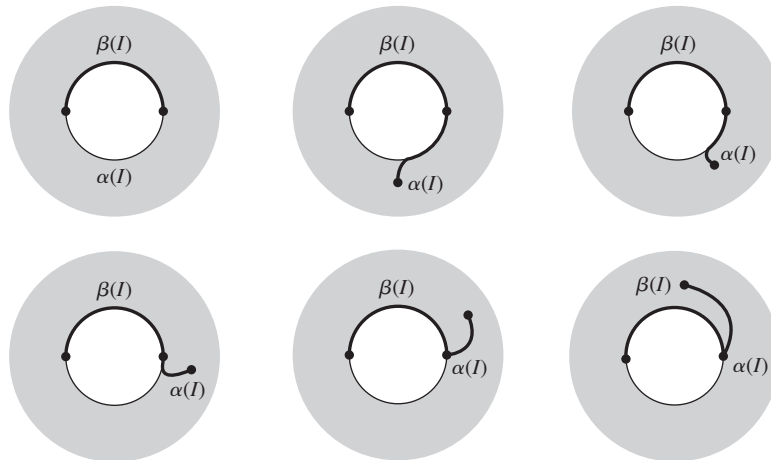


**Errata Sheet for *Foundations of Topology, 2e/C. Wayne Patty***  
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This errata sheet corrects errors or simplifies certain points that are contained in the first printing of this work.

- Page 15. Exercise 13, third line. After “ $X$  that is coarser than” insert “ $\mathcal{T}_\alpha$ ”.
- Page 27. Example 38, line six. “Closet” should be “closed”.
- Page 29. Example 42, second line. “ $y \in x$ ” should read “ $y \in A$ ”.
- Page 31. Proof for Theorem 1.23, fourth line. “ $B_i$ ” should read “ $B_j$ ”.
- Page 35. Exercise 11, second line. “ $(\overline{U})$ ” should be “ $(\overline{U})$ ”.
- Page 36. Exercise 23(d). “ $(\overline{A})$ ” should be “ $(\overline{A})$ ”.
- Page 52. Exercise 13(c). “ $f^{-1}(V)$ ” should read “ $f^{-1}(C)$ ”.
- Page 54. Theorem 1.54(c). “ $f(P)$ ” should read “ $f(p)$ ”.
- Page 56. Figure 1.14. The label at the top of the right circle should be “ $Y$ ”.
- Page 58. Proof for Theorem 1.58, fourth line. Delete “ $<$ ” before “ $\epsilon/2$ ”.
- Page 77. Exercise 13, third line. First  $A$  on line should read “ $A_1$ ”.
- Page 82. Proof at top of page, fourth line. “ $S = \mathcal{G}$ ” should read “ $S \in \mathcal{G}$ ”.
- Page 82. Proof for Theorem 2.35, fourth line. “ $\mathcal{B}_{A_*}$ ” should read “ $\mathcal{B}_{A^*}$ ”.
- Page 82. Proof for Theorem 2.35, fourth line. “ $\mathcal{B}^*$ ” should read “ $\mathcal{B}^*$ ”.
- Page 82. Proof for Theorem 2.35, seventh line from bottom of page. “ $\mathcal{B}_{A_*}$ ” should read “ $\mathcal{B}_{A^*}$ ”.
- Page 83. Fifth line from top of page. “ $E_{\beta_i} = C_{\beta_i}$ ” should read, “ $E_{\beta_i} = C_{\beta_i}$ ”.
- Page 88. Second paragraph, second to last line, first set of terms on line. Insert “ $\in$ ” between “ $f_\beta(x)$ ” and “ $U_\beta$ ”.
- Page 90. Proof for Theorem 2.48, fourth line. Insert  $\in$  between “ $B_{\beta_i}$ ” and “ $\mathcal{B}_{\beta_i}$ ”.
- Page 92. Proof for Theorem 2.49, third line, last term on line. Delete “ $\alpha$ ” from “ $\epsilon_{\alpha_i}$ ” so that it reads “ $\epsilon_i$ ”.
- Page 93. First line on page. “Thus  $D(x, y)$ ” should read “Thus  $D(x, z)$ ”.
- Page 94. Proof for Theorem 2.51, seventh line. “ $\bigcap_{i=1}^n$ ” should read “ $\bigcap_{i=1}^m$ ”.
- Page 94. Proof for Theorem 2.52, third line. “ $(X, \overline{p})$ ” should read “ $(X^\wedge, \overline{p})$ ”.
- Page 96. Exercise 9. Insert bracket before “ $x \in$ ”.
- Page 103. Example 16, fifth line. “ $D_{(0,0)} = \{(0,0), (2,0), (0,1), (2,0)\}$ ” should read “ $D_{(0,0)} = \{(0,0), (2,0), (0,1), (2,1)\}$ ”.
- Page 105. Theorem 2.64, second line. Insert “ $p:$ ” before “ $X \rightarrow \mathfrak{D}$ ”.
- Page 107. Exercise 3, third line. Insert “ $y$ ” before “ $(0 \leq y \leq 2\pi)$ ”.
- Page 108. Insert new exercise after exercise 13: “14. Let  $Y = \{1, 2, 3\}$ , and define  $p: \mathbb{R} \rightarrow Y$  by  $p(x) = 1$  if  $x < 0$ , and  $p(0) = 2$ , and  $p(x) = 3$  if  $x > 0$ . Describe the quotient topology on  $Y$  induced by  $p$ . Renumber following exercises so that last exercise is exercise 18.
- Page 109. Last two lines of first paragraph should read “Hausdorff’s Grundzüge der Mengenlehre”.
- Page 111. Example 1(d), second line. Insert bracket before “ $U \in \mathcal{P}(Y)$ ”.
- Page 117. Exercise 1, second line. “ $x, y, \in X$ ” should read “ $x, y, \in A$ ”.
- Page 125. Within proof, item (2). “ $\alpha \notin \Gamma$ ” should read “ $\alpha \in \Gamma$ ”.
- Page 131. First paragraph, lines three to four should read “asserts that if  $a$  and  $b$  are real numbers”.
- Page 131. First paragraph, fifth line, insert bracket before “ $O:O \in$ ”.
- Page 134. Proof for Theorem 4.5, last line on page: “ $X - A_{\alpha_i}$ ” should read “ $X - A_{\alpha_i}$ ”.
- Page 135. First line on page. “ $A_{\alpha_i}$ ” appears twice. Both times, this should read “ $A_{\alpha_i}$ ”.
- Page 135. Second line on page, subset which reads “ $\alpha \epsilon \wedge$ ” should read “ $\alpha \in \Lambda$ ”.
- Page 140. Proof for Theorem 4.14, fourth line: “ $\bigvee_{x_i}$ ” should read “ $\bigvee_{x_i}$ ”.
- Page 142. Analysis for Example 8, fifth line: “ $[0, \infty]$ ” should read “ $[0, \infty)$ ”.
- Page 143. Proof for Theorem 4.24, middle of fifth line: “ $A_{\alpha_i}$ ” should read “ $A_{\alpha_i}$ ”.
- Page 150. Analysis for Example 11, second paragraph, third line: “Suppose  $\{U_{x_i}: i\}$ ” should read “Suppose  $\{U_{x_i}: i\}$ ”.
- Page 153. Exercise 9, second line, delete “ $=$ ” between “ $\in$ ” and “ $\mathbb{N}$ ”.
- Page 162. Exercise 7, third line, insert bracket at very start of line before “ $S$ ”.
- Page 176. Exercise 15, fourth line, insert bracket before “ $(x, y)$ ”.

