

$B = \left(\frac{-1, -1}{\mathbb{Q}}\right), p = 3, M = 150$							
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	Δ_f	a_n	a_0
-19	-43	$i + 3j - 3k$	$3i + 3j - 5k$	$7750656x^2 - 14480299x + 1478656$	$7^4 \cdot 13^2 \cdot 19^3 \cdot 37^2 \cdot 43$	$2^{10} \cdot 3^2 \cdot 29^2$	$2^{12} \cdot 19^2$
-19	-67	$i + 3j - 3k$	$3i + 3j - 7k$	$12290826496x^2 - 95390057659x + 6219530496$	$7^4 \cdot 11^4 \cdot 13^4 \cdot 19 \cdot 43^2 \cdot 61^2 \cdot 67$	$2^8 \cdot 13^4 \cdot 41^2$	$2^8 \cdot 3^2 \cdot 31^2 \cdot 53^2$
-19	-163	$i + 3j - 3k$	$i + 9j - 9k$	$137614689009110557696x^2 - 361232222403682556459x + 208106107946555293696$	$3^4 \cdot 7^4 \cdot 13^4 \cdot 19^5 \cdot 23^4 \cdot 67^2 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$2^{10} \cdot 29^2 \cdot 31^2 \cdot 37^2 \cdot 103^2 \cdot 107^2$	$2^{14} \cdot 13^4 \cdot 59^2 \cdot 89^2 \cdot 127^2$
-43	-67	$3i + 3j - 5k$	$3i + 3j - 7k$	$66564000000x^2 - 194519700667x + 51076000000$	$11^4 \cdot 13^2 \cdot 19^2 \cdot 37^2 \cdot 43^3 \cdot 61^2 \cdot 67$	$2^8 \cdot 3^2 \cdot 5^6 \cdot 43^2$	$2^8 \cdot 5^6 \cdot 113^2$
-43	-163	$3i + 3j - 5k$	$i + 9j - 9k$	$92948186849296000000x^2 - 381232847456416705067x + 272773235159104000000$	$3^4 \cdot 13^2 \cdot 19^6 \cdot 23^4 \cdot 37^2 \cdot 43 \cdot 67^2 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$2^{10} \cdot 5^6 \cdot 73^2 \cdot 137^2 \cdot 241^2$	$2^{12} \cdot 5^6 \cdot 29^2 \cdot 257^2 \cdot 277^2$
-67	-163	$3i + 3j - 7k$	$i + 9j - 9k$	$2417986405054008100000000x^2 - 5237146236856322922885947x + 2592057051817902244000000$	$3^4 \cdot 11^4 \cdot 13^4 \cdot 19^4 \cdot 23^4 \cdot 43^2 \cdot 61^2 \cdot 67^3 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$2^8 \cdot 5^8 \cdot 13^4 \cdot 31^2 \cdot 67^2 \cdot 443^2$	$2^8 \cdot 5^6 \cdot 79^2 \cdot 101^2 \cdot 233^2 \cdot 433^2$

