

t84_ncfcont1

(TMMeD5AXYkmFn8gBCxVhZxMCpkz3aq48bRx)

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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 $v5_rlvect.1 : \iota \Rightarrow o$ 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 $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_ncfcont1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r8_ncfcont1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_nfcont.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k10_xtuple.0 : \iota \Rightarrow \iota$ be given. Let $k7_relat.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_ncfcont1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct.0 X0) \wedge ((v13_algstr.0 X0) \wedge ((v2_rlvect.1 \\
 & X0) \wedge ((v3_rlvect.1 X0) \wedge ((v4_rlvect.1 X0) \wedge ((v3_normsp.0 X0) \wedge \\
 & ((v4_normsp.0 X0) \wedge ((v2_clvect.1 X0) \wedge ((v3_clvect.1 X0) \wedge ((v4_clvect.1 \\
 & X0) \wedge ((v5_clvect.1 X0) \wedge ((v8_clvect.1 X0) \wedge (l2_clvect.1 X0)))))))))) \Rightarrow \\
 & (\forall X1. ((\neg v2_struct.0 X1) \wedge ((v13_algstr.0 X1) \wedge ((v2_rlvect.1 \\
 & X1) \wedge ((v3_rlvect.1 X1) \wedge ((v4_rlvect.1 X1) \wedge ((v5_rlvect.1 X1) \wedge \\
 & ((v6_rlvect.1 X1) \wedge ((v7_rlvect.1 X1) \wedge ((v8_rlvect.1 X1) \wedge ((v3_normsp.0 \\
 & X1) \wedge ((v4_normsp.0 X1) \wedge ((v2_normsp.1 X1) \wedge (l1_normsp.1 X1)))))))))) \Rightarrow \\
 & (\forall X2. ((v1_funct.1 X2) \wedge (m1_subset.1 X2 (k1_zfmisc.1 (k2_zfmisc.1 \\
 & (u1_struct.0 X0) (u1_struct.0 X1)))))) \Rightarrow (((v1_ncfcont1 (k1_relset.1 \\
 & (u1_struct.0 X0) X2) X0) \wedge (r8_ncfcont1 X0 X1 X2 (k1_relset.1 (u1_struct.0 \\
 & X0) X2))) \Rightarrow (v1_nfcont.1 (k2_relset.1 (u1_struct.0 X1) X2) X1)))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1)\Rightarrow(k5_relat_1 (k5_relat_1 X1 X0) X0 = k5_relat_1 X1 X0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1)\Rightarrow(k9_xtuple_0 (k5_relat_1 X1 X0) = k3_xboole_0 (k9_xtuple_0 X1) X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Rightarrow(k3_xboole_0 X0 X1 = X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1)\Rightarrow(k10_xtuple_0 (k5_relat_1 X1 X0) = k7_relat_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k7_relset_1 X0 X1 X2 X3 = k7_relat_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (9)$$

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.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\
& ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\
& X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge \\
& ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 \\
& X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow \\
& (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.(r8_ncfcont1 \\
& X0 X1 X2 X3) \Leftrightarrow ((r1_tarski X3 (k1_relset_1 (u1_struct_0 X0) X2)) \wedge \\
& (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((X4 \in X3) \Rightarrow (r2_ncfcont1 \\
& X0 X1 (k2_partfun1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) X4)))))) \\
& \hspace{15em} (12)
\end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (15)$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\
& ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\
& X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge \\
& ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 \\
& X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (((r1_tarski X2 (k1_relset_1 \\
& (u1_struct_0 X0) X3)) \wedge ((v1_ncfcont1 X2 X0) \wedge (r8_ncfcont1 X0 X1 \\
& X3 X2))) \Rightarrow (v1_ncfcont1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 \\
& X1) X3 X2) X1))))))
\end{aligned}$$