

UPDATES FOR “NUMBER THEORY AND GEOMETRY”

Dear Readers,

Here is a list of updates (known typos, errors and omissions, expanded paragraphs, etc.), with the text as it appeared in the first edition, followed by the corrected text (as it will/should appear in a revised edition).

Acknowledgements: I’d like to thank Fernando Gouvêa and Cindy Zhang for identifying a number of typos and errors listed below.

- (1) **Page 388. Corollary 13.3.4.** In part (2) of the statement, d should be t .
 - **(Old text)** If $|\alpha - s/t| < |\alpha - p_k/q_k|$ for some $k \geq 1$, then $d > q_k$.
 - **(New text)** If $|\alpha - s/t| < |\alpha - p_k/q_k|$ for some $k \geq 1$, then $t > q_k$.
- (2) **Page 391. Exercise 13.4.14.** Here e should also be d , because otherwise $\overline{\alpha + \beta}$ is not defined with the definition we have given for conjugation in the statement.
 - **(Old text)** ... $\alpha = u + v\sqrt{d}$ and $\beta = x + y\sqrt{e}$, where $u, v, x, y \in \mathbb{Q}$ and d, e are non-zero integers that are not perfect squares.
 - **(New text)** ... $\alpha = u + v\sqrt{d}$ and $\beta = x + y\sqrt{d}$, where $u, v, x, y \in \mathbb{Q}$.
- (3) **Page 391. Exercise 13.4.20.** Here d should be $n^2 + 2n$.
 - **(Old text)** Let d be a positive integer such that $d = n^2 + 1$, for some integer $n > 1$.
 - **(New text)** Let d be a positive integer such that $d = n^2 + 2n$, for some integer $n > 1$.
- (4) **Page 407. Proof of 14.3.17.** A $+$ should be a \cdot in the last line of the previous to last displayed equation, because they are elements living in the group $U = (U, \cdot)$ where the operation is multiplication.
 - **(Old text)** $\psi((a \bmod 2, n)) + \psi((b \bmod 2, m))$.
 - **(New text)** $\psi((a \bmod 2, n)) \cdot \psi((b \bmod 2, m))$.