

# t40\_ncfcont1

(TMYaS6YDd6GfsgVaJqZ3xwJbk4o2wqcUQnS)

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  $v3\_normsp\_0 : \iota \Rightarrow o$  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  $v5\_rlvect\_1 : \iota \Rightarrow o$  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  $v2\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_ncfcont1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_nfcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_vfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v9\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_comseq\_2 : \iota \Rightarrow o$  be given. Let  $k4\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_seq\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_vfunct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k8\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k6\_complex1 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $l1\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $k2\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $l1\_clvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_normsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 :$

$\iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\
& ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\
& X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0)))))) \Rightarrow ((v9\_clvect\_1 X1 X0) \Rightarrow ((v2\_comseq\_2 (k4\_normsp\_0 X0 \\
& X1)) \wedge (k2\_seq\_2 (k4\_normsp\_0 X0 X1) = k1\_normsp\_0 X0 (k7\_clvect\_1 \\
& X0 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\
& ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\
& X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 X1) \wedge \\
& ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge ((v3\_normsp\_0 \\
& X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_normsp\_1 X1) \wedge (l1\_normsp\_1 X1)))))))))) \Rightarrow \\
& (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X1) (u1\_struct\_0 X0)))))) \Rightarrow (\forall X3. (m1\_subset\_1 \\
& X3 (u1\_struct\_0 X1)) \Rightarrow (\forall X4. (v1\_xcmplx\_0 X4) \Rightarrow ((r3\_ncfcont1 \\
& X1 X0 X2 X3) \Rightarrow (r3\_ncfcont1 X1 X0 (k2\_vfunct\_2 (u1\_struct\_0 X1) X0 \\
& X2 X4) X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\
& ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\
& X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 \\
& X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 X1) \wedge \\
& ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge ((v3\_normsp\_0 \\
& X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_normsp\_1 X1) \wedge (l1\_normsp\_1 X1)))))))))) \Rightarrow \\
& (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X1) (u1\_struct\_0 X0)))))) \Rightarrow (\forall X3.((v1\_funct\_1 \\
& X3) \wedge ((v1\_funct\_2 X3 k5\_numbers (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X1)))))) \Rightarrow \\
& ((r1\_tarski (k2\_relset\_1 (u1\_struct\_0 X1) X3) (k1\_relset\_1 (u1\_struct\_0 \\
& X1) X2)) \Rightarrow ((r2\_funct\_2 k5\_numbers k1\_numbers (k4\_normsp\_0 X0 ( \\
& k8\_funct\_2 k5\_numbers (u1\_struct\_0 X0) (u1\_struct\_0 X1) X3 X2)) \\
& (k8\_funct\_2 k5\_numbers k1\_numbers (u1\_struct\_0 X1) X3 (k3\_normsp\_0 \\
& (u1\_struct\_0 X1) X0 X2))) \wedge (r2\_funct\_2 k5\_numbers (u1\_struct\_0 \\
& X0) (k5\_vfunct\_1 k5\_numbers X0 (k8\_funct\_2 k5\_numbers (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1) X3 X2)) (k8\_funct\_2 k5\_numbers (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1) X3 (k5\_vfunct\_1 (u1\_struct\_0 X1) X0 X2))))))))) \\
& \tag{3}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v13\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\
& X1) \wedge ((v3\_normsp\_0 X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_clvect\_1 X1) \wedge \\
& ((v3\_clvect\_1 X1) \wedge ((v4\_clvect\_1 X1) \wedge ((v5\_clvect\_1 X1) \wedge ((v8\_clvect\_1 \\
& X1) \wedge (l2\_clvect\_1 X1)))))))))) \Rightarrow (\forall X2.((v1\_funct\_1 \\
& X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 \\
& X1)))))) \Rightarrow (r2\_relset\_1 X0 (u1\_struct\_0 X1) (k5\_vfunct\_1 X0 X1 X2) \\
& (k2\_vfunct\_2 X0 X1 X2 (k10\_complex1 k6\_complex1)))))) \\
& \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 X0) \wedge \\
& ((v4\_normsp\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 \\
& X0) \wedge ((v5\_clvect\_1 X0) \wedge ((v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& X0)))))) \Rightarrow ((v9\_clvect\_1 X1 X0) \Rightarrow (v2\_comseq\_2 (k4\_normsp\_0 X0 X1)))) \\
& \tag{5}
\end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_relset\_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))\wedge((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 X0 X1)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow((r2\_funct\_2 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((\neg v2\_struct\_0 X1)\wedge(l1\_normsp\_0 X1))\wedge((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))))\Rightarrow(k3\_normsp\_0 X0 X1 X2 = k2\_normsp\_0 X1 X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers)\Rightarrow(k10\_complex1 X0 = k4\_xcmplx\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_struct\_0 X0))\Rightarrow(\neg v1\_xboole\_0 (u1\_struct\_0 X0)) \quad (12)$$

