Negation of statements with quantifiers	
S	$\neg S$
$\forall x\ P(x)$	$\exists x\ \neg P(x)$
$\exists x\ P(x)$	$\forall x\ \neg P(x)$
$\forall x\ \forall y P(x,y)$ $\forall y\ \forall x P(x,y)$	$\exists x\ \exists y\ \neg P(x,y)$ $\exists y\ \exists x\ \neg P(x,y)$
$\exists x\ \exists y\ P(x,y)$ $\exists y\ \exists x\ P(x,y)$	$\forall x\ \forall y\ \neg P(x,y)$ $\forall y\ \forall x\ \neg P(x,y)$
$\forall x\ \exists y\ P(x,y)$	$\exists x\ \forall y\ \neg P(x,y)$
$\exists x\ \forall y\ P(x,y)$	$\forall x\ \exists y\ \neg P(x,y)$