{16\,575}$
(3 3 2)	$\frac{3497}{255}$	$-\frac{4322}{51}$	$-\frac{4498}{255}$	$-\frac{6235}{51}$	$-\frac{128}{51}$	$-\frac{5410}{51}$	$-\frac{944}{17}$	$-\frac{40\,852}{255}$
(4 1 3)	$\frac{30\,721}{1326}$	$\frac{40\,459}{3315}$	$\frac{444\,919}{3315}$	$-\frac{2055\,683}{6630}$	$-\frac{829\,382}{82\,875}$	$-\frac{11\,486\,167}{82\,875}$	$-\frac{64}{17}$	$-\frac{1814\,182}{16\,575}$
(5 1 2)	$\frac{2897}{255}$	$-\frac{13\,202}{51}$	$-\frac{50\,338}{255}$	$-\frac{4435}{51}$	$-\frac{11\,704}{255}$	$-\frac{61\,874}{255}$	$-\frac{1424}{17}$	$-\frac{88\,132}{255}$
(6 1 1)	$\frac{363\,923}{1326}$	$-\frac{845\,651}{663}$	$\frac{731\,161}{663}$	$-\frac{3801\,653}{1326}$	$-\frac{20\,298\,362}{16\,575}$	$-\frac{12\,085\,297}{16\,575}$	$\frac{2640}{17}$	$-\frac{7523\,722}{3315}$
(3 5 0)	$\frac{207\,040}{663}$	$-\frac{554\,480}{663}$	$-\frac{1129\,952}{663}$	$\frac{1155\,080}{663}$	$-\frac{50\,632}{3315}$	$\frac{41\,608}{3315}$	$-\frac{4800}{17}$	$-\frac{190\,256}{663}$
(4 3 1)	$\frac{224\,483}{1326}$	$-\frac{378\,611}{663}$	$\frac{25\,153}{663}$	$-\frac{898\,133}{1326}$	$-\frac{6569\,882}{16\,575}$	$-\frac{3670\,417}{16\,575}$	$\frac{960}{17}$	$-\frac{2585\,962}{3315}$
(5 3 0)	$\frac{20\,480}{39}$	$-\frac{1164\,320}{663}$	$-\frac{2625\,920}{663}$	$\frac{2763\,320}{663}$	$-\frac{23\,968}{3315}$	$\frac{845\,392}{3315}$	$-\frac{7200}{17}$	$-\frac{219\,008}{663}$
(7 1 0)	$\frac{69\,960}{221}$	$-\frac{399\,920}{221}$	$-\frac{978\,976}{221}$	$\frac{61\,760}{13}$	$\frac{24\,392}{1105}$	$\frac{30\,856}{65}$	$-\frac{5600}{17}$	$-\frac{25\,360}{221}$

$\Theta_{(a,b,c)}$	B_{17}	B_{18}	B_{19}	B_{20}	B_{21}	B_{22}	B_{23}	B_{24}
(1 1 6)	$\frac{39\,827}{27\,625}$	$\frac{92\,077}{82\,875}$	$-\frac{155\,202}{5525}$	$\frac{2421\,214}{82\,875}$	$-\frac{26\,576}{4875}$	$\frac{121\,729}{16\,575}$	$\frac{8826}{2125}$	$\frac{49\,798}{2125}$
(1 5 2)	$\frac{557}{1105}$	$\frac{124\,547}{3315}$	$\frac{3746}{221}$	$\frac{26\,594}{3315}$	$-\frac{1712}{3315}$	$-\frac{545}{39}$	$\frac{246}{85}$	$-\frac{1942}{85}$
(2 1 5)	$-\frac{413\,849}{55\,250}$	$\frac{15\,463}{55\,250}$	$-\frac{237\,617}{5525}$	$\frac{1250\,797}{27\,625}$	$-\frac{129\,768}{27\,625}$	$\frac{251\,403}{11\,050}$	$\frac{20\,969}{2125}$	$\frac{123\,699}{2125}$
(2 5 1)	$-\frac{68\,069}{2210}$	$\frac{361\,243}{2210}$	$\frac{59\,235}{221}$	$-\frac{189\,783}{1105}$	$\frac{43\,832}{1105}$	$-\frac{56\,337}{442}$	$-\frac{2571}{85}$	$-\frac{17\,801}{85}$
(1 3 4)	$-\frac{1058}{5525}$	$\frac{53\,402}{16\,575}$	$-\frac{33\,444}{1105}$	$\frac{562\,604}{16\,575}$	$-\frac{107\,552}{16\,575}$	$\frac{8842}{663}$	$\frac{3036}{425}$	$\frac{11\,668}{425}$
(1 7 0)	$\frac{1072}{17}$	$\frac{88}{51}$	$\frac{368}{17}$	$\frac{3424}{51}$	$\frac{1664}{51}$	$-\frac{4120}{51}$	$-\frac{1944}{17}$	$-\frac{1944}{17}$
(2 3 3)	$-\frac{44\,099}{11\,050}$	$\frac{137\,693}{11\,050}$	$-\frac{7467}{1105}$	$\frac{136\,447}{5525}$	$\frac{11\,272}{5525}$	$\frac{11\,273}{2210}$	$-\frac{3181}{425}$	$\frac{8049}{425}$
(3 1 4)	$-\frac{27\,018}{1105}$	$\frac{231\,314}{16\,575}$	$-\frac{296\,196}{5525}$	$\frac{222\,604}{3315}$	$-\frac{57\,056}{16\,575}$	$\frac{174\,266}{3315}$	$\frac{14\,028}{425}$	$\frac{1668}{17}$
(3 3 2)	$-\frac{139}{17}$	$\frac{31\,583}{255}$	$\frac{9618}{85}$	$-\frac{1982}{51}$	$\frac{5008}{255}$	$-\frac{3733}{51}$	$\frac{358}{85}$	$-\frac{1726}{17}$
(4 1 3)	$-\frac{380\,739}{11\,050}$	$\frac{1985\,479}{33\,150}$	$\frac{37\,093}{1105}$	$\frac{169\,421}{16\,575}$	$\frac{308\,056}{16\,575}$	$\frac{193\,339}{6630}$	$\frac{11\,659}{425}$	$\frac{16\,089}{425}$
(5 1 2)	$-\frac{155}{17}$	$\frac{103\,463}{255}$	$\frac{37\,218}{85}$	$-\frac{15\,758}{51}$	$\frac{19\,408}{255}$	$-\frac{15\,853}{51}$	$\frac{374}{5}$	$-\frac{7326}{17}$
(6 1 1)	$-\frac{1069\,269}{2210}$	$\frac{16\,296\,769}{6630}$	$\frac{614\,643}{221}$	$-\frac{8097\,589}{3315}$	$\frac{705\,256}{3315}$	$-\frac{2009\,411}{1326}$	$\frac{89\,189}{85}$	$-\frac{184\,441}{85}$
(3 5 0)	$\frac{43\,376}{221}$	$-\frac{30\,656}{663}$	$\frac{44\,992}{221}$	$\frac{87\,376}{663}$	$\frac{91\,712}{663}$	$-\frac{207\,040}{663}$	$-\frac{8360}{17}$	$-\frac{8360}{17}$
(4 3 1)	$-\frac{340\,789}{2210}$	$\frac{4439\,089}{6630}$	$\frac{200\,899}{221}$	$-\frac{2265\,829}{3315}$	$\frac{324\,136}{3315}$	$-\frac{543\,971}{1326}$	$\frac{12\,269}{85}$	$-\frac{57\,361}{85}$
(5 3 0)	$\frac{84\,632}{221}$	$-\frac{168\,032}{663}$	$\frac{109\,216}{221}$	$\frac{75\,664}{663}$	$\frac{190\,784}{663}$	$-\frac{20\,480}{39}$	$-\frac{17\,592}{17}$	$-\frac{17\,592}{17}$
(7 1 0)	$\frac{92\,488}{221}$	$-\frac{110\,936}{221}$	$\frac{119\,440}{221}$	$\frac{10\,144}{221}$	$\frac{65\,152}{221}$	$-\frac{69\,960}{221}$	$-\frac{19\,144}{17}$	$-\frac{19\,144}{17}$

$\Theta_{(a,b,c)}$	B_{25}	B_{26}	B_{27}	B_{28}	B_{29}	B_{30}	B_{31}	B_{32}
(1 1 6)	$-\frac{675\,713}{16\,575}$	$\frac{2574}{2125}$	$\frac{128}{425}$	$\frac{488}{425}$	$\frac{7688}{2125}$	$\frac{1384}{425}$	$\frac{4192}{1275}$	0
(1 5 2)	$-\frac{90\,607}{663}$	$\frac{114}{85}$	$\frac{128}{17}$	$-\frac{72}{17}$	$-\frac{1112}{85}$	$\frac{264}{17}$	$-\frac{160}{51}$	0
(2 1 5)	$-\frac{1083\,267}{11\,050}$	$\frac{6871}{2125}$	$-\frac{16}{425}$	$\frac{1584}{425}$	$\frac{3704}{425}$	$\frac{5704}{425}$	$-\frac{32}{85}$	$\frac{16}{5}$
(2 5 1)	$-\frac{135\,687}{442}$	$\frac{331}{85}$	$-\frac{16}{17}$	$-\frac{336}{17}$	$-\frac{504}{17}$	$\frac{504}{17}$	$-\frac{160}{17}$	80
(1 3 4)	$-\frac{248\,962}{3315}$	$\frac{524}{425}$	$\frac{128}{85}$	$\frac{112}{85}$	$\frac{128}{425}$	$\frac{768}{85}$	$\frac{1472}{255}$	0
(1 7 0)	$\frac{16\,040}{51}$	$\frac{32}{17}$	$\frac{640}{17}$	0	0	0	$-\frac{3520}{51}$	0
(2 3 3)	$-\frac{192\,977}{2210}$	$\frac{1421}{425}$	$-\frac{16}{85}$	$-\frac{16}{85}$	$-\frac{936}{85}$	$\frac{2504}{85}$	$-\frac{32}{17}$	16
(3 1 4)	$-\frac{947\,098}{3315}$	$\frac{444}{85}$	$\frac{384}{85}$	$\frac{656}{85}$	$\frac{2848}{425}$	$\frac{4032}{85}$	$-\frac{128}{51}$	0
(3 3 2)	$-\frac{16\,891}{51}$	$\frac{90}{17}$	$\frac{384}{17}$	$-\frac{344}{17}$	$-\frac{5192}{85}$	$\frac{1352}{17}$	$-\frac{2272}{51}$	0
(4 1 3)	$-\frac{164\,083}{390}$	$\frac{3101}{425}$	$-\frac{96}{85}$	$-\frac{16}{85}$	$-\frac{4336}{85}$	$\frac{12\,704}{85}$	$-\frac{32}{51}$	32
(5 1 2)	$-\frac{40\,291}{51}$	$\frac{154}{17}$	$\frac{576}{17}$	$-\frac{1704}{17}$	$-\frac{25\,592}{85}$	$\frac{6792}{17}$	$-\frac{4672}{51}$	0
(6 1 1)	$-\frac{8258\,501}{1326}$	$\frac{891}{85}$	$-\frac{496}{17}$	$-\frac{8496}{17}$	$-\frac{12\,744}{17}$	$\frac{12\,744}{17}$	$\frac{4160}{51}$	240
(3 5 0)	$\frac{981\,440}{663}$	$\frac{96}{17}$	$\frac{1920}{17}$	0	0	0	$-\frac{14\,080}{51}$	0
(4 3 1)	$-\frac{133\,093}{78}$	$\frac{651}{85}$	$-\frac{96}{17}$	$-\frac{1696}{17}$	$-\frac{2544}{17}$	$\frac{2544}{17}$	$-\frac{160}{51}$	160
(5 3 0)	$\frac{2232\,800}{663}$	$\frac{144}{17}$	$\frac{2880}{17}$	0	0	0	$-\frac{26\,080}{51}$	0
(7 1 0)	$\frac{834\,520}{221}$	$\frac{112}{17}$	$\frac{2240}{17}$	0	0	0	$-\frac{7840}{17}$	0

