

$$\begin{array}{c}
\frac{\frac{\frac{\overline{\neg \exists x \ A(x)}^3}{\perp}^0}{\neg A(x)} \quad \frac{\frac{\overline{A(x)}^0}{\exists x \ A(x)}}{\forall x \ \neg A(x)} \\
\hline
\neg \exists x \ A(x) \leftrightarrow \forall x \ \neg A(x)
\end{array}
\qquad
\begin{array}{c}
\frac{\frac{\frac{\overline{\exists x \ A(x)}^2}{\perp}^1}{\neg \exists u \ A(u)}^2 \quad \frac{\frac{\frac{\overline{A(u)}^1}{\neg A(u)} \quad \frac{\overline{\forall x \ \neg A(x)}^3}{\perp}^1}}{\exists x \ A(x)}^3 \\
\hline
\neg \exists x \ A(x) \leftrightarrow \forall x \ \neg A(x)
\end{array}$$