Assume the following.

$$v1\_membered k2\_numbers \quad (13)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0)\Rightarrow(l1\_struct\_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(l2\_normsp\_0 X0)\Rightarrow((l1\_normsp\_0 X0)\wedge(l2\_struct\_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l2\_clvect\_1 X0) \Rightarrow ((l1\_clvect\_1 X0) \wedge (l2\_normsp\_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l1\_normsp\_1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l2\_normsp\_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(l1\_clvect\_1 X0) \Rightarrow (l2\_algstr\_0 X0) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1\_xboole\_0 \\ & X2) \wedge (((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X2) \wedge (m1\_subset\_1 X3 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X2)))))) \wedge ((v1\_relat\_1 X4) \wedge ((v5\_relat\_1 \\ & X4 X1) \wedge (v1\_funct\_1 X4)))))) \Rightarrow ((v1\_funct\_1 (k8\_funct\_2 X0 X1 X2 X3 \\ & X4)) \wedge ((v1\_funct\_2 (k8\_funct\_2 X0 X1 X2 X3 X4) X0 X1) \wedge (m1\_subset\_1 \\ & (k8\_funct\_2 X0 X1 X2 X3 X4) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \end{aligned} \quad (19)$$

Assume the following.

$$m1\_subset\_1 k6\_complex1 k2\_numbers \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((\neg v2\_struct\_0 \\ & X1) \wedge (l2\_algstr\_0 X1)) \wedge ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow ((v1\_funct\_1 (k5\_vfunct\_1 \\ & X0 X1 X2)) \wedge (m1\_subset\_1 (k5\_vfunct\_1 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 (u1\_struct\_0 X1)))))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (l1\_normsp\_0 X0)) \wedge \\ & ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 X0)) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\ & X0)))))) \Rightarrow ((v1\_funct\_1 (k4\_normsp\_0 X0 X1)) \wedge ((v1\_funct\_2 (k4\_normsp\_0 \\ & X0 X1) k5\_numbers k1\_numbers) \wedge (m1\_subset\_1 (k4\_normsp\_0 X0 X1) \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k1\_numbers)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge (((\neg v2\_struct\_0 \\ & X1) \wedge (l1\_normsp\_0 X1)) \wedge ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow ((v1\_funct\_1 (k3\_normsp\_0 \\ & X0 X1 X2)) \wedge (m1\_subset\_1 (k3\_normsp\_0 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 k1\_numbers)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\
& ((\neg v2\_struct\_0 X1)\wedge((v13\_algstr\_0 X1)\wedge((v2\_rlvect\_1 X1)\wedge \\
& (v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 X1)\wedge((v3\_normsp\_0 X1)\wedge((v4\_normsp\_0 \\
& X1)\wedge((v2\_clvect\_1 X1)\wedge((v3\_clvect\_1 X1)\wedge((v4\_clvect\_1 X1)\wedge \\
& ((v5\_clvect\_1 X1)\wedge((v8\_clvect\_1 X1)\wedge(l2\_clvect\_1 X1))))))))))\wedge \\
& (((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 (u1\_struct\_0 X1)))))\wedge(v1\_xcmplx\_0 X3)))\Rightarrow((v1\_funct\_1 (k2\_vfunct\_2 \\
& X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_vfunct\_2 X0 X1 X2 X3) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1))))))
\end{aligned} \tag{25}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_normsp\_0 X0))\wedge \\
& ((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 (u1\_struct\_0 X0))\wedge(v1\_funct\_1 \\
& X1)))\Rightarrow((v1\_relat\_1 (k2\_normsp\_0 X0 X1))\wedge(v1\_funct\_1 (k2\_normsp\_0 \\
& X0 X1)))
\end{aligned} \tag{26}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 \\
& X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge \\
& ((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge((v3\_normsp\_0 \\
& X0)\wedge((v4\_normsp\_0 X0)\wedge((v2\_normsp\_1 X0)\wedge(l1\_normsp\_1 X0))))))))))\Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1)\wedge((v13\_algstr\_0 X1)\wedge((v2\_rlvect\_1 \\
& X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 X1)\wedge((v3\_normsp\_0 X1)\wedge \\
& ((v4\_normsp\_0 X1)\wedge((v2\_clvect\_1 X1)\wedge((v3\_clvect\_1 X1)\wedge((v4\_clvect\_1 \\
& X1)\wedge((v5\_clvect\_1 X1)\wedge((v8\_clvect\_1 X1)\wedge(l2\_clvect\_1 X1))))))))))\Rightarrow \\
& (\forall X2.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))\Rightarrow(\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0))\Rightarrow((r3\_ncfcont1 X0 X1 X2 X3)\Leftrightarrow((X3 \in k1\_relset\_1 \\
& (u1\_struct\_0 X0) X2)\wedge(\forall X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 \\
& X4 k5\_numbers (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0))))\Rightarrow(((r1\_tarski \\
& (k2\_relset\_1 (u1\_struct\_0 X0) X4) (k1\_relset\_1 (u1\_struct\_0 X0) \\
& X2))\wedge((v3\_normsp\_1 X4 X0)\wedge(k6\_normsp\_1 X0 X4 = X3))\Rightarrow((v9\_clvect\_1 \\
& (k8\_funct\_2 k5\_numbers (u1\_struct\_0 X1) (u1\_struct\_0 X0) X4 X2) \\
& X1)\wedge(k7\_partfun1 (u1\_struct\_0 X1) X2 X3 = k7\_clvect\_1 X1 (k8\_funct\_2 \\
& k5\_numbers (u1\_struct\_0 X1) (u1\_struct\_0 X0) X4 X2)))))))))
\end{aligned} \tag{27}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge( \\
& v1\_funct\_1 X1)))\Rightarrow(\forall X2.(X2 \in k9\_xtuple\_0 X1)\Rightarrow(k7\_partfun1 \\
& X0 X1 X2 = k1\_funct\_1 X1 X2))
\end{aligned} \tag{28}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) k1\_numbers)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (u1\_struct\_0 X0) \Rightarrow ((r2\_nfcont\_1 X0 X1 X2) \Leftrightarrow ((X2 \in k1\_relset\_1 ( \\
& u1\_struct\_0 X0) X1) \wedge (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\
& X3 k5\_numbers (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 X0)))))) \Rightarrow (((r1\_tarSKI \\
& (k2\_relset\_1 (u1\_struct\_0 X0) X3) (k1\_relset\_1 (u1\_struct\_0 X0) \\
& X1)) \wedge ((v3\_normsp\_1 X3 X0) \wedge (k6\_normsp\_1 X0 X3 = X2))) \Rightarrow ((v2\_comseq\_2 \\
& (k8\_funct\_2 k5\_numbers k1\_numbers (u1\_struct\_0 X0) X3 X1)) \wedge (k7\_partfun1 \\
& k1\_numbers X1 X2 = k2\_seq\_2 (k8\_funct\_2 k5\_numbers k1\_numbers ( \\
& u1\_struct\_0 X0) X3 X1))))))))))
\end{aligned} \tag{29}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& (l1\_normsp\_0 X1)) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3. \\
& ((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 \\
& k1\_numbers)))) \Rightarrow ((X3 = k3\_normsp\_0 X0 X1 X2) \Leftrightarrow ((k9\_xtuple\_0 X3 = \\
& k9\_xtuple\_0 X2) \wedge (\forall X4.(m1\_subset\_1 X4 X0) \Rightarrow ((X4 \in k9\_xtuple\_0 \\
& X3) \Rightarrow (k1\_funct\_1 X3 X4 = k1\_normsp\_0 X1 (k7\_partfun1 (u1\_struct\_0 \\
& X1) X2 X4))))))))))
\end{aligned} \tag{30}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \tag{31}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \tag{32}$$

