# A list of typos, errors, updates, issues, and other such errata for:

Everything You Always Wanted To Know About Mathematics*

(*But didn't even know to ask)

A Guided Journey Into the World of Abstract Mathematics and the Writing of Proofs

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**Please send any and all errors you find, no matter how small!**

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# Chapter 1

- **p. 89, Section 1.6 Lookahead**

  The bulleted list goes (a), (2), (3), (4). Obviously, (a) should be (1).

# Chapter 3

- **p. 199, Exercise 3.11.5**

  The set $A$ should be defined as $A = \{x \in \mathbb{R} \mid x^2 - x - 12 < 0\}$. That is, it should read "$< 0$" inside the definition.

# Chapter 4

- **p. 224, 4.3.5 "Try It" Exercise (3)**

  The roles should be switched here. As stated, this is impossible. Instead, it should ask:

  > Write sn example of a variable proposition $P(x)$ such that $\forall x \in \mathbb{N}.\ P(x)$ is True, but $\forall x \in \mathbb{Z}.\ P(x)$ is False.

- **p. 227, 4.4.3**

  In the first paragraph, we refer to "the statement $A$ we defined above".

  This should say "the statement $Q_1$ we defined above on p. 225".

- **p. 307, Exercise 4.11.20**

  The last part asks for a counterexample, but this statement is True. Instead, consider this part (f) of the exercise, and prove it.

- **p. 308, Exercise 4.11.25**

  This is identical to Exercise 4.11.19 on the previous page, so strike this one out. (Indeed, Exercise 4.11.19 even offers a small hint, while this one does not.)

# Chapter 5

- **p. 338, 5.4.3 Template for a "Proof by Strong Induction"**

  The Induction Hypothesis is flawed here. There's a variable mixup between $k$ and $i$. It should say:

  > Let $k \in \mathbb{N}$ be arbitrary and fixed. Suppose $\forall i \in [k].\ P(i)$ holds.