- Page 184. Proof for Theorem 5.32, last line in paragraph: “ $\bar{V}_{b_n}$ ” appears twice. Both times, this should read “ $\bar{V}_{b_i}$ ”.
- Page 188. Proof at top of page, equation on eighth line, insert “ $\subseteq$ ” between “ $\bar{U}_{1/4}$ ” and “ $U_{1/2}$ ”.
- Page 207. Definition, third line, insert parenthesis after “ $(\delta: 0$ ”.
- Page 207. Proof, third line, insert parenthesis so that start of line reads “ $\{f_s(\delta):$ ”.
- Page 213. Definition, fourth line: “ $X_1 \neq X_2$ ” should read “ $X_1 \neq X_2$ ”.
- Page 217. Definition at top of page, third line, delete “ $\neq$ ” after “ $\rightarrow T_i:$ ”.
- Page 220. Definition at bottom of page, fifth line: “ $F(x)$ ” should read “ $f(x)$ ”.
- Page 221. Theorem 6.30, first line: “smooth  $n$ -manifold” should read “smooth  $m$ -manifold”.
- Page 226. Theorem 6.34 (b) should read “If  $s > \dim_{\mathbb{H}} X$ ”.
- Page 229. Theorem 6.36, last line on page: “ $\{\tilde{x}_n: i \in \mathbb{N}\}$ ” should read “ $\{\tilde{x}_n: m \in \mathbb{N}\}$ ”.
- Page 230. Exercise 9, second line: “ $d(\tilde{a}, b)$ ” should read “ $d(\tilde{a}, \tilde{b})$ ”.
- Page 231. Exercise 22 (b), third line: “ $X_i$ ” twice, should read “ $x_i$ ”.
- Page 235. Theorem 6.46 should read “Theorem 6.40”.
- Page 237. Third line from top of page: “and so  $K(t): C^*(Y)$ ” should read “and so  $K(t): C^*(Y)$  [Insert parenthesis].
- Page 247. Proof for Theorem 7.3, seventh line from bottom, end of line, insert “ $\mathcal{C}$ ” at very end of line, right after “ $\in$ ”.
- Page 261. Proof for Theorem 7.21, third line from bottom of page: “ $x \rightarrow I$ ” should read “ $X \rightarrow I$ ”.
- Page 265. First paragraph, fourth line and end of seventh line: “Homeomorphism” should read “homomorphism”.
- Page 269. Figure 8.5 should have lines darkened as follows:



