Inference Rules

Conjunction ($\wedge$)	**Disjunction** ($\vee$)
$\dfrac{A \quad B}{A \wedge B}$ $\wedge$-introduction	$\dfrac{A}{A \vee B}$ $\vee$-introduction $\quad \dfrac{A}{B \vee A}$ $\vee$-introduction
$\dfrac{A \wedge B}{A}$ $\wedge$-elimination $\quad \dfrac{A \wedge B}{B}$ $\wedge$-elimination	$\dfrac{A \vee B \quad A \vdash C \quad B \vdash C}{C}$ $\vee$-elimination
Implication ($\rightarrow$)	**Negation** ($\neg$)
$\dfrac{A \vdash B}{A \rightarrow B}$ $\rightarrow$-introduction	$\dfrac{A \vdash \bot}{\neg A}$ $\neg$-introduction
$\dfrac{A \rightarrow B \quad A}{B}$ $\rightarrow$-elimination	$\dfrac{\neg\neg A}{A}$ $\neg\neg$-elimination
Universal quantification ($\forall$)	**Existential quantification** ($\exists$)
$\dfrac{\phi(a)}{\forall x[\phi(x)]}$ $\forall$-introduction*	$\dfrac{\phi(a)}{\exists x[\phi(x)]}$ $\exists$-introduction
$\dfrac{\forall x[\phi(x)]}{\phi(a)}$ $\forall$-elimination	$\dfrac{\exists x[\phi(x)] \quad \phi(a) \vdash C}{C}$ $\exists$-elimination*
* For $\forall$-introduction, a must not occur in any dependency of $\phi(a)$.	*For $\exists$-elimination, a must not occur in C or any dependency of C except $\phi(a)$.
Identity ($=$)	
$\dfrac{}{a = a}$ $=$-introduction	
$\dfrac{a = b \quad \phi(a)}{\phi(b)}$ $=$-elimination	