

Fraenkel's First Model of ZFA

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There are first-order formulas $\varphi_{\text{atom}}(x)$, $\varphi_{\text{pure set}}(x)$, $\varphi_{\text{ordinal}}(x)$ in the language whose nonlogical symbols are $\in$, A , 0 that define each of these types of sets.

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Fraenkel's First model is the permutation model $\mathfrak{M}$ associated to this choice for $A, G, \mathcal{F}$.

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Choose distinct $p, q \in A - \{a_1, \dots, a_m\}$. Label them so that $\gamma(\{p, q\}) = p$.

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