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quantifier free

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Defines	quantifier free formula
Defines	quantifier elimination
Defines	elimination set

Let L be a first order language. A formula ψ is *quantifier free* iff it contains no quantifiers.

Let T be a complete L -theory. Let $S \subseteq L$. Then S is an *elimination set* for T iff for every $\psi(\bar{x}) \in L$ there is some $\phi(\bar{x}) \in S$ so that $T \vdash \forall \bar{x}(\psi(\bar{x}) \leftrightarrow \phi(\bar{x}))$.

In particular, T has *quantifier elimination* iff the set of quantifier free formulas is an elimination set for T . In other T has *quantifier elimination* iff for every $\psi(\bar{x}) \in L$ there is some quantifier free $\phi(\bar{x}) \in L$ so that $T \vdash \forall \bar{x}(\psi(\bar{x}) \leftrightarrow \phi(\bar{x}))$.