Typographical Errors in the Second Edition of

*Primes of the Form* $x^2 + ny^2$

February 13, 2020

Page v, line −8: The title of §1 should be “FERMAT, EULER AND QUADRATIC RECIPROCITY”

Page 30, first line of (2.21): “15.23” should be “15, 23”

Page 32, line 2 of Theorem 2.26: “not dividing $D.$” should be “not dividing $D$,” (the period should be a comma)

Page 48, line −13: “ker($\chi$) ∈ ($\mathbb{Z}/D\mathbb{Z}$)” should be “ker($\chi$) ⊂ ($\mathbb{Z}/D\mathbb{Z}$)”

Page 53, line −1: “property” should be “properly”

Page 61, part (a) of Exercise 3.9: “if and only if $a, b$ or $ab$ has order $\leq 2$ in $G$” should be “if and only if $a$ or $b$ has order $\leq 2$ in $G$”

Page 62, line 9: “that Proposition 3.11 and Theorem 3.15 hold for all” should be “that Proposition 3.11 holds for all”

Page 65, part (c) of Exercise 3.20: “$f(\alpha x + \beta y, \gamma x + \delta y)$” should be “$f(\alpha x + \gamma y, \beta x + \delta y)$”

Page 65, lines −2 and −1: “Note also that Lemma 3.25 gives a very quick proof of Exercise 2.27” should be “Note that Lemma 3.25 gives a quick proof of Exercise 2.27(a) for forms of discriminant $-4n$ when $p \nmid n$”

Page 75, line 18: “the second memoir. Gauss” should be “the second memoir, Gauss” (the period should be a comma)

Page 91, lines −4 and −3: “$f_i(x)$ are distinct and irreducible modulo $p$” with “$f_i(x)$ are monic, and distinct and irreducible modulo $p$”

Page 104, part (f) of Exercise 5.6: “$p\mathcal{O}_L + f_i(\alpha)\mathcal{O}_K$” should be “$p\mathcal{O}_L + f_i(\alpha)\mathcal{O}_L$”

Page 104, part (f) of Exercise 5.6: In the hint, “$I_1 \cdots I_g \subset p\mathcal{O}_L$” should be “$(p\mathcal{O}_L)^g \subset I_1 \cdots I_g \subset p\mathcal{O}_L$”

Page 105, part (d) of Exercise 5.7: It should be “Prove the description of $\mathcal{O}_K$ given in (5.14)”
Page 125, line −12: “let a be a fractional” should be “let a be a proper fractional”

Page 127, one line above (7.16): “a · a = α · a[a, τ]” should be “a · a = α · a[1, τ]”

Page 133, four lines below (7.26): “u ∈ O” should be “u ∈ O_K”

Page 133, line −4: “[b][c]^{-1}” should be “±[b][c]^{-1}”

Page 138, part (c) of Exercise 7.15, line 4: “dividing by a by c” should be “dividing a by c”

Page 143, line 1: “let f be a positive integer” should be “let f > 1 be an integer.

Page 145, second display: “I_k(m)/H” should be “I_K(m)/H”

Page 146, line 15: “mth of unity” should be “mth root of unity”

Page 155, lines −18 and −17: “But Exercise 5.9 tells us” should be “But [77, Exercise 4.11(b)] tells us”

Page 161, Exercise 8.13, last line: “N_M = M” should be “N_M = M”

Page 161, Exercise 8.16, line 2: “S_M/L” should be “S_M/K”

Page 161, Exercise 8.16, last line: “of Proposition 8.20” should be “of Proposition 8.20 and Exercise 8.15”

Page 165, line 1: “Lemma 5.21” should be “Corollary 5.21”

Page 167, line 3: “Gal(L/K) ≃ Z/3Z, then “Gal(L/Q) ≃ S_3” should be “Gal(M/K) ≃ Z/3Z, then “Gal(M/Q) ≃ S_3”

Page 186, line −1: At the end of the display, “ζ_φ(z)” should be “2ζ_φ(z)”

Page 197, Exercise 10.4, second line of the display: “+ \frac{24G_4(L)}{z^2}” should be “− \frac{24G_4(L)}{z^2}”

Page 199, part (b) of Exercise 10.16: “Theorem 5.25” should be “Theorem 5.30”
Page 199, part (c) of Exercise 10.16: In the display, \[ \sum_{f \mid [O_K:Z[\alpha]]} h(f^2d_K) \]
should be \[ \sum_{f \mid [O_K:Z[\alpha]]} h(f^2d_K) \]

Page 203, line -14: “\( \gamma \neq \pm 1 \)” should be “\( \gamma \neq \pm I \)”

Page 208, line 10: The display should be
\[ q(\sigma \tau) = e^{2\pi i(a \tau + b)/d} = e^{2\pi ib/d} q^{a/d} \]
(two errors in the original)

Page 217, line 12: “some prime ideal of \( \mathcal{O} \)” should be “some prime ideal of \( O_K \)”

Page 219, line -10: “of class field theory” should be “of complex multiplication”

Page 221, second display: The display should be
\[ |b| \leq a \leq c, \text{ and } b \geq 0 \text{ if either } |b| = a \text{ or } a = c. \]

Page 261, line 1 of part (a) of Exercise 12.31: “Prove that \( P = \sqrt{14}(2/\alpha) \) and \( Q = \sqrt{7/2}(\alpha/2) \)” should be “Prove that \( P = \sqrt{14}/\alpha \) and \( Q = \sqrt{7/2}\alpha \)”

Page 268, line 1: “compute \( H_D(X) \)” should be “compute \( H_D(X) \) for most \( D \)”

Page 268, line -15: “compute any \( H_D(X) \)” should be “compute \( H_D(X) \) for any \( D \neq -3k^2, k \text{ odd} \)”

Page 305, display of Exercise 14.7: In two places, “\( x + z \)” should be “\( x + 2 \)” in the denominator