$\Theta_{(a,b,c)}$	B_{33}	B_{34}	B_{35}	B_{36}
(1 1 6)	$-\frac{501\,164}{82\,875}$	$\frac{372}{2125}$	$-\frac{2852}{2125}$	$\frac{1674}{2125}$
(1 5 2)	$-\frac{153\,364}{3315}$	$\frac{12}{85}$	$-\frac{92}{85}$	$\frac{54}{85}$
(2 1 5)	$-\frac{267\,974}{27\,625}$	$\frac{338}{2125}$	$-\frac{546}{425}$	$\frac{13}{17}$
(2 5 1)	$-\frac{334\,734}{1105}$	$-\frac{22}{85}$	$\frac{6}{17}$	$\frac{1}{17}$
(1 3 4)	$-\frac{194\,104}{16\,575}$	$\frac{72}{425}$	$-\frac{552}{425}$	$\frac{324}{425}$
(1 7 0)	$-\frac{2048}{51}$	0	0	0
(2 3 3)	$-\frac{191\,234}{5525}$	$\frac{38}{425}$	$-\frac{86}{85}$	$\frac{11}{17}$
(3 1 4)	$-\frac{718\,696}{16\,575}$	$\frac{72}{425}$	$-\frac{552}{425}$	$\frac{324}{425}$
(3 3 2)	$-\frac{32\,692}{255}$	$\frac{12}{85}$	$-\frac{92}{85}$	$\frac{54}{85}$
(4 1 3)	$-\frac{2169\,862}{16\,575}$	$\frac{38}{425}$	$-\frac{86}{85}$	$\frac{11}{17}$
(5 1 2)	$-\frac{75\,652}{255}$	$\frac{12}{85}$	$-\frac{92}{85}$	$\frac{54}{85}$
(6 1 1)	$-\frac{8946\,442}{3315}$	$-\frac{22}{85}$	$\frac{6}{17}$	$\frac{1}{17}$
(3 5 0)	$-\frac{77\,936}{663}$	0	0	0
(4 3 1)	$-\frac{3228\,682}{3315}$	$-\frac{22}{85}$	$\frac{6}{17}$	$\frac{1}{17}$
(5 3 0)	$-\frac{50\,528}{663}$	0	0	0
(7 1 0)	$\frac{18\,320}{221}$	0	0	0

Table 3

$\mathrm{A}_i = \sum_{i=1}^{36} c_i g_i(z), g_i$ basis elements in Theorem 1

$\Delta_{\chi,10,4,1}, \Delta_{\chi,10,4,1}(2z), \Delta_{\chi,10,4,1}(5z), \Delta_{\chi,10,4,1}(10z),$
$\Delta_{\chi,10,4,2}$ (conjugate of $\Delta_{\chi,10,4,1}$ by x^2+4), $\Delta_{\chi,10,4,2}(2z), \Delta_{\chi,10,4,2}(5z), \Delta_{\chi,10,4,2}(10z),$
$\Delta_{\chi,20,4,1}(z), \Delta_{\chi,20,4,1}(5z),$
$\Delta_{\chi,20,4,2}(z)$ (conjugate of $\Delta_{\chi,20,4,1}$ by x^2+76), $\Delta_{\chi,20,4,2}(5z), r := \sqrt{19}$
$\Delta_{\chi,25,4,1}(z), \Delta_{\chi,25,4,1}(2z), \Delta_{\chi,25,4,1}(4z),$
$\Delta_{\chi,25,4,2}(z)$ (conjugate of $\Delta_{\chi,25,4,1}$ by x^2+16), $\Delta_{\chi,25,4,2}(2z), \Delta_{\chi,25,4,2}(4z),$
$\Delta_{\chi,25,4,3}(z), \Delta_{\chi,25,4,3}(2z), \Delta_{\chi,25,4,3}(4z),$
$\Delta_{\chi,25,4,4}(z)$ (conjugate of $\Delta_{\chi,25,4,3}$ by x^2+1), $\Delta_{\chi,25,4,4}(2z), \Delta_{\chi,25,4,4}(4z),$
$\Delta_{\chi,50,4,1}(z), \Delta_{\chi,50,4,1}(2z),$
$\Delta_{\chi,50,4,2}(z)$ (conjugate of $\Delta_{\chi,50,4,1}$ by x^2+64), $\Delta_{\chi,50,4,2}(2z),$
$\Delta_{\chi,50,4,3}(z), \Delta_{\chi,50,4,3}(2z),$
$\Delta_{\chi,50,4,4}(z)$ (conjugate of $\Delta_{\chi,50,4,3}$ by x^2+49), $\Delta_{\chi,50,4,4}(2z),$
$\Delta_{\chi,100,4,1}(z), \Delta_{\chi,100,4,2}(z)$ (conjugate of $\Delta_{\chi,100,4,1}$ by x^2+1),
$\Delta_{\chi,100,4,3}(z), \Delta_{\chi,100,4,4}(z)$, (conjugate of $\Delta_{\chi,100,4,3}$ by x^2+16)

	B_1	B_2	B_3	B_4	B_5
$\Delta_{\chi,10,4,1}$	$\frac{1}{96}+\frac{11}{24}i$	$\frac{7}{120}-\frac{11}{120}i$	$\frac{5}{96}+\frac{1}{24}i$	$\frac{1}{24}+\frac{1}{10}i$	$\frac{31}{240}+\frac{1}{10}i$
$\Delta_{\chi,10,4,1}(2z)$	$\frac{1}{24}+\frac{1}{6}i$	$\frac{7}{60}+\frac{11}{15}i$	$\frac{1}{12}+\frac{5}{6}i$	$\frac{1}{10}+\frac{2}{3}i$	$\frac{3}{20}+\frac{19}{15}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{725}{96}+\frac{50}{3}i$	$-\frac{175}{24}i$	$\frac{365}{96}-\frac{15}{4}i$	$\frac{97}{24}-\frac{1}{3}i$	$\frac{145}{48}-\frac{15}{4}i$
$\Delta_{\chi,10,4,1}(10z)$	$-\frac{25}{24}-\frac{50}{3}i$	$\frac{215}{12}+20i$	$\frac{35}{2}+\frac{155}{6}i$	$\frac{83}{6}+\frac{44}{3}i$	$\frac{95}{4}+\frac{40}{3}i$
$\Delta_{\chi,10,4,2}$	$\frac{1}{96}-\frac{11}{24}i$	$\frac{7}{120}+\frac{11}{120}i$	$\frac{5}{96}-\frac{1}{24}i$	$\frac{1}{24}-\frac{1}{10}i$	$\frac{31}{240}-\frac{1}{10}i$
$\Delta_{\chi,10,4,2}(2z)$	$\frac{1}{24}-\frac{1}{6}i$	$\frac{7}{60}-\frac{11}{15}i$	$\frac{1}{12}-\frac{5}{6}i$	$\frac{1}{10}-\frac{2}{3}i$	$\frac{3}{20}-\frac{19}{15}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{725}{96}-\frac{50}{3}i$	$\frac{175}{24}i$	$\frac{365}{96}+\frac{15}{4}i$	$\frac{97}{24}+\frac{1}{3}i$	$\frac{145}{48}+\frac{15}{4}i$
$\Delta_{\chi,10,4,2}(10z)$	$-\frac{25}{24}+\frac{50}{3}i$	$\frac{215}{12}-20i$	$\frac{35}{2}-\frac{155}{6}i$	$\frac{83}{6}-\frac{44}{3}i$	$\frac{95}{4}-\frac{40}{3}i$
$\Delta_{\chi,20,4,1}(z)$	$\frac{1}{912}ir-\frac{1}{96}$	$\frac{1}{570}ir-\frac{1}{30}$	$-\frac{1}{228}ir-\frac{5}{96}$	$-\frac{1}{380}ir-\frac{1}{24}$	$\frac{9}{1520}ir-\frac{7}{240}$
$\Delta_{\chi,20,4,1}(5z)$	$\frac{127}{96}-\frac{23}{114}ir$	$-\frac{125}{228}ir$	$\frac{211}{96}-\frac{179}{304}ir$	$-\frac{599}{1140}ir+\frac{247}{120}$	$\frac{29}{48}-\frac{237}{304}ir$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{1}{912}ir-\frac{1}{96}$	$-\frac{1}{570}ir-\frac{1}{30}$	$\frac{1}{228}ir-\frac{5}{96}$	$\frac{1}{380}ir-\frac{1}{24}$	$-\frac{9}{1520}ir-\frac{7}{240}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{23}{114}ir+\frac{127}{96}$	$\frac{125}{228}ir$	$\frac{179}{304}ir+\frac{211}{96}$	$\frac{599}{1140}ir+\frac{247}{120}$	$\frac{237}{304}ir+\frac{29}{48}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{13}{48}-\frac{1}{12}i$	$-\frac{1}{30}+\frac{13}{80}i$	$\frac{5}{48}+\frac{1}{16}i$	$\frac{1}{8}+\frac{1}{30}i$	$\frac{1}{15}+\frac{9}{80}i$
$\Delta_{\chi,25,4,1}(2z)$	$-\frac{31}{24}-\frac{79}{48}i$	$\frac{7}{6}-\frac{1}{6}i$	$\frac{5}{6}-\frac{35}{48}i$	$\frac{13}{30}-\frac{5}{6}i$	$\frac{37}{60}-\frac{107}{120}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{1}{3}+\frac{1}{6}i$	$-\frac{28}{15}-\frac{17}{5}i$	$-\frac{5}{3}-4i$	$-\frac{4}{3}-\frac{46}{15}i$	$-\frac{38}{15}-\frac{17}{5}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{13}{48}+\frac{1}{12}i$	$-\frac{1}{30}-\frac{13}{80}i$	$\frac{5}{48}-\frac{1}{16}i$	$\frac{1}{8}-\frac{1}{30}i$	$\frac{1}{15}-\frac{9}{80}i$
$\Delta_{\chi,25,4,2}(2z)$	$-\frac{31}{24}+\frac{79}{48}i$	$\frac{7}{6}+\frac{1}{6}i$	$\frac{5}{6}+\frac{35}{48}i$	$\frac{13}{30}+\frac{5}{6}i$	$\frac{37}{60}+\frac{107}{120}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{1}{3}-\frac{1}{6}i$	$-\frac{28}{15}+\frac{17}{5}i$	$-\frac{5}{3}+4i$	$-\frac{4}{3}+\frac{46}{15}i$	$-\frac{38}{15}+\frac{17}{5}i$

