# t7_c0sp2 (TMLfcqA7G8FrFW3X7b8XazdxZkZAnssLX9s)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_pre\_topc : \iota \Rightarrow o$ be given. Let $k1\_group\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_c0sp2 : \iota \Rightarrow \iota$ be given. Let $k1\_c0sp2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ 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 $m2\_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ 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 $g1\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $m1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $l4\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k5\_struct\_0 : \iota \Rightarrow \iota$ 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 $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $k12\_funcsdom : \iota \Rightarrow \iota$ be given. Let $v1\_funcsdom : \iota \Rightarrow o$ be given. Let $k2\_c0sp2 : \iota \Rightarrow \iota$ 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 $l4\_struct\_0 : \iota \Rightarrow o$ be given. Let $l3\_struct\_0 : \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k8\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k7\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k6\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k5\_funcsdom : \iota \Rightarrow \iota$ be given. Let $u3\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $u2\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given.

Let $u1\_rlvect\_1 : \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v2\_funcsdom\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v1\_vectsp\_1\ X0) \wedge ((v3\_vectsp\_1\ X0) \wedge (l1\_funcsdom\ X0))))))))))))) \Rightarrow (\forall X1.(m2\_c0sp1\ X1\ X0) \Rightarrow ((\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k3\_rlvect\_1\ X1\ X2\ X3 = k3\_rlvect\_1\ X0\ X4\ X5)))))) \wedge ((\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k8\_group\_1\ X1\ X2\ X3 = k8\_group\_1\ X0\ X4\ X5)))))) \wedge ((\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow ((X2 = X3) \Rightarrow (k1\_rlvect\_1\ X1\ X2\ X4 = k1\_rlvect\_1\ X0\ X3\ X4))))) \wedge ((k1\_group\_1\ X1 = k1\_group\_1\ X0) \wedge (k4\_struct\_0\ X1 = k4\_struct\_0\ X0)))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v5\_rlvect\_1\ X0) \wedge ((v6\_rlvect\_1\ X0) \wedge ((v7\_rlvect\_1\ X0) \wedge ((v2\_funcsdom\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v1\_vectsp\_1\ X0) \wedge ((v3\_vectsp\_1\ X0) \wedge (l1\_funcsdom\ X0))))))))))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((v4\_c0sp1\ X1\ X0) \wedge (v3\_c0sp1\ X1\ X0)) \Rightarrow ((v1\_xboole\_0\ X1) \vee (m2\_c0sp1\ (g1\_funcsdom\ X1\ (k2\_c0sp1\ X0\ X1)\ (k1\_c0sp1\ X0\ X1)\ (k5\_c0sp1\ X0\ X1)\ (k4\_c0sp1\ X0\ X1)\ (k3\_c0sp1\ X0\ X1))\ X0)))) \tag{2}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X1) \wedge (m1\_funct\_2\ X2\ X0\ X1)) \Rightarrow (\forall X3.(m2\_funct\_2\ X3\ X0\ X1\ X2) \Leftrightarrow (m1\_subset\_1\ X3\ X2)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge (m1\_subset\_1\ X2\ X0)) \Rightarrow (k8\_funcop\_1\ X0\ X1\ X2 = k2\_funcop\_1\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k7\_funcop\_1\ X0\ X1 = k2\_funcop\_1\ X0\ X1 \tag{6}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge(l4\_algstr\_0\ X0)))\Rightarrow(k1\_group\_1\ X0 = k5\_struct\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ X0)\ X0)))))\wedge((m1\_subset\_1\ X4\ X0)\wedge(m1\_subset\_1\ X5\ X0)))))\Rightarrow(\forall X6.\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.(g1\_funcsdom\ X0\ X1\ X2\ X3\ X4\ X5 = g1\_funcsdom\ X6\ X7\ X8\ X9\ X10\ X11)\Rightarrow((X0 = X6)\wedge((X1 = X7)\wedge((X2 = X8)\wedge((X3 = X9)\wedge((X4 = X10)\wedge(X5 = X11)))))) \tag{9}$$

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1)\wedge(v3\_ordinal1\ k4\_ordinal1) \tag{10}$$

Assume the following.

$$\forall X0.(v13\_algstr\_0\ (k12\_funcsdom\ X0))\wedge((v3\_group\_1\ (k12\_funcsdom\ X0))\wedge((v5\_group\_1\ (k12\_funcsdom\ X0))\wedge((v1\_vectsp\_1\ (k12\_funcsdom\ X0))\wedge((v3\_vectsp\_1\ (k12\_funcsdom\ X0))\wedge((v2\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v3\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v4\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v5\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v6\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v7\_rlvect\_1\ (k12\_funcsdom\ X0))\wedge((v1\_funcsdom\ (k12\_funcsdom\ X0))\wedge(v2\_funcsdom\ (k12\_funcsdom\ X0))))))))))) \tag{11}$$

Assume the following.

