1. Plain T_EXnology

Theorem T. *All things are not necessarily the same*

2. Permutations

TAoCP* 1.2.5 gives two methods to generate all permutations of a given ordered set. Quantites of permutations are considered with relevance to computing efficiencies.

3. The Wide-Awake example Group

Let $(Woozy, \circ, 0, -)$ be the group with a set $Woozy = \{woozy, vacuous, sleepy, wide-awake\}$, a binary operation $\circ$, a neutral elment 0, and for each element $\pi \in Woozy$ there is an inverse element $-\pi \in Woozy$ such that $\pi \circ -\pi = 0$.

For now, here, we call this group's binary operation *composition*. Given two elements $\pi, \eta \in Woozy$, then $\pi \circ \eta \in Woozy$ and $\eta \circ \pi \in Woozy$.

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* https://www-cs-faculty.stanford.edu/%7Eknuth/taocp.html