Errata

Mathematics: A Discrete Introduction, third edition

This is a list of errors found in Mathematics: A Discrete Introduction, 3rd edition, by Edward Scheinerman. If you find errors, please report them to me at ers@jhu.edu. Thank you.

- Inside front cover: “Proof of Templates” should be “Proof Templates”.
- Page 14, Exercise 4.12(b). The question asks for a conjecture about the sum of consecutive cubes, but the explanatory sentence “clarifies” by asking: what can you say about $1^3, 1^3 + 3^3, 1^3 + 3^3 + 5^3, 1^3 + 3^3 + 5^3 + 7^3$ and so on. That’s an error that seems to be asking for a conjecture about the sum of consecutive odd cubes (not what was intended). The explanatory sentence should say, what can you say about $1^3, 1^3 + 2^3, 1^3 + 2^3 + 3^3, 1^3 + 2^3 + 3^3 + 4^3$, and so on. [Ethan Duckworth, Timothy Brauch]
- Page 15, Exercise 4.12(c). The parenthetical condition, that no two of the lines are parallel, should also include the condition that no three of the lines are concurrent (go through the same point). [Jennifer Beineke]
- Page 23, Exercise 5.14. “Let $x$ be an integers” should read “Let $x$ be an integer”. [Alexander Johnson]
- Page 50, Exercise 10.2(d). The number 49 is missing from the set. [Jennifer Beineke]
- Page 106. In several locations the term $x^k$ or $x^n$ is missing from the infinite sums. [Alyson Hildum]
- Page 132, just before equation (14). “To prove Equation (18)” should read “To prove Equation (13)”. [Alexander Johnson]
- Page 156, one third down the page. We have $c(4) = 4$ but it should say $c(4) = 3$. [Matthew Song]
- Page 233, line 7: $B(N, p)$ should be $B(n, p)$. [Nicholas Knight]
- Page 243, line 2: Extraneous $:bc$ below the summation symbol. [Nicholas Knight]
- Page 323, line $-2$: $\mathbb{Z}_{pq}^+$ should be $\mathbb{Z}_{pq}$. [Nicholas Knight]
- Page 352, third line after Definition 50.6: “is a trees” should be “is a tree”. [Nicholas Knight]
- Page 354, proof of Theorem 50.11. The arrows marking the parts of the proof are facing the wrong directions. The first one should be $(\Rightarrow)$ and the second should be $(\Leftarrow)$. [Steven Chestnut]
- Page 435, solution to Chapter 1 Self Test problem 14. The next-to-last sentence should read: “Since $a + 1$ is an integer, $3/(3a + 3)$.” [Nicholas Greeby]
- Page 437, solution to Chapter 3 Self Test problem 10. The correct answer is $2 \cdot 10! \cdot 2^{10}/20$ (which is twice as large as the answer given in the book). The reasoning is as follows. In the numerator, we only counted line-ups of the form AaBbCc...Jj but neglected to count line-ups of the form aBbCc...JjA. [Jonathan Schweiss]
- Page 436, solution to Chapter 2 Self Test problem 13(g). The correct answer is “True”. [Jennifer Beineke]
• Page 443, right column, solution to problem 3. Arithmetic in part (b) erroneously comes to $\frac{10}{55} = \frac{2}{11}$ but the correct result should be $\frac{15}{55} = \frac{3}{11}$. The incorrect value is used in part (c) which ends with $\frac{1}{11} / \frac{2}{11} = \frac{1}{2}$ but should read $\frac{1}{11} / \frac{3}{11} = \frac{1}{3}$. [Akshay Prabhushankar]

• Page 450, solution to problem 4(a). Note that Definition 47.1 (page 333) says that the vertex set of a graph is nonempty. Hence the answer to 4(a) should not include the empty graph and therefore is off by one. One way to fix this problem is report the correct answer as $2^{10} - 1$. Perhaps a better way is to allow the empty graph. [Nicholas Knight]

• Page 463, left column, bullet for Transitive property. The second sentence reads: “Likewise for $\leq$, . . .” but it should be “Likewise for $<$, . . .” [Akeem Woods]

Errors in the Instructor’s Manual

• Page 163, solution to 34.17. Third line has $Y(s) \geq X(s)$ but should be $Y(s) \leq X(s)$. Continuing on the next page, the inequality $\leq$ in the last line of the displayed equation should be reversed to $\geq$. [Nicholas Knight]

• Page 228, solution to 48.4. Since our definition of graph rules out the empty graph, the answer $2^n$ should be $2^n - 1$. [Nicholas Knight]

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