Assume the following.

$$\forall X0. (v1\_membered X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow (v1\_xcmplx\_0 X1)) \tag{33}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ & X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v3\_normsp\_0 X0) \wedge \\ & ((v4\_normsp\_0 X0) \wedge (v2\_clvect\_1 X0) \wedge (v3\_clvect\_1 X0) \wedge (v4\_clvect\_1 \\ & X0) \wedge (v5\_clvect\_1 X0) \wedge (v8\_clvect\_1 X0) \wedge (l2\_clvect\_1 X0)))))) \Rightarrow \\ & (\forall X1. ((\neg v2\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge (v2\_rlvect\_1 \\ & X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 X1) \wedge (v5\_rlvect\_1 X1) \wedge \\ & ((v6\_rlvect\_1 X1) \wedge (v7\_rlvect\_1 X1) \wedge (v8\_rlvect\_1 X1) \wedge (v3\_normsp\_0 \\ & X1) \wedge (v4\_normsp\_0 X1) \wedge (v2\_normsp\_1 X1) \wedge (l1\_normsp\_1 X1)))))) \Rightarrow \\ & (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X1) (u1\_struct\_0 X0)))))) \Rightarrow (\forall X3. (m1\_subset\_1 \\ & X3 (u1\_struct\_0 X1)) \Rightarrow ((r3\_ncfcont1 X1 X0 X2 X3) \Rightarrow ((r2\_nfcont\_1 \\ & X1 (k3\_normsp\_0 (u1\_struct\_0 X1) X0 X2) X3) \wedge (r3\_ncfcont1 X1 X0 ( \\ & k5\_vfunct\_1 (u1\_struct\_0 X1) X0 X2) X3)))))) \end{aligned}$$