

t7_nfcont_2 (TMMcLVe-
VUsP6QZZ4NQ54uKaZ4jyn3Wk8ZxW)

October 27, 2020

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 $r1_nfcont_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_nfcont_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_normsp_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be

given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
& ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 \\
& X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge \\
& ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 \\
& X1)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\
& ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 \\
& X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge \\
& (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X2) (u1_struct_0 \\
& X1)))))) \Rightarrow ((r3_nfcont_1 X2 X1 X3 X0) \Leftrightarrow ((r1_tarski X0 (k1_relset_1 \\
& (u1_struct_0 X2) X3)) \wedge (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\
& X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 k1_numbers) \Rightarrow (\neg (X4 \in X0) \wedge (\neg \\
& r1_xxreal_0 X5 k6_numbers) \wedge (\forall X6. (m1_subset_1 X6 k1_numbers) \Rightarrow \\
& (\neg (\neg r1_xxreal_0 X6 k6_numbers) \wedge (\forall X7. (m1_subset_1 X7 (\\
& u1_struct_0 X2)) \Rightarrow (\neg (X7 \in X0) \wedge ((\neg r1_xxreal_0 X6 (k1_normsp_0 X2 \\
& (k5_algstr_0 X2 X7 X4))) \wedge (r1_xxreal_0 X5 (k1_normsp_0 X1 (k5_algstr_0 \\
& X1 (k7_partfun1 (u1_struct_0 X1) X3 X7) (k7_partfun1 (u1_struct_0 \\
& X1) X3 X4))))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
& ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 \\
& X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge \\
& ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 \\
& X1)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\
& ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 \\
& X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge \\
& (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
& X2)))))) \Rightarrow ((r1_nfcont_2 X0 X1 X2 X3) \Leftrightarrow ((r1_tarski X0 (k1_relset_1 \\
& (u1_struct_0 X1) X3)) \wedge (\forall X4. (m1_subset_1 X4 k1_numbers) \Rightarrow \\
& (\neg (\neg r1_xxreal_0 X4 k6_numbers) \wedge (\forall X5. (m1_subset_1 X5 k1_numbers) \Rightarrow \\
& (\neg (\neg r1_xxreal_0 X5 k6_numbers) \wedge (\forall X6. (m1_subset_1 X6 (\\
& u1_struct_0 X1)) \Rightarrow (\forall X7. (m1_subset_1 X7 (u1_struct_0 X1)) \Rightarrow \\
& (\neg (X6 \in X0) \wedge ((X7 \in X0) \wedge ((\neg r1_xxreal_0 X5 (k1_normsp_0 X1 (k5_algstr_0 \\
& X1 X6 X7))) \wedge (r1_xxreal_0 X4 (k1_normsp_0 X2 (k5_algstr_0 X2 (k7_partfun1 \\
& (u1_struct_0 X2) X3 X6) (k7_partfun1 (u1_struct_0 X2) X3 X7))))))))))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge \\ & ((v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v5_rlvect_1 \\ & X1) \wedge (v6_rlvect_1 X1) \wedge (v7_rlvect_1 X1) \wedge (v8_rlvect_1 X1) \wedge \\ & ((v3_normsp_0 X1) \wedge (v4_normsp_0 X1) \wedge (v2_normsp_1 X1) \wedge (l1_normsp_1 \\ & X1)))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (v13_algstr_0 \\ & X2) \wedge (v2_rlvect_1 X2) \wedge (v3_rlvect_1 X2) \wedge (v4_rlvect_1 X2) \wedge \\ & (v5_rlvect_1 X2) \wedge (v6_rlvect_1 X2) \wedge (v7_rlvect_1 X2) \wedge (v8_rlvect_1 \\ & X2) \wedge (v3_normsp_0 X2) \wedge (v4_normsp_0 X2) \wedge (v2_normsp_1 X2) \wedge \\ & (l1_normsp_1 X2)))))) \Rightarrow (\forall X3. (v1_funct_1 X3) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & X2)))))) \Rightarrow ((r1_nfcont_2 X0 X1 X2 X3) \Rightarrow (r3_nfcont_1 X1 X2 X3 X0))) \end{aligned}$$