

## ERRATA

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- p. 1 In Definition 1.1.1. insert “(not the zero ring)” after the words “commutative ring”.
- p. 8 After Example 1.3.1 include the text “An ideal  $I$  of the integral domain  $D$  is said to be finitely generated ideal if  $I = \langle a_1, \dots, a_n \rangle$  for some  $a_1, \dots, a_n \in D$ .”
- p. 18 In Theorem 1.5.3.  $I$  should be a proper ideal of  $D$ .
- p. 20 In Theorem 1.5.5.  $I$  should be a proper ideal of  $D$ .
- p. 34 The dates of E.S. Barnes should be 1924–2000 and not 1874–1953. Thanks to Prof. Paul M. Cohn for pointing this out.
- p. 122 Change “it is easy to show that” to “one can show”.
- p. 126  $a^{2n-2}$  should be replaced by  $a_n^{2n-2}$ .
- p. 195 In Theorem 8.2.1. and its proof change “nonzero ideal” to “proper ideal” (3 places).
- p. 196 In the third line from the bottom include the text “A principal fractional ideal of  $D$  is a fractional ideal of the form  $\{r\alpha \mid r \in D\}$  for some  $\alpha \in K$ . We write  $\langle \alpha \rangle$  for this ideal.”
- p. 200 The proof of the assertion “Since  $\tilde{P}_1 A$  is an ideal of  $D$ ” needs justification.  
After “Hence  $k \geq 2$ .” insert :

As  $D$  is a Dedekind domain,  $D$  is a Noetherian domain, and so by the maximal principal  $A \subseteq M$  for some maximal ideal  $M$ .  $M$  is a prime ideal so  $M \supseteq A \supseteq P_1 \cdots P_k$  implies that  $M \supseteq P_i$  for some  $i \in \{1, 2, \dots, k\}$ . Without loss of generality we may suppose that  $M \supset P_1$ . As  $P_1$  is a prime ideal and  $D$  is a Dedekind domain,  $P_1$  is a maximal ideal. Therefore  $P_1 = M$ . Thus  $P_1 \supseteq A$ .

After “Hence  $A \subset \tilde{P}_1 A$ .” change to :

Since  $\tilde{P}_1 A$  is a fractional ideal and  $\tilde{P}_1 A \subseteq D$  as  $P_1 \supseteq A$ ,  $\tilde{P}_1 A$  is an integral ideal of  $D$ , and by the maximal property of  $A$ , we have

$$P_1 A = \tilde{Q}_2 \cdots Q_h$$

for prime ideals  $Q_1, \dots, Q_h$ .

Thanks to Prof. Paul Mezo for pointing out this oversight.

- p. 257 In Theorem 10.5.1 after “such that  $\bar{f}_i = g_i$ ” include “and  $\deg(f_i) = \deg(g_i)$ ”.
- p. 262 In question 19 change to “Prove that  $\sqrt{\theta} \notin K$ .”
- p. 380 Change to “In this case we understand  $R(K)$  to be 1, so that  $R(K) > 0$  for all number fields  $K$ .”
- p. 427 The reference to Muskat, J.B. should include page 341.