

t19_nfcont_4

(TMHc5pvppGK8iHqhGbLTTCExzQ3fEB2mecF)

October 27, 2020

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 $v2_struct_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_real_ns1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_nfcont_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge \\
& ((v4_rlvect_1 X2) \wedge ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 \\
& X2) \wedge ((v8_rlvect_1 X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge \\
& ((v2_normsp_1 X2) \wedge (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3. \\
& ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& (u1_struct_0 X1)))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))) \Rightarrow \\
& (((X0 \in k1_relset_1 k1_numbers (k1_partfun1 k1_numbers (u1_struct_0 \\
& X1) (u1_struct_0 X1) (u1_struct_0 X2) X3 X4) \wedge ((r1_nfcont_3 X1 \\
& X3 X0) \wedge (r1_nfcont_1 X1 X2 X4 (k7_partfun1 (u1_struct_0 X1) X3 X0)))) \Rightarrow \\
& (r1_nfcont_3 X2 (k1_partfun1 k1_numbers (u1_struct_0 X1) (u1_struct_0 \\
& X1) (u1_struct_0 X2) X3 X4) X0))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow ((\neg v2_struct_0 (k4_real_ns1 X0)) \wedge \\
& ((v13_algstr_0 (k4_real_ns1 X0)) \wedge ((v2_rlvect_1 (k4_real_ns1 \\
& X0)) \wedge ((v3_rlvect_1 (k4_real_ns1 X0)) \wedge ((v4_rlvect_1 (k4_real_ns1 \\
& X0)) \wedge ((v5_rlvect_1 (k4_real_ns1 X0)) \wedge ((v6_rlvect_1 (k4_real_ns1 \\
& X0)) \wedge ((v7_rlvect_1 (k4_real_ns1 X0)) \wedge ((v8_rlvect_1 (k4_real_ns1 \\
& X0)) \wedge ((v3_normsp_0 (k4_real_ns1 X0)) \wedge ((v4_normsp_0 (k4_real_ns1 \\
& X0)) \wedge ((v1_normsp_1 (k4_real_ns1 X0)) \wedge (v2_normsp_1 (k4_real_ns1 \\
& X0))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{6}$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 \ X0) \Rightarrow ((\neg v2_struct_0 \ (k4_real_ns1 \ X0)) \wedge ((v1_normsp_1 \ (k4_real_ns1 \ X0)) \wedge (l1_normsp_1 \ (k4_real_ns1 \ X0)))) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 \ X0) \Rightarrow (\forall X1.((\neg v2_struct_0 \ X1) \wedge \\ & ((v1_normsp_1 \ X1) \wedge (l1_normsp_1 \ X1))) \Rightarrow ((X1 = k4_real_ns1 \ X0) \Leftrightarrow \\ & ((u1_struct_0 \ X1 = k1_euclid \ X0) \wedge ((k4_struct_0 \ X1 = k5_euclid \ X0) \wedge \\ & ((r1_funct_2 \ (k2_zfmisc_1 \ (u1_struct_0 \ X1) \ (u1_struct_0 \ X1)) \\ & (u1_struct_0 \ X1) \ (k2_zfmisc_1 \ (k1_euclid \ X0) \ (k1_euclid \ X0)) \ (\\ & k1_euclid \ X0) \ (u1_algstr_0 \ X1) \ (k1_real_ns1 \ X0)) \wedge (r1_funct_2 \\ & (k2_zfmisc_1 \ k1_numbers \ (u1_struct_0 \ X1)) \ (u1_struct_0 \ X1) \ (k2_zfmisc_1 \\ & k1_numbers \ (k1_euclid \ X0)) \ (k1_euclid \ X0) \ (u1_rlvect_1 \ X1) \ (k2_real_ns1 \\ & X0)) \wedge (r1_funct_2 \ (u1_struct_0 \ X1) \ k1_numbers \ (k1_euclid \ X0) \ k1_numbers \\ & (u1_normsp_0 \ X1) \ (k3_real_ns1 \ X0)))))) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 \ X0 \ k1_numbers \ k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \\ & (k1_euclid \ X0)))) \Rightarrow (\forall X2.(v1_xreal_0 \ X2) \Rightarrow ((r1_nfcont_4 \\ & X0 \ X1 \ X2) \Leftrightarrow (\exists X3.((v1_funct_1 \ X3) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ k1_numbers \ (u1_struct_0 \ (k4_real_ns1 \ X0)))))) \wedge \\ & ((X1 = X3) \wedge (r1_nfcont_3 \ (k4_real_ns1 \ X0) \ X3 \ X2)))))) \quad (10) \end{aligned}$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (11)$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\
& (v1_xreal_0 X1) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\
& ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 \\
& X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge \\
& (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& (k4_real_ns1 X0))) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge (m1_subset_1 \\
& X4 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (k1_euclid X0)))))) \Rightarrow (\\
& \forall X5. ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 (k4_real_ns1 X0)) (u1_struct_0 X2)))))) \Rightarrow (((X1 \in k1_relset_1 \\
& k1_numbers (k1_partfun1 k1_numbers (k1_euclid X0)) (u1_struct_0 \\
& (k4_real_ns1 X0)) (u1_struct_0 X2) X4 X5)) \wedge ((r1_nfcont_4 X0 X4 \\
& X1) \wedge ((X3 = k7_partfun1 (k1_euclid X0) X4 X1) \wedge (r1_nfcont_1 (k4_real_ns1 \\
& X0) X2 X5 X3)))) \Rightarrow (r1_nfcont_3 X2 (k1_partfun1 k1_numbers (k1_euclid \\
& X0) (u1_struct_0 (k4_real_ns1 X0)) (u1_struct_0 X2) X4 X5) X1))))))
\end{aligned}$$