prime_elim[2,24]

$\forall p{:}\mathbb{Z}.\ \mathrm{prime}(p) \Rightarrow \neg p = 0\ \&\ \neg(p \sim 1)\ \&\ (\forall a{:}\mathbb{Z}.\ a \mid p \Rightarrow (a \sim 1) \vee (a \sim p))$

http://www.nuprl.org/FDLcontent/p0_399846_/p83_7798_{prime_elim}.html