# t216_member_1 (TMbjPWN7ysTvMhgA6YD4dtU2ECxVTYKc7qQ) 

October 27, 2020

Let $v 1 \_$membered : $\iota \Rightarrow o$ be given. Let $v 1 \_x c m p l x \_0: ~ \iota \Rightarrow o$ be given. Let r1_tarski : $\iota \Rightarrow \iota \Rightarrow 0$ be given. Let k25_member_1 : $\iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k 6 \_n u m b e r s: \iota$ be given. Let $k 7$ _member_1 $: \iota \Rightarrow \iota$ be given. Let $k 23 \_m e m b e r \_1$ : $\iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k 1 \_$tarski $: \iota \Rightarrow \iota$ be given. Let $k 15 \_$member_ $1: \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k 13 \_$member $\_1: \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.
$\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1\right.$. $\left(v 1 \_\right.$membered $\left.X 1\right) \Rightarrow(($
$\left.\left.\left.r 1 \_t a r s k i X 0 X 1\right) \Leftrightarrow\left(r 1 \_t a r s k i\left(k 7 \_m e m b e r \_1 X 0\right)\left(k 7 \_m e m b e r \_1 ~ X 1\right)\right)\right)\right)$
Assume the following.
$\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow(\forall X 2\right.$.
$\left(v 1 \_x c m p l x \_0 \quad X 2\right) \Rightarrow\left(\left(r 1 \_t a r s k i\left(k 23 \_m e m b e r \_1 X 0 X 2\right)\right.\right.$ ( $k 23 \_m e m b e r \_1$ $X 1 X 2)) \Rightarrow\left(\left(X 2=k 6 \_n u m b e r s\right) \vee\left(r 1 \_\right.\right.$tarski $\left.\left.\left.\left.\left.X 0 \quad X 1\right)\right)\right)\right)\right)$

Assume the following.

$$
\begin{equation*}
\forall X 0 .\left(v 1 \_x c m p l x \_0 X 0\right) \Rightarrow\left(v 1 \_m e m b e r e d\left(k 1 \_t a r s k i X 0\right)\right) \tag{3}
\end{equation*}
$$

Assume the following.

$$
\begin{equation*}
\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(v 1 \_m e m b e r e d\left(k 7 \_m e m b e r \_1 X 0\right)\right) \tag{4}
\end{equation*}
$$

Assume the following.

$$
\begin{gather*}
\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_x c m p l x \_0 X 1\right) \Rightarrow\left(k 25 \_m e m b e r \_1\right.\right.  \tag{5}\\
\left.\left.X 0 X 1=k 15 \_m e m b e r \_1\left(k 1 \_t a r s k i X 1\right) X 0\right)\right)
\end{gather*}
$$

Assume the following.

$$
\begin{gather*}
\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_x c m p l x \_0 X 1\right) \Rightarrow\left(k 23 \_m e m b e r \_1\right.\right. \\
\left.\left.X 0 X 1=k 13 \_m e m b e r \_1\left(k 1 \_t a r s k i X 1\right) X 0\right)\right) \tag{6}
\end{gather*}
$$

Assume the following.

$$
\begin{gather*}
\forall X 0 .\left(v 1 \_m e m b e r e d X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow\left(k 15 \_m e m b e r \_1\right.\right. \\
\left.\left.X 0 X 1=k 13 \_m e m b e r \_1 X 0\left(k 7 \_m e m b e r \_1 X 1\right)\right)\right) \tag{7}
\end{gather*}
$$

## Theorem 1

$\forall X 0 .\left(v 1 \_m e m b e r e d \quad X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow(\forall X 2\right.$.
(v1_xcmplx_0 X2) $\Rightarrow\left(\left(r 1 \_t a r s k i \quad\left(k 25 \_m e m b e r \_1 ~ X 0 ~ X 2\right) ~\left(k 25 \_m e m b e r \_1 ~\right.\right.\right.$
$X 1 X 2)) \Rightarrow\left(\left(X 2=k 6 \_n u m b e r s\right) \vee\left(r 1 \_\right.\right.$tarski $\left.\left.\left.\left.\left.X 0 \quad X 1\right)\right)\right)\right)\right)$

