Rosen, *Discrete Mathematics and Its Applications*, 6th edition

1st printing Errata Corrections (to be fixed in 2nd and subsequent printings), with additional web resource references

Here is a listing of corrections we have identified and will fix in the next printing of the text. Most are extremely minor and inconsequential, but they reflect our meticulous commitment to check and re-check the text and fix each and every glitch or mistake…big, small, and tiny. If you detect a possible error, please use the "Reporting of Errata" link on the Information Center and e-mail it to us so that the author and his accuracy checkers can verify.

Mathematical Content Corrections

The following corrections, most very minor, relate to mathematical content or mathematical narrative in the text.

Rear endsheets, lefthand page – In the "RELATIONS" section, 4th item, there should not be a space after the comma separating n_1 and n_2…i.e. "$C(n; n_1,n_2, \ldots , n_m)$".

Preface, "Changes in the Sixth Edition", p.ix – In the 2nd bullet under "Writing and Understanding Proofs", line 2, "integers" should say "positive integers".

To The Student, p.xxi – In the "Hand-Icon Exercises and Where They Are Used" table, Section 1.6 should list Exercise #16, not Exercise #81.

1.1. Example 17, p.13 – In the last line, the correct Google syntax should be "MEXICO UNIVERSITIES – NEW", without a space between the dash and "NEW".

1.5 Exercise #23, p.74 –The "$\land$" operator in line 1 of the proof should be an "$\lor$" operator.

1.2, p.27, Augusta Ada biography – In paragraph 2, line 4, "Analytic Machine" should instead say "Analytic Engine". In paragraph 3, second-to-last line "…the programming language Augusta…" should say "…the programming language Ada…"

1.2 Exercise #41, p.29 – In line 5, "propositional variable" should say "compound proposition".

1.3, p.40 – In line 1 after the first shaded equation, the formula "$\exists x(x)$" should read "$\exists xP(x)$". In line 1 after the second shaded equation, the symbol "$\equiv$" should instead be the word "and".

1.7 Figure 5, p.99 – Change the word "Corners" in the Figure 5 caption to "Squares".

1.7 Figure 7, p.101 – The top-left and bottom-right squares of checkerboard should not be present. The black line surrounding those squares should not be present (see Figure 5 on p.99 for an example of how these corner squares should look).

1.7 Figure 7, p.101 - Change the word "Corners" in the Figure 7 caption to "Squares".

1.Supplementary Exercise #16, p.107 – "$\exists x\exists y(x \neq y \land \forall z((z \neq x)\land(z \neq y)))$" should instead read "$\exists x\exists y(x \neq y \land \forall z((z = x)\lor(z = y)))$" as it does in Supplementary Exercise #17.

2.2 Exercise #30c, p.131 – "$A\cup B =$" should be "$A\cup C =$".

6.Review Question #12a & 12b, p.443 – Change the words "probability" to "parameter".

9.2 Exercise #38, p.610 – The correct subscript of "v" is "d_1+1" and not "d_{i+1}".

Answer Key, 1.1 Exercise #27b, p.S-1 – The "$\wedge$" operator in third column should be "$\vee$" instead.

Minor Grammar and Typo Corrections

The following corrections, nearly all minor and inconsequential, fix grammatical typos and do not affect mathematical content.

About The Author, p.vi – In paragraph 1, line 3, there should be a comma after "Monmouth University" and Visiting Research Professor should be capitalized (i.e. "He currently holds the position of Visiting Research Professor at Monmouth University, where he is working on. . .")

Preface, "Changes in the Sixth Edition", p.viii – Paragraph 1, line 2 is missing the word "at" before the word "dozens"…i.e. "The fifth edition of this book has been used successfully at over 600 schools in the United States, at dozens of Canadian universities. . ."

Preface, "Changes in the Sixth Edition", p.ix – In the 4th bullet under "Writing and Understanding Proofs", line 5, "than" should be "from".

Preface, "Changes in the Sixth Edition", p.ix – In the 3rd bullet under "Number Theory, Combinatorics, and Probability Theory", line 3, "in" should be "into".

Preface, "Ancillaries", p.xiv – In "Instructor's Resource Guide" item, last sentence, "emphasis" should be "emphases".

The MathZone Companion Website, p.xix – In the "Image Bank PowerPoints" item, line 1, "Downloadable PowerPoints files. . ." should be "Downloadable PowerPoint files. . ."

1.1 Example 18 solution, p.14 – In line 2, the second "that" in ". . . that A is a knave and that B is a knave" should be removed.

1.1 Exercise #14a, p.17 – Plural "exists" should instead be singular "exist".

1.2, p.22 – In line 4 of the paragraph after the Remark, "…namely, that $\neg(p \vee q)$ or $\neg p \wedge \neg q$" should instead say "…namely, that of $\neg(p \vee q)$ with $\neg p \wedge \neg q$."

