

## t12\_nfcont\_2

(TMQbJ9Nngx69XWmgHYJZLKmb5nUPnc2kK5nj)

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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  $v5\_rlvect\_1 : \iota \Rightarrow o$  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  $l1\_normsp\_1 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_nfcont\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_nfcont\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_seq\_4 : \iota \Rightarrow \iota$  be given. Let  $r4\_nfcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\
 & ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v5\_rlvect\_1 \\
 & X1) \wedge ((v6\_rlvect\_1 X1) \wedge ((v7\_rlvect\_1 X1) \wedge ((v8\_rlvect\_1 X1) \wedge \\
 & ((v3\_normsp\_0 X1) \wedge ((v4\_normsp\_0 X1) \wedge ((v2\_normsp\_1 X1) \wedge (l1\_normsp\_1 \\
 & X1)))))))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) k1\_numbers)))) \Rightarrow \\
 & ((r2\_nfcont\_2 X0 X1 X2) \Rightarrow (r4\_nfcont\_1 X1 X2 X0)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) k1\_numbers)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg (X2 \neq k1\_xboole\_0) \wedge ((r1\_tarski \\
& X2 (k1\_relset\_1 (u1\_struct\_0 X0) X1)) \wedge ((v1\_nfcont\_1 X2 X0) \wedge (( \\
& r4\_nfcont\_1 X0 X1 X2) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg (X3 \in X2) \wedge \\
& ((X4 \in X2) \wedge ((k7\_partfun1 k1\_numbers X1 X3 = k4\_seq\_4 (k7\_relset\_1 \\
& (u1\_struct\_0 X0) k1\_numbers X1 X2)) \wedge (k7\_partfun1 k1\_numbers X1 \\
& X4 = k5\_seq\_4 (k7\_relset\_1 (u1\_struct\_0 X0) k1\_numbers X1 X2))))))))))))) \\
& \tag{2}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) k1\_numbers)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\neg (X2 \neq k1\_xboole\_0) \wedge ((r1\_tarski \\
& X2 (k1\_relset\_1 (u1\_struct\_0 X0) X1)) \wedge ((v1\_nfcont\_1 X2 X0) \wedge (( \\
& r2\_nfcont\_2 X2 X0 X1) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg (X3 \in X2) \wedge \\
& ((X4 \in X2) \wedge ((k7\_partfun1 k1\_numbers X1 X3 = k4\_seq\_4 (k7\_relset\_1 \\
& (u1\_struct\_0 X0) k1\_numbers X1 X2)) \wedge (k7\_partfun1 k1\_numbers X1 \\
& X4 = k5\_seq\_4 (k7\_relset\_1 (u1\_struct\_0 X0) k1\_numbers X1 X2))))))))))))) \\
& \tag{2}
\end{aligned}$$