	B_1	B_2	B_3	B_4	B_5
$\Delta_{\chi,25,4,3}(z)$	$-\frac{23}{168}-\frac{19}{168}i$	$-\frac{1}{105}-\frac{1}{35}i$	$-\frac{5}{84}-\frac{1}{56}i$	$-\frac{1}{14}-\frac{1}{30}i$	$-\frac{71}{840}-\frac{31}{280}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{157}{168}+\frac{71}{168}i$	$-\frac{53}{210}-\frac{17}{105}i$	$\frac{25}{168}+\frac{5}{12}i$	$\frac{4}{15}+\frac{17}{42}i$	$-\frac{53}{840}+\frac{71}{840}i$
$\Delta_{\chi,25,4,3}(4z)$	$-\frac{8}{21}+\frac{16}{21}i$	$\frac{136}{105}+\frac{8}{5}i$	$\frac{50}{21}+\frac{8}{7}i$	$\frac{40}{21}+\frac{16}{15}i$	$\frac{176}{105}+\frac{96}{35}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{23}{168}+\frac{19}{168}i$	$-\frac{1}{105}+\frac{1}{35}i$	$-\frac{5}{84}+\frac{1}{56}i$	$-\frac{1}{14}+\frac{1}{30}i$	$-\frac{71}{840}+\frac{31}{280}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{157}{168}-\frac{71}{168}i$	$-\frac{53}{210}+\frac{17}{105}i$	$\frac{25}{168}-\frac{5}{12}i$	$\frac{4}{15}-\frac{17}{42}i$	$-\frac{71}{840}i-53$
$\Delta_{\chi,25,4,4}(4z)$	$-\frac{8}{21}-\frac{16}{21}i$	$\frac{136}{105}-\frac{8}{5}i$	$\frac{50}{21}-\frac{8}{7}i$	$\frac{40}{21}-\frac{16}{15}i$	$\frac{176}{105}-\frac{96}{35}i$
$\Delta_{\chi,50,4,1}(z)$	$-\frac{73}{288}-\frac{1}{12}i$	$\frac{7}{360}-\frac{7}{80}i$	$-\frac{5}{288}-\frac{11}{144}i$	$-\frac{1}{18}-\frac{7}{90}i$	$-\frac{53}{720}-\frac{7}{60}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{1}{24}-\frac{1}{18}i$	$-\frac{29}{60}+\frac{7}{90}i$	$-\frac{19}{36}-\frac{5}{18}i$	$-\frac{41}{90}-\frac{2}{9}i$	$-\frac{13}{20}+\frac{1}{45}i$
$\Delta_{\chi,50,4,2}(z)$	$-\frac{73}{288}+\frac{1}{12}i$	$\frac{7}{360}+\frac{7}{80}i$	$-\frac{5}{288}+\frac{11}{144}i$	$-\frac{1}{18}+\frac{7}{90}i$	$-\frac{53}{720}+\frac{7}{60}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{1}{24}+\frac{1}{18}i$	$-\frac{29}{60}-\frac{7}{90}i$	$-\frac{19}{36}+\frac{5}{18}i$	$-\frac{41}{90}+\frac{2}{9}i$	$-\frac{13}{20}-\frac{1}{45}i$
$\Delta_{\chi,50,4,3}(z)$	$\frac{19}{126}-\frac{11}{42}i$	$-\frac{11}{315}+\frac{13}{210}i$	$-\frac{5}{63}-\frac{5}{63}i$	$-\frac{5}{126}-\frac{1}{9}i$	$\frac{1}{252}-\frac{1}{21}i$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{13}{42}+\frac{1}{63}i$	$-\frac{2}{15}-\frac{136}{315}i$	$\frac{10}{63}-\frac{65}{126}i$	$\frac{2}{9}-\frac{26}{63}i$	$\frac{1}{21}-\frac{31}{63}i$
$\Delta_{\chi,50,4,4}(z)$	$\frac{19}{126}+\frac{11}{42}i$	$-\frac{11}{315}-\frac{13}{210}i$	$-\frac{5}{63}+\frac{5}{63}i$	$-\frac{5}{126}+\frac{1}{9}i$	$\frac{1}{252}+\frac{1}{21}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{13}{42}-\frac{1}{63}i$	$-\frac{2}{15}+\frac{136}{315}i$	$\frac{10}{63}+\frac{65}{126}i$	$\frac{2}{9}+\frac{26}{63}i$	$\frac{1}{21}+\frac{31}{63}i$
$\Delta_{\chi,100,4,1}(z)$	$-\frac{1}{72}-\frac{1}{8}i$	$\frac{13}{90}+\frac{1}{10}i$	$\frac{5}{36}+\frac{7}{72}i$	$\frac{1}{9}+\frac{2}{45}i$	$\frac{53}{360}+\frac{1}{40}i$
$\Delta_{\chi,100,4,2}(z)$	$-\frac{1}{72}+\frac{1}{8}i$	$\frac{13}{90}-\frac{1}{10}i$	$\frac{5}{36}-\frac{7}{72}i$	$\frac{1}{9}-\frac{2}{45}i$	$\frac{53}{360}-\frac{1}{40}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{5}{288}$	$-\frac{1}{9}-\frac{1}{12}i$	$-\frac{25}{288}-\frac{5}{36}i$	$-\frac{5}{72}-\frac{1}{9}i$	$-\frac{23}{144}-\frac{7}{48}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{5}{288}$	$-\frac{1}{9}+\frac{1}{12}i$	$-\frac{25}{288}+\frac{5}{36}i$	$-\frac{5}{72}+\frac{1}{9}i$	$-\frac{23}{144}+\frac{7}{48}i$

	B_6	B_7	B_8	B_9	B_{10}
$\Delta_{\chi,10,4,1}$	$\frac{31}{480}+\frac{1}{20}i$	$\frac{1}{80}-\frac{1}{12}i$	$\frac{1}{24}+\frac{1}{24}i$	$\frac{1}{30}+\frac{1}{15}i$	$\frac{1}{20}+\frac{1}{20}i$
$\Delta_{\chi,10,4,1}(2z)$	$-\frac{3}{20}+\frac{11}{15}i$	$\frac{1}{120}+\frac{7}{10}i$	$\frac{1}{12}+\frac{2}{3}i$	$\frac{2}{15}+\frac{8}{15}i$	$\frac{2}{5}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{45}{32}-\frac{45}{8}i$	$-\frac{15}{16}-\frac{55}{12}i$	$\frac{35}{12}-\frac{55}{24}i$	$\frac{17}{6}+\frac{1}{3}i$	$\frac{5}{2}-\frac{35}{12}i$
$\Delta_{\chi,10,4,1}(10z)$	$20+20i$	$\frac{455}{24}+20i$	$\frac{185}{12}+\frac{65}{3}i$	$\frac{38}{3}+\frac{28}{3}i$	$\frac{32}{3}+14i$
$\Delta_{\chi,10,4,2}$	$\frac{31}{480}-\frac{1}{20}i$	$\frac{1}{80}+\frac{1}{12}i$	$\frac{1}{24}-\frac{1}{24}i$	$\frac{1}{30}-\frac{1}{15}i$	$\frac{1}{20}-\frac{1}{20}i$
$\Delta_{\chi,10,4,2}(2z)$	$-\frac{3}{20}-\frac{11}{15}i$	$\frac{1}{120}-\frac{7}{10}i$	$\frac{1}{12}-\frac{2}{3}i$	$\frac{2}{15}-\frac{8}{15}i$	$-\frac{2}{5}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{45}{32}+\frac{45}{8}i$	$-\frac{15}{16}+\frac{55}{12}i$	$\frac{35}{12}+\frac{55}{24}i$	$\frac{17}{6}-\frac{1}{3}i$	$\frac{5}{2}+\frac{35}{12}i$
$\Delta_{\chi,10,4,2}(10z)$	$20-20i$	$\frac{455}{24}-20i$	$\frac{185}{12}-\frac{65}{3}i$	$\frac{38}{3}-\frac{28}{3}i$	$\frac{32}{3}-14i$
$\Delta_{\chi,20,4,1}(z)$	$\frac{3}{760}ir-\frac{31}{480}$	$-\frac{17}{4560}ir-\frac{1}{16}$	$-\frac{1}{228}ir-\frac{1}{24}$	$-\frac{1}{570}ir-\frac{1}{30}$	$-\frac{1}{380}ir-\frac{1}{20}$
$\Delta_{\chi,20,4,1}(5z)$	$-\frac{9}{16}ir+\frac{63}{32}$	$\frac{213}{80}-\frac{2201}{4560}ir$	$-\frac{5}{12}ir+\frac{35}{24}$	$-\frac{221}{570}ir+\frac{22}{15}$	$\frac{39}{20}-\frac{403}{1140}ir$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{3}{760}ir-\frac{31}{480}$	$\frac{17}{4560}ir-\frac{1}{16}$	$\frac{1}{228}ir-\frac{1}{24}$	$\frac{1}{570}ir-\frac{1}{30}$	$\frac{1}{380}ir-\frac{1}{20}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{9}{16}ir+\frac{63}{32}$	$\frac{2201}{4560}ir+\frac{213}{80}$	$\frac{5}{12}ir+\frac{35}{24}$	$\frac{221}{570}ir+\frac{22}{15}$	$\frac{403}{1140}ir+\frac{39}{20}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{13}{240}+\frac{13}{120}i$	$\frac{1}{60}+\frac{43}{240}i$	$\frac{1}{12}+\frac{1}{16}i$	$\frac{1}{10}+\frac{1}{30}i$	$\frac{1}{30}+\frac{1}{24}i$
$\Delta_{\chi,25,4,1}(2z)$	$\frac{7}{8}-\frac{7}{16}i$	$\frac{25}{24}-\frac{1}{24}i$	$\frac{2}{3}-\frac{7}{12}i$	$\frac{1}{3}-\frac{2}{3}i$	$\frac{17}{30}-\frac{13}{30}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{9}{5}-\frac{18}{5}i$	$-\frac{26}{15}-\frac{119}{30}i$	$-\frac{4}{3}-3i$	$-\frac{16}{15}-\frac{32}{15}i$	$-\frac{16}{15}-\frac{12}{5}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{13}{240}-\frac{13}{120}i$	$\frac{1}{60}-\frac{43}{240}i$	$\frac{1}{12}-\frac{1}{16}i$	$\frac{1}{10}-\frac{1}{30}i$	$\frac{1}{30}-\frac{1}{24}i$
$\Delta_{\chi,25,4,2}(2z)$	$\frac{7}{8}+\frac{7}{16}i$	$\frac{25}{24}+\frac{1}{24}i$	$\frac{2}{3}+\frac{7}{12}i$	$\frac{1}{3}+\frac{2}{3}i$	$\frac{17}{30}+\frac{13}{30}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{9}{5}+\frac{18}{5}i$	$-\frac{26}{15}+\frac{119}{30}i$	$-\frac{4}{3}+3i$	$-\frac{16}{15}+\frac{32}{15}i$	$-\frac{16}{15}+\frac{12}{5}i$

	B_6	B_7	B_8	B_9	B_{10}
$\Delta_{\chi,25,4,3}(z)$	$-\frac{17}{420}i-34$	$-\frac{13}{105}-\frac{31}{420}i$	$-\frac{1}{21}$	$-\frac{2}{35}-\frac{2}{105}i$	$-\frac{1}{30}+\frac{2}{105}i$
$\Delta_{\chi,25,4,3}(2z)$	$-\frac{3}{28}+\frac{3}{14}i$	$-\frac{23}{84}+\frac{1}{42}i$	$\frac{5}{42}+\frac{1}{3}i$	$\frac{34}{105}i+47$	$\frac{11}{42}i+22$
$\Delta_{\chi,25,4,3}(4z)$	$\frac{88}{35}+\frac{44}{35}i$	$\frac{272}{105}+\frac{76}{105}i$	$\frac{8}{7}i+40$	$\frac{32}{21}+\frac{104}{105}i$	$\frac{184}{105}+\frac{16}{35}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{17}{210}+\frac{17}{420}i$	$-\frac{13}{105}+\frac{31}{420}i$	$-\frac{1}{21}$	$-\frac{2}{35}+\frac{2}{105}i$	$-\frac{1}{30}-\frac{2}{105}i$
$\Delta_{\chi,25,4,4}(2z)$	$-\frac{3}{28}-\frac{3}{14}i$	$-\frac{23}{84}-\frac{1}{42}i$	$\frac{5}{42}-\frac{1}{3}i$	$\frac{47}{210}-\frac{34}{105}i$	$\frac{11}{105}-\frac{11}{42}i$
$\Delta_{\chi,25,4,4}(4z)$	$\frac{88}{35}-\frac{44}{35}i$	$\frac{272}{105}-\frac{76}{105}i$	$\frac{40}{21}-\frac{8}{7}i$	$\frac{32}{21}-\frac{104}{105}i$	$\frac{184}{105}-\frac{16}{35}i$
$\Delta_{\chi,50,4,1}(z)$	$\frac{37}{1440}-\frac{37}{720}i$	$\frac{73}{720}-\frac{1}{720}i$	$-\frac{1}{72}-\frac{11}{144}i$	$-\frac{2}{45}-\frac{7}{90}i$	$-\frac{1}{180}-\frac{5}{72}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{49}{90}-\frac{49}{180}i$	$-\frac{77}{180}i-163$	$-\frac{13}{36}-\frac{2}{9}i$	$-\frac{16}{45}-\frac{8}{45}i$	$-\frac{13}{45}-\frac{13}{45}i$
$\Delta_{\chi,50,4,2}(z)$	$\frac{37}{1440}+\frac{37}{720}i$	$\frac{73}{720}+\frac{1}{720}i$	$-\frac{1}{72}+\frac{11}{144}i$	$-\frac{2}{45}+\frac{7}{90}i$	$-\frac{1}{180}+\frac{5}{72}i$
$\Delta_{\chi,50,4,2}(2z)$	$\frac{49}{180}i-98$	$-\frac{163}{360}+\frac{77}{180}i$	$-\frac{13}{36}+\frac{2}{9}i$	$-\frac{16}{45}+\frac{8}{45}i$	$-\frac{13}{45}+\frac{13}{45}i$
$\Delta_{\chi,50,4,3}(z)$	$-\frac{4}{63}-\frac{2}{63}i$	$-\frac{61}{1260}+\frac{1}{630}i$	$-\frac{4}{63}-\frac{1}{18}i$	$-\frac{29}{315}i-10$	$-\frac{4}{63}i-14$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{29}{126}-\frac{29}{63}i$	$\frac{25}{63}-\frac{25}{63}i$	$\frac{10}{63}-\frac{26}{63}i$	$\frac{76}{315}-\frac{104}{315}i$	$\frac{76}{315}-\frac{20}{63}i$
$\Delta_{\chi,50,4,4}(z)$	$-\frac{4}{63}+\frac{2}{63}i$	$-\frac{61}{1260}-\frac{1}{630}i$	$\frac{1}{18}i-8$	$-\frac{2}{63}+\frac{29}{315}i$	$-\frac{2}{45}+\frac{4}{63}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{29}{126}+\frac{29}{63}i$	$\frac{25}{63}+\frac{25}{63}i$	$\frac{10}{63}+\frac{26}{63}i$	$\frac{76}{315}+\frac{104}{315}i$	$\frac{76}{315}+\frac{20}{63}i$
$\Delta_{\chi,100,4,1}(z)$	$\frac{13}{90}+\frac{13}{180}i$	$\frac{5}{36}+\frac{13}{180}i$	$\frac{1}{9}+\frac{1}{18}i$	$\frac{4}{45}+\frac{1}{90}i$	$\frac{7}{90}+\frac{2}{45}i$
$\Delta_{\chi,100,4,2}(z)$	$\frac{13}{90}-\frac{13}{180}i$	$-\frac{13}{180}i+25$	$\frac{1}{9}-\frac{1}{18}i$	$\frac{4}{45}-\frac{1}{90}i$	$\frac{7}{90}-\frac{2}{45}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{23}{288}-\frac{23}{144}i$	$-\frac{5}{144}-\frac{13}{72}i$	$-\frac{5}{72}-\frac{5}{36}i$	$-\frac{1}{18}-\frac{1}{9}i$	$-\frac{1}{36}-\frac{1}{9}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{23}{288}+\frac{23}{144}i$	$-\frac{5}{144}+\frac{13}{72}i$	$-\frac{5}{72}+\frac{5}{36}i$	$-\frac{1}{18}+\frac{1}{9}i$	$-\frac{1}{36}+\frac{1}{9}i$