1.3, p.34 – In paragraph 1, line 8, "…the universal quantification of a statement in not…" should say "…the universal quantification of a statement is not…".

1.3 Example 17, p.38 –In paragraph 2, line 1 of the Solution, there shouldn't be an "and" after "$y \neq 0$".

1.4 Exercise #44, p.62 – "connectivesto" is missing a space, and should read "connectives to".

1.7 Exercise #2, p.102 – ". . .cubes less 1000. . ." should instead say ". . .cubes less than 1000. . ."

1.Supplementary Exercise #20, p.107 – In line 4, "of these statement" should read "of these statements".

2.4 Exercise #24, p.147 – On lines 1-2, ". . .from the set of real number. . ." should read ". . .from the set of real numbers. . .".

4.4 Example 8, p.315 – The "Extra Examples" icon here should be deleted.

5.1 Exercise #48, p.346 – The period at the end of the first sentence should be a question mark.

✒ <u>Additional Web Resource References</u>

Many additional Links (usually marked with a "Links" web icon) have been added to the Web Resources Guide since the 6th edition was published, and we have flagged new references to the Interactive Demonstration Applets (usually marked with a "Demo" web icon), Extra Examples (usually marked with an "Extra Examples" web icon), and Self Assessments (usually marked with an "Assessment" web icon). A cumulative listing of these new online resource references is provided below for your convenience.

1.1 Definition 5, p.6 – A new Link is keyed to Definition 5.

1.1 Exercise #39 preamble, p.19 – A new Link is keyed to the "Fuzzy logic" term in Exercise #39.

1.2 Definition 2, p.22 – A new Link is keyed to Definition 2.

1.2 Example 5, p.25 – A new Assessment reference is keyed to the Example 5 Solution.

1.3, p.30 – A new Link is keyed to the paragraph where "predicate logic" is defined.

1.3, p.33 – A new Link is keyed to the paragraph where "preconditions" and "postconditions" are defined.

1.3, p.35 – A new Link is keyed to the narrative immediately preceding Example 9.

1.3 Definition 2, p.36 – A new Link is keyed to Definition 2.

1.4, p.51 – A new Link is keyed to the "nested quantifiers" term.

1.4 Exercise #37d, p.62 – A new Link is keyed to Exercise #37d.

1.5, p.65 – A new Link is keyed to the "law of detachment" term.

1.6, p.80 – A new Link is keyed to the narrative under the "Proofs by Contradiction" heading.

1.7, p.97 – A new Extra Examples reference is keyed to the 2nd paragraph after the "Proof Strategy in Action" heading.

1.7 Example 19, p.98 – A new Extra Examples reference is keyed to the Example 19 Solution.

2.1 Example 13, p.116 – A new Extra Examples reference is keyed to the Example 13 Solution.

2.3 Definition 5, p.136 – A new Link is keyed to Definition 5.

2.3, p.137 – A new Link is keyed to the narrative above Definition 7.

3.3, p.193 – A new Link is keyed to the section introduction.

3.3, p.195 – A new Link is keyed to the "Average-Case Complexity" subheading.

3.6, p.219 – A new Link is keyed to the "Representation of Integers" heading.

3.6, p.220 – A new Link is keyed to the "Base Conversion" subheading.

3.6, p.226 – A new Link is keyed to the narrative under the "Modular Exponentiation" heading.

3.7 Theorem 1, p.232 – A new Link is keyed to Theorem 1.

3.7, p.241 – A new Link is keyed to the narrative under the "Public Key Cryptography" heading.

3.8 Definition 1, p.247 – A new Link is keyed to Definition 1.

4.2, p.288 – A new Link is keyed to the narrative above Theorem 1.

4.3, p.295 – A new Link is keyed to the narrative above the "Recursively Defined Functions" heading.

4.3, p.304 – A new Link is keyed to the "Structural Induction" term.

4.3, p.307 – A new Link is keyed to the "Generalized Induction" heading.

4.4 Example 7, p.315 – A new Link is keyed to the Example 7 solution.

5.6, p.378 – A new Link is keyed to the "Stirling numbers of the second kind" term.

9.1 Definition 1, p.589 – A new Link is keyed to Definition 1.

9.2, p.601 – A new Link is keyed to the "Some Special Simple Graphs" heading.

9.6 Algorithm 1, p.651 – A new Demo reference is keyed to Algorithm 1.

9.6 Theorem 1, p.660 – A new Link is keyed to the Theorem 1 Proof.

10.2, p.699 – A new Link is keyed to the "The Complexity of Sorting Algorithms" subheading.

10.5, p.738 – A new Link is keyed to the Robert Clay Prim biography.

12.3, p.811 – A new Link is keyed to the Grace Brewster Murray Hopper biography.