

Errata for Discovering Abstract Algebra

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The following is a list of errors found in the exercises and theorem sequence of the textbook. If you discover additional errors, either in the book, the instructor's guide, or in the solutions manuals, please forward your observations to me at josoinach@udallas.edu.

1. Exercise 2.3.8 (page 9). The problem should have all four entries a, b, c, d be real numbers, not just a and b . The correct statement should read:

$$G = \left\{ \begin{bmatrix} a & b \\ c & d \end{bmatrix} \mid a, b, c, d \in \mathbb{R}, ad \neq bc \right\}; A * B = AB$$

2. Exercise 6.35 (page 46). In the last sentence of this exercise, the number p , and not n/p , generates a maximal normal subgroup. Hence, the last sentence of the exercise should read, "Prove that the subgroup generated by p is a maximal normal subgroup of \mathbb{Z}_n ."
3. Lemma 11.17 (page 74). Although this lemma as stated is correct, it's incomplete as a fully useful tool for the theorem that follows if σ is limited only to a cycle. Instead, change the hypothesis of the lemma as follows:
Let $\sigma \in S_n$ be a permutation.
4. Theorem 12.17 (page 87). The initial n_0 should not be there, and elements of R raised to the 0 power need not be defined, so that the correct set should read:

$$\{n_1r + n_2r^2 + \cdots + n_kr^k \mid k, n_i \in \mathbb{Z}, k \geq 1\}.$$