	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}
$\Delta_{\chi,10,4,1}$	$\frac{1}{24}+\frac{1}{30}i$	$\frac{2}{75}+\frac{17}{300}i$	$\frac{1}{120}-\frac{7}{120}i$	$\frac{13}{240}-\frac{1}{40}i$	$\frac{1}{240}-\frac{1}{12}i$
$\Delta_{\chi,10,4,1}(2z)$	$-\frac{2}{15}+\frac{2}{3}i$	$-\frac{17}{75}+\frac{32}{75}i$	$-\frac{1}{60}+\frac{8}{15}i$	$\frac{1}{10}+\frac{7}{15}i$	$\frac{19}{120}+\frac{4}{15}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{25}{24}-\frac{25}{6}i$	$\frac{13}{12}-\frac{37}{12}i$	$-\frac{7}{12}-\frac{79}{24}i$	$\frac{11}{16}-\frac{27}{8}i$	$-\frac{17}{16}-\frac{3}{4}i$
$\Delta_{\chi,10,4,1}(10z)$	$\frac{50}{3}+\frac{50}{3}i$	$\frac{37}{3}+\frac{52}{3}i$	$\frac{167}{12}+\frac{53}{3}i$	$\frac{13}{2}+9i$	$\frac{23}{8}+\frac{7}{2}i$
$\Delta_{\chi,10,4,2}$	$\frac{1}{24}-\frac{1}{30}i$	$\frac{2}{75}-\frac{17}{300}i$	$\frac{1}{120}+\frac{7}{120}i$	$\frac{13}{240}+\frac{1}{40}i$	$\frac{1}{240}+\frac{1}{12}i$
$\Delta_{\chi,10,4,2}(2z)$	$-\frac{2}{15}-\frac{2}{3}i$	$-\frac{17}{75}-\frac{32}{75}i$	$-\frac{1}{60}-\frac{8}{15}i$	$\frac{1}{10}-\frac{7}{15}i$	$\frac{19}{120}-\frac{4}{15}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{25}{24}+\frac{25}{6}i$	$\frac{13}{12}+\frac{37}{12}i$	$-\frac{7}{12}+\frac{79}{24}i$	$\frac{11}{16}+\frac{27}{8}i$	$-\frac{17}{16}+\frac{3}{4}i$
$\Delta_{\chi,10,4,2}(10z)$	$\frac{50}{3}-\frac{50}{3}i$	$\frac{37}{3}-\frac{52}{3}i$	$\frac{167}{12}-\frac{53}{3}i$	$\frac{13}{2}-9i$	$\frac{23}{8}-\frac{7}{2}i$
$\Delta_{\chi,20,4,1}(z)$	$\frac{1}{228}ir-\frac{1}{24}$	$\frac{7}{2850}ir-\frac{7}{150}$	$-\frac{1}{228}ir-\frac{7}{120}$	$-\frac{1}{304}ir-\frac{1}{240}$	$-\frac{151}{22\,800}ir+\frac{1}{1200}$
$\Delta_{\chi,20,4,1}(5z)$	$-\frac{5}{12}ir+\frac{35}{24}$	$\frac{47}{30}-\frac{74}{285}ir$	$\frac{289}{120}-\frac{463}{1140}ir$	$-\frac{9}{80}ir+\frac{31}{80}$	$\frac{73}{80}-\frac{3}{80}ir$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{1}{228}ir-\frac{1}{24}$	$-\frac{7}{2850}ir-\frac{7}{150}$	$\frac{1}{228}ir-\frac{7}{120}$	$\frac{1}{304}ir-\frac{1}{240}$	$\frac{151}{22\,800}ir+\frac{1}{1200}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{5}{12}ir+\frac{35}{24}$	$\frac{74}{285}ir+\frac{47}{30}$	$\frac{463}{1140}ir+\frac{289}{120}$	$\frac{9}{80}ir-\frac{31}{80}$	$\frac{3}{80}ir+\frac{73}{80}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{1}{24}+\frac{1}{12}i$	$\frac{3}{100}+\frac{41}{600}i$	$\frac{1}{40}+\frac{31}{240}i$	$-\frac{1}{40}+\frac{1}{60}i$	$-\frac{1}{30}+\frac{17}{240}i$
$\Delta_{\chi,25,4,1}(2z)$	$\frac{2}{3}-\frac{1}{3}i$	$\frac{41}{75}-\frac{6}{25}i$	$\frac{23}{30}-\frac{1}{60}i$	$\frac{7}{30}-\frac{13}{120}i$	$\frac{37}{120}+\frac{19}{120}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{4}{3}-\frac{8}{3}i$	$-\frac{24}{25}-\frac{164}{75}i$	$-\frac{6}{5}-\frac{43}{15}i$	$-\frac{4}{5}-\frac{4}{5}i$	$-\frac{1}{3}-\frac{29}{30}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{1}{24}-\frac{1}{12}i$	$\frac{3}{100}-\frac{41}{600}i$	$\frac{1}{40}-\frac{31}{240}i$	$-\frac{1}{40}-\frac{1}{60}i$	$-\frac{1}{30}-\frac{17}{240}i$
$\Delta_{\chi,25,4,2}(2z)$	$\frac{2}{3}+\frac{1}{3}i$	$\frac{6}{25}i+41$	$\frac{1}{60}i+46$	$\frac{7}{30}+\frac{13}{120}i$	$-\frac{19}{120}i+\frac{37}{120}$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{4}{3}+\frac{8}{3}i$	$-\frac{24}{25}+\frac{164}{75}i$	$-\frac{6}{5}+\frac{43}{15}i$	$-\frac{4}{5}+\frac{4}{5}i$	$-\frac{1}{3}+\frac{29}{30}i$

	B_{11}	B_{12}	B_{13}	B_{14}	B_{15}
$\Delta_{\chi,25,4,3}(z)$	$-\frac{1}{15}-\frac{1}{30}i$	$-\frac{3}{50}-\frac{1}{75}i$	$-\frac{1}{10}-\frac{1}{15}i$	$\frac{3}{280}-\frac{29}{840}i$	$-\frac{13}{420}-\frac{2}{105}i$
$\Delta_{\chi,25,4,3}(2z)$	$-\frac{1}{15}+\frac{2}{15}i$	$-\frac{2}{75}+\frac{3}{25}i$	$-\frac{19}{105}-\frac{1}{210}i$	$-\frac{41}{840}i-\frac{19}{120}$	$-\frac{37}{210}-\frac{17}{420}i$
$\Delta_{\chi,25,4,3}(4z)$	$\frac{16}{15}i+32$	$\frac{48}{25}+\frac{32}{75}i$	$\frac{16}{7}+\frac{64}{105}i$	$\frac{32}{35}i$	$\frac{8}{15}-\frac{8}{105}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{1}{15}+\frac{1}{30}i$	$-\frac{3}{50}+\frac{1}{75}i$	$-\frac{1}{10}+\frac{1}{15}i$	$\frac{3}{280}+\frac{29}{840}i$	$-\frac{13}{420}+\frac{2}{105}i$
$\Delta_{\chi,25,4,4}(2z)$	$-\frac{1}{15}-\frac{2}{15}i$	$-\frac{2}{75}-\frac{3}{25}i$	$-\frac{19}{105}+\frac{1}{210}i$	$-\frac{19}{120}+\frac{41}{840}i$	$-\frac{37}{210}+\frac{17}{420}i$
$\Delta_{\chi,25,4,4}(4z)$	$\frac{32}{15}-\frac{16}{15}i$	$\frac{48}{25}-\frac{32}{75}i$	$\frac{16}{7}-\frac{64}{105}i$	$-\frac{32}{35}i$	$\frac{8}{15}+\frac{8}{105}i$
$\Delta_{\chi,50,4,1}(z)$	$\frac{1}{36}-\frac{1}{18}i$	$\frac{11}{300}-\frac{67}{1800}i$	$\frac{1}{10}-\frac{7}{720}i$	$\frac{1}{240}-\frac{13}{720}i$	$\frac{3}{80}+\frac{1}{48}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{4}{9}-\frac{2}{9}i$	$-\frac{22}{75}i-67$	$-\frac{11}{30}i-71$	$-\frac{7}{90}+\frac{1}{30}i$	$-\frac{3}{20}i-\frac{7}{20}$
$\Delta_{\chi,50,4,2}(z)$	$\frac{1}{36}+\frac{1}{18}i$	$\frac{11}{300}+\frac{67}{1800}i$	$\frac{7}{720}i+\frac{1}{10}$	$\frac{1}{240}+\frac{13}{720}i$	$\frac{3}{80}-\frac{1}{48}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{4}{9}+\frac{2}{9}i$	$-\frac{67}{225}+\frac{22}{75}i$	$-\frac{71}{180}+\frac{11}{30}i$	$-\frac{1}{30}i-7$	$-\frac{7}{120}+\frac{3}{20}i$
$\Delta_{\chi,50,4,3}(z)$	$-\frac{2}{45}-\frac{1}{45}i$	$-\frac{1}{30}-\frac{1}{45}i$	$-\frac{1}{30}+\frac{1}{90}i$	$-\frac{1}{420}+\frac{13}{630}i$	$-\frac{2}{105}+\frac{1}{420}i$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{8}{45}-\frac{16}{45}i$	$\frac{8}{45}-\frac{4}{15}i$	$\frac{92}{315}-\frac{38}{105}i$	$-\frac{37}{315}-\frac{1}{15}i$	$\frac{16}{105}-\frac{1}{15}i$
$\Delta_{\chi,50,4,4}(z)$	$-\frac{2}{45}+\frac{1}{45}i$	$-\frac{1}{30}+\frac{1}{45}i$	$-\frac{1}{30}-\frac{1}{90}i$	$-\frac{1}{420}-\frac{13}{630}i$	$-\frac{2}{105}-\frac{1}{420}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{16}{45}i+8$	$\frac{8}{45}+\frac{4}{15}i$	$\frac{92}{315}+\frac{38}{105}i$	$-\frac{37}{315}+\frac{1}{15}i$	$\frac{16}{105}+\frac{1}{15}i$
$\Delta_{\chi,100,4,1}(z)$	$\frac{1}{9}+\frac{1}{18}i$	$\frac{2}{25}+\frac{14}{225}i$	$\frac{1}{10}+\frac{1}{18}i$	$\frac{1}{40}+\frac{1}{72}i$	$\frac{11}{300}+\frac{1}{100}i$
$\Delta_{\chi,100,4,2}(z)$	$\frac{1}{9}-\frac{1}{18}i$	$\frac{2}{25}-\frac{14}{225}i$	$\frac{1}{10}-\frac{1}{18}i$	$\frac{1}{40}-\frac{1}{72}i$	$\frac{11}{300}-\frac{1}{100}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{5}{72}-\frac{5}{36}i$	$-\frac{11}{90}i-3$	$-\frac{1}{24}-\frac{5}{36}i$	$-\frac{1}{16}-\frac{5}{144}i$	$\frac{1}{240}-\frac{1}{30}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{5}{72}+\frac{5}{36}i$	$\frac{11}{90}i-\frac{1}{30}$	$\frac{5}{36}i-3$	$-\frac{1}{16}+\frac{5}{144}i$	$\frac{1}{240}+\frac{1}{30}i$

