t45_cc0sp2 (TM-ban3GmLkdq4JKDxUwyzZHeN6YZNTJyidk)

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 $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k9\_cc0sp2 : \iota \Rightarrow \iota$ be given. Let $k1\_cc0sp2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k7\_cc0sp2 : \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_numbers : \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $g2\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_normsp\_0 : \iota \Rightarrow o$ be given. Let $u1\_normsp\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $l1\_clvect\_1 : \iota \Rightarrow o$ be given. Let $u1\_clvect\_1 : \iota \Rightarrow \iota$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $l2\_normsp\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ 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 $v2\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_clvect\_1 : \iota \Rightarrow o$ be given. Let $k6\_cc0sp2 : \iota \Rightarrow \iota$ be given. Let $k10\_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_cfuncdom : \iota \Rightarrow \iota$ be given. Let $k1\_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_csspace : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k8\_cc0sp2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0))) \Rightarrow (k4\_struct\_0\ (k7\_cc0sp2\ X0) = k1\_cc0sp2\ X0\ k6\_numbers) \tag{1}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers))))))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8.\forall X9.(g2\_clvect\_1\ X0\ X1\ X2\ X3\ X4 = g2\_clvect\_1\ X5\ X6\ X7\ X8\ X9)\Rightarrow((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9))))))$$ (3)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)))))))\Rightarrow(\forall X4.\forall X5.\forall X6.\forall X7.(g1\_clvect\_1\ X0\ X1\ X2\ X3 = g1\_clvect\_1\ X4\ X5\ X6\ X7)\Rightarrow((X0 = X4)\wedge((X1 = X5)\wedge((X2 = X6)\wedge(X3 = X7)))))$$ (4)

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow((\neg v2\_struct\_0\ (k9\_cc0sp2\ X0))\wedge(v7\_clvect\_1\ (k9\_cc0sp2\ X0)))$$ (5)

Assume the following.

$$\forall X0.(l1\_normsp\_0\ X0)\Rightarrow((v1\_funct\_1\ (u1\_normsp\_0\ X0))\wedge((v1\_funct\_2\ (u1\_normsp\_0\ X0)\ (u1\_struct\_0\ X0)\ k1\_numbers)\wedge(m1\_subset\_1\ (u1\_normsp\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k1\_numbers)))))$$ (6)

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0)\Rightarrow((v1\_funct\_1\ (u1\_clvect\_1\ X0))\wedge((v1\_funct\_2\ (u1\_clvect\_1\ X0)\ (k2\_zfmisc\_1\ k2\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_clvect\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))))))$$ (7)

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))))))) \tag{8}$$

Assume the following.

$$\forall X0.(l2\_normsp\_0\ X0)\Rightarrow((l1\_normsp\_0\ X0)\wedge(l2\_struct\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_clvect\_1\ X0)\Rightarrow((l1\_clvect\_1\ X0)\wedge(l2\_normsp\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(l2\_clvect\_1\ (k9\_cc0sp2\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow((\neg v2\_struct\_0\ (k7\_cc0sp2\ X0))\wedge((v13\_algstr\_0\ (k7\_cc0sp2\ X0))\wedge((v2\_rlvect\_1\ (k7\_cc0sp2\ X0))\wedge((v3\_rlvect\_1\ (k7\_cc0sp2\ X0))\wedge((v4\_rlvect\_1\ (k7\_cc0sp2\ X0))\wedge((v2\_clvect\_1\ (k7\_cc0sp2\ X0))\wedge((v3\_clvect\_1\ (k7\_cc0sp2\ X0))\wedge((v4\_clvect\_1\ (k7\_cc0sp2\ X0))\wedge((v5\_clvect\_1\ (k7\_cc0sp2\ X0))\wedge(l1\_clvect\_1\ (k7\_cc0sp2\ X0))))))))))) \tag{14}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (k4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X1\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k2\_numbers\ X0)\ X0)))))))\Rightarrow((v1\_clvect\_1\ (g1\_clvect\_1\ X0\ X1\ X2\ X3))\wedge(l1\_clvect\_1\ (g1\_clvect\_1\ X0\ X1\ X2\ X3))) \tag{16}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(k7\_cc0sp2\ X0 = g1\_clvect\_1\ (k6\_cc0sp2\ X0)\ (k10\_csspace\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))\ (k1\_c0sp1\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))\ (k9\_csspace\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))) \tag{17}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(k4\_struct\_0\ X0 = u2\_struct\_0\ X0) \tag{18}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(k9\_cc0sp2\ X0 = g2\_clvect\_1\ (k6\_cc0sp2\ X0)\ (k10\_csspace\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))\ (k1\_c0sp1\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))\ (k9\_csspace\ (k6\_cfuncdom\ (u1\_struct\_0\ X0))\ (k6\_cc0sp2\ X0))\ (k8\_cc0sp2\ X0)) \tag{19}$$

Assume the following.

$$\forall X0.(l2\_clvect\_1\ X0)\Rightarrow((v7\_clvect\_1\ X0)\Rightarrow(X0 = g2\_clvect\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_clvect\_1\ X0)\ (u1\_normsp\_0\ X0))) \tag{20}$$

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0)\Rightarrow((v1\_clvect\_1\ X0)\Rightarrow(X0 = g1\_clvect\_1\ (u1\_struct\_0\ X0)\ (u2\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u1\_clvect\_1\ X0))) \tag{21}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(k4\_struct\_0\ (k9\_cc0sp2\ X0) = k1\_cc0sp2\ X0\ k6\_numbers)$$