- Page 270. Fourth line from top of page, which starts with “Therefore”: “ $\simeq \alpha_2$ ” should read “ $\simeq_p \alpha_2$ ”.
- Page 274. Exercise 3, third line, insert  $\alpha$  at beginning of line, before “ $(1 - x)$ ”.
- Page 275. Proof for Theorem 8.9, second paragraph, third line: “Homeomorphism” should read “homomorphism”.
- Page 276. Example 4, last paragraph, last line: “Homeomorphism” should read “homomorphism”.
- Page 276. Theorem 8.10, second line: “Homeomorphism” should read “homomorphism”.
- Page 277. Theorem 8.10, continued from previous page: “Homeomorphism” appears four times in top half of page. Each time, this should read “homomorphism”.
- Page 277. Proof for Theorem 8.11, first line: “ $H: I \times I$ ” should read “ $H: X \times I$ ”.
- Page 278. Proof for Theorem 8.13, fourth line: “Homeomorphisms” should read “homomorphisms”.
- Page 281. Last paragraph on page, after  $G_j$  equation, fourth line: “ $p_{j-1}$ ” should read “ $P_{j-1}$ ”.
- Page 283. Last word in second paragraph on page: “Homeomorphism” should read “homomorphism”.
- Page 284. Proof for Theorem 8.19, second paragraph, fifth line: “ $(p|_{v_{\alpha\lambda}})$ ” should read “ $(p|_{v_{\alpha\gamma}})$ ”.
- Page 287. Proof for Theorem 8.22, third line. “ $\pi_j$ ” should read “ $\pi^j$ ”.
- Page 287. Proof for Theorem 8.22, last line on page: “Homeomorphism” should read “homomorphism”.
- Page 289. Proof for Theorem 8.24, end of third line: “Homeomorphism” should read “homomorphism”.
- Page 290. Second line on page: “Homeomorphism” should read “homomorphism”.
- Page 290. Paragraph preceding Theorem 8.26: “Homeomorphism” appears twice and should read “homomorphism”.

- Page 290. Theorem 8.26, third line: “Homeomorphisms” should read “homomorphisms”.
- Page 291. First paragraph below Figure 8.11, third line: “Homeomorphism” should read “homomorphism”.
- Page 291. Fourth line from bottom of page: “Homeomorphism” should read “homomorphism”.
- Page 292. Proof for Theorem 8.27, third paragraph, third line: “Homeomorphisms” should read “homomorphisms”.
- Page 295. Definition at top of page, first line: “ $K$ ” should read “ $K_1$ ”.
- Page 301. Second and third line under header “Inessential Maps”: “Homeomorphism” should read “homomorphism”.
- Page 302. “Homeomorphism” appears seven times on this page, on the following lines: 10, 11, 13, 17, 18, 21, 28–29. Each time this should read “homomorphism”.
- Page 303. Exercise 3(c) and 4(c): “Homeomorphism” should read “homomorphism”.
- Page 304. Proof for Theorem 9.4, second and ninth line: “Homeomorphism” should read “homomorphism”.
- Page 305. “Homeomorphism” appears on the following lines, in the top half of the page: 3–4, 5, 13. Each time this should read “homomorphism”.
- Page 306. Middle of page, after “Then  $F$  is continuous”, second set of brackets: number range across from “ $\overline{\sigma}(2s - 1)$ ”, which reads “ $1/4 \leq s \leq 1$ ” should read “ $1/2 \leq s \leq 1$ ”.
- Page 307. Proof at top of page, second to last line: “ $S_2 \rightarrow X$ ” should read “ $S^2 \rightarrow X$ ”.
- Page 309. “Homeomorphism” appears four times on this page, on the following lines: 5, 13, 14, 16.” Each time this should read “homomorphism”.
- Page 347. Proof for Theorem F.7, last line: “ $= m_{\alpha_y}(y)$ ” should read “ $= m_{\alpha_x}(y)$ ”.
- Page 354. Theorem H.1, (9): Last expression in the line should read “ $\cup A = \alpha$ ” [Change  $\in$  to  $=$ ].
- Page 360. Last line on page: “Homeomorphism” should read “homomorphism”.
- Page 361. “Homeomorphism” appears five times on this page, on the following lines: 2, 3, 5, 9–10, 15–16. Each time this should read “homomorphism”.
- Page 362. First paragraph, third and fourth lines: “Homeomorphism” should read “homomorphism”.
- Page 364. Third paragraph, third line: “Homeomorphism” should read “homomorphism”.
- Page 365. Exercise 12, second and third lines: “Homeomorphism” should read “homomorphism”.
- Page 366. Exercise 21, second line: “Homeomorphism” should read “homomorphism”.
- Page 368. Second reference should be edited to read “Munkres, J.R., *Topology: A First Course*, 2nd ed, Prentice-Hall, Englewood Cliffs, New Jersey, 2000.