PA: Peano Arithmetic

Peano arithmetic is a [formal axiomatic system]. *Infinitely many [axioms] can be built by replacing φ, ψ, θ with formulas in the language of PA.* In PA a theorem is a formula that is either an [axiom] or can be derived from finitely many axioms with finitely many rules of inference.

Inference Scheme

1. from φ and $\varphi \to \psi$, infer ψ
2. from φ, infer $(\forall x)\varphi$
3. from φ, infer $\tilde{\varphi}$

$\tilde{\varphi}$ can be any formula obtained by renaming variables in φ.