Table 3: Results for the pair $N = 6, p = 3$ with D_1, D_2 of class number 1

$B = \left(\frac{-1, -3}{\mathbb{Q}}\right), p = 2, M = 300$							
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	Δ_f	a_n	a_0
-19	-43	$-4i - j$	$-4i - 3j$	$1653403x^2 - 35711431x + 3158028$	$5^6 \cdot 13^2 \cdot 19^3 \cdot 37^2 \cdot 43$	$3^9 \cdot 29^2$	$2^2 \cdot 3^7 \cdot 19^2$
-19	-67	$-4i - j$	$-8i - j$	$105000146667x^2 - 162229401334x + 53133254667$	$2^{10} \cdot 5^6 \cdot 13^4 \cdot 19 \cdot 43^2 \cdot 61^2 \cdot 67$	$3^7 \cdot 13^4 \cdot 41^2$	$3^9 \cdot 31^2 \cdot 53^2$
-19	-163	$-4i - j$	$-4i - 7j$	$29390949693644989923x^2 - 1422549305157681125971x + 444460994217887136048$	$5^6 \cdot 11^6 \cdot 13^4 \cdot 17^6 \cdot 19 \cdot 67^2 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$3^7 \cdot 29^2 \cdot 31^2 \cdot 37^2 \cdot 103^2 \cdot 107^2$	$2^4 \cdot 3^7 \cdot 13^4 \cdot 59^2 \cdot 89^2 \cdot 127^2$
-43	-67	$4i - 3j$	$-8i - j$	$67049853003x^2 - 158527527670x + 87381674667$	$2^{10} \cdot 13^2 \cdot 19^2 \cdot 37^2 \cdot 43^3 \cdot 61^2 \cdot 67$	$3^7 \cdot 7^4 \cdot 113^2$	$3^9 \cdot 7^4 \cdot 43^2$
-43	-163	$4i - 3j$	$4i - 7j$	$30504357551201515947x^2 - 804203716040070393175x + 89520544485524877228$	$11^6 \cdot 13^2 \cdot 17^6 \cdot 19^2 \cdot 37^2 \cdot 43 \cdot 67^2 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$3^7 \cdot 7^4 \cdot 73^2 \cdot 137^2 \cdot 241^2$	$2^2 \cdot 3^7 \cdot 7^4 \cdot 29^2 \cdot 257^2 \cdot 277^2$
-67	-163	$-8i - j$	$-4i - 7j$	$3174203794778832707748675x^2 - 6752068041752221534377382x + 3402714470588532762628707$	$2^{10} \cdot 11^6 \cdot 13^4 \cdot 17^6 \cdot 43^2 \cdot 61^2 \cdot 67^3 \cdot 109^2 \cdot 139^2 \cdot 157^2 \cdot 163$	$3^7 \cdot 5^2 \cdot 7^4 \cdot 13^4 \cdot 31^2 \cdot 67^2 \cdot 443^2$	$3^7 \cdot 7^4 \cdot 79^2 \cdot 101^2 \cdot 233^2 \cdot 433^2$

Table 4: Results for the pair $N = 6, p = 2$ with D_1, D_2 of class number 1

$B = \left(\frac{-1, -1}{\mathbb{Q}}\right), p = 5, M = 150$							
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	Δ_f	a_n	a_0
-3	-43	$i + j - k$	$3i + 3j - 5k$	$128x^2 - 3221x + 1458$	$3^9 \cdot 5^2 \cdot 7^2 \cdot 43$	2^7	$2 \cdot 3^6$
-3	-67	$i + j - k$	$3i + 3j - 7k$	$31250x^2 - 331587x + 93312$	$3^{11} \cdot 7^2 \cdot 13^2 \cdot 67$	$2 \cdot 5^6$	$2^7 \cdot 3^6$
-3	-163	$i + j - k$	$i + 9j - 9k$	$14512627712x^2 + 181853220987x + 22781250$	$3^9 \cdot 7^2 \cdot 13^2 \cdot 17^2 \cdot 29^2 \cdot 31^2 \cdot 73^2 \cdot 163$	$2^{13} \cdot 11^6$	$2 \cdot 3^6 \cdot 5^6$
-43	-67	$3i + 3j - 5k$	$3i + 3j - 7k$	$1905152x^2 - 8143659x + 1062882$	$3^{14} \cdot 5^2 \cdot 13^2 \cdot 43 \cdot 67$	$2^9 \cdot 61^2$	$2 \cdot 3^{12}$
-43	-163	$3i + 3j - 5k$	$i + 9j - 9k$	$24363515282x^2 - 4428320247459x + 221011431552$	$3^{12} \cdot 5^2 \cdot 13^2 \cdot 17^2 \cdot 29^2 \cdot 31^2 \cdot 43 \cdot 73^2 \cdot 163$	$2 \cdot 19^2 \cdot 37^2 \cdot 157^2$	$2^7 \cdot 3^{14} \cdot 19^2$
-67	-163	$3i + 3j - 7k$	$i + 9j - 9k$	$78059116962x^2 + 269138928987x + 23762000000$	$3^{14} \cdot 17^2 \cdot 29^2 \cdot 31^2 \cdot 67 \cdot 73^2 \cdot 163$	$2 \cdot 3^{12} \cdot 271^2$	$2^7 \cdot 5^6 \cdot 109^2$

