# t204_member_1 (TMaTMVWtcsFEEKN3YETytBkFGA9b1AmLyLh) 

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Let $v 1_{\_}$membered : $\iota \Rightarrow 0$ be given. Let $v 1 \_x c m p l x_{-} 0: \iota \Rightarrow O$ be given. Let k23_member_1 : $\iota \Rightarrow \iota \Rightarrow \iota$ be given. Let k5_binop_2 : $\iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k 13 \_m e m b e r \_1: \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k 1 \_$tarski : $\iota \Rightarrow \iota$ be given. Let m1_subset_1 : $\iota \Rightarrow \iota \Rightarrow$ be given. Let $k 2 \_n u m b e r s: \iota$ be given. Assume the following.
$\forall X 0 .\left(v 1 \_x c m p l x \_0 X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_x c m p l x \_0 \quad X 1\right) \Rightarrow\left(k 13 \_m e m b e r \_1\right.\right.$ $\left.\left.\left(k 1 \_t a r s k i ~ X 0\right)\left(k 1 \_t a r s k i ~ X 1\right)=k 1 \_t a r s k i\left(k 5 \_b i n o p \_2 X 0 X 1\right)\right)\right)$

Assume the following.
$\forall X 0 .\left(v 1 \_m e m b e r e d ~ X 0\right) \Rightarrow\left(\forall X 1\right.$. $\left(v 1 \_m e m b e r e d ~ X 1\right) \Rightarrow(\forall X 2$.
(v1_membered $X 2) \Rightarrow\left(k 13 \_m e m b e r \_1\right.$ ( $\left.k 13 \_m e m b e r \_1 X 0 X 1\right) X 2=k 13 \_m e m b e r \_1$ X0 (k13_member_1 X1 X2))))

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.

$$
\begin{gather*}
\forall X 0 . \forall X 1 .\left(\left(v 1 \_m e m b e r e d X 0\right) \wedge\left(v 1 \_m e m b e r e d ~ X 1\right)\right) \Rightarrow(  \tag{4}\\
\left.v 1 \_m e m b e r e d \quad\left(k 13 \_m e m b e r \_1 X 0 X 1\right)\right)
\end{gather*}
$$

Assume the following.

$$
\begin{gather*}
\forall X 0 . \forall X 1 .\left(\left(v 1 \_x c m p l x \_0 X 0\right) \wedge\left(v 1 \_x c m p l x \_0 X 1\right)\right) \Rightarrow( \\
\left.m 1 \_s u b s e t \_1\left(k 5 \_b i n o p \_2 X 0 X 1\right) k 2 \_n u m b e r s\right) \tag{5}
\end{gather*}
$$

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.

$$
\begin{equation*}
\forall X 0 .\left(m 1 \_s u b s e t \_1 \quad X 0 \text { k2_numbers }\right) \Rightarrow\left(v 1 \_x c m p l x \_0 X 0\right) \tag{7}
\end{equation*}
$$

## Theorem 1

$\forall X 0 .\left(v 1 \_m e m b e r e d \quad X 0\right) \Rightarrow\left(\forall X 1 .\left(v 1 \_x c m p l x \_0 X 1\right) \Rightarrow(\forall X 2\right.$.
$\left(v 1 \_x c m p l x \_0 X 2\right) \Rightarrow\left(k 23 \_m e m b e r \_1 X 0\left(k 5 \_b i n o p \_2 X 1 X 2\right)=k 23 \_m e m b e r \_1\right.$ (k23_member_1 X0 X2) X1)))

