Conventions for Permutations

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1. My NCGE handout: $\sigma \cdot \tau = \sigma \circ \tau$

2. Selick's notes: $(f, g) \mapsto g \circ f$.

3. Lang's book, page 8:

Example. Let S be a non-empty set. Let G be the set of bijective mappings of S onto itself. Then G is a group, the law of composition being ordinary composition of mappings. The unit element of G is the identity map of S, and the other group properties are trivially verified. The elements of G are called **permutations** of S. We also denote G by Perm(S). For more information on Perm(S) when S is finite, see §5 below.

agrees with (1).

4. Dummit & Foote, page 29:

Let Ω be any nonempty set and let S_Ω be the set of all bijections from Ω to itself (i.e., the set of all permutations of Ω). The set S_Ω is a group under function composition: $\circ$. Note that $\circ$ is a binary operation on S_Ω since if $\sigma : \Omega \to \Omega$ and $\tau : \Omega \to \Omega$ are both bijections, then $\sigma \circ \tau$ is also a bijection from Ω to Ω. Since function composition is

also agrees with (1).