	B_{16}	B_{17}	B_{18}	B_{19}	B_{20}
$\Delta_{\chi,10,4,1}$	$\frac{1}{120}+\frac{7}{60}i$	$\frac{13}{120}+\frac{1}{20}i$	$\frac{13}{240}+\frac{1}{30}i$	$\frac{1}{24}-\frac{1}{8}i$	$\frac{1}{240}-\frac{1}{15}i$
$\Delta_{\chi,10,4,1}(2z)$	$-\frac{17}{120}-\frac{1}{15}i$	$\frac{1}{20}+\frac{14}{15}i$	$-\frac{2}{15}+\frac{17}{30}i$	$\frac{1}{8}+\frac{11}{12}i$	$\frac{1}{60}+\frac{17}{30}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{5}{3}+\frac{5}{3}i$	$\frac{55}{24}-\frac{35}{12}i$	$\frac{55}{48}-\frac{55}{12}i$	$-\frac{5}{8}-\frac{55}{8}i$	$-\frac{49}{48}-\frac{41}{12}i$
$\Delta_{\chi,10,4,1}(10z)$	$\frac{5}{24}-\frac{5}{6}i$	$\frac{215}{12}+\frac{35}{3}i$	$\frac{95}{6}+\frac{95}{6}i$	$\frac{165}{8}+\frac{95}{4}i$	$\frac{179}{12}+\frac{97}{6}i$
$\Delta_{\chi,10,4,2}$	$\frac{1}{120}-\frac{7}{60}i$	$\frac{13}{120}-\frac{1}{20}i$	$\frac{13}{240}-\frac{1}{30}i$	$\frac{1}{24}+\frac{1}{8}i$	$\frac{1}{240}+\frac{1}{15}i$
$\Delta_{\chi,10,4,2}(2z)$	$-\frac{17}{120}+\frac{1}{15}i$	$\frac{1}{20}-\frac{14}{15}i$	$-\frac{2}{15}-\frac{17}{30}i$	$\frac{1}{8}-\frac{11}{12}i$	$\frac{1}{60}-\frac{17}{30}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{5}{3}-\frac{5}{3}i$	$\frac{55}{24}+\frac{35}{12}i$	$\frac{55}{48}+\frac{55}{12}i$	$-\frac{5}{8}+\frac{55}{8}i$	$-\frac{49}{48}+\frac{41}{12}i$
$\Delta_{\chi,10,4,2}(10z)$	$\frac{5}{24}+\frac{5}{6}i$	$\frac{215}{12}-\frac{35}{3}i$	$\frac{95}{6}-\frac{95}{6}i$	$\frac{165}{8}-\frac{95}{4}i$	$\frac{179}{12}-\frac{97}{6}i$
$\Delta_{\chi,20,4,1}(z)$	$\frac{37}{4560}ir-\frac{1}{120}$	$\frac{1}{380}ir-\frac{1}{120}$	$\frac{1}{570}ir-\frac{13}{240}$	$-\frac{1}{304}ir-\frac{1}{24}$	$-\frac{1}{456}ir-\frac{13}{240}$
$\Delta_{\chi,20,4,1}(5z)$	$-\frac{7}{48}ir-\frac{19}{24}$	$\frac{11}{24}-\frac{137}{228}ir$	$\frac{77}{48}-\frac{11}{24}ir$	$-\frac{159}{304}ir+\frac{13}{8}$	$\frac{521}{240}-\frac{233}{570}ir$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{37}{4560}ir-\frac{1}{120}$	$-\frac{1}{380}ir-\frac{1}{120}$	$-\frac{1}{570}ir-\frac{13}{240}$	$\frac{1}{304}ir-\frac{1}{24}$	$\frac{1}{456}ir-\frac{13}{240}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{7}{48}ir-\frac{19}{24}$	$\frac{137}{228}ir+\frac{11}{24}$	$\frac{11}{24}ir+\frac{77}{48}$	$\frac{159}{304}ir+\frac{13}{8}$	$\frac{233}{570}ir+\frac{521}{240}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{11}{120}-\frac{11}{240}i$	$\frac{1}{30}+\frac{13}{120}i$	$\frac{1}{24}+\frac{1}{12}i$	$\frac{1}{6}i$	$\frac{1}{40}+\frac{17}{120}i$
$\Delta_{\chi,25,4,1}(2z)$	$-\frac{5}{24}-\frac{5}{12}i$	$\frac{3}{5}-\frac{11}{20}i$	$\frac{41}{60}-\frac{41}{120}i$	$\frac{13}{12}-\frac{1}{8}i$	$\frac{49}{60}-\frac{1}{8}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{1}{5}+\frac{1}{10}i$	$-\frac{8}{5}-\frac{43}{15}i$	$-\frac{22}{15}-\frac{44}{15}i$	$-2-\frac{23}{6}i$	$-\frac{8}{5}-\frac{47}{15}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{11}{120}+\frac{11}{240}i$	$\frac{1}{30}-\frac{13}{120}i$	$\frac{1}{24}-\frac{1}{12}i$	$-\frac{1}{6}i$	$\frac{1}{40}-\frac{17}{120}i$
$\Delta_{\chi,25,4,2}(2z)$	$-\frac{5}{24}+\frac{5}{12}i$	$\frac{3}{5}+\frac{11}{20}i$	$\frac{41}{60}+\frac{41}{120}i$	$\frac{13}{12}+\frac{1}{8}i$	$\frac{49}{60}+\frac{1}{8}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{1}{5}-\frac{1}{10}i$	$-\frac{8}{5}+\frac{43}{15}i$	$-\frac{22}{15}+\frac{44}{15}i$	$-2+\frac{23}{6}i$	$-\frac{8}{5}+\frac{47}{15}i$

	B_{16}	B_{17}	B_{18}	B_{19}	B_{20}
$\Delta_{\chi,25,4,3}(z)$	$-\frac{1}{420}+\frac{1}{210}i$	$-\frac{13}{210}-\frac{19}{210}i$	$-\frac{5}{84}-\frac{5}{168}i$	$-\frac{5}{56}-\frac{13}{168}i$	$-\frac{1}{10}-\frac{11}{210}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{11}{42}+\frac{11}{84}i$	$\frac{1}{70}+\frac{3}{70}i$	$-\frac{61}{840}+\frac{61}{420}i$	$-\frac{53}{168}-\frac{3}{56}i$	$-\frac{47}{210}-\frac{1}{70}i$
$\Delta_{\chi,25,4,3}(4z)$	$-\frac{8}{35}+\frac{16}{35}i$	$\frac{48}{35}+\frac{232}{105}i$	$\frac{28}{15}+\frac{14}{15}i$	$\frac{16}{7}+\frac{4}{3}i$	$\frac{72}{35}+\frac{8}{15}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{1}{420}-\frac{1}{210}i$	$-\frac{13}{210}+\frac{19}{210}i$	$-\frac{5}{84}+\frac{5}{168}i$	$-\frac{5}{56}+\frac{13}{168}i$	$-\frac{1}{10}+\frac{11}{210}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{11}{42}-\frac{11}{84}i$	$\frac{1}{70}-\frac{3}{70}i$	$-\frac{61}{840}-\frac{61}{420}i$	$-\frac{53}{168}+\frac{3}{56}i$	$-\frac{47}{210}+\frac{1}{70}i$
$\Delta_{\chi,25,4,4}(4z)$	$-\frac{8}{35}-\frac{16}{35}i$	$\frac{48}{35}-\frac{232}{105}i$	$\frac{28}{15}-\frac{14}{15}i$	$\frac{16}{7}-\frac{4}{3}i$	$\frac{72}{35}-\frac{8}{15}i$
$\Delta_{\chi,50,4,1}(z)$	$-\frac{23}{360}-\frac{23}{720}i$	$-\frac{3}{40}-\frac{31}{360}i$	$\frac{1}{48}-\frac{1}{24}i$	$\frac{5}{72}-\frac{1}{144}i$	$\frac{19}{240}+\frac{1}{360}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{29}{360}+\frac{29}{180}i$	$-\frac{91}{180}+\frac{1}{15}i$	$-\frac{13}{30}-\frac{13}{60}i$	$-\frac{31}{72}-\frac{19}{72}i$	$-\frac{59}{180}-\frac{7}{20}i$
$\Delta_{\chi,50,4,2}(z)$	$\frac{23}{720}i-\frac{46}{720}$	$-\frac{3}{40}+\frac{31}{360}i$	$\frac{1}{48}+\frac{1}{24}i$	$\frac{5}{72}+\frac{1}{144}i$	$\frac{19}{240}-\frac{1}{360}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{29}{360}-\frac{29}{180}i$	$-\frac{91}{180}-\frac{1}{15}i$	$-\frac{13}{30}+\frac{13}{60}i$	$-\frac{31}{72}+\frac{19}{72}i$	$-\frac{59}{180}+\frac{7}{20}i$
$\Delta_{\chi,50,4,3}(z)$	$\frac{1}{126}-\frac{1}{63}i$	$-\frac{1}{210}-\frac{17}{315}i$	$-\frac{2}{35}-\frac{1}{35}i$	$-\frac{4}{63}+\frac{1}{126}i$	$-\frac{1}{20}-\frac{1}{315}i$
$\Delta_{\chi,50,4,3}(2z)$	$-\frac{10}{63}-\frac{5}{63}i$	$\frac{22}{315}-\frac{16}{35}i$	$\frac{1}{5}-\frac{2}{5}i$	$\frac{2}{9}-\frac{61}{126}i$	$\frac{14}{45}-\frac{37}{105}i$
$\Delta_{\chi,50,4,4}(z)$	$\frac{1}{126}+\frac{1}{63}i$	$-\frac{1}{210}+\frac{17}{315}i$	$-\frac{2}{35}+\frac{1}{35}i$	$-\frac{4}{63}-\frac{1}{126}i$	$-\frac{1}{20}+\frac{1}{315}i$
$\Delta_{\chi,50,4,4}(2z)$	$-\frac{10}{63}+\frac{5}{63}i$	$\frac{22}{315}+\frac{16}{35}i$	$\frac{1}{5}+\frac{2}{5}i$	$\frac{2}{9}+\frac{61}{126}i$	$\frac{14}{45}+\frac{37}{105}i$
$\Delta_{\chi,100,4,1}(z)$	$-\frac{1}{180}+\frac{1}{90}i$	$\frac{2}{15}+\frac{1}{90}i$	$\frac{7}{60}+\frac{7}{120}i$	$\frac{11}{72}+\frac{5}{72}i$	$\frac{7}{60}+\frac{1}{18}i$
$\Delta_{\chi,100,4,2}(z)$	$-\frac{1}{180}-\frac{1}{90}i$	$\frac{2}{15}-\frac{1}{90}i$	$\frac{7}{60}-\frac{7}{120}i$	$\frac{11}{72}-\frac{5}{72}i$	$\frac{7}{60}-\frac{1}{18}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{1}{36}+\frac{1}{72}i$	$-\frac{1}{8}-\frac{1}{9}i$	$-\frac{1}{16}-\frac{1}{8}i$	$-\frac{5}{72}-\frac{25}{144}i$	$-\frac{1}{48}-\frac{5}{36}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{1}{36}-\frac{1}{72}i$	$-\frac{1}{8}+\frac{1}{9}i$	$-\frac{1}{16}+\frac{1}{8}i$	$-\frac{5}{72}+\frac{25}{144}i$	$-\frac{1}{48}+\frac{5}{36}i$

