

# ***Galois Theory For Beginners***

## ***A Historical Perspective***

Jörg Bewersdorff

### **List of misprints**

If you are interested in the book itself (and not in the misprints) please click [here](#).

Each misprint is located in the form “ $x, y$ ” meaning “page  $x$ , line  $y$ ”. A line  $y < 0$  means “line  $-y$  counted from the bottom”.

#### **1. Misprints in formulas:**

14, -9:

$$i^2 = -1$$

29, -5:

$$b_0 = x_1^n + a_{n-1}x_1^{n-1} + \dots + a_1x_1 + a_0 = 0$$

40, -11:

$$z^3 - \frac{p}{2}z^2 - rz + \frac{pr}{2} - \frac{q^2}{8} = 0$$

55, -3:

*brackets should be removed*

57, -2:

$$\frac{a}{p} \cdot g(x)$$

67, -12:

$$\eta_0\eta_1 = -4$$

68, 5:

$$z^2 - \eta_1z - 1 = 0$$

68, 13:

$$y^2 - \mu_0y + \mu_1 = 0$$

68, 17:

$$y^2 - \beta_0y + 1 = 0$$

71, -5, first sum:

$$\zeta^{j+ig^{ae}}$$

72, footnote 6, 3:

$$2^{jk} + 1$$

74, -7:

circle has radius 1

83, -10:

$$x^5 - 5(mn + pq)x^3 + 5(m^2q + n^2p + mp^2 + nq^2)x^2$$

83, -8:

$$+ m^5 + n^5 + p^5 + q^5 + 5(mn - pq)(mp^2 + nq^2 - m^2q - n^2p) = 0.$$

114, 15:  
 $x^5 - 17x - 17 = 0$

133, footnote 5, -2:  
 $K(x_1, \dots, x_n)$

151, 16:  
 $\zeta, \zeta^2, \dots, \zeta^{n-1}$  for a prime number  $n$

152, -5:  
$$\sum_{k=0}^{n-1} (\zeta^k, b) = nb$$

155, -8:  
 $\{\text{id}, \sigma_g, \sigma_g^2, \dots, \sigma_g^{n-2}\}$

155, -6:  
from the field  $\mathbb{Q}(\zeta)$

160, -3:  
not solvable for  $n \geq 5$

163, 3:  
residue classes  $a, b \in \mathbb{Z}/n\mathbb{Z}$  with  $a \neq 0$ , form

## 2. Textual misprints:

4, -11:  
could

23, 4:  
foreword

33, two last lines:  
one zero—and indeed  $n$  complex zeros.

34, 17:  
and then choose the number  $z_1 = \dots$

34, -3:  
Finally, we remark

49, -6 & -5:  
Norwegian mathematician

53, footnote 6, 1:  
naturally

55, -8:  
that, though not decomposable

56, -6 & -5:  
the following section

57, 8:  
two positive integers  $a$  and  $b$

60, -3:

once again

69, footnote 4, 2:  
no. 7, 1977, pp. 122-131

74, -1:  
transcendental

Page 75, -9:  
Disquisitiones

76, 5:  
the identical

90, 15:  
quadratic

100, 4:  
that preserve the polynomial

129, 7:  
the *left coset* of  $\sigma$

132, 3:  
The extension of this subfield to the field of all ...

135, 17:  
was known

150, 2:  
assumptions

169, 12  
the elementary symmetric polynomials

170, 7:  
is not solvable for

171, 5:  
subfield of the complex numbers

### 3. Layout:

60, 2:  
( $x - 1$ ) should be written in one line.

### 4. Improvements:

38, -8:  
$$x_{1,2} = \frac{1}{2}(x_1 + x_2) \pm \frac{1}{2}(x_1 - x_2) = \frac{1}{2}(x_1 + x_2) \pm \frac{1}{2}\sqrt{(x_1 + x_2)^2 - 4x_1x_2}$$

43, 10&11, 15  
*remove the lines 10 and 11. Line 15 should be changed to*

instead of  $\begin{pmatrix} 1 & 2 & 3 & 4 \\ 3 & 1 & 4 & 2 \end{pmatrix}$ .

104, -1  
105, 6, 7, 16:  
*replace in each line "m×m" with "m<sup>2</sup>"*