

ERRATA FOR INTRODUCTION TO CYCLOTOMIC FIELDS, 2ND EDITION

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- page 11, line -2; the = between $\log n$ and the sum should be –
- page 16, line 14: change “alows” to “allows”
- page 17, line 16: change [5] to [9]
- page 23, line -3: change “all groups” to “all finite groups”
- page 37, lines -3, -1: it would be better to have the summation be from 1 to $f - 1$ in order to avoid the necessity of setting $0 \log 0 = 0$
- page 52, line 17: change “ $|\log_p(x)|$ is not less than $p^{-1/(p-1)}$ for *all*” to “ $|\log_p(1+x)|$ is not less than $p^{-1/(p-1)}$ for *some*”
- page 56, line -8: change “demoninator” to “denominator”
- page 63, line -4, and page 68, lines 6, 7: it would be better to have the summation be from 1 to $f - 1$ in order to avoid the necessity of setting $0 \log 0 = 0$
- page 73, line 13: change ϕ to \emptyset
- page 75, line -4: change “pssible” to “possible”
- page 76, line -9: change $\tau\sigma$ to $\sigma\tau$
- page 98, line -2: change p to P (where P is defined on line 1 of page 99)
- page 100, line -4; the line should be “that when $i \neq 0$ ”
- page 101, lines 12-14: change the paragraph to “Now, suppose $i \neq 0$ is even. Then $B_{1,\omega^{-i}} = 0$ so the above says nothing. If $i = 0$ then $A_0 = 0$ since $\varepsilon_0 = (\text{Norm})/(p - 1)$.”
- page 107, line -7: “large” should be “largest”
- page 121, Lemma 7.8: insert “and $d > 1$ ” after “ $(t, d) = 1$ ”
- page 125, line -1: the character $\theta = 1$ should occur in the product
- page 126, line 1: the character $\chi = 1$ should occur in the product
- page 126, line 6: the first product is over all characters; the second product is over all $\psi \neq 1$
- page 135, line 10; the $\prod_{m \neq n}$ before the second integral should be a $\sum_{m \neq n}$
- page 138, line 2; change x'' to x'
- page 145, lines -8, -4 (twice): it would be better to have the summation be from 1 to $p^m - 1$ in order to avoid the necessity of setting $0 \log 0 = 0$
- page 147, line 5: change ζ_p to ζ_n
- pages 147-149: it would be better to have the summations stop at $m - 1, n - 1, F - 1, Ft - 1$ in order to avoid the necessity of setting $0 \log 0 = 0$
- page 169, Lemma 9.1: The α to which the lemma is applied is non-integral. Therefore, the lemma and its proof should be stated for the localization of $\mathbb{Z}[\zeta_p]$ at $(1 - \zeta_p)$. Alternatively, α could be multiplied by a suitable power (say $(\text{denom})^{pk}$ for some k) of the denominator to make it integral and preserve the congruence.

- page 199, line -1: change “ A ” to “ A_n ”
 page 200, line 15: change θ_{p^n} to $\theta_{p^{n+1}}$
 page 202, line -4: change a_i to a_1
 page 233, lines -12, -11: change $\zeta_i(a, s)$ and $\zeta_i(a, 1 - k)$ to $\zeta_i(s, a)$
 page 234, line 3: change $\zeta_i(a, 1 - k)$ to $\zeta_i(1 - k, a)$
 page 235, lines 6, 7: change $\phi_i(a)$ to $\phi_i(a/i)$
 page 235, line 7: change $\phi_i(b)$ to $\phi_j(b/j)$
 page 243, line 9: change “this just” to “this is just”
 page 246, line 2 and page 248, lines 8 and 10, and page 250, lines 10 and 12:
 change δ to $d\delta$'s (for consistency with the notation established on page 238, line 8,
 where δ is the delta distribution and $d\delta$ is the corresponding measure)
 page 247, line -13: change $\bar{\theta}$ to θ
 page 258, line 11: insert “on” after “distribution”
 page 258, line -2: change H'_χ to H_χ
 page 269: Corollary 13.6: (bad notation) the symbol H is used both for a field
 and for a subgroup of the idèles
 page 271, line 13: change p^k to P^k
 page 285, line 17: change “any exact sequence” to “any finite exact sequence”
 page 302, line -7: change $1 - T$ to $1 + T$
 page 303, lines -3 to -1: change $(\zeta_p - 1)$ to $(1 - \zeta_p)$ (four times) and change
 $(\zeta_p^a - 1)$ to $(1 - \zeta_p^a)$
 page 309, line -4; change “ $2 \leq k \leq p - 2$ ” to “ $1 \leq k \leq p - 2$ ”
 page 316, line 9: change ε_1 to ε_i
 page 317, line 11: change $1 - T$ to $1 + T$ near the right-hand end of the formula
 page 335: Radan Kučera points out the following: Changing the definition of C'
 to the Sinnott definition of circular units, namely to the group of units of the form

$$\delta = \pm \prod_{n|m} N_{\mathbb{Q}(\zeta_n)/F \cap \mathbb{Q}(\zeta_n)} \left(\prod_{a=1}^{n-1} (\zeta_n^a - 1)^{b_{an}} \right)$$

we obtain Theorem 15.2 in the full strength of Thaine's theorem. There is no need to change the proof of the theorem; it is enough to improve Lemma 15.3 to cover this more general case. The proof of this lemma is in fact almost the same; it is enough to consider new

$$\varepsilon = \pm \prod_{n|m} N_{\mathbb{Q}(\zeta_{n\ell})/F(\zeta_\ell) \cap \mathbb{Q}(\zeta_{n\ell})} \left(\prod_{a=1}^{n-1} (\zeta_n^a - \zeta_\ell)^{b_{an}} \right)$$

for this new δ .

- page 339, line 15: change χ to ρ
 page 345, line -8: change 15.5 to 15.9
 page 353, line 8: change “Ker” to “Coker”
 page 356, line -5: change $(1 + T)^{-1} - \pi$ to $(1 + T)^{-1} - 1 - \pi$
 page 361, line 14: change “Proposition 13.54” to “Theorem 13.54”
 page 361, line -2: change \bar{E}_1/P_n to \bar{E}_1^∞/P_n
 page 366, line 2: the line should be “Let $M|\ell - 1$ and let”
 page 366, line 4: change “choice of ℓ and s ” to “choices of ℓ, λ , and s ”
 page 366, line 10: change $\text{Gal}(L/E)$ to $\text{Gal}(H/E)$

page 369, lines -9, -8: change “class group” to “ p -part of the class group”

page 378, line -1: change $c^{(q-1)/2}$ to $c^{(n-1)/2}$

page 421, line 18: change “When” to “We”

page 423: \tilde{h} for $p = 9829$ should be 5

page 443: Entry [10] of Gras, M-N should not appear, since it is already listed as [6]

page 456: papers numbers 3 and 4 listed under F. Kurihara were written by M. Kurihara

page 462: the paper by Mazur and Swinnerton-Dyer is in *Inventiones math.*, 25 (1974), 1-61.

Many thanks to Filippo A. E. Nuccio, Tauno, Metsänkylä, Radan Kučera, Timo Keller, Alexandros G. Sygelakis, Robert Pollack, Keith Conrad, and Eleni Agathocleous for pointing out the above corrections.

(last updated 4/10/2009)