	B_{21}	B_{22}	B_{23}	B_{24}	B_{25}
$\Delta_{\chi,10,4,1}$	$\frac{7}{240}+\frac{19}{120}i$	$\frac{1}{30}+\frac{1}{30}i$	$-\frac{1}{20}i$	$\frac{1}{24}-\frac{1}{30}i$	$\frac{1}{120}-\frac{1}{30}i$
$\Delta_{\chi,10,4,1}(2z)$	$-\frac{1}{120}+\frac{13}{60}i$	$-\frac{2}{15}+\frac{8}{15}i$	$\frac{2}{5}i$	$\frac{1}{12}+\frac{4}{15}i$	$\frac{1}{30}+\frac{2}{15}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{25}{48}+\frac{175}{24}i$	$\frac{5}{6}-\frac{10}{3}i$	$-\frac{3}{4}-\frac{29}{12}i$	$\frac{13}{24}-3i$	$-\frac{5}{12}-\frac{5}{3}i$
$\Delta_{\chi,10,4,1}(10z)$	$-\frac{25}{24}-\frac{125}{12}i$	$\frac{40}{3}+\frac{40}{3}i$	$\frac{32}{3}+14i$	$\frac{19}{4}+\frac{23}{3}i$	$\frac{19}{6}+\frac{7}{3}i$
$\Delta_{\chi,10,4,2}$	$\frac{7}{240}-\frac{19}{120}i$	$\frac{1}{30}-\frac{1}{30}i$	$\frac{1}{20}i$	$\frac{1}{24}+\frac{1}{30}i$	$\frac{1}{120}+\frac{1}{30}i$
$\Delta_{\chi,10,4,2}(2z)$	$-\frac{1}{120}-\frac{13}{60}i$	$-\frac{2}{15}-\frac{8}{15}i$	$-\frac{2}{5}i$	$\frac{1}{12}-\frac{4}{15}i$	$\frac{1}{30}-\frac{2}{15}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{25}{48}-\frac{175}{24}i$	$\frac{5}{6}+\frac{10}{3}i$	$-\frac{3}{4}+\frac{29}{12}i$	$\frac{13}{24}+3i$	$-\frac{5}{12}+\frac{5}{3}i$
$\Delta_{\chi,10,4,2}(10z)$	$-\frac{25}{24}+\frac{125}{12}i$	$\frac{40}{3}-\frac{40}{3}i$	$\frac{32}{3}-14i$	$\frac{19}{4}-\frac{23}{3}i$	$\frac{19}{6}-\frac{7}{3}i$
$\Delta_{\chi,20,4,1}(z)$	$\frac{11}{4560}ir-\frac{1}{240}$	$\frac{1}{570}ir-\frac{1}{30}$	$-\frac{1}{380}ir-\frac{1}{20}$	$\frac{1}{120}-\frac{1}{570}ir$	$-\frac{1}{2280}ir-\frac{1}{120}$
$\Delta_{\chi,20,4,1}(5z)$	$-\frac{41}{48}-\frac{169}{912}ir$	$\frac{7}{6}-\frac{1}{3}ir$	$\frac{39}{20}-\frac{403}{1140}ir$	$-\frac{6}{95}ir-\frac{59}{120}$	$-\frac{221}{2280}ir-\frac{11}{30}$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{11}{4560}ir-\frac{1}{240}$	$-\frac{1}{570}ir-\frac{1}{30}$	$\frac{1}{380}ir-\frac{1}{20}$	$\frac{1}{570}ir+\frac{1}{120}$	$\frac{1}{2280}ir-\frac{1}{120}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{169}{912}ir+\frac{41}{48}$	$\frac{1}{3}ir+\frac{7}{6}$	$\frac{403}{1140}ir+\frac{39}{20}$	$\frac{6}{95}ir-\frac{59}{120}$	$\frac{221}{2280}ir+\frac{11}{30}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{11}{120}+\frac{1}{60}i$	$\frac{1}{30}+\frac{1}{15}i$	$\frac{1}{30}+\frac{13}{120}i$	$-\frac{1}{30}+\frac{1}{60}i$	$-\frac{1}{120}+\frac{1}{40}i$
$\Delta_{\chi,25,4,1}(2z)$	$-\frac{11}{30}-\frac{29}{60}i$	$\frac{8}{15}-\frac{4}{15}i$	$\frac{19}{30}-\frac{1}{10}i$	$\frac{1}{5}+\frac{1}{60}i$	$\frac{11}{60}+\frac{1}{30}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{3}{5}-\frac{1}{30}i$	$-\frac{16}{15}-\frac{32}{15}i$	$-\frac{16}{15}-\frac{12}{5}i$	$-\frac{4}{15}-\frac{3}{5}i$	$-\frac{4}{15}-\frac{8}{15}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{11}{120}-\frac{1}{60}i$	$\frac{1}{30}-\frac{1}{15}i$	$\frac{1}{30}-\frac{13}{120}i$	$-\frac{1}{30}-\frac{1}{60}i$	$-\frac{1}{120}-\frac{1}{40}i$
$\Delta_{\chi,25,4,2}(2z)$	$-\frac{11}{30}+\frac{29}{60}i$	$\frac{8}{15}+\frac{4}{15}i$	$\frac{19}{30}+\frac{1}{10}i$	$\frac{1}{5}-\frac{1}{60}i$	$\frac{11}{60}-\frac{1}{30}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{3}{5}+\frac{1}{30}i$	$-\frac{16}{15}+\frac{32}{15}i$	$-\frac{16}{15}+\frac{12}{5}i$	$-\frac{4}{15}+\frac{3}{5}i$	$-\frac{4}{15}+\frac{8}{15}i$

	B_{21}	B_{22}	B_{23}	B_{24}	B_{25}
$\Delta_{\chi,25,4,3}(z)$	$-\frac{11}{120}-\frac{11}{840}i$	$-\frac{1}{21}-\frac{1}{42}i$	$-\frac{8}{105}-\frac{1}{21}i$	$\frac{1}{210}-\frac{1}{42}i$	$-\frac{1}{105}-\frac{3}{280}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{173}{840}-\frac{11}{840}i$	$-\frac{1}{21}+\frac{2}{21}i$	$-\frac{17}{105}-\frac{3}{70}i$	$-\frac{1}{10}-\frac{11}{210}i$	$-\frac{73}{840}-\frac{1}{30}i$
$\Delta_{\chi,25,4,3}(4z)$	$-\frac{4}{35}-\frac{16}{105}i$	$\frac{32}{21}+\frac{16}{21}i$	$\frac{184}{105}+\frac{16}{35}i$	$\frac{16}{105}+\frac{24}{35}i$	$\frac{8}{21}+\frac{26}{105}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{11}{120}+\frac{11}{840}i$	$-\frac{1}{21}+\frac{1}{42}i$	$-\frac{8}{105}+\frac{1}{21}i$	$\frac{1}{210}+\frac{1}{42}i$	$-\frac{1}{105}+\frac{3}{280}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{173}{840}+\frac{11}{840}i$	$-\frac{1}{21}-\frac{2}{21}i$	$-\frac{17}{105}+\frac{3}{70}i$	$-\frac{1}{10}+\frac{11}{210}i$	$-\frac{73}{840}+\frac{1}{30}i$
$\Delta_{\chi,25,4,4}(4z)$	$-\frac{4}{35}+\frac{16}{105}i$	$\frac{32}{21}-\frac{16}{21}i$	$\frac{184}{105}-\frac{16}{35}i$	$\frac{16}{105}-\frac{24}{35}i$	$\frac{8}{21}-\frac{26}{105}i$
$\Delta_{\chi,50,4,1}(z)$	$-\frac{31}{720}-\frac{11}{240}i$	$\frac{1}{45}-\frac{2}{45}i$	$\frac{7}{90}-\frac{1}{360}i$	$-\frac{1}{120}-\frac{1}{90}i$	$\frac{1}{45}-\frac{1}{360}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{3}{40}-\frac{11}{360}i$	$-\frac{16}{45}-\frac{8}{45}i$	$-\frac{13}{45}-\frac{13}{45}i$	$-\frac{13}{180}+\frac{1}{15}i$	$-\frac{4}{45}-\frac{2}{45}i$
$\Delta_{\chi,50,4,2}(z)$	$-\frac{31}{720}+\frac{11}{240}i$	$\frac{1}{45}+\frac{2}{45}i$	$\frac{7}{90}+\frac{1}{360}i$	$-\frac{1}{120}+\frac{1}{90}i$	$\frac{1}{45}+\frac{1}{360}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{3}{40}+\frac{11}{360}i$	$-\frac{16}{45}+\frac{8}{45}i$	$-\frac{13}{45}+\frac{13}{45}i$	$-\frac{13}{180}-\frac{1}{15}i$	$-\frac{4}{45}+\frac{2}{45}i$
$\Delta_{\chi,50,4,3}(z)$	$\frac{1}{18}-\frac{1}{84}i$	$-\frac{13}{315}-\frac{13}{630}i$	$-\frac{11}{315}+\frac{1}{315}i$	$-\frac{1}{210}+\frac{4}{315}i$	$-\frac{4}{315}+\frac{1}{126}i$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{1}{14}+\frac{1}{63}i$	$\frac{52}{315}-\frac{104}{315}i$	$\frac{76}{315}-\frac{20}{63}i$	$-\frac{26}{315}-\frac{2}{21}i$	$\frac{19}{315}-\frac{26}{315}i$
$\Delta_{\chi,50,4,4}(z)$	$\frac{1}{18}+\frac{1}{84}i$	$-\frac{13}{315}+\frac{13}{630}i$	$-\frac{11}{315}-\frac{1}{315}i$	$-\frac{1}{210}-\frac{4}{315}i$	$-\frac{4}{315}-\frac{1}{126}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{1}{14}-\frac{1}{63}i$	$\frac{52}{315}+\frac{104}{315}i$	$\frac{76}{315}+\frac{20}{63}i$	$-\frac{26}{315}+\frac{2}{21}i$	$\frac{19}{315}+\frac{26}{315}i$
$\Delta_{\chi,100,4,1}(z)$	$-\frac{11}{360}-\frac{1}{120}i$	$\frac{4}{45}+\frac{2}{45}i$	$\frac{7}{90}+\frac{2}{45}i$	$\frac{1}{30}+\frac{1}{90}i$	$\frac{1}{45}+\frac{1}{360}i$
$\Delta_{\chi,100,4,2}(z)$	$-\frac{11}{360}+\frac{1}{120}i$	$\frac{4}{45}-\frac{2}{45}i$	$\frac{7}{90}-\frac{2}{45}i$	$\frac{1}{30}-\frac{1}{90}i$	$\frac{1}{45}-\frac{1}{360}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{1}{144}+\frac{1}{48}i$	$-\frac{1}{18}-\frac{1}{9}i$	$-\frac{1}{36}-\frac{1}{9}i$	$-\frac{1}{24}-\frac{1}{36}i$	$-\frac{1}{72}-\frac{1}{36}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{1}{144}-\frac{1}{48}i$	$-\frac{1}{18}+\frac{1}{9}i$	$-\frac{1}{36}+\frac{1}{9}i$	$-\frac{1}{24}+\frac{1}{36}i$	$-\frac{1}{72}+\frac{1}{36}i$

