# 136 member_1 <br> (TMUBb93667b15ZEQCjEsdaWGWZUhyai33GY) 

October 27, 2020

Let $v 1 \_$membered : $\iota \Rightarrow 0$ be given. Let $r 1 \_$tarski : $\iota \Rightarrow \iota \Rightarrow 0$ be given. Let $k 7 \_m e m b e r \_1: \iota \Rightarrow \iota$ be given. Let $v 1 \_x c m p l x \_0: \iota \Rightarrow o$ be given. Let $k 2 \_b i n o p \_2$ : $\iota \Rightarrow \iota$ be given. Assume the following.

$$
\begin{align*}
& \forall X 0 .\left(v 1 \_m e m b e r e d X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_x c m p l x \_0 X 1\right) \Rightarrow(( \right. \\
& \left.\left.\left.k 2 \_b i n o p \_2 X 1 \in X 0\right) \Leftrightarrow\left(X 1 \in k 7 \_m e m b e r \_1 X 0\right)\right)\right) \tag{1}
\end{align*}
$$

Assume the following.

$$
\begin{equation*}
\forall X 0 .\left(v 1 \_m e m b e r e d \quad X 0\right) \Rightarrow\left(v 1 \_m e m b e r e d\left(k 7 \_m e m b e r \_1 X 0\right)\right) \tag{2}
\end{equation*}
$$

Assume the following.

$$
\begin{gather*}
\forall X 0 . \forall X 1 .\left(r 1 \_ \text {tarski } X 0 X 1\right) \Leftrightarrow(\forall X 2 .(X 2 \in X 0) \Rightarrow \\
(X 2 \in X 1)) \tag{3}
\end{gather*}
$$

Assume the following.

$$
\begin{equation*}
\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Leftrightarrow\left(\forall X 1 .(X 1 \in X 0) \Rightarrow\left(v 1 \_x c m p l x \_0 X 1\right)\right) \tag{4}
\end{equation*}
$$

## Theorem 1

$\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow((\right.$
$\left.\left.\left.r 1 \_t a r s k i X 0 X 1\right) \Rightarrow\left(r 1 \_t a r s k i\left(k 7 \_m e m b e r \_1 \quad X 0\right)\left(k 7 \_m e m b e r \_1 X 1\right)\right)\right)\right)$

