t35_lopban_4 (TMTj5zf95Ebx7oK5B6odtzrFBF6uTb3mbEK)

October 27, 2020

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 $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v4\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v2\_normsp\_1 : \iota \Rightarrow o$ be given. Let $v2\_funcsdom : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v1\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v3\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v5\_lopban\_2 : \iota \Rightarrow o$ be given. Let $l1\_lopban\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_lopban\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_lopban\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lopban\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lopban\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l4\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l4\_struct\_0 : \iota \Rightarrow o$ be given. Let $l3\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l1\_normsp\_1 : \iota \Rightarrow o$ be given. Let $l2\_normsp\_0 : \iota \Rightarrow o$ be given. Let $l1\_funcsdom : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k9\_lopban\_4 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k6\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge (l3\_algstr\_0\ X0)) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow ((r1\_lopban\_4\ X0\ X1\ X2) \Rightarrow (r1\_lopban\_4\ X0\ X2\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0) \wedge (l1\_algstr\_0\ X0)) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (k3\_rlvect\_1\ X0\ X1\ X2 = k1\_algstr\_0\ X0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lopban\_4\ X0\ X1\ X2)\Rightarrow(k6\_algstr\_0\ X0\ (k1\_lopban\_3\ X0\ (k1\_lopban\_4\ X0\ X1))\ (k1\_lopban\_3\ X0\ (k1\_lopban\_4\ X0\ X2))=k1\_lopban\_3\ X0\ (k1\_lopban\_4\ X0\ (k3\_rlvect\_1\ X0\ X1\ X2))))))) \tag{3}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l5\_algstr\_0\ X0)\Rightarrow((l4\_algstr\_0\ X0)\wedge(l4\_struct\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l4\_algstr\_0\ X0)\Rightarrow((l3\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(l1\_normsp\_1\ X0)\Rightarrow((l1\_rlvect\_1\ X0)\wedge(l2\_normsp\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_lopban\_2\ X0)\Rightarrow((l1\_funcsdom\ X0)\wedge(l1\_normsp\_1\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_funcsdom\ X0)\Rightarrow((l6\_algstr\_0\ X0)\wedge(l1\_rlvect\_1\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\Rightarrow((v1\_funct\_1\ (k9\_lopban\_4\ X0))\wedge((v1\_funct\_2\ (k9\_lopban\_4\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k9\_lopban\_4\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0)\wedge(l1\_algstr\_0\ X0))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k3\_rlvect\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_funct\_1\ (k1\_lopban\_4\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_lopban\_4\ X0\ X1)\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k1\_lopban\_4\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge(l1\_normsp\_1\ X0))))))))))))\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow(m1\_subset\_1\ (k1\_lopban\_3\ X0\ X1)\ (u1\_struct\_0\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge(l1\_normsp\_1\ X0))))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow(k1\_lopban\_3\ X0\ X1 = k6\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1))) \tag{16}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lopban\_4\ X0\ X1\ X2)\Leftrightarrow(k6\_algstr\_0\ X0\ X1\ X2 = k6\_algstr\_0\ X0\ X2\ X1)))) \tag{17}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(k10\_lopban\_4\ X0\ X1 = k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k9\_lopban\_4\ X0)\ X1)) \tag{18}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))))\Rightarrow((X1 = k9\_lopban\_4\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ X1\ X2 = k1\_lopban\_3\ X0\ (k1\_lopban\_4\ X0\ X2))))) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0)\wedge(l1\_algstr\_0\ X0))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k3\_rlvect\_1\ X0\ X1\ X2 = k3\_rlvect\_1\ X0\ X2\ X1) \tag{20}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v5\_rlvect\_1\ X0)\wedge((v6\_rlvect\_1\ X0)\wedge((v7\_rlvect\_1\ X0)\wedge((v8\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_normsp\_1\ X0)\wedge((v2\_funcsdom\ X0)\wedge((v3\_group\_1\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_vectsp\_1\ X0)\wedge((v5\_lopban\_2\ X0)\wedge(l1\_lopban\_2\ X0))))))))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_lopban\_4\ X0\ X1\ X2)\Rightarrow((k10\_lopban\_4\ X0\ (k3\_rlvect\_1\ X0\ X1\ X2) = k6\_algstr\_0\ X0\ (k10\_lopban\_4\ X0\ X1)\ (k10\_lopban\_4\ X0\ X2))\wedge((k10\_lopban\_4\ X0\ (k3\_rlvect\_1\ X0\ X2\ X1) = k6\_algstr\_0\ X0\ (k10\_lopban\_4\ X0\ X2)\ (k10\_lopban\_4\ X0\ X1))\wedge((k10\_lopban\_4\ X0\ (k3\_rlvect\_1\ X0\ X1\ X2) = k10\_lopban\_4\ X0\ (k3\_rlvect\_1\ X0\ X2\ X1))\wedge(r1\_lopban\_4\ X0\ (k10\_lopban\_4\ X0\ X1)\ (k10\_lopban\_4\ X0\ X2))))))))$$