	B_{26}	B_{27}	B_{28}	B_{29}	B_{30}
$\Delta_{\chi,10,4,1}$	$\frac{3}{40}+\frac{1}{20}i$	$-\frac{1}{240}+\frac{1}{20}i$	$\frac{1}{75}-\frac{19}{300}i$	$\frac{1}{120}+\frac{1}{60}i$	$-\frac{1}{200}-\frac{1}{300}i$
$\Delta_{\chi,10,4,1}(2z)$	$\frac{1}{20}+\frac{4}{5}i$	$\frac{1}{20}-\frac{1}{15}i$	$\frac{2}{15}+\frac{2}{15}i$	$-\frac{1}{60}+\frac{2}{15}i$	$-\frac{1}{60}$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{59}{24}-\frac{21}{4}i$	$\frac{95}{48}+\frac{5}{12}i$	$-\frac{3}{4}-\frac{3}{4}i$	$\frac{5}{8}-\frac{5}{12}i$	$\frac{1}{8}-\frac{11}{12}i$
$\Delta_{\chi,10,4,1}(10z)$	$\frac{81}{4}+\frac{37}{3}i$	$\frac{5}{6}-\frac{10}{3}i$	$2+2i$	$\frac{35}{12}+5i$	$\frac{11}{12}+3i$
$\Delta_{\chi,10,4,2}$	$\frac{3}{40}-\frac{1}{20}i$	$-\frac{1}{240}-\frac{1}{20}i$	$\frac{1}{75}+\frac{19}{300}i$	$\frac{1}{120}-\frac{1}{60}i$	$-\frac{1}{200}+\frac{1}{300}i$
$\Delta_{\chi,10,4,2}(2z)$	$\frac{1}{20}-\frac{4}{5}i$	$\frac{1}{20}+\frac{1}{15}i$	$\frac{2}{15}-\frac{2}{15}i$	$-\frac{1}{60}-\frac{2}{15}i$	$-\frac{1}{60}$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{59}{24}+\frac{21}{4}i$	$\frac{95}{48}-\frac{5}{12}i$	$-\frac{3}{4}+\frac{3}{4}i$	$\frac{5}{8}+\frac{5}{12}i$	$\frac{1}{8}+\frac{11}{12}i$
$\Delta_{\chi,10,4,2}(10z)$	$\frac{81}{4}-\frac{37}{3}i$	$\frac{5}{6}+\frac{10}{3}i$	$2-2i$	$\frac{35}{12}-5i$	$\frac{11}{12}-3i$
$\Delta_{\chi,20,4,1}(z)$	$-\frac{1}{40}$	$\frac{1}{240}-\frac{1}{1520}ir$	$-\frac{1}{300}ir-\frac{1}{300}$	$-\frac{1}{570}ir-\frac{1}{120}$	$-\frac{4}{1425}ir-\frac{1}{200}$
$\Delta_{\chi,20,4,1}(5z)$	$-\frac{26}{95}ir+\frac{161}{120}$	$\frac{349}{4560}ir-\frac{61}{240}$	$\frac{13}{20}-\frac{17}{380}ir$	$\frac{1}{8}-\frac{13}{114}ir$	$\frac{13}{570}ir-\frac{1}{40}$
$\Delta_{\chi,20,4,2}(z)$	$-\frac{1}{40}$	$\frac{1}{1520}ir+\frac{1}{240}$	$\frac{1}{300}ir-\frac{1}{300}$	$\frac{1}{570}ir-\frac{1}{120}$	$\frac{4}{1425}ir-\frac{1}{200}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{26}{95}ir+\frac{161}{120}$	$-\frac{349}{4560}ir-\frac{61}{240}$	$\frac{17}{380}ir+\frac{13}{20}$	$\frac{13}{114}ir+\frac{1}{8}$	$-\frac{13}{570}ir-\frac{1}{40}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{11}{60}+\frac{7}{120}i$	$\frac{1}{15}-\frac{13}{240}i$	$-\frac{1}{100}+\frac{11}{200}i$	$\frac{1}{30}+\frac{1}{40}i$	$-\frac{1}{150}-\frac{1}{200}i$
$\Delta_{\chi,25,4,1}(2z)$	$\frac{5}{6}-\frac{67}{60}i$	$-\frac{7}{20}-\frac{49}{120}i$	$\frac{37}{150}+\frac{19}{150}i$	$\frac{2}{15}-\frac{3}{20}i$	$\frac{4}{75}+\frac{17}{300}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{34}{15}-\frac{17}{5}i$	$-\frac{2}{15}+\frac{2}{5}i$	$-\frac{4}{5}i$	$-\frac{8}{15}-\frac{11}{15}i$	$-\frac{1}{5}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{11}{60}-\frac{7}{120}i$	$\frac{1}{15}+\frac{13}{240}i$	$-\frac{1}{100}-\frac{11}{200}i$	$\frac{1}{30}-\frac{1}{40}i$	$-\frac{1}{150}+\frac{1}{200}i$
$\Delta_{\chi,25,4,2}(2z)$	$\frac{5}{6}+\frac{67}{60}i$	$-\frac{7}{20}+\frac{49}{120}i$	$\frac{37}{150}-\frac{19}{150}i$	$\frac{2}{15}+\frac{3}{20}i$	$\frac{4}{75}-\frac{17}{300}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{34}{15}+\frac{17}{5}i$	$-\frac{2}{15}-\frac{2}{5}i$	$\frac{4}{5}i$	$-\frac{8}{15}+\frac{11}{15}i$	$\frac{1}{5}i$

	B_{26}	B_{27}	B_{28}	B_{29}	B_{30}
$\Delta_{\chi,25,4,3}(z)$	$\frac{22}{105}+\frac{1}{15}i$	$-\frac{11}{840}+\frac{1}{420}i$	$-\frac{4}{175}-\frac{2}{175}i$	$-\frac{1}{210}-\frac{1}{70}i$	$\frac{19}{1050}-\frac{1}{350}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{184}{105}+\frac{16}{35}i$	$\frac{19}{140}+\frac{187}{840}i$	$-\frac{74}{525}-\frac{17}{525}i$	$\frac{1}{42}+\frac{1}{14}i$	$-\frac{47}{1050}-\frac{1}{1050}i$
$\Delta_{\chi,25,4,3}(4z)$	$\frac{1}{105}-\frac{1}{105}i$	$\frac{2}{15}+\frac{4}{35}i$	$\frac{16}{35}$	$\frac{32}{105}+\frac{8}{15}i$	$\frac{8}{35}i$
$\Delta_{\chi,25,4,4}(z)$	$\frac{1}{105}+\frac{1}{105}i$	$-\frac{11}{840}-\frac{1}{420}i$	$-\frac{4}{175}+\frac{2}{175}i$	$-\frac{1}{210}+\frac{1}{70}i$	$\frac{19}{1050}+\frac{1}{350}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{22}{105}-\frac{1}{15}i$	$\frac{19}{140}-\frac{187}{840}i$	$-\frac{74}{525}+\frac{17}{525}i$	$\frac{1}{42}-\frac{1}{14}i$	$-\frac{47}{1050}+\frac{1}{1050}i$
$\Delta_{\chi,25,4,4}(4z)$	$\frac{184}{105}-\frac{16}{35}i$	$\frac{2}{15}-\frac{4}{35}i$	$\frac{16}{35}$	$\frac{32}{105}-\frac{8}{15}i$	$-\frac{8}{35}i$
$\Delta_{\chi,50,4,1}(z)$	$\frac{19}{360}-\frac{29}{360}i$	$-\frac{43}{720}+\frac{1}{120}i$	$\frac{29}{900}+\frac{19}{1800}i$	$-\frac{7}{360}-\frac{1}{360}i$	$-\frac{1}{600}+\frac{7}{600}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{47}{180}-\frac{29}{90}i$	$-\frac{1}{60}-\frac{1}{45}i$	$-\frac{1}{45}-\frac{1}{9}i$	$-\frac{7}{180}+\frac{1}{45}i$	$\frac{1}{20}$
$\Delta_{\chi,50,4,2}(z)$	$\frac{19}{360}+\frac{29}{360}i$	$-\frac{43}{720}-\frac{1}{120}i$	$\frac{29}{900}-\frac{19}{1800}i$	$-\frac{7}{360}+\frac{1}{360}i$	$-\frac{1}{600}-\frac{7}{600}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{47}{180}+\frac{29}{90}i$	$-\frac{1}{60}+\frac{1}{45}i$	$-\frac{1}{45}+\frac{1}{9}i$	$-\frac{7}{180}-\frac{1}{45}i$	$\frac{1}{20}$
$\Delta_{\chi,50,4,3}(z)$	$\frac{4}{315}-\frac{41}{630}i$	$\frac{13}{1260}-\frac{11}{210}i$	$-\frac{4}{315}-\frac{2}{315}i$	$-\frac{11}{630}+\frac{1}{315}i$	$-\frac{1}{210}+\frac{1}{105}i$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{104}{315}-\frac{58}{315}i$	$\frac{4}{105}+\frac{1}{90}i$	$\frac{4}{45}-\frac{4}{63}i$	$-\frac{2}{45}-\frac{32}{315}i$	$\frac{2}{35}$
$\Delta_{\chi,50,4,4}(z)$	$\frac{4}{315}+\frac{41}{630}i$	$\frac{13}{1260}+\frac{11}{210}i$	$-\frac{4}{315}+\frac{2}{315}i$	$-\frac{11}{630}-\frac{1}{315}i$	$-\frac{1}{210}-\frac{1}{105}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{104}{315}+\frac{58}{315}i$	$\frac{4}{105}-\frac{1}{90}i$	$\frac{4}{45}+\frac{4}{63}i$	$-\frac{2}{45}+\frac{32}{315}i$	$-\frac{2}{35}$
$\Delta_{\chi,100,4,1}(z)$	$\frac{8}{45}+\frac{1}{18}i$	$\frac{1}{360}-\frac{1}{60}i$	$\frac{2}{225}+\frac{1}{225}i$	$\frac{1}{45}+\frac{1}{90}i$	$\frac{1}{75}+\frac{1}{150}i$
$\Delta_{\chi,100,4,2}(z)$	$\frac{8}{45}-\frac{1}{18}i$	$\frac{1}{360}+\frac{1}{60}i$	$\frac{2}{225}-\frac{1}{225}i$	$\frac{1}{45}-\frac{1}{90}i$	$\frac{1}{75}-\frac{1}{150}i$
$\Delta_{\chi,100,4,3}(z)$	$\frac{1}{72}-\frac{5}{36}i$	$-\frac{1}{144}-\frac{1}{48}i$	$-\frac{1}{180}-\frac{1}{90}i$	$-\frac{1}{72}-\frac{1}{36}i$	$-\frac{1}{120}-\frac{1}{60}i$
$\Delta_{\chi,100,4,4}(z)$	$\frac{1}{72}+\frac{5}{36}i$	$-\frac{1}{144}+\frac{1}{48}i$	$-\frac{1}{180}+\frac{1}{90}i$	$-\frac{1}{72}+\frac{1}{36}i$	$-\frac{1}{120}+\frac{1}{60}i$

	B_{31}	B_{32}	B_{33}	B_{34}	B_{35}
$\Delta_{\chi,10,4,1}$	$\frac{1}{80}+\frac{1}{60}i$	$-\frac{1}{60}-\frac{1}{120}i$	$-\frac{1}{80}-\frac{1}{20}i$	$\frac{1}{48}-\frac{1}{12}i$	$-\frac{1}{240}-\frac{7}{120}i$
$\Delta_{\chi,10,4,1}(2z)$	$\frac{1}{30}+\frac{1}{5}i$	$\frac{7}{120}-\frac{1}{15}i$	$\frac{3}{20}+\frac{1}{10}i$	$\frac{1}{12}+\frac{5}{6}i$	$\frac{1}{12}+\frac{7}{30}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{41}{48}-\frac{1}{2}i$	$\frac{5}{24}+\frac{5}{24}i$	$-\frac{5}{48}+\frac{5}{12}i$	$-\frac{25}{48}-\frac{25}{6}i$	$-\frac{25}{48}-\frac{25}{24}i$
$\Delta_{\chi,10,4,1}(10z)$	$\frac{9}{2}+\frac{11}{3}i$	$\frac{25}{24}-\frac{25}{6}i$	$\frac{5}{6}+\frac{5}{6}i$	$\frac{215}{12}+\frac{145}{6}i$	$\frac{35}{12}+\frac{55}{6}i$
$\Delta_{\chi,10,4,2}$	$\frac{1}{80}-\frac{1}{60}i$	$-\frac{1}{60}+\frac{1}{120}i$	$-\frac{1}{80}+\frac{1}{20}i$	$\frac{1}{48}+\frac{1}{12}i$	$-\frac{1}{240}+\frac{7}{120}i$
$\Delta_{\chi,10,4,2}(2z)$	$\frac{1}{30}-\frac{1}{5}i$	$\frac{7}{120}+\frac{1}{15}i$	$\frac{3}{20}-\frac{1}{10}i$	$\frac{1}{12}-\frac{5}{6}i$	$\frac{1}{12}-\frac{7}{30}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{41}{48}+\frac{1}{2}i$	$\frac{5}{24}-\frac{5}{24}i$	$-\frac{5}{48}-\frac{5}{12}i$	$-\frac{25}{48}+\frac{25}{6}i$	$-\frac{25}{48}+\frac{25}{24}i$
$\Delta_{\chi,10,4,2}(10z)$	$\frac{9}{2}-\frac{11}{3}i$	$\frac{25}{24}+\frac{25}{6}i$	$\frac{5}{6}-\frac{5}{6}i$	$\frac{215}{12}-\frac{145}{6}i$	$\frac{35}{12}-\frac{55}{6}i$
$\Delta_{\chi,20,4,1}(z)$	$-\frac{1}{570}ir-\frac{1}{80}$	$\frac{29}{22\,800}ir-\frac{1}{300}$	$\frac{1}{80}-\frac{3}{760}ir$	$-\frac{1}{912}ir-\frac{1}{48}$	$\frac{1}{240}-\frac{11}{4560}ir$
$\Delta_{\chi,20,4,1}(5z)$	$\frac{107}{240}-\frac{73}{760}ir$	$-\frac{301}{4560}ir-\frac{43}{120}$	$\frac{1}{24}ir-\frac{7}{48}$	$\frac{43}{48}-\frac{287}{912}ir$	$\frac{13}{48}-\frac{17}{912}ir$
$\Delta_{\chi,20,4,2}(z)$	$\frac{1}{570}ir-\frac{1}{80}$	$-\frac{29}{22\,800}ir-\frac{1}{300}$	$\frac{3}{760}ir+\frac{1}{80}$	$\frac{1}{912}ir-\frac{1}{48}$	$\frac{11}{4560}ir+\frac{1}{240}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{73}{760}ir+\frac{107}{240}$	$\frac{301}{4560}ir-\frac{43}{120}$	$-\frac{1}{24}ir-\frac{7}{48}$	$\frac{287}{912}ir+\frac{43}{48}$	$\frac{17}{912}ir+\frac{13}{48}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{1}{24}+\frac{1}{120}i$	$\frac{1}{60}-\frac{1}{120}i$	$\frac{1}{120}+\frac{1}{60}i$	$\frac{5}{48}i$	$-\frac{1}{40}+\frac{1}{30}i$
$\Delta_{\chi,25,4,1}(2z)$	$\frac{1}{30}-\frac{11}{40}i$	$-\frac{1}{15}-\frac{2}{15}i$	$\frac{1}{12}-\frac{1}{24}i$	$\frac{5}{6}-\frac{1}{8}i$	$\frac{1}{4}+\frac{1}{8}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{2}{5}-\frac{2}{5}i$	$-\frac{1}{5}+\frac{1}{10}i$	$-\frac{1}{5}-\frac{2}{5}i$	$-2-\frac{10}{3}i$	$-\frac{2}{5}-\frac{4}{5}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{1}{24}-\frac{1}{120}i$	$\frac{1}{60}+\frac{1}{120}i$	$\frac{1}{120}-\frac{1}{60}i$	$-\frac{5}{48}i$	$-\frac{1}{40}-\frac{1}{30}i$
$\Delta_{\chi,25,4,2}(2z)$	$\frac{1}{30}+\frac{11}{40}i$	$-\frac{1}{15}+\frac{2}{15}i$	$\frac{1}{12}+\frac{1}{24}i$	$\frac{5}{6}+\frac{1}{8}i$	$\frac{1}{4}-\frac{1}{8}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{2}{5}+\frac{2}{5}i$	$-\frac{1}{5}-\frac{1}{10}i$	$-\frac{1}{5}+\frac{2}{5}i$	$-2+\frac{10}{3}i$	$-\frac{2}{5}+\frac{4}{5}i$

