# t9_extpro_1 (TMS6Xdtx4KtDoMqLKkniFaqCcLdVNgNTCoh)

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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 $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ 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 $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ 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 $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_compos\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.k1\_funct\_1\ (k16\_funcop\_1\ X0\ X1)\ X0 = X1 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1)\wedge((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))\wedge(v1\_xboole\_0\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)))\Rightarrow(m1\_subset\_1\ X0\ X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1))\Leftrightarrow(r1\_tarski\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1)\Rightarrow((v1\_xboole\_0\ X1)\vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow((r1\_tarski\ X0\ X1)\Leftrightarrow((r1\_tarski\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1))\wedge(\forall X2.(X2 \in k9\_xtuple\_0\ X0)\Rightarrow(k1\_funct\_1\ X0\ X2 = k1\_funct\_1\ X1\ X2))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(k9\_xtuple\_0\ (k2\_funcop\_1\ X0\ X1) = X0)\wedge(r1\_tarski\ (k10\_xtuple\_0\ (k2\_funcop\_1\ X0\ X1))\ (k1\_tarski\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(v1\_relat\_1\ X1)\Rightarrow((r1\_tarski\ X0\ X1)\Rightarrow((r1\_tarski\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1))\wedge(r1\_tarski\ (k10\_xtuple\_0\ X0)\ (k10\_xtuple\_0\ X1))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1\ X0\ X1 = k2\_funcop\_1\ X0\ X1 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1\ X1\ X0)\Rightarrow((l1\_memstr\_0\ X1\ X0)\wedge(l1\_compos\_1\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1\ (k7\_funcop\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k7\_funcop\_1\ X0\ X1)\ X0\ (k1\_tarski\ X1))\wedge(m1\_subset\_1\ (k7\_funcop\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k1\_tarski\ X1))))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1\ X0\ X1 = k7\_funcop\_1\ (k1\_tarski\ X0)\ X1 \tag{12}$$

Assume the following.

$$\forall X0.(\neg v1\_setfam\_1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_memstr\_0\ X1\ X0)\wedge((v3\_memstr\_0\ X1\ X0)\wedge(l1\_memstr\_0\ X1\ X0))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ X2)\wedge(v5\_funct\_1\ X2\ (k2\_memstr\_0\ X0\ X1)))))\Rightarrow(k5\_memstr\_0\ X0\ X1\ X2 = k1\_funct\_1\ X2\ (k4\_struct\_0\ X1)))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow(\forall X2.(X2\in k9\_xtuple\_0\ X1)\Rightarrow(k7\_partfun1\ X0\ X1\ X2 = k1\_funct\_1\ X1\ X2)) \tag{14}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.k2\_funcop\_1\ X0\ X1 = k2\_zfmisc\_1\ X0\ (k1\_tarski\ X1) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0)\Leftrightarrow(\forall X2.(X2\in X1)\Leftrightarrow(X2 = X0)) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_relat\_1\ X1)) \tag{18}$$

**Theorem 1**

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(\neg v1\_setfam\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_memstr\_0\ X1\ X0)\wedge((v3\_memstr\_0\ X1\ X0)\wedge(l1\_extpro\_1\ X1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_compos\_1\ X1))\Rightarrow(\forall X4.((v1\_relat\_1\ X4)\wedge((v4\_relat\_1\ X4\ k5\_numbers)\wedge((v5\_relat\_1\ X4\ (u1\_compos\_1\ X1))\wedge(v1\_funct\_1\ X4))))\Rightarrow((r1\_tarski\ (k16\_funcop\_1\ X2\ X3)\ X4)\Rightarrow(\forall X5.((v1\_relat\_1\ X5)\wedge((v4\_relat\_1\ X5\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ X5)\wedge((v5\_funct\_1\ X5\ (k2\_memstr\_0\ X0\ X1))\wedge(v1\_partfun1\ X5\ (u1\_struct\_0\ X1))))))\Rightarrow((r1\_tarski\ (k16\_funcop\_1\ (k4\_struct\_0\ X1)\ X2)\ X5)\Rightarrow(k3\_extpro\_1\ X0\ X1\ X4\ X5 = X3))))))))$$