

t14_nfcont_4 (TMSuJTbnogmuQvZkCdjonwCn- vipYaYAmUzW)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_integr15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $k6_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. 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 $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_normsp_1 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_euclid : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k1_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given. Let $k2_real_ns1 : \iota \Rightarrow \iota$ be given. Let $u1_normsp_0 : \iota \Rightarrow \iota$ be given. Let $k3_real_ns1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 \\
 & X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow \\
 & (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow (\forall X4. ((v1_funct_1 \\
 & X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X1 (k1_euclid X0)))))) \Rightarrow \\
 & (\forall X5. ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X1 (k1_euclid X0)))))) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k6_vfunct_1 X1 (k4_real_ns1 \\
 & X0) X2 X3 = k7_integr15 X0 X1 X4 X5))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (v1_xreal_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 \\
& (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid X0)))))) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow ((X3 = X2) \Rightarrow ((r1_nfcont_4 \\
& X0 X2 X1) \Leftrightarrow (r1_nfcont_3 (k4_real_ns1 X0) X3 X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (\\
& (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers (u1_struct_0 X1)))))) \Rightarrow (((X0 \in k9_subset_1 \\
& k1_numbers (k1_relset_1 k1_numbers X2) (k1_relset_1 k1_numbers \\
& X3)) \wedge ((r1_nfcont_3 X1 X2 X0) \wedge (r1_nfcont_3 X1 X3 X0))) \Rightarrow ((r1_nfcont_3 \\
& X1 (k6_vfunct_1 k1_numbers X1 X2 X3) X0) \wedge (r1_nfcont_3 X1 (k2_vfunct_1 \\
& k1_numbers X1 X2 X3) X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge (\\
& (v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 \\
& X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\
& ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))))))) \wedge \\
& (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 (u1_struct_0 X1)))))) \wedge ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (k6_vfunct_1 X0 X1 X2 \\
& X3 = k1_vfunct_1 X0 X1 X2 X3))
\end{aligned} \tag{5}$$

Assume the following.

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

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{7}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge \\ & ((v13_algstr_0\ (k4_real_ns1\ X0)) \wedge ((v2_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v4_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v5_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v6_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v7_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v8_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_normsp_0\ (k4_real_ns1\ X0)) \wedge ((v4_normsp_0\ (k4_real_ns1 \\ & X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (v2_normsp_1\ (k4_real_ns1 \\ & X0))))))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3. & ((\neg v1_xboole_0\ X0) \wedge \\ & (((\neg v2_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v2_rlvect_1\ X1) \wedge \\ & (v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v5_rlvect_1\ X1) \wedge ((v6_rlvect_1 \\ & X1) \wedge ((v7_rlvect_1\ X1) \wedge ((v8_rlvect_1\ X1) \wedge ((v3_normsp_0\ X1) \wedge \\ & ((v4_normsp_0\ X1) \wedge ((v2_normsp_1\ X1) \wedge (l1_normsp_1\ X1))))))))))))) \wedge \\ & (((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ (u1_struct_0\ X1)))))) \wedge ((v1_funct_1\ X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ (u1_struct_0\ X1)))))) \Rightarrow ((v1_funct_1\ (k6_vfunct_1 \\ & X0\ X1\ X2\ X3)) \wedge (m1_subset_1\ (k6_vfunct_1\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ (u1_struct_0\ X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (l1_normsp_1\ (k4_real_ns1\ X0)))) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ & ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow \\ & ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge \\ & ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) \\ & (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (\\ & k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2 \\ & (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1 \\ & k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1 \\ & X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers \\ & (u1_normsp_0\ X1)\ (k3_real_ns1\ X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers)\Rightarrow(\forall X1. \\ & (v1_xreal_0 X1)\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid X0))))))\Rightarrow(\forall X3. \\ & ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\ & (k1_euclid X0))))))\Rightarrow(((X1 \in k9_subset_1 k1_numbers (k1_relset_1 \\ & k1_numbers X2) (k1_relset_1 k1_numbers X3))\wedge((r1_nfcont_4 X0 \\ & X2 X1)\wedge(r1_nfcont_4 X0 X3 X1)))\Rightarrow(r1_nfcont_4 X0 (k7_integr15 X0 \\ & k1_numbers X2 X3) X1)))))) \end{aligned}$$