	B_{31}	B_{32}	B_{33}	B_{34}	B_{35}
$\Delta_{\chi,25,4,3}(z)$	$-\frac{1}{42}+\frac{1}{105}i$	$\frac{1}{120}-\frac{1}{60}i$	$\frac{1}{105}+\frac{1}{210}i$	$-\frac{3}{56}-\frac{1}{24}i$	$-\frac{3}{280}-\frac{1}{120}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{11}{210}+\frac{1}{10}i$	$\frac{1}{420}+\frac{1}{840}i$	$-\frac{1}{21}+\frac{2}{21}i$	$-\frac{47}{168}-\frac{5}{56}i$	$-\frac{9}{56}-\frac{1}{56}i$
$\Delta_{\chi,25,4,3}(4z)$	$\frac{24}{35}+\frac{8}{35}i$	$-\frac{6}{35}+\frac{12}{35}i$	$-\frac{8}{35}-\frac{4}{35}i$	$2+\frac{22}{21}i$	$\frac{2}{5}+\frac{2}{35}i$
$\Delta_{\chi,25,4,4}(z)$	$-\frac{1}{42}-\frac{1}{105}i$	$\frac{1}{120}+\frac{1}{60}i$	$\frac{1}{105}-\frac{1}{210}i$	$-\frac{3}{56}+\frac{1}{24}i$	$-\frac{3}{280}+\frac{1}{120}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{11}{210}-\frac{1}{10}i$	$\frac{1}{420}-\frac{1}{840}i$	$-\frac{1}{21}-\frac{2}{21}i$	$-\frac{47}{168}+\frac{5}{56}i$	$-\frac{9}{56}+\frac{1}{56}i$
$\Delta_{\chi,25,4,4}(4z)$	$\frac{24}{35}-\frac{8}{35}i$	$-\frac{6}{35}-\frac{12}{35}i$	$-\frac{8}{35}+\frac{4}{35}i$	$2-\frac{22}{21}i$	$\frac{2}{5}-\frac{2}{35}i$
$\Delta_{\chi,50,4,1}(z)$	$-\frac{1}{48}-\frac{7}{360}i$	$-\frac{1}{72}-\frac{1}{144}i$	$-\frac{11}{720}+\frac{11}{360}i$	$\frac{5}{144}$	$\frac{13}{720}+\frac{1}{80}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{11}{90}-\frac{1}{15}i$	$-\frac{11}{360}+\frac{11}{180}i$	$\frac{2}{45}+\frac{1}{45}i$	$-\frac{5}{12}-\frac{7}{36}i$	$-\frac{1}{20}-\frac{17}{180}i$
$\Delta_{\chi,50,4,2}(z)$	$-\frac{1}{48}+\frac{7}{360}i$	$-\frac{1}{72}+\frac{1}{144}i$	$-\frac{11}{720}-\frac{11}{360}i$	$\frac{5}{144}$	$\frac{13}{720}-\frac{1}{80}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{11}{90}+\frac{1}{15}i$	$-\frac{11}{360}-\frac{11}{180}i$	$\frac{2}{45}-\frac{1}{45}i$	$-\frac{5}{12}+\frac{7}{36}i$	$-\frac{1}{20}+\frac{17}{180}i$
$\Delta_{\chi,50,4,3}(z)$	$-\frac{1}{105}-\frac{13}{630}i$	$\frac{1}{180}-\frac{1}{90}i$	$-\frac{2}{63}-\frac{1}{63}i$	$-\frac{11}{252}$	$-\frac{5}{252}$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{2}{63}-\frac{2}{21}i$	$\frac{1}{315}+\frac{1}{630}i$	$-\frac{1}{63}+\frac{2}{63}i$	$\frac{5}{21}-\frac{4}{9}i$	$\frac{3}{35}-\frac{2}{45}i$
$\Delta_{\chi,50,4,4}(z)$	$-\frac{1}{105}+\frac{13}{630}i$	$\frac{1}{180}+\frac{1}{90}i$	$-\frac{2}{63}+\frac{1}{63}i$	$-\frac{11}{252}$	$-\frac{5}{252}$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{2}{63}+\frac{2}{21}i$	$\frac{1}{315}-\frac{1}{630}i$	$-\frac{1}{63}-\frac{2}{63}i$	$\frac{5}{21}+\frac{4}{9}i$	$\frac{3}{35}+\frac{2}{45}i$
$\Delta_{\chi,100,4,1}(z)$	$\frac{1}{30}+\frac{1}{90}i$	$\frac{11}{1800}-\frac{11}{900}i$	$\frac{1}{45}+\frac{1}{90}i$	$\frac{7}{72}+\frac{1}{24}i$	$\frac{11}{360}+\frac{1}{120}i$
$\Delta_{\chi,100,4,2}(z)$	$\frac{1}{30}-\frac{1}{90}i$	$\frac{11}{1800}+\frac{11}{900}i$	$\frac{1}{45}-\frac{1}{90}i$	$\frac{7}{72}-\frac{1}{24}i$	$\frac{11}{360}-\frac{1}{120}i$
$\Delta_{\chi,100,4,3}(z)$	$-\frac{1}{48}-\frac{1}{36}i$	$-\frac{1}{360}+\frac{1}{720}i$	$\frac{1}{144}+\frac{1}{72}i$	$-\frac{5}{144}-\frac{5}{48}i$	$\frac{1}{144}-\frac{1}{48}i$
$\Delta_{\chi,100,4,4}(z)$	$-\frac{1}{48}+\frac{1}{36}i$	$-\frac{1}{360}-\frac{1}{720}i$	$\frac{1}{144}-\frac{1}{72}i$	$-\frac{5}{144}+\frac{5}{48}i$	$\frac{1}{144}+\frac{1}{48}i$

	B_{36}
$\Delta_{\chi,10,4,1}$	$\frac{1}{15}+\frac{1}{20}i$
$\Delta_{\chi,10,4,1}(2z)$	$\frac{2}{3}i$
$\Delta_{\chi,10,4,1}(5z)$	$\frac{29}{12}-\frac{17}{4}i$
$\Delta_{\chi,10,4,1}(10z)$	$16+\frac{38}{3}i$
$\Delta_{\chi,10,4,2}$	$\frac{1}{15}-\frac{1}{20}i$
$\Delta_{\chi,10,4,2}(2z)$	$-\frac{2}{3}i$
$\Delta_{\chi,10,4,2}(5z)$	$\frac{29}{12}+\frac{17}{4}i$
$\Delta_{\chi,10,4,2}(10z)$	$16-\frac{38}{3}i$
$\Delta_{\chi,20,4,1}(z)$	$-\frac{1}{380}ir-\frac{1}{60}$
$\Delta_{\chi,20,4,1}(5z)$	$\frac{83}{60}-\frac{49}{380}ir$
$\Delta_{\chi,20,4,2}(z)$	$\frac{1}{380}ir-\frac{1}{60}$
$\Delta_{\chi,20,4,2}(5z)$	$\frac{49}{380}ir+\frac{83}{60}$
$\Delta_{\chi,25,4,1}(z)$	$\frac{1}{6}+\frac{1}{24}i$
$\Delta_{\chi,25,4,1}(2z)$	$\frac{17}{30}-\frac{29}{30}i$
$\Delta_{\chi,25,4,1}(4z)$	$-\frac{32}{15}-\frac{12}{5}i$
$\Delta_{\chi,25,4,2}(z)$	$\frac{1}{6}-\frac{1}{24}i$
$\Delta_{\chi,25,4,2}(2z)$	$\frac{17}{30}+\frac{29}{30}i$
$\Delta_{\chi,25,4,2}(4z)$	$-\frac{32}{15}+\frac{12}{5}i$

	B_{36}
$\Delta_{\chi,25,4,3}(z)$	$\frac{2}{105}+\frac{2}{105}i$
$\Delta_{\chi,25,4,3}(2z)$	$\frac{11}{105}+\frac{4}{105}i$
$\Delta_{\chi,25,4,3}(4z)$	$\frac{128}{105}+\frac{16}{35}i$
$\Delta_{\chi,25,4,4}(z)$	$\frac{2}{105}-\frac{2}{105}i$
$\Delta_{\chi,25,4,4}(2z)$	$\frac{11}{105}-\frac{4}{105}i$
$\Delta_{\chi,25,4,4}(4z)$	$\frac{128}{105}-\frac{16}{35}i$
$\Delta_{\chi,50,4,1}(z)$	$\frac{1}{18}-\frac{5}{72}i$
$\Delta_{\chi,50,4,1}(2z)$	$-\frac{13}{45}-\frac{11}{45}i$
$\Delta_{\chi,50,4,2}(z)$	$\frac{1}{18}+\frac{5}{72}i$
$\Delta_{\chi,50,4,2}(2z)$	$-\frac{13}{45}+\frac{11}{45}i$
$\Delta_{\chi,50,4,3}(z)$	$\frac{8}{315}-\frac{4}{63}i$
$\Delta_{\chi,50,4,3}(2z)$	$\frac{76}{315}-\frac{44}{315}i$
$\Delta_{\chi,50,4,4}(z)$	$\frac{8}{315}+\frac{4}{63}i$
$\Delta_{\chi,50,4,4}(2z)$	$\frac{76}{315}+\frac{44}{315}i$
$\Delta_{\chi,100,4,1}(z)$	$\frac{7}{45}+\frac{2}{45}i$
$\Delta_{\chi,100,4,2}(z)$	$\frac{7}{45}-\frac{2}{45}i$
$\Delta_{\chi,100,4,3}(z)$	$\frac{1}{36}-\frac{1}{9}i$
$\Delta_{\chi,100,4,4}(z)$	$\frac{1}{36}+\frac{1}{9}i$

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