Table 5: Results for the pair $N = 10, p = 5$ with D_1, D_2 of class number 1

$B = \left(\frac{-2, -5}{\mathbb{Q}}\right), p = 2, M = 300$							
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	Δ_f	a_n	a_0
-3	-43	$\frac{1}{2}i - \frac{1}{2}k$	$-\frac{1}{2}i + 2j - \frac{3}{2}k$	$18225x^2 + 20547x + 1600$	$3^9 \cdot 19^2 \cdot 43$	$3^6 \cdot 5^2$	$2^6 \cdot 5^2$
-3	-67	$\frac{1}{2}i - \frac{1}{2}k$	$-\frac{1}{2}i + 2j + \frac{3}{2}k$	$390625x^2 + 1789587x + 1166400$	$3^{11} \cdot 11^2 \cdot 31^2 \cdot 67$	5^8	$2^6 \cdot 3^6 \cdot 5^2$
-3	-163	$\frac{1}{2}i - \frac{1}{2}k$	$-\frac{1}{2}i + 4j + \frac{3}{2}k$	$284765625x^2 + 197378004987x + 181407846400$	$3^9 \cdot 17^2 \cdot 19^2 \cdot 59^2 \cdot 73^2 \cdot 79^2 \cdot 163$	$3^6 \cdot 5^8$	$2^{12} \cdot 5^2 \cdot 11^6$
-43	-67	$-\frac{1}{2}i + 2j - \frac{3}{2}k$	$-\frac{7}{2}i + 2j + \frac{3}{2}k$	$1166905600x^2 + 1901875707x + 651015225$	$3^{14} \cdot 11^2 \cdot 19^2 \cdot 31^2 \cdot 43 \cdot 67$	$2^8 \cdot 5^2 \cdot 7^2 \cdot 61$	$3^{12} \cdot 5^2 \cdot 7^2$
-43	-163	$-\frac{1}{2}i + 2j - \frac{3}{2}k$	$-\frac{11}{2}i + 4j + \frac{3}{2}k$	$41336989225x^2 + 432007151787x + 374984769600$	$3^{12} \cdot 17^2 \cdot 43 \cdot 59^2 \cdot 73^2 \cdot 79^2 \cdot 163$	$5^2 \cdot 7^2 \cdot 37^2 \cdot 157^2$	$2^6 \cdot 3^{14} \cdot 5^2 \cdot 7^2$
-67	-163	$-\frac{7}{2}i + 2j + \frac{3}{2}k$	$\frac{11}{2}i + 4j - \frac{3}{2}k$	$8080094344529025x^2 + 12363671548543347x + 2459664025000000$	$3^{14} \cdot 11^2 \cdot 17^2 \cdot 19^2 \cdot 31^2 \cdot 59^2 \cdot 67 \cdot 73^2 \cdot 79^2 \cdot 163$	$3^{12} \cdot 5^2 \cdot 7^2 \cdot 13^2 \cdot 271^2$	$2^6 \cdot 5^8 \cdot 7^2 \cdot 13^2 \cdot 109^2$

Table 6: Results for the pair $N = 10, p = 2$ with D_1, D_2 of class number 1

$$B = \begin{pmatrix} -1 & -1 \\ 0 & 0 \end{pmatrix}, p = 11, M = 150$$

D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	Δ_f	a_n	a_0
-3	-67	$i + j - k$	$3i + 3j - 7k$	$16x^2 + 1931x + 1024$	$3^7 \cdot 5^2 \cdot 67$	2^4	2^{10}
-3	-163	$i + j - k$	$i + 9j - 9k$	$62500x^2 - 91827x + 2916$	$3^9 \cdot 7^4 \cdot 163$	$2^2 \cdot 5^6$	$2^2 \cdot 3^6$
-67	-163	$3i + 3j - 7k$	$i + 9j - 9k$	$465124x^2 - 6823331x + 4218916$	$3^{10} \cdot 5^2 \cdot 7^4 \cdot 67 \cdot 163$	$2^2 \cdot 11^2 \cdot 31^2$	$2^2 \cdot 13^2 \cdot 79^2$

