# t197_member_1 (TMUGUunr3La3EnBABEUoF5W8U2JxaeRortg) 

October 27, 2020

Let $v 1 \_$membered $: \iota \Rightarrow 0$ be given. Let $v 1 \_x c m p l x_{-} 0: \iota \Rightarrow 0$ be given. Let $k 23 \_m e m b e r \_1: \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let k6_numbers $: \iota$ be given. Let $r 1 \_t a r s k i$ : $\iota \Rightarrow \Rightarrow o$ be given. Assume the following.
$\forall X 0 .\left(v 1 \_m e m b e r e d \quad X 0\right) \Rightarrow\left(\forall X 1\right.$. $\left(v 1 \_\right.$membered $\left.X 1\right) \Rightarrow(\forall X 2$.
$\left(v 1 \_x c m p l x \_0 X 2\right) \Rightarrow\left(\left(r 1 \_t a r s k i \quad\left(k 23 \_m e m b e r \_1 X 0 X 2\right)\right.\right.$ ( $k 23 \_m e m b e r \_1$
$X 1 X 2)) \Rightarrow\left(\left(X 2=k 6 \_n u m b e r s\right) \vee\left(r 1 \_\right.\right.$tarski $\left.\left.\left.\left.\left.X 0 X 1\right)\right)\right)\right)\right)$
Assume the following.

$$
\begin{equation*}
\forall X 0 . \forall X 1 . r 1 \_t a r s k i ~ X 0 X 0 \tag{2}
\end{equation*}
$$

Assume the following.

$$
\begin{equation*}
\forall X 0 . \forall X 1 .(X 0=X 1) \Leftrightarrow\left(\left(r 1 \_ \text {tarski } X 0 X 1\right) \wedge\left(r 1 \_ \text {tarski } X 1 X 0\right)\right) \tag{3}
\end{equation*}
$$

## Theorem 1

$\forall X 0 .\left(v 1 \_m e m b e r e d \quad X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow(\forall X 2\right.$.
$\left(v 1 \_x c m p l x \_0 X 2\right) \Rightarrow\left(\left(k 23 \_m e m b e r \_1 X 0 X 2=k 23 \_m e m b e r \_1 X 1 X 2\right) \Rightarrow((\right.$ $X 2=k 6 \_$number $\left.\left.\left.\left.\left.s\right) \vee(X 0=X 1)\right)\right)\right)\right)$

