

t28_ncfcont1 (TMJDTM-
FRPq12j6ApdYDcHAo9qaePvWZeeDH)

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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 $v1_funct_1 : \iota \Rightarrow o$ 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 $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ 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 $k8_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\
& v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 \\
& X1) \wedge ((v2_clvect_1 X1) \wedge ((v3_clvect_1 X1) \wedge ((v4_clvect_1 X1) \wedge \\
& ((v5_clvect_1 X1) \wedge ((v8_clvect_1 X1) \wedge (l2_clvect_1 X1)))))))))) \Rightarrow \\
& (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 \\
& X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge \\
& ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 \\
& X2) \wedge ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow \\
& (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 \\
& X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X2)))))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X2) (u1_struct_0 X1)))))) \Rightarrow ((r1_tarski \\
& (k2_relset_1 (u1_struct_0 X2) X3) (k1_relset_1 (u1_struct_0 X2) \\
& X4)) \Rightarrow (k1_normsp_1 X2 X3 X0 \in k1_relset_1 (u1_struct_0 X2) X4)))))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X1 X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X1 X2)))))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 X2 X0)))))) \Rightarrow (\forall X5. (m1_subset_1 \\
& X5 X1) \Rightarrow ((r1_tarski (k2_relset_1 X2 X3) (k1_relset_1 X2 X4)) \Rightarrow ((\\
& X1 = k1_xboole_0) \vee (k1_funct_1 (k8_funct_2 X1 X0 X2 X3 X4) X5 = k7_partfun1 \\
& X0 X4 (k1_funct_1 X3 X5)))))) \\
& \tag{3}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\
& ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\
& X3) \Leftrightarrow (X2 = X3)) \\
& \tag{4}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \\
& \tag{5}
\end{aligned}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_struct_0 \\ & X0)) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\ & X0)))))) \wedge (m1_subset_1 X2 k5_numbers))) \Rightarrow (k1_normsp_1 X0 X1 X2 = \\ & k1_funct_1 X1 X2) \end{aligned} \quad (7)$$

Assume the following.

$$\exists X0. v1_xboole_0 X0 \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (11)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (12)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (13)$$

Assume the following.

$$\forall X0. (l2_normsp_0 X0) \Rightarrow ((l1_normsp_0 X0) \wedge (l2_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0. (l2_clvect_1 X0) \Rightarrow ((l1_clvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0. (l1_normsp_1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & X2) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X2) \wedge (m1_subset_1 X3 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X2)))))) \wedge ((v1_relat_1 X4) \wedge ((v5_relat_1 \\ & X4 X1) \wedge (v1_funct_1 X4)))) \Rightarrow ((v1_funct_1 (k8_funct_2 X0 X1 X2 X3 \\ & X4)) \wedge ((v1_funct_2 (k8_funct_2 X0 X1 X2 X3 X4) X0 X1) \wedge (m1_subset_1 \\ & (k8_funct_2 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v13_algstr_0 \\
& X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\
& ((v2_clvect_1 X0)\wedge((v3_clvect_1 X0)\wedge((v4_clvect_1 X0)\wedge((v5_clvect_1 \\
& X0)\wedge(l1_clvect_1 X0))))))))))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 \\
& X1 k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))\wedge(v1_xcmplx_0 \\
& X2))\Rightarrow((v1_funct_1 (k6_clvect_1 X0 X1 X2))\wedge((v1_funct_2 (k6_clvect_1 \\
& X0 X1 X2) k5_numbers (u1_struct_0 X0))\wedge(m1_subset_1 (k6_clvect_1 \\
& X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X0))))))
\end{aligned} \tag{18}$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \tag{19}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge(\\
& (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge((v4_normsp_0 \\
& X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge((v4_clvect_1 X1)\wedge \\
& ((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 X1))))))))))\wedge \\
& (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1))))\wedge(v1_xcmplx_0 X3)))\Rightarrow((v1_funct_1 (k2_vfunct_2 \\
& X0 X1 X2 X3))\wedge(m1_subset_1 (k2_vfunct_2 X0 X1 X2 X3) (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1))))))
\end{aligned} \tag{20}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_struct_0 \\
& X0))\wedge(((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0))))))\wedge(m1_subset_1 X2 k5_numbers))\Rightarrow(m1_subset_1 (k1_normsp_1 \\
& X0 X1 X2) (u1_struct_0 X0))
\end{aligned} \tag{21}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\
& X1) \wedge (v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_clvect_1 X1) \wedge \\
& ((v3_clvect_1 X1) \wedge (v4_clvect_1 X1) \wedge (v5_clvect_1 X1) \wedge (v8_clvect_1 \\
& X1) \wedge (l2_clvect_1 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X3.(v1_xcmplx_0 X3) \Rightarrow (\forall X4.((v1_funct_1 \\
& X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1)))))) \Rightarrow ((X4 = k2_vfunct_2 X0 X1 X2 X3) \Leftrightarrow ((k1_relset_1 X0 X4 = k1_relset_1 \\
& X0 X2) \wedge (\forall X5.(m1_subset_1 X5 X0) \Rightarrow ((X5 \in k1_relset_1 X0 X4) \Rightarrow \\
& (k7_partfun1 (u1_struct_0 X1) X4 X5 = k1_clvect_1 X1 (k7_partfun1 \\
& (u1_struct_0 X1) X2 X5) X3)))))))))
\end{aligned} \tag{22}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0) \wedge (v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge (v4_clvect_1 X0) \wedge (v5_clvect_1 X0) \wedge (l1_clvect_1 \\
& X0)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow \\
& (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow ((X3 = k6_clvect_1 X0 X1 X2) \Leftrightarrow (\forall X4.(m2_subset_1 \\
& X4 k1_numbers k5_numbers) \Rightarrow (k1_normsp_1 X0 X3 X4 = k1_clvect_1 X0 \\
& (k1_normsp_1 X0 X1 X4) X2))))))
\end{aligned} \tag{23}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \tag{24}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{25}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\
& ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\
& X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge \\
& ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 \\
& X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow (\forall X3. ((v1_funct_1 \\
& X3) \wedge ((v1_funct_2 X3 k5_numbers (u1_struct_0 X1)) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 X1)))))) \Rightarrow \\
& (\forall X4. (v1_xcmplx_0 X4) \Rightarrow ((r1_tarski (k2_relset_1 (u1_struct_0 \\
& X1) X3) (k1_relset_1 (u1_struct_0 X1) X2)) \Rightarrow (r2_funct_2 k5_numbers \\
& (u1_struct_0 X0) (k8_funct_2 k5_numbers (u1_struct_0 X0) (u1_struct_0 \\
& X1) X3 (k2_vfunct_2 (u1_struct_0 X1) X0 X2 X4)) (k6_clvect_1 X0 (\\
& k8_funct_2 k5_numbers (u1_struct_0 X0) (u1_struct_0 X1) X3 X2 \\
& X4))))))
\end{aligned}$$