Table 7: Results for the pair $N = 22, p = 11$ with D_1, D_2 of class number 1

$$B = \begin{pmatrix} -1 & -1 \\ 0 & 0 \end{pmatrix}, p = 3, M = 400$$

D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	a_n	a_0
-19	-139	$3i + 3j - k$	$3i + 3j - 11k$	$3740673368395874304x^6 - 23176594937129205760x^5 - 207550829028928527104x^4 - 526135783440681527875x^3 + 668900481632326702336x^2 - 325104697590631628800x + 27846466248235810816$	$2^{28} \cdot 3^2 \cdot 19^4 \cdot 109^2$	$2^{28} \cdot 53^2 \cdot 59^2 \cdot 103$
-19	-139	$3i + 3j - k$	$3i + 7j - 9k$	$27846466248235810816x^6 - 47825602354653429760x^5 + 47359177666285816320x^4 - 132261177144435337795x^3 + 109190282930744023552x^2 - 34661929157414092800x + 3740673368395874304$	$2^{28} \cdot 53^2 \cdot 59^2 \cdot 103$	$2^{28} \cdot 3^2 \cdot 19^4 \cdot 109^2$

Table 8: Results for the pair $N = 6, p = 3$ with D_1 and D_2 of class numbers 1 and 3.

$B = \left(\frac{-1, -1}{\mathbb{Q}}\right), p = 5, M = 400, h(D_1) = 1, h(D_2) = 3$						
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	a_n	a_0
-3	-83	$i + j - k$	$i + j - 9k$	$8000000x^6 + 87689228x^5 + 98048780x^4$ $+ 1226958115x^3 - 405690430x^2 + 36134400x + 32768$	$2^9 \cdot 5^6$	2^{15}
-3	-83	$i + j - k$	$3i + 5j - 7k$	$8000000x^6 - 27544000x^5 + 4920898x^4$ $- 56968587x^3 + 4933248x^2 + 610048x + 32768$	$2^9 \cdot 5^6$	2^{15}
-3	-107	$i + j - k$	$i + 5j + 9k$	$512000000x^6 - 6857888000x^5 + 1663526528x^4$ $- 966944227x^3 + 122681138x^2 - 5048832x + 32768$	$2^{15} \cdot 5^6$	2^{15}
-3	-107	$i + j - k$	$3i + 7j - 7k$	$512000000x^6 - 19008101888x^5 + 260093249970x^4$ $- 1369977644475x^3 - 20457333140x^2 - 78218860x + 32768$	$2^{15} \cdot 5^6$	2^{15}

Table 9: Results for the pair $N = 10, p = 5$, with D_1 and D_2 of class number 1 and 3.

$B = \left(\frac{-2, -5}{\mathbb{Q}}\right), p = 2, M = 400, h(D_1) = 1, h(D_2) = 3$						
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	a_n	a_0
-3	-83	$\frac{1}{2}i - \frac{1}{2}k$	$\frac{1}{2}i + 2j - \frac{1}{2}k$	$15625000000x^6 + 60242691875x^5 + 91343260675x^4$ $+ 70619968993x^3 + 31052796025x^2 + 7304880000x + 64000000$	$2^6 \cdot 5^{12}$	$2^{12} \cdot 5^6$
-3	-83	$\frac{1}{2}i - \frac{1}{2}k$	$\frac{9}{2}i + 2j + \frac{3}{2}k$	$1000000x^6 - 24430625x^5 + 200812125x^4$ $- 652527162x^3 + 1022500850x^2 - 794453125x + 244140625$	$2^6 \cdot 5^6$	5^{12}
-3	-107	$\frac{1}{2}i - \frac{1}{2}k$	$\frac{7}{2}i - 4j + \frac{1}{2}k$	$64000000x^6 + 10564976875x^5 - 185491592725x^4$ $+ 658571721273x^3 + 2893058101425x^2 + 3039135920000x + 100000000000$	$2^{12} \cdot 5^6$	$2^{12} \cdot 5^{12}$
-3	-107	$\frac{1}{2}i - \frac{1}{2}k$	$\frac{7}{2}i + 2j + \frac{5}{2}k$	$1000000x^6 + 13560000x^5 - 121353125x^4$ $- 1370626807x^3 + 2493941725x^2 - 17822890625x + 15625000000$	$2^6 \cdot 5^6$	$2^6 \cdot 5^{12}$

Table 10: Results for the pair $N = 10, p = 2$ with D_1 and D_2 of class number 1 and 3.

