

Page 55, line 1 of paragraph beginning “To begin”: “sum of monomials” should be “sum of monomials times coefficients”

Page 62, line 11: “monomial” should be “monomial times coefficient”

Page 73, line 9: “ $\langle x^\alpha : \alpha \in A \rangle$ ” should be “ $\langle x^\alpha \mid \alpha \in A \rangle$ ”

Page 94, line –16: “Proposition 5” should be “Theorem 5”

Page 115, line –8: “If follows” should be “It follows”

Page 139, line 6: “ $f_1(\mathbf{a})/g_1(\mathbf{a})$ ” should be “ $f_1(\mathbf{a})/g_1(\mathbf{a})$ ”

Page 200, line 13: “is Thus” should be “Thus”

Page 234, line 5 of **Definition 1**: “n-tuple” should be “ n -tuple”

Page 283, line –11: “ $\mathbf{V}(I_j)$ ” should be “ $\mathbf{V}(I_i)$ ”

Page 391, line 1: “canvas“” should be “canvas””

Page 400, lines –4 and –3: “ x_1, \dots, x_n ” should be “ x_1, \dots, x_n ”

Page 473, line 11: “ $\langle m_i$ ” should be “ $\langle m_1$ ”

Page 495, lines 13, 14 and 20: The subscript “ I^h ” should be “ S/I^h ”

Page 502, line –2: “by Proposition 6” should be “By Proposition 6”

Page 502, line –1: $\deg({}^aHP_{IJ})$ ” should be $\deg({}^aHP_{R/IJ})$ ”

Page 507, line 10: “as s gets” should be “as s gets”

Page 517, line 11: “ $\frac{\partial f}{\partial x_1}$ ” should be “ $\frac{\partial f}{\partial x_1}$ ”

Page 518, line 2: “If follows” should be “It follows”

Page 522, line 9: $\mathbf{V}(f_i) \cup \mathbf{V}(f_i)$ ” should be $\mathbf{V}(f_i) \cup \mathbf{V}(f_j)$ ”

Page 533, line 1: “ $k \rightarrow \infty$ ” should be “ $i \rightarrow \infty$ ”

Page 534, line 5 of Exercise 1: “where $\frac{\partial^{\alpha_i}}{\partial^{\alpha_i} x_1}$ ” should be “where $\frac{\partial^{\alpha_i}}{\partial x_1^{\alpha_i}}$ ”

Page 541, line 3 of paragraph beginning “Our next proposition”: “is used),” should be “are used),”

Page 541, line –8: Replace “So by the remark . . . in the second case,” with “In the second case, the remark following Definition 1 implies that”

Pages 545 and 546: **Example 6** uses lex order with $x > y$. However, to be consistent with Theorem 5, we need to use a graded order. Fixing this requires several changes in the example as follows:

Line 1 of **Example 6**: “ $I = \langle x^2 + y^2 - 1, x + y^2 - 2 \rangle$ in $\mathbb{Q}[x, y]$, using lex” should be “ $I = \langle x^2 + 1, xy + 1 \rangle$ in $\mathbb{Q}[x, y]$, using grlex”

Line 3 of **Example 6**: “ $J = \langle x^2 + y^2 - z^2, xz + y^2 - 2z^2 \rangle$ ” should be “ $J = \langle x^2 + z^2, xy + z^2 \rangle$ ”

Lines 4 and 5 of **Example 6**: Delete the sentence “But . . . homogenizing variable.”

First display of **Example 6**: Replace with “ $G = \{x^2 + z^2, xy + z^2, y^2 z^2 + z^4, xz^2 - yz^2\}$ ”

Second display of **Example 6**: Replace with “ $G^d = \{x^2 + 1, xy + 1, y^2 + 1, x - y\}$ ”

Line –2 of **Example 6**: “third and fourth polynomials are divisible by $\text{LT}(x + y^2 - 2) = x$ ” should be “first and second polynomials are divisible by $\text{LT}(x - y) = x$ ”

Line –1 of **Example 6**: “reduced lex Gröbner basis for I is $\{y^4 - 3y^2 + 3, x + y^2 - 2\}$ ” should be “reduced grlex Gröbner basis for I is $\{y^2 + 1, x - y\}$ ”

Page 553, line 3 of **Example 3**: “ $m \geq 0$ ” should be “ $m \geq 2$ ”

Page 563, line –2: “the initial terms” should be “The initial terms”

Page 564, line 1: “ $\Delta = 4 - 3 = 1$ ” should be “ $\Delta = 13 - 12 = 1$ ”

Page 571, line 12: “according the monomial” should be “according to the monomial”

Page 573, line 12: “an *standard*” should be “a *standard*”

Page 579, line 3: “ $(xy + z, x^2)$ ” should be “ $(-xy + z, x^2)$ ”

Page 579, line 5 of **Example 2**: “include f_3 ” should be “include $f_3 = S(f_1, f_2)$ ”

Page 579, line 7 of **Example 2**: “the $-e_2$ ” should be “ $-e_2$ ”

Page 579, line –5: “the xe_2 ” should be “ xe_2 ”

Page 583, line –11: “same leading term” should be “same signature”

Page 585, line 2: “ $\mathfrak{s}(x^\gamma \mathbf{k}) = \mathfrak{s}(\mathbf{h})$ ” should be “ $\mathfrak{s}(cx^\gamma \mathbf{k}) = \mathfrak{s}(\mathbf{h})$ for suitable c and x^γ ”

Page 585, lines 3 and 4: In two places, “ $\mathbf{h} - x^\gamma \mathbf{k}$ ” should be “ $\mathbf{h} - cx^\gamma \mathbf{k}$ ”

Page 585, line 2 of the proof of **Proposition 15**: “is smaller” should be “is smaller than $\mathfrak{s}(\mathbf{h})$ ”

Page 590, **Exercise 3**: “Definition 10” should be “Definition 9”

Page 596, line –3: At the end of the display, “ $+a_{13}a_{22}a_{31}$ ” should be “ $-a_{13}a_{22}a_{31}$ ”