

CORRECTIONS FOR TEXT, ALGEBRA: GROUPS, RINGS, AND FIELDS (1994),  
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Comments welcome.

p. xii, line -18: example of a PID

p. 14 Exercise 1.12:  $\mu(n_1, n_2) = \mu(n_1)\mu(n_2)$  if  $n_1, n_2$  are relatively prime.

p. 24, line 12, insert: In case an isomorphism exists from  $G_1$  to  $G_2$ , we say “ $G_1$  is *isomorphic* to  $G_2$ ” and write  $G_1 \approx G_2$ .

p. 45 line 5:

$$(\sigma, \pi) \mapsto \begin{pmatrix} 1 & \dots & n & n+1 & \dots & 2n \\ \sigma 1 & \dots & \sigma n & \pi(n+1) & \dots & \pi(2n) \end{pmatrix}.$$

p. 47, insert after theorem 7.2:

Of course one could throw in redundant generators (such as  $e$ ), and on the other hand one could tack on direct products with copies of  $\{e\}$ , since any group  $G \approx G \times \{e\}$ , and it will be convenient to permit these redundancies.

p. 52 line 12:

$$\ker f \approx C_1(p) \times \dots \times C_t(p),$$

p. 58 line -5:  $0 \leq i < \text{o}(a)$ ,  $0 \leq j < \frac{|G|}{\text{o}(a)}$ .

p. 64 line 3:  $\mathbb{Z}_m$ ,  $\mathbb{Z}_2$ , or  $D_m$

p. 67 line 19:  $G$  is a finite set ...

p. 76 Exercise 10.1: for any surjection

p. 82 Exercise 11.5: has order  $p, p^2, \dots, p^{t-2}$

p. 83 lines 4, 10, 11: finite simple

p. 90 line -2:  $c, d \neq 0$

p. 104 Note 4':  $R$  has no nontrivial ideals.

p. 106 line -11:  $\bar{\varphi}$

p. 107 line -8: Proposition 13.9 and Remark 13.11

p. 108 line 2:  $a \in A_1$ ; consequently  $\varphi(a_2 \dots a_t) = (1, 0, \dots, 0)$ .

p. 112 line 6: ... view  $W \subseteq Q$  ...

p. 121 line -3:  $\exp(f) = 1 + f + \frac{f^2}{2} + \frac{f^3}{3!} + \dots$

p. 129 line -6:  $d = \gcd(a, b)$  in a PID

p. 136 Exercise 4: Suppose  $n$  is a prime power.

p. 137 line -2: Corollary 15

p. 143 line 14:  $Z[\rho]$

p. 145 line 10  $Z[\rho]$

p. 151 Exercise 1:  $f \in \mathbb{R}[x]$

p. 162 Example 12(iv):  $\alpha \in F$  is not a square in  $F$

p. 166 line 9:  $m_t a$

p. 174 line -2: No for  $n = 7, 9, 11, 13, 14$ ;

p. 178 line -16:  $f \in F[x]$  is irreducible

p. 184 line 4:  $x - b = \gcd(g(x), h(x))$ ,

p. 184 Exercises 5,6:  $K/F$  is assumed finite.

p. 184 Exercise 7  $K/F$  is assumed separable.

p. 189 line 4:  $F$  is a finite field, of order  $n = p^t$ .

p. 190 Exercise 3:

$$n_p(t) = \frac{\sum_{d|t} \mu(t/d)p^d}{t}.$$

p. 193 line -13:  $|\text{Gal}(K/F)| \leq [K : F]$ ,

p. 202 line -10:  $t = 0, 1, 2, 3, 4$ , ( $n$  respectively is 3, 5, 17, 257, and  $2^{16} + 1 = 65537$ ),

p. 215 line -11: is a semidirect product