t24_clopban3 (TMN4pDJbLWtWMp7M9UHiY9dbJovHzDtb3TM)

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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 $v3\_normsp\_0 : \iota \Rightarrow o$ 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 $v3\_clopban1 : \iota \Rightarrow o$ 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 $k5\_numbers : \iota$ 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 $v1\_clopban3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bhsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_csspace3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_clvect\_1 : \iota \Rightarrow o$ be given. Let $l2\_normsp\_0 : \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v3\_normsp\_0\ X0) \wedge ((v4\_normsp\_0\ X0) \wedge ((v2\_clvect\_1\ X0) \wedge ((v3\_clvect\_1\ X0) \wedge ((v4\_clvect\_1\ X0) \wedge ((v5\_clvect\_1\ X0) \wedge ((v8\_clvect\_1\ X0) \wedge (l2\_clvect\_1\ X0))))))))))) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0)))))) \Rightarrow ((v1\_csspace3\ X1\ X0) \Leftrightarrow (\forall X2.(m1\_subset\_1\ X2\ k1\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers) \wedge (\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers) \Rightarrow (\exists X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers) \wedge ((r1\_xxreal\_0\ X3\ X4) \wedge (r1\_xxreal\_0\ X2\ (k1\_normsp\_0\ X0\ (k5\_algstr\_0\ X0\ (k1\_normsp\_1\ X0\ X1\ X4)\ (k1\_normsp\_1\ X0\ X1\ X3)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v9\_clvect\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers)\wedge(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\exists X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers)\wedge((r1\_xxreal\_0\ X3\ X4)\wedge(r1\_xxreal\_0\ X2\ (k1\_normsp\_0\ X0\ (k5\_algstr\_0\ X0\ (k1\_normsp\_1\ X0\ X1\ X4)\ (k1\_normsp\_1\ X0\ X1\ X3))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l2\_clvect\_1\ X0)\Rightarrow((l1\_clvect\_1\ X0)\wedge(l2\_normsp\_0\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0)\Rightarrow(l2\_algstr\_0\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l2\_algstr\_0\ X0))\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_funct\_1\ (k1\_bhsp\_4\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_bhsp\_4\ X0\ X1)\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k1\_bhsp\_4\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_clopban3\ X1\ X0)\Leftrightarrow(v9\_clvect\_1\ (k1\_bhsp\_4\ X0\ X1)\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\Rightarrow((v3\_clopban1\ X0)\Leftrightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_csspace3\ X1\ X0)\Rightarrow(v9\_clvect\_1\ X1\ X0)))) \tag{7}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_normsp\_0\ X0)\wedge((v4\_normsp\_0\ X0)\wedge((v2\_clvect\_1\ X0)\wedge((v3\_clvect\_1\ X0)\wedge((v4\_clvect\_1\ X0)\wedge((v5\_clvect\_1\ X0)\wedge((v8\_clvect\_1\ X0)\wedge((v3\_clopban1\ X0)\wedge(l2\_clvect\_1\ X0))))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ X0))))))\Rightarrow((v1\_clopban3\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0\ X2\ k6\_numbers)\wedge(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\exists X4.(m2\_subset\_1\ X4\ k1\_numbers\ k5\_numbers)\wedge((r1\_xxreal\_0\ X3\ X4)\wedge(r1\_xxreal\_0\ X2\ (k1\_normsp\_0\ X0\ (k5\_algstr\_0\ X0\ (k1\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1)\ X4)\ (k1\_normsp\_1\ X0\ (k1\_bhsp\_4\ X0\ X1)\ X3))))))))))$$