prime[2,24]

$\text{prime}(a) \equiv_{\text{def}} \neg a = 0 \;\&\; \neg(a \sim 1) \;\&\; (\forall b, c{:}\mathbb{Z}.\; a \mid b{\cdot}c \Rightarrow a \mid b \vee a \mid c)$

clarification:

$\text{prime}(a) \equiv_{\text{def}} \neg a = 0 \in \mathbb{Z} \;\&\; \neg(a \sim 1) \;\&\; (\forall b{:}\mathbb{Z}, c{:}\mathbb{Z}.\; a \mid b{\cdot}c \Rightarrow a \mid b \vee a \mid c)$

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http://www.nuprl.org/FDLcontent/p0_399846_/p83_7778_{prime}.html