Errata for *The Calculus of Complex Functions*
March 9, 2022

1. (p. 125) In Exploration 2.3.1 parts (d) and (e), replace "π" with "0"
2. (p. 367) Definition 6.3.9 should read: An operator $K : \mathcal{H} \to \mathcal{H}$ is compact if for every bounded set $S \subseteq \mathcal{H}$, the set $K(S)$ is relatively compact in $\mathcal{H}$, which means that every infinite subset of $K(S)$ has at least one limit point in its norm closure. This is equivalent to every bounded sequence $\{x_n\}$ producing the sequence $\{Kx_n\}$ with a convergent subsequence.
3. (p. 367) The statement just following Definition 6.3.9 is incorrect. It should read that the identity operator I is not compact on any *infinite-dimensional* Hilbert space $\mathcal{H}$. For we can choose an infinite sequence x_n of $\mathcal{H}$ to be the orthonormal set of basis elements for the Hilbert space, which are each distance (in norm) 1 apart. Then $I(x_n) = x_n$ has no convergent subsequence.
4. (p. 380) In the proof of (iii), the sentence beginning "But for $n < m$..." should read
   But for $n < m$,

   $$\|Ke_n - Ke_m\| = \|(K - \lambda_n I)e_n + \lambda_n e_n - (K - \lambda_m I)e_m - \lambda_m e_m\| > \tfrac{1}{2} > \tfrac{\epsilon}{2}$$

   because

   $$(K - \lambda_n I)e_n + \lambda_n e_n - (K - \lambda_m I)e_m \in \text{span}\{\vec{x}_1, \vec{x}_2, \ldots \vec{x}_{m-1}\}.$$

   (Note on each line the subscript changes from n to m.)