Errata in the Third Edition of
Primes of the Form $x^2 + ny^2$
September 25, 2025

Page 24: In display (2.12), the right-hand side of the inequality should be

$$\sqrt{\frac{-D}{3}}.$$

(This error also appears on page 26 of the second edition.)

Page 50: On line −11, "one more n (see Weinberger [**137**])" should be "two more n (this follows from Weinberger [**137**])". (This error also appears on page 56 of the second edition.)

Page 84: On line −4, "let be $\mathfrak{P}'$ be" should be "let $\mathfrak{P}'$ be". (This error also appears on page 96 of the second edition.)

Page 98: On the first line of (6.9), "$\sqrt{p_i^*}$" should be "$\sqrt{p_1^*}$". (This error also appears on page 112 of the second edition.)

Page 137: On the final line of part (a) of Exercise 8.1, add the following sentence to the hint: "For the surjectivity of ϕ, use the ideas of part (a) of Exercise 7.29 to show that when $\mathfrak{b}$ is relatively prime to $\mathfrak{m}$, there is $\gamma \in \mathcal{O}_K$ with $\gamma \equiv 0 \bmod \mathfrak{b}$ and $\gamma \equiv 1 \bmod \mathfrak{m}$."

Page 144: On line −11, "*textand*" should be "and"

Pages 397–398: Replace everything from line −6 on page 397 to line 2 on page 398 with the following:

is exact, where $\iota(\alpha) = [\alpha]$. To prove that ϕ is surjective, choose an element $\alpha\mathcal{O}_K \in I_K(\mathfrak{m}) \cap P_K$; then $\alpha\mathcal{O}_K = \mathfrak{a}\mathfrak{b}^{-1}$, where $\alpha \in K^*$ and $\mathfrak{a}, \mathfrak{b}$ are $\mathcal{O}_K$-ideals prime to $\mathfrak{m}$. Since $\mathfrak{b}$ and $\mathfrak{m}$ are relatively prime, the solution to part (a) of Exercise 7.29 gives an isomorphism

$$\mathcal{O}_K/\mathfrak{b}\mathfrak{m} \simeq \mathcal{O}_K/\mathfrak{b} \times \mathcal{O}_K/\mathfrak{m}.$$

It follows that there is $\gamma \in \mathcal{O}_K$ such that $\gamma \equiv 0 \bmod \mathfrak{b}$ and $\gamma \equiv 1 \bmod \mathfrak{m}$. Thus $\gamma \in \mathfrak{b}$, so that

$$\gamma\alpha\mathcal{O}_K = \gamma\mathfrak{a}\mathfrak{b}^{-1} = \mathfrak{a}(\gamma\mathfrak{b}^{-1}) \subset \mathfrak{a}(\mathfrak{b}\mathfrak{b}^{-1}) = \mathfrak{a} \subset \mathcal{O}_K,$$

which shows that $\gamma\alpha \in \mathcal{O}_K$. By construction $\gamma\mathcal{O}_K \in P_{K,1}(\mathfrak{m})$, so we get finally $[\alpha\mathcal{O}_K] = [\gamma\alpha\mathcal{O}_K] = \phi([\gamma\alpha])$.