t3_lpspace1 (TMN-VChx3Wt219nWQ5U8YqnRtV5qtRoGR2V9)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_lpspace1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $g1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lpspace1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ 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 $k1\_numbers : \iota$ be given. Let $k1\_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_rlvect\_1 : \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1\ X0))))))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (u1\_struct\_0\ X0)\ X1) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1))))) \Rightarrow (((X2 = k4\_struct\_0\ X0) \wedge ((X3 = k1\_realset1\ (u1\_algstr\_0\ X0)\ X1) \wedge (X4 = k2\_partfun1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (k2\_zfmisc\_1\ k1\_numbers\ X1)))) \Rightarrow ((v2\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge ((v3\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge ((v4\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge ((v5\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge ((v6\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge ((v7\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)) \wedge (v8\_rlvect\_1\ (g1\_rlvect\_1\ X1\ X2\ X3\ X4)))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0) \Rightarrow (l2\_algstr\_0\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l1\_rlvect\_1\ X0)) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_lpspace1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow ((v1\_funct\_1\ (k1\_lpspace1\ X0\ X1)) \wedge ((v1\_funct\_2\ (k1\_lpspace1\ X0\ X1)\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1) \wedge (m1\_subset\_1\ (k1\_lpspace1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l2\_algstr\_0\ X0)) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_ideal\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow ((v1\_funct\_1\ (k1\_ideal\_1\ X0\ X1)) \wedge ((v1\_funct\_2\ (k1\_ideal\_1\ X0\ X1)\ (k2\_zfmisc\_1\ X1\ X1)\ X1) \wedge (m1\_subset\_1\ (k1\_ideal\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l2\_algstr\_0\ X0)) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_ideal\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (k1\_ideal\_1\ X0\ X1 = k1\_realset1\ (u1\_algstr\_0\ X0)\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_rlvect\_1\ X0)) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_lpspace1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (k1\_lpspace1\ X0\ X1 = k2\_partfun1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (k2\_zfmisc\_1\ k1\_numbers\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (k1\_funct\_7\ X0\ X1 = X0) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{10}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge(l1\_rlvect\_1\ X0))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_ideal\_1\ X1\ X0)\wedge((v1\_lpspace1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow((k4\_struct\_0\ X0\in X1)\Rightarrow((v2\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge((v3\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge((v4\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge((v5\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge((v6\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge((v7\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1)))\wedge(v8\_rlvect\_1\ (g1\_rlvect\_1\ X1\ (k1\_funct\_7\ (k4\_struct\_0\ X0)\ X1)\ (k1\_ideal\_1\ X0\ X1)\ (k1\_lpspace1\ X0\ X1))))))))))$$