$$\forall X0.(\neg v2\_struct\_0\ (k12\_funcsdom\ X0))\wedge(v1\_funcsdom\ (k12\_funcsdom\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow((v3\_c0sp1\ (k2\_c0sp2\ X0)\ (k12\_funcsdom\ (u1\_struct\_0\ X0)))\wedge(v4\_c0sp1\ (k2\_c0sp2\ X0)\ (k12\_funcsdom\ (u1\_struct\_0\ X0)))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\neg v1\_xboole\_0\ (k2\_c0sp2\ X0)) \tag{14}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{15}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.(l5\_algstr\_0\ X0)\Rightarrow((l4\_algstr\_0\ X0)\wedge(l4\_struct\_0\ X0)) \tag{17}$$

Assume the following.

$$\forall X0.(l4\_algstr\_0\ X0)\Rightarrow((l3\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0)) \tag{18}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{19}$$

Assume the following.

$$\forall X0.(l1\_funcsdom\ X0)\Rightarrow((l6\_algstr\_0\ X0)\wedge(l1\_rlvect\_1\ X0)) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(m1\_funct\_2\ (k9\_funct\_2\ X0\ X1)\ X0\ X1) \tag{21}$$

Assume the following.

$$\forall X0.m2\_funct\_2\ (k9\_funcsdom\ X0)\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers) \tag{22}$$

Assume the following.

$$\forall X0.m2\_funct\_2\ (k8\_funcsdom\ X0)\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers) \tag{23}$$

Assume the following.

$$\forall X0.(v1\_funct\_1\ (k7\_funcsdom\ X0))\wedge((v1\_funct\_2\ (k7\_funcsdom\ X0)\ (k2\_zfmisc\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ (k7\_funcsdom\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))))) \tag{24}$$

Assume the following.

$$\forall X0.(v1\_funct\_1\ (k6\_funcsdom\ X0))\wedge((v1\_funct\_2\ (k6\_funcsdom\ X0)\ (k2\_zfmisc\_1\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ (k6\_funcsdom\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))))) \tag{25}$$

Assume the following.

$$\forall X0.(v1\_funct\_1\ (k5\_funcsdom\ X0))\wedge((v1\_funct\_2\ (k5\_funcsdom\ X0)\ (k2\_zfmisc\_1\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))\wedge(m1\_subset\_1\ (k5\_funcsdom\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k9\_funct\_2\ X0\ k1\_numbers))\ (k9\_funct\_2\ X0\ k1\_numbers))))) \tag{26}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(m1\_subset\_1\ (k2\_c0sp2\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k12\_funcsdom\ (u1\_struct\_0\ X0))))) \tag{27}$$

Assume the following.

$$\forall X0.(v1\_funcsdom\ (k12\_funcsdom\ X0))\wedge(l1\_funcsdom\ (k12\_funcsdom\ X0)) \tag{28}$$

Assume the following.

$$\forall X0.k12\_funcsdom\ X0 = g1\_funcsdom\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k6\_funcsdom\ X0)\ (k5\_funcsdom\ X0)\ (k7\_funcsdom\ X0)\ (k9\_funcsdom\ X0)\ (k8\_funcsdom\ X0) \tag{29}$$

Assume the following.

$$\forall X0.(l3\_struct\_0\ X0)\Rightarrow(k5\_struct\_0\ X0 = u3\_struct\_0\ X0) \tag{30}$$

Assume the following.

$$\forall X0.k9\_funcsdom\ X0 = k8\_funcop\_1\ k5\_numbers\ X0\ np\_\_1 \tag{31}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(k3\_c0sp2\ X0 = g1\_funcsdom\ (k2\_c0sp2\ X0)\ (k2\_c0sp1\ (k12\_funcsdom\ (u1\_struct\_0\ X0))\ (k2\_c0sp2\ X0))\ (k1\_c0sp1\ (k12\_funcsdom\ (u1\_struct\_0\ X0))\ (k2\_c0sp2\ X0))\ (k5\_c0sp1\ (k12\_funcsdom\ (u1\_struct\_0\ X0))\ (k2\_c0sp2\ X0))\ (k4\_c0sp1\ (k12\_funcsdom\ (u1\_struct\_0\ X0))\ (k2\_c0sp2\ X0))\ (k3\_c0sp1\ (k12\_funcsdom\ (u1\_struct\_0\ X0))\ (k2\_c0sp2\ X0))) \tag{32}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(k1\_c0sp2\ X0\ X1 = k7\_funcop\_1\ (u1\_struct\_0\ X0)\ X1)) \tag{33}$$

Assume the following.

$$\forall X0.(l4\_algstr\_0\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v5\_group\_1\ X0)\wedge(v3\_vectsp\_1\ X0)))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge(v4\_vectsp\_1\ X0))) \tag{34}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{35}$$

Assume the following.

$$\forall X0.(l1\_funcsdom\ X0)\Rightarrow((v1\_funcsdom\ X0)\Rightarrow(X0 = g1\_funcsdom\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_rlvect\_1\ X0)\ (u3\_struct\_0\ X0)\ (u2\_struct\_0\ X0))) \tag{36}$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(k1\_group\_1\ (k3\_c0sp2\ X0) = k1\_c0sp2\ X0\ np\_\_1)$$