

Corrections to “Simply Connected Spaces”

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- **Page 2, three lines before the first pair of displayed equations:** Change $j(x)$ to $j_t(x)$. [*Thanks to Spencer Hubbard.*]
- **Page 3, proof of Lemma 3:** The displayed equations are all wrong. They should read:

$$G \circ H(s, 0) = G \circ f(s) \quad \text{for all } s \in [a, b];$$

$$G \circ H(s, 1) = G \circ g(s) \quad \text{for all } s \in [a, b];$$

$$G \circ H(a, t) = G(x) \quad \text{for all } t \in I;$$

$$G \circ H(b, t) = G(y) \quad \text{for all } t \in I.$$

[*Thanks to Josh Cutler.*]

- **Page 3, paragraph above Theorem 4:** The definition of “multiply connected” should read “A space that is path-connected but not simply connected is said to be ***multiply connected***.” [*Thanks to Jason Mackay.*]
- **Page 4, statement of Theorem 6:** Change X to K . [*Thanks to Jeff Lestz.*]
- **Page 5, statement of Lemma 9:** Change $n \geq 0$ to $n \geq 1$. [Remark: this lemma is true also for $n = 0$, provided we interpret \mathbb{R}^0 to mean the one-element vector space $\{0\}$; but we don’t need this case, so it’s easier just to omit it.] [*Thanks to Spencer Hubbard.*]
- **Page 11, lines 7, 8, and 9:** In these three lines, change all five instances of g to h . (All other g ’s in this proof should be left as they are.) [*Thanks to Spencer Hubbard.*]
- **Page 12, proof of Theorem 19, first line:** Change $r: A \rightarrow X$ to $r: X \rightarrow A$. [*Thanks to John Norberg.*]
- **Page 12, statement of Corollary 20:** Should read “If X is a path-connected topological space”
- **Page 14, exercise 4:** Add the hypothesis that A is path-connected. [*Thanks to Jason Mackay.*]
- **Page 14, exercise 5:** (1) Add the hypothesis that U is path-connected; (2) change “be” to “by”; (3) change the last sentence to “prove that V is multiply connected.” [*Thanks to Jason Mackay.*]
- **Page 14, exercise 6:** Add the hypothesis that U is path-connected.
- **Page 14, exercise 7:** Add the hypothesis that X_1, \dots, X_n are all path-connected. [The conclusion is still true without this, but this makes the exercise a little easier by allowing you to focus on the main issue.]