

Galois Theory

David A. Cox, published by John Wiley & Sons, 2004

Errata as of July 18, 2007

This errata sheet is organized by which printing of the book you have. The printing can be found by looking at the string of digits “10 9 8 . . .” at the bottom of the copyright page: the last digit that appears indicates the printing.

First Printing: The typographical errors include the following five errata plus the errata listed for subsequent printings.

Page 39, line 1: Replace “Also, the of” with “Also, the leading term of”.

Page 40, line –9 of page 40 (part (a) of Exercise 13): Replace “ $d_1 d_2$ ” with “ $d_1 + d_2$ ”.

Page 88, line 11 (part (a) of Exercise 2): Replace “where $a \in \mathbb{Z}$, $F[x] \in \mathbb{Z}[x]$, and $p \nmid F(a)$ ” with “where $a \in \mathbb{Z}$ and $F(x) \in \mathbb{Z}[x]$ satisfy $\deg(F) \leq n$ and $p \nmid F(a)$ ”.

Page 220, lines 2 and 3 of Exercise 5: Replace “is solvable by radicals over K and that the coefficients of the minimal polynomial of α over K are solvable by radicals over F ” with “is expressible by radicals over K and that the extension $F \subset K$ is a solvable extension”.

Page 294, line –5: Replace “is the code” with “is the ASCII code”.

Second Printing: The typographical errors include the following three errata plus the errata listed for subsequent printings.

Page 6, line –3: The quantity inside the parenthesis should be “ $q - \sqrt{q^2 + 4p^3/27}$ ”.

Page 121, line 4 of **Example 5.4.3**: There is a missing “)”, i.e., the second field should be “ $\mathbb{Q}(\sqrt{2}, \sqrt{3})$ ”.

Page 176, line –3: Replace “ $a(x) - yb(x)$ ” with “ $a(x) - \alpha b(x)$ ”.

Third Printing: The typographical errors include the following four errata plus the errata listed for subsequent printings.

Page 36, line –13: Replace “ $\cdots + a_1 x + a_n$ ” with “ $\cdots + a_{n-1} x + a_n$ ”.

Page 49, line 6: Replace “ Δ ” with “ $\sqrt{\Delta}$ ”.

Page 84, line 17 (line 4 of the proof of **Theorem 4.2.3**): Replace “ $[b] \in \mathbb{F}_p$ ” with “ $[b] \in \mathbb{F}_p = \mathbb{Z}/p\mathbb{Z}$ ”.

Page 126, line –14 (line 2 of part (b) of **Proposition 6.1.4**): Replace “another” with “also a ”.

Fourth and Subsequent Printings: The typographical errors include the following errata.

Page 50, display (2.23): In the first row of the matrix, replace “ s_{2n-1} ” with “ s_{2n-3} ”, and in the second row of the matrix, replace “ $s_{2n-1} s_{2n-2}$ ” with “ $s_{2n-3} s_{2n-4}$ ”.

Page 81, line 1 of Section 4.2: “are polynomial,irreducible” should be “are irreducible”.

Page 97, line 1 of the proof of **Theorem 4.4.10**: “Exercise 3” should be “Exercise 7”.

Page 123, line 3 of Exercise 8: “Exercise 12 of Section 5.3” should be “Exercise 8 of Section 5.3”.

Page 159, line 3 of **The Galois Correspondence**: “Corollary 7.3.2” should be “Theorem 7.3.2”.

Page 195, line 3 of **Example 8.1.11**: “ S_6 ” should be “ S_3 ”.

Page 223, line 21: “ p divides $[L : K] = |\text{Gal}(L/K)|$ ” should be “ p divides $[L : F] = |\text{Gal}(L/F)|$ ”.

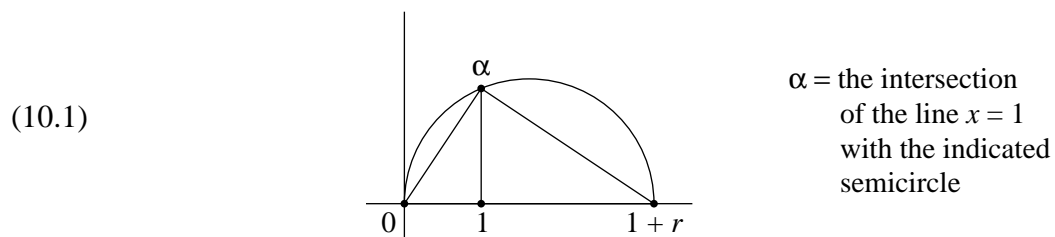
Page 223, line 22: “ $\text{Gal}(L/K)$ has an element” should be “ $\text{Gal}(L/F)$ has an element”.

Page 235, line 1 of the proof of **Theorem 9.1.11**: “ $\mathbb{Q} \subset \mathbb{Q}(\zeta_n)$ ” should be “ $\mathbb{Q} \subset \mathbb{Q}(\zeta_n)$ ”.

Page 237, part (b) of Exercise 12: “Let n be an odd” should be “Let $n > 1$ be an odd”

Page 258, display (10.1) and the line immediately before the display: Replace this line and display with the following:

To study \sqrt{r} , let $r > 0$ be constructible and define the point α by the diagram



Page 259, line 2 of the proof of **Theorem 10.1.6**: “ $\alpha_i \in F_i$ ” should be “ $\alpha_i \in F_{i-1}$ ”.

Page 285, line 3: “ $(\frac{1}{2}, 0)$ ” should be “ $(0, \frac{1}{2})$ ”.

Page 308, line 3 of Exercise 16: “make a that takes” should be “make a pseudo-random number generator that takes”.