t6_csspace4 (TMKyML-iSF5QejdZYyUW4wgxXr7Ezbdbumqh)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. 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 $v3\_normsp\_0 : \iota \Rightarrow o$ be given. Let $v4\_normsp\_0 : \iota \Rightarrow o$ 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 $v8\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_clvect\_1 : \iota \Rightarrow o$ 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 $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_csspace4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k11\_clopban1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_clopban1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_clopban1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v3\_normsp\_0\ X0) \wedge ((v4\_normsp\_0\ X0) \wedge ((v2\_clvect\_1\ X0) \wedge ((v3\_clvect\_1\ X0) \wedge ((v4\_clvect\_1\ X0) \wedge ((v5\_clvect\_1\ X0) \wedge ((v8\_clvect\_1\ X0) \wedge (l2\_clvect\_1\ X0))))))))))) \Rightarrow (k1\_normsp\_0\ X0\ (k4\_struct\_0\ X0) = k6\_numbers) \tag{1}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\wedge((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_clvect\_1\ X1)\wedge((v3\_clvect\_1\ X1)\wedge((v4\_clvect\_1\ X1)\wedge((v5\_clvect\_1\ X1)\wedge((v8\_clvect\_1\ X1)\wedge(l2\_clvect\_1\ X1))))))))))))\Rightarrow((v1\_funct\_1\ (k11\_clopban1\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k11\_clopban1\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge((v13\_vectsp\_1\ (k11\_clopban1\ X0\ X1\ X2)\ X0\ X1)\wedge((v1\_clopban1\ (k11\_clopban1\ X0\ X1\ X2)\ X0\ X1)\wedge((v2\_clopban1\ (k11\_clopban1\ X0\ X1\ X2)\ X0\ X1)\wedge(m1\_subset\_1\ (k11\_clopban1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_clvect\_1\ X1)\wedge((v3\_clvect\_1\ X1)\wedge((v4\_clvect\_1\ X1)\wedge((v5\_clvect\_1\ X1)\wedge((v8\_clvect\_1\ X1)\wedge(l2\_clvect\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge((v13\_vectsp\_1\ X2\ X0\ X1)\wedge((v1\_clopban1\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))))\Rightarrow((v2\_clopban1\ X2\ X0\ X1)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ k1\_numbers)\wedge((r1\_xxreal\_0\ k6\_numbers\ X3)\wedge(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(r1\_xxreal\_0\ (k1\_normsp\_0\ X1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X4))\ (k8\_real\_1\ X3\ (k1\_normsp\_0\ X0\ X4))))))))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge ((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_clvect\_1\ X1)\wedge((v3\_clvect\_1\ X1)\wedge((v4\_clvect\_1\ X1)\wedge((v5\_clvect\_1\ X1)\wedge((v8\_clvect\_1\ X1)\wedge(l2\_clvect\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))))\Rightarrow((v1\_csspace4\ X2\ X0\ X1)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ k1\_numbers)\wedge((r1\_xxreal\_0\ k6\_numbers\ X3)\wedge(\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow(r1\_xxreal\_0\ (k1\_normsp\_0\ X1\ (k3\_funct\_2\ X0\ (u1\_struct\_0\ X1)\ X2\ X4))\ X3)))))))) \tag{5}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge ((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v3\_normsp\_0\ X1)\wedge((v4\_normsp\_0\ X1)\wedge((v2\_clvect\_1\ X1)\wedge((v3\_clvect\_1\ X1)\wedge((v4\_clvect\_1\ X1)\wedge((v5\_clvect\_1\ X1)\wedge((v8\_clvect\_1\ X1)\wedge(l2\_clvect\_1\ X1))))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (u1\_struct\_0\ X1))))))\Rightarrow((\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow(k3\_funct\_2\ X0\ (u1\_struct\_0\ X1)\ X2\ X3 = k4\_struct\_0\ X1))\Rightarrow(v1\_csspace4\ X2\ X0\ X1))))$$