$B = \left(\frac{-1, -1}{\mathbb{Q}}\right), p = 5, M = 400, h(D_1) = 1, h(D_2) = 5$						
D_1	D_2	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$	a_n	a_0
-3	-227	$i + j - k$	$5i + 9j + 11k$	$12958758682492928x^{10} - 144408153222545408x^9$ $-1988830403718330880x^8 - 3286376744306760960x^7$ $+59711076362789889570x^6 - 135269169521676792643x^5$ $-9247003381324375732x^4 - 1008445398321967500x^3$ $-23963258052000000x^2 - 3439890000000000x$ $+3200000000000$	$2^{29} \cdot 17^6$	$2^{17} \cdot 5^{12}$
-3	-227	$i + j - k$	$i + j + 15k$	$12958758682492928x^{10} - 646020893010755584x^9$ $+12231784964822856704x^8 - 88919490801342892428x^7$ $+70193346426476252060x^6 - 993473322857330173443x^5$ $+506934413563500975094x^4 - 213918311762720848644x^3$ $-189450171220672312x^2 - 14551440992000000x$ $+3200000000000$	$2^{29} \cdot 17^6$	$2^{17} \cdot 5^{12}$
-3	-227	$i + j - k$	$3i + 7j - 13k$	$12958758682492928x^{10} + 16559826570051584x^9$ $+517712357413060608x^8 - 3443498619887489280x^7$ $+4460885188982986880x^6 - 2803972112177973163x^5$ $-2803972112177973163x^5 + 1023573447688487266x^4$ $+25030309697920000x^2 - 1418389504000000x$ $+3200000000000$	$2^{29} \cdot 17^6$	$2^{17} \cdot 5^{12}$

Table 11: Results for the pair $N = 10, p = 5$ with D_1 and D_2 of class number 1 and 5

$B = \left(\frac{-1, -1}{\mathbb{Q}}\right), p = 5, M = 400, h(D_1) = 1, h(D_2) = 1$						
D_1	D_2	$h(D_1)$	$h(D_2)$	$\phi(\sqrt{D_1})$	$\phi(\sqrt{D_2})$	$f = a_d x^d + \dots + a_1 x + a_0$
-3	-43	1	1	$i + j - k$	$3i + 3j - 5k$	$256x^2 - 1422737x + 256$
-3	-67	1	1	$i + j - k$	$3i + 3j - 7k$	$400000x^2 - 142822961x + 400000$
-3	-163	1	1	$i + j - k$	$i + 9j - 9k$	$453519616000000x^2 + 45363419412546679361x + 453519616000000$
3	-83	1	3	$i + j - k$	$i + j - 9k$	$262144000000x^6 + 3247564950011904x^5 - 45539487902717184x^4 + 1602699731187267449x^3 - 45539487902717184x^2 + 3247564950011904x + 262144000000$
-3	-83	1	3	$i + j - k$	$3i + 5j - 7k$	$262144000000x^6 + 1432363008000x^5 - 14380699489536x^4 - 3251311475160953x^3 - 14380699489536x^2 + 1432363008000x + 262144000000$
-3	-107	1	3	$i + j - k$	$i + 5j + 9k$	$1677721600000x^6 - 27943786512384000x^5 + 121801116623426304x^4 - 705115548724245833x^3 + 121801116623426304x^2 - 27943786512384000x + 1677721600000$
-3	-107	1	3	$i + j - k$	$3i + 7j - 7k$	$1677721600000x^6 - 648092010307190784x^5 - 1415626487864538392064x^4 - 1887482728251722883609929x^3 - 1415626487864538392064x^2 - 648092010307190784x + 1677721600000$

Table 12: Results for the pair $N = 10, p = 5$ considering both even and odd indices.