t6_c0sp1 (TMM15TyowNHxY7Dko9aH2ZWG9fmrbLm38Mk)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ 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 $v2\_funcsdom : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v5\_group\_1 : \iota \Rightarrow o$ be given. Let $v1\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v3\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $l1\_funcsdom : \iota \Rightarrow o$ 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 $v4\_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m2\_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_algstr\_0 : \iota \Rightarrow \iota$ 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 $v1\_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let

$k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow (\forall X5.((\neg v2\_struct\_0\ X5) \wedge ((v13\_algstr\_0\ X5) \wedge ((v2\_rlvect\_1\ X5) \wedge ((v3\_rlvect\_1\ X5) \wedge ((v4\_rlvect\_1\ X5) \wedge ((v5\_rlvect\_1\ X5) \wedge ((v6\_rlvect\_1\ X5) \wedge ((v7\_rlvect\_1\ X5) \wedge ((v2\_funcsdom\ X5) \wedge ((v3\_group\_1\ X5) \wedge ((v5\_group\_1\ X5) \wedge ((v1\_vectsp\_1\ X5) \wedge ((v3\_vectsp\_1\ X5) \wedge (l1\_funcsdom\ X5)))))))))))) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X5))) \Rightarrow (\forall X7.((v1\_funct\_1\ X7) \wedge ((v1\_funct\_2\ X7\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0) \wedge (m1\_subset\_1\ X7\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0))))) \Rightarrow (((X6 = X0) \wedge ((X1 = k4\_struct\_0\ X5) \wedge ((X2 = k5\_struct\_0\ X5) \wedge ((X3 = k1\_realset1\ (u1\_algstr\_0\ X5)\ X6) \wedge ((X4 = k1\_realset1\ (u2\_algstr\_0\ X5)\ X6) \wedge ((X7 = k2\_partfun1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X5))\ (u1\_struct\_0\ X5)\ (u1\_rlvect\_1\ X5)\ (k2\_zfmisc\_1\ k1\_numbers\ X6)) \wedge (v1\_c0sp1\ X6\ X5)))))) \Rightarrow (m2\_c0sp1\ (g1\_funcsdom\ X0\ X4\ X3\ X7\ X2\ X1)\ X5)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_funcsdom\ X0) \Rightarrow ((l6\_algstr\_0\ X0) \wedge (l1\_rlvect\_1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v2\_funcsdom\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v1\_vectsp\_1\ X0) \wedge ((v3\_vectsp\_1\ X0) \wedge (l1\_funcsdom\ X0)))))))))))) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow ((v1\_funct\_1\ (k5\_c0sp1\ X0\ X1)) \wedge ((v1\_funct\_2\ (k5\_c0sp1\ X0\ X1)\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1) \wedge (m1\_subset\_1\ (k5\_c0sp1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X1)\ X1))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (m1\_subset\_1\ (k4\_c0sp1\ X0\ X1)\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0)))))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k3\_c0sp1\ X0\ X1)\ X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l5\_algstr\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v1\_funct\_1\ (k2\_c0sp1\ X0\ X1))\wedge((v1\_funct\_2\ (k2\_c0sp1\ X0\ X1)\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ (k2\_c0sp1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l2\_algstr\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((v1\_funct\_1\ (k1\_c0sp1\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_c0sp1\ X0\ X1)\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ (k1\_c0sp1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1))))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l5\_algstr\_0\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_c0sp1\ X1\ X0)\Rightarrow((v1\_xboole\_0\ X1)\vee(k4\_c0sp1\ X0\ X1 = k5\_struct\_0\ X0)))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(((v1\_ideal\_1\ X1\ X0)\wedge(v1\_c0sp1\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X1)\vee(k3\_c0sp1\ X0\ X1 = k4\_struct\_0\ X0)))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l5\_algstr\_0\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_c0sp1\ X1\ X0)\Rightarrow((v1\_xboole\_0\ X1)\vee(k2\_c0sp1\ X0\ X1 = k1\_realset1\ (u2\_algstr\_0\ X0)\ X1)))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_algstr\_0\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_ideal\_1\ X1\ X0)\Rightarrow((v1\_xboole\_0\ X1)\vee(k1\_c0sp1\ X0\ X1 = k1\_realset1\ (u1\_algstr\_0\ X0)\ X1)))) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge(l1\_funcsdom\ X0))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v4\_c0sp1\ X1\ X0)\Rightarrow((v1\_xboole\_0\ X1)\vee(k5\_c0sp1\ X0\ X1 = k2\_partfun1\ (k2\_zfmisc\_1\ k1\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (k2\_zfmisc\_1\ k1\_numbers\ X1))))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge(l1\_funcsdom\ X0))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v4\_c0sp1\ X1\ X0)\Leftrightarrow((v1\_ideal\_1\ X1\ X0)\wedge((v1\_c0sp1\ X1\ X0)\wedge(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow((X3\in X1)\Rightarrow(k1\_rlvect\_1\ X0\ X3\ X2\in X1))))))))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge(l1\_funcsdom\ X0))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(((v4\_c0sp1\ X1\ X0)\wedge(v3\_c0sp1\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X1)\vee(m2\_c0sp1\ (g1\_funcsdom\ X1\ (k2\_c0sp1\ X0\ X1)\ (k1\_c0sp1\ X0\ X1)\ (k5\_c0sp1\ X0\ X1)\ (k4\_c0sp1\ X0\ X1)\ (k3\_c0sp1\ X0\ X1))\ X0))))$$