

t26\_extpro\_1  
(TMYK7NzydR5jTg1nRWyPSeAdfy8bCW9YNNNS)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. k16\_funcop\_1 X0 X1 = k1\_tarski (k4\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski (k1\_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 X1) \Rightarrow ((r1\_tarski (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (r1\_tarski (k10\_xtuple\_0 X0) (k10\_xtuple\_0 X1)))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow( \quad (6)$$

$$k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge \quad (8)$$

$$(l1\_compos\_1 X1))$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski \quad (9)$$

$$X0) X1$$

Assume the following.

$$\forall X0.(\neg v1\_setfam\_1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \quad (10)$$

$$((v2\_memstr\_0 X1 X0)\wedge((v3\_memstr\_0 X1 X0)\wedge(l1\_memstr\_0 X1 X0))))\Rightarrow$$

$$(\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 (u1\_struct\_0 X1))\wedge$$

$$((v1\_funct\_1 X2)\wedge(v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1))))))\Rightarrow(k5\_memstr\_0$$

$$X0 X1 X2 = k1\_funct\_1 X2 (k4\_struct\_0 X1)))$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge( \quad (11)$$

$$v1\_funct\_1 X1)))\Rightarrow(\forall X2.(X2 \in k9\_xtuple\_0 X1)\Rightarrow(k7\_partfun1$$

$$X0 X1 X2 = k1\_funct\_1 X1 X2))$$

Assume the following.

$$\forall X0.(\neg v1\_setfam\_1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \quad (12)$$

$$((v2\_memstr\_0 X1 X0)\wedge((v3\_memstr\_0 X1 X0)\wedge(l1\_extpro\_1 X1 X0))))\Rightarrow$$

$$(\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 (u1\_struct\_0 X1))\wedge$$

$$((v1\_funct\_1 X2)\wedge((v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1))\wedge(v1\_partfun1$$

$$X2 (u1\_struct\_0 X1))))))\Rightarrow(\forall X3.((v1\_relat\_1 X3)\wedge((v5\_relat\_1$$

$$X3 (u1\_compos\_1 X1))\wedge(v1\_funct\_1 X3)))\Rightarrow(k4\_extpro\_1 X0 X1 X2 X3 =$$

$$k2\_extpro\_1 X0 X1 (k3\_extpro\_1 X0 X1 X3 X2) X2)))$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_extpro\_1 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1\_relat\_1 X2) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X1)) \wedge \\
& (v1\_funct\_1 X2))) \Rightarrow (\forall X3.((v1\_relat\_1 X3) \wedge ((v4\_relat\_1 \\
& X3 (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 X3) \wedge ((v5\_funct\_1 X3 (k2\_memstr\_0 \\
& X0 X1)) \wedge (v1\_partfun1 X3 (u1\_struct\_0 X1)))))) \Rightarrow (k3\_extpro\_1 X0 \\
& X1 X2 X3 = k7\_partfun1 (u1\_compos\_1 X1) X2 (k5\_memstr\_0 X0 X1 X3)))))) \\
& \hspace{15em} (13)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ( \\
& (v1\_partfun1 X1 X0) \Leftrightarrow (k1\_relset\_1 X0 X1 = X0)) \\
& \hspace{15em} (14)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\
& ((X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (k4\_tarski X1 X2 \in \\
& X0))) \wedge ((\neg X1 \in k9\_xtuple\_0 X0) \Rightarrow ((X2 = k1\_funct\_1 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \\
& \hspace{15em} (15)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. k2\_funcop\_1 X0 X1 = k2\_zfmisc\_1 X0 (k1\_tarski \\
& X1) \\
& \hspace{15em} (16)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\
& (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge ( \\
& (v4\_relat\_1 X3 (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 X3) \wedge (v5\_funct\_1 \\
& X3 (k2\_memstr\_0 X0 X1)))))) \Rightarrow ((v5\_memstr\_0 X3 X0 X1 X2) \Leftrightarrow ((k4\_struct\_0 \\
& X1 \in k9\_xtuple\_0 X3) \wedge (k5\_memstr\_0 X0 X1 X3 = X2)))))) \\
& \hspace{15em} (17)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_setfam\_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2\_struct\_0 X1) \wedge ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge \\
& (l1\_extpro\_1 X1 X0)))) \Rightarrow (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_compos\_1 X1)) \Rightarrow (\forall X4. ((v1\_relat\_1 X4) \wedge \\
& ((v4\_relat\_1 X4 (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 X4) \wedge ((v5\_funct\_1 \\
& X4 (k2\_memstr\_0 X0 X1)) \wedge ((v1\_partfun1 X4 (u1\_struct\_0 X1)) \wedge (v5\_memstr\_0 \\
& X4 X0 X1 X2)))))) \Rightarrow (\forall X5. ((v1\_relat\_1 X5) \wedge ((v4\_relat\_1 X5 \\
& k5\_numbers) \wedge ((v5\_relat\_1 X5 (u1\_compos\_1 X1)) \wedge ((v1\_funct\_1 \\
& X5) \wedge (v1\_partfun1 X5 k5\_numbers)))))) \Rightarrow ((r1\_tarski (k16\_funcop\_1 \\
& X2 X3) X5) \Rightarrow (k4\_extpro\_1 X0 X1 X4 X5 = k2\_extpro\_1 X0 X1 X3 X4))))))
\end{aligned}$$