

t38\_ncfcont2 (TMLx-  
moDRR6ZQx5KeRcwBKYOU6cKeoq5mYbMv)

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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  $l2\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  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  $k6\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xxreal\_0 X1) \vee (v3\_xxreal\_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v3\_xxreal\_0 X1)) \Rightarrow (v3\_xxreal\_0 X0))) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k5\_algstr\_0 X0 X1 X1 = k4\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\ & ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\ & X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge (k1\_normsp\_0 X0 (k5\_algstr\_0 \\ & X0 X1 X2) = k6\_numbers)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\ & X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\ & ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\ & X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (r1\_xxreal\_0 k6\_numbers \\ & (k1\_normsp\_0 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (8)$$

Assume the following.

$$\forall X0.(l2\_normsp\_0 X0) \Rightarrow ((l1\_normsp\_0 X0) \wedge (l2\_struct\_0 X0)) \quad (9)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l1\_clvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l2\_algstr\_0 X0) \wedge ((m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ & (k5\_algstr\_0 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_normsp\_0 X0))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_normsp\_0 X0 X1) k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_normsp\_0 X0))\Rightarrow((v4\_normsp\_0 X0)\Leftrightarrow(k1\_normsp\_0 X0 (k4\_struct\_0 X0) = k6\_numbers)) \quad (15)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v3\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v2\_xxreal\_0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (17)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0)\wedge(v2\_xxreal\_0 X0))\Rightarrow((\neg v1\_xboole\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(\neg v3\_xxreal\_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (19)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v3\_normsp\_0 X0)\wedge \\ & ((v4\_normsp\_0 X0)\wedge((v2\_clvect\_1 X0)\wedge((v3\_clvect\_1 X0)\wedge((v4\_clvect\_1 X0)\wedge((v5\_clvect\_1 X0)\wedge((v8\_clvect\_1 X0)\wedge(l2\_clvect\_1 X0))))))))))\Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((\neg(\neg r1\_xxreal\_0 (k1\_normsp\_0 X0 (k5\_algstr\_0 X0 X1 X2)) k6\_numbers)\wedge(X1 = X2))\wedge(\neg(X1\neq X2)\wedge(r1\_xxreal\_0 (k1\_normsp\_0 X0 (k5\_algstr\_0 X0 X1 X2)) k6\_numbers)))))) \end{aligned}$$