

# t21\_nfcont\_1 (TMcYhuULwd- CWB3ob1crsgYqDGP9qTJQCZ9u)

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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  $r3\_nfcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_nfcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k5\_relat\_1 (k5\_relat\_1 X1 X0) X0 = k5\_relat\_1 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = k3\_xboole\_0 (k9\_xtuple\_0 X1) X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k3\_xboole\_0 X0 X1 = X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski (k3\_xboole\_0 X0 X1) X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X0)\Rightarrow(v1\_relat\_1 (k5\_relat\_1 X0 X1)) \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge \\ &(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((v1\_funct\_1 \\ &(k2\_partfun1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) \\ &(k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 \\ &X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v5\_rlvect\_1 X0)\wedge \\ &((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 X0)\wedge((v3\_normsp\_0 \\ &X0)\wedge((v4\_normsp\_0 X0)\wedge((v2\_normsp\_1 X0)\wedge(l1\_normsp\_1 X0))))))))))\Rightarrow \\ &(\forall X1.((\neg v2\_struct\_0 X1)\wedge((v13\_algstr\_0 X1)\wedge((v2\_rlvect\_1 \\ &X1)\wedge((v3\_rlvect\_1 X1)\wedge((v4\_rlvect\_1 X1)\wedge((v5\_rlvect\_1 X1)\wedge \\ &((v6\_rlvect\_1 X1)\wedge((v7\_rlvect\_1 X1)\wedge((v8\_rlvect\_1 X1)\wedge((v3\_normsp\_0 \\ &X1)\wedge((v4\_normsp\_0 X1)\wedge((v2\_normsp\_1 X1)\wedge(l1\_normsp\_1 X1))))))))))\Rightarrow \\ &(\forall X2.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ &(u1\_struct\_0 X0) (u1\_struct\_0 X1))))))\Rightarrow(\forall X3.(r3\_nfcont\_1 \\ &X0 X1 X2 X3)\Leftrightarrow((r1\_tarski X3 (k1\_relset\_1 (u1\_struct\_0 X0) X2))\wedge \\ &(\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0))\Rightarrow((X4 \in X3)\Rightarrow(r1\_nfcont\_1 \\ &X0 X1 (k2\_partfun1 (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X3) X4)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge (v13\_algstr\_0 X1) \wedge \\ & ((v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 X1) \wedge (v5\_rlvect\_1 \\ & X1) \wedge (v6\_rlvect\_1 X1) \wedge (v7\_rlvect\_1 X1) \wedge (v8\_rlvect\_1 X1) \wedge \\ & ((v3\_normsp\_0 X1) \wedge (v4\_normsp\_0 X1) \wedge (v2\_normsp\_1 X1) \wedge (l1\_normsp\_1 \\ & X1)))))) \Rightarrow (\forall X2. ((\neg v2\_struct\_0 X2) \wedge (v13\_algstr\_0 \\ & X2) \wedge (v2\_rlvect\_1 X2) \wedge (v3\_rlvect\_1 X2) \wedge (v4\_rlvect\_1 X2) \wedge \\ & (v5\_rlvect\_1 X2) \wedge (v6\_rlvect\_1 X2) \wedge (v7\_rlvect\_1 X2) \wedge (v8\_rlvect\_1 \\ & X2) \wedge (v3\_normsp\_0 X2) \wedge (v4\_normsp\_0 X2) \wedge (v2\_normsp\_1 X2) \wedge \\ & (l1\_normsp\_1 X2)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 \\ & X2)))))) \Rightarrow ((r3\_nfcont\_1 X1 X2 X3 X0) \Leftrightarrow (r3\_nfcont\_1 X1 X2 (k2\_partfun1 \\ & (u1\_struct\_0 X1) (u1\_struct\_0 X2) X3 X0) X0))) \end{aligned}$$