

t17_nfcont_4 (TMPwPdSUXoMqovezcd- CCo2yhYjspEM4MK79)

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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 $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_fcont_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_normsp_0 : \iota \Rightarrow o$ be given. Let $k2_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ 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.

$$\begin{aligned}
 & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
 & (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 \\
 & X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 (u1_struct_0 (k4_real_ns1 X0)))))) \Rightarrow \\
 & (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & X1 (k1_euclid X0)))))) \Rightarrow ((X2 = X3) \Rightarrow (r2_relset_1 X1 k1_numbers (k3_normsp_0 \\
 & X1 (k4_real_ns1 X0) X2) (k1_nfcont_4 X0 X1 X3))))))
 \end{aligned} \tag{1}$$

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.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (\\
& (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
& X1)))))) \Rightarrow (((X0 \in k1_relset_1 k1_numbers X2) \wedge (r1_nfcont_3 X1 X2 \\
& X0)) \Rightarrow ((r1_fcont_1 (k3_normsp_0 k1_numbers X1 X2) X0) \wedge (r1_nfcont_3 \\
& X1 (k5_vfunct_1 k1_numbers X1 X2) X0))))))
\end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v2_struct_0 \\
& X1) \wedge (l1_normsp_0 X1)) \wedge ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow (k3_normsp_0 X0 X1 X2 = \\
& k2_normsp_0 X1 X2)
\end{aligned} \tag{7}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge \\ & ((v13_algstr_0\ (k4_real_ns1\ X0)) \wedge ((v2_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v4_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v5_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v6_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v7_rlvect_1\ (k4_real_ns1\ X0)) \wedge ((v8_rlvect_1\ (k4_real_ns1 \\ & X0)) \wedge ((v3_normsp_0\ (k4_real_ns1\ X0)) \wedge ((v4_normsp_0\ (k4_real_ns1 \\ & X0)) \wedge ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (v2_normsp_1\ (k4_real_ns1 \\ & X0))))))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\neg v1_xboole_0\ k1_numbers \quad (10)$$

Assume the following.

$$\forall X0.(l2_normsp_0\ X0) \Rightarrow ((l1_normsp_0\ X0) \wedge (l2_struct_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_normsp_1\ X0) \Rightarrow ((l1_rlvect_1\ X0) \wedge (l2_normsp_0\ X0)) \quad (12)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow & ((\neg v2_struct_0\ (k4_real_ns1\ X0)) \wedge \\ & ((v1_normsp_1\ (k4_real_ns1\ X0)) \wedge (l1_normsp_1\ (k4_real_ns1\ X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2. & ((\neg v1_xboole_0\ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge (l1_normsp_0\ X1)) \wedge ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ X0\ (u1_struct_0\ X1))))))) \Rightarrow & ((v1_funct_1\ (k3_normsp_0 \\ & X0\ X1\ X2)) \wedge (m1_subset_1\ (k3_normsp_0\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & X0\ k1_numbers)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2. & ((m1_subset_1\ X0\ k5_numbers) \wedge \\ & ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X1 \\ & (k1_euclid\ X0)))))) \Rightarrow & ((v1_funct_1\ (k1_nfcont_4\ X0\ X1\ X2)) \wedge (m1_subset_1 \\ & (k1_nfcont_4\ X0\ X1\ X2)\ (k1_zfmisc_1\ (k2_zfmisc_1\ X1\ k1_numbers)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((v1_normsp_1\ X1) \wedge (l1_normsp_1\ X1))) \Rightarrow ((X1 = k4_real_ns1\ X0) \Leftrightarrow \\
& ((u1_struct_0\ X1 = k1_euclid\ X0) \wedge ((k4_struct_0\ X1 = k5_euclid\ X0) \wedge \\
& ((r1_funct_2\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)) \\
& (u1_struct_0\ X1)\ (k2_zfmisc_1\ (k1_euclid\ X0)\ (k1_euclid\ X0))\ (\\
& k1_euclid\ X0)\ (u1_algstr_0\ X1)\ (k1_real_ns1\ X0)) \wedge ((r1_funct_2 \\
& (k2_zfmisc_1\ k1_numbers\ (u1_struct_0\ X1))\ (u1_struct_0\ X1)\ (k2_zfmisc_1 \\
& k1_numbers\ (k1_euclid\ X0))\ (k1_euclid\ X0)\ (u1_rlvect_1\ X1)\ (k2_real_ns1 \\
& X0)) \wedge (r1_funct_2\ (u1_struct_0\ X1)\ k1_numbers\ (k1_euclid\ X0)\ k1_numbers \\
& (u1_normsp_0\ X1)\ (k3_real_ns1\ X0))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1) \Rightarrow (v7_ordinal1\ X0) \tag{18}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m2_subset_1\ X0\ k1_numbers\ k5_numbers) \Rightarrow (\forall X1. \\
& (v1_xreal_0\ X1) \Rightarrow (\forall X2.((v1_funct_1\ X2) \wedge (m1_subset_1\ X2 \\
& (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ (k1_euclid\ X0)))))) \Rightarrow (((\\
& X1 \in k1_relset_1\ k1_numbers\ X2) \wedge (r1_nfcont_4\ X0\ X2\ X1)) \Rightarrow (r1_fcont_1 \\
& (k1_nfcont_4\ X0\ k1_numbers\ X2)\ X1)))
\end{aligned}$$