

# Algebra 2 2013

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Note the following errata in the book: [Lau] Niels Lauritzen, “Concrete abstract algebra”, Cambridge University Press, 2003. ISBN: 978-0-521-53410-9.

- Page 5, line 9: For “ $n = q_2d+$ ” read “ $x = q_2d+$ ”
- Page 15, line 7: For “row 1” read “row 2”
- Page 59, line -7: For “ $\varphi_1, \varphi_2 \in K$ ” read “ $\varphi_1, \varphi_2 \in G$ ”
- Page 66, line -6: For “ $a \equiv a' \pmod{d}$ ” read “ $a \equiv a' \pmod{n}$ ”
- Page 72, line -2: For “If  $m < 0$  and  $n < 0$ ” read “If  $n < 0$ ”
- Page 75, line -4: For “ $\{[km] \mid 0 \leq k < N, \gcd(k, N) = 1\}$ ” read “ $\{[km] \mid 0 \leq k < d, \gcd(k, d) = 1\}$ ”
- Page 77, line -1: For “For  $\varphi(x + N\mathbb{Z})$ ” read “For  $\tilde{\varphi}(x + N\mathbb{Z})$ ”
- Page 107, line 13: For “ $\mathbb{Z}/3 \times \mathbb{Z}/5\mathbb{Z}$ ” read “ $\mathbb{Z}/3\mathbb{Z} \times \mathbb{Z}/5\mathbb{Z}$ ”
- Page 107, line 15: For “ $\mathbb{Z}/2 \times \mathbb{Z}/4\mathbb{Z}$ ” read “ $\mathbb{Z}/2\mathbb{Z} \times \mathbb{Z}/4\mathbb{Z}$ ”
- Page 118, line -4: The following condition is missing in the definition of maximal ideal: A maximal ideal  $I \subset R$  is a proper ideal of  $R$ , that is  $I \neq R$ .
- Page 128, line 16: For “ $(x'^{12} + 5y'^{12})$ ” read “ $(x'^2 + 5y'^2)$ ”.
- Page 128, line -14 (in Lemma 3.5.5): For “and  $r$  a non-zero element” read “and  $r$  a non-zero element such that  $r \notin R^*$ ”.
- Page 130, line 11: For
$$a = p_1^{r_1} \cdots p_n^{r_n}$$
$$b = p_1^{s_1} \cdots p_n^{s_n}$$
where  $r_i, s_i \geq 0$  read
$$a = up_1^{r_1} \cdots p_n^{r_n}$$
$$b = vp_1^{s_1} \cdots p_n^{s_n}$$
where  $r_i, s_i \geq 0$ ,  $u, v$  are units and  $p_1, \dots, p_n$  are pairwise non-associated”.
- Page 144, line-10: For “ $(fg)(3) = f(3)g(0) + f(2)g(1) + f(1)g(2) + f(3)g(0)$ ” read “ $(fg)(3) = f(3)g(0) + f(2)g(1) + f(1)g(2) + f(0)g(3)$ ”.
- Page 162, line 13: For “irreducible” read “reducible”.
- Page 225, definition A.2.5: The following condition is missing in the definition of partition:  $S_i \neq \emptyset$ , for all  $i \in I$ .

(line -x means line x counting from the bottom of the page)