

t5_nfcont_2 (TMay-
dqcBFEvhaLM22JijpAChzPuKCRrLU3G)

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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 $r1_nfcont_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k4_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ 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 $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (m1_subset_1 X1 k1_numbers) \Rightarrow (\forall X2. \\
& ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((\\
& v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 \\
& X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge \\
& ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow \\
& (\forall X3. ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge ((v2_rlvect_1 \\
& X3) \wedge ((v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge ((v5_rlvect_1 X3) \wedge \\
& ((v6_rlvect_1 X3) \wedge ((v7_rlvect_1 X3) \wedge ((v8_rlvect_1 X3) \wedge ((v3_normsp_0 \\
& X3) \wedge ((v4_normsp_0 X3) \wedge ((v2_normsp_1 X3) \wedge (l1_normsp_1 X3)))))))))) \Rightarrow \\
& (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X2) (u1_struct_0 X3)))))) \Rightarrow ((r1_nfcont_2 X0 X2 X3 X4) \Rightarrow \\
& (r1_nfcont_2 X0 X2 X3 (k4_vfunct_1 (u1_struct_0 X2) X3 X4 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\ ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\ X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2.((v1_funct_1 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ X1)))))) \Rightarrow (r2_relset_1 X0 (u1_struct_0 X1) (k5_vfunct_1 X0 X1 X2) \\ (k4_vfunct_1 X0 X1 X2 (k1_real_1 np_1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_normsp_0 X0) \Rightarrow ((l1_normsp_0 X0) \wedge (l2_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l2_normsp_0 X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge (((\neg v2_struct_0 \\ X1) \wedge (l2_algstr_0 X1)) \wedge ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 (u1_struct_0 X1))))))) \Rightarrow ((v1_funct_1 (k5_vfunct_1 \\ X0 X1 X2) \wedge (m1_subset_1 (k5_vfunct_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 (u1_struct_0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge(l1_rlvect_1 X1))\wedge((v1_funct_1 X2)\wedge(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\wedge(m1_subset_1 \\
& X3 k1_numbers)))\Rightarrow((v1_funct_1 (k4_vfunct_1 X0 X1 X2 X3))\wedge(m1_subset_1 \\
& (k4_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& X1))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 X0) k1_numbers) \tag{12}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v5_rlvect_1 \\
& X1)\wedge((v6_rlvect_1 X1)\wedge((v7_rlvect_1 X1)\wedge((v8_rlvect_1 X1)\wedge \\
& ((v3_normsp_0 X1)\wedge((v4_normsp_0 X1)\wedge((v2_normsp_1 X1)\wedge(l1_normsp_1 \\
& X1))))))))))\Rightarrow(\forall X2.((\neg v2_struct_0 X2)\wedge((v13_algstr_0 \\
& X2)\wedge((v2_rlvect_1 X2)\wedge((v3_rlvect_1 X2)\wedge((v4_rlvect_1 X2)\wedge \\
& ((v5_rlvect_1 X2)\wedge((v6_rlvect_1 X2)\wedge((v7_rlvect_1 X2)\wedge((v8_rlvect_1 \\
& X2)\wedge((v3_normsp_0 X2)\wedge((v4_normsp_0 X2)\wedge((v2_normsp_1 X2)\wedge \\
& (l1_normsp_1 X2))))))))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& X2))))))\Rightarrow((r1_nfcont_2 X0 X1 X2 X3)\Rightarrow(r1_nfcont_2 X0 X1 X2 (k5_vfunct_1 \\
& (u1_struct_0 X1) X2 X3))))))
\end{aligned}$$