

t22_ncfcont2

(TMRg4Ws79YCvhQoB7pBVkDRF6tewMTWnkGa)

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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 $v3_normsp_0 : \iota \Rightarrow o$ be given. Let $v4_normsp_0 : \iota \Rightarrow o$ be given. Let $v2_clvect_1 : \iota \Rightarrow o$ be given. Let $v3_clvect_1 : \iota \Rightarrow o$ be given. Let $v4_clvect_1 : \iota \Rightarrow o$ be given. Let $v5_clvect_1 : \iota \Rightarrow o$ be given. Let $v8_clvect_1 : \iota \Rightarrow o$ be given. Let $l2_clvect_1 : \iota \Rightarrow o$ 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 $k2_numbers : \iota$ be given. Let $r4_ncfcont2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r10_ncfcont1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $k11_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_normsp_0 X0) \wedge \\
 & ((v4_normsp_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 X0) \wedge ((v4_clvect_1 \\
 & X0) \wedge ((v5_clvect_1 X0) \wedge ((v8_clvect_1 X0) \wedge (l2_clvect_1 X0)))))))))) \Rightarrow \\
 & (\forall X1. \forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & (k2_zfmisc_1 (u1_struct_0 X0) k2_numbers)))) \Rightarrow ((r10_ncfcont1 \\
 & X0 X2 X1) \Leftrightarrow ((r1_tarski X1 (k1_relset_1 (u1_struct_0 X0) X2)) \wedge (\forall X3. \\
 & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\
 & k1_numbers) \Rightarrow (\neg (X3 \in X1) \wedge ((\neg r1_xxreal_0 X4 k6_numbers) \wedge (\forall X5. \\
 & (m1_subset_1 X5 k1_numbers) \Rightarrow (\neg (\neg r1_xxreal_0 X5 k6_numbers) \wedge \\
 & (\forall X6. (m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\neg (X6 \in X1) \wedge ((\neg \\
 & r1_xxreal_0 X5 (k1_normsp_0 X0 (k5_algstr_0 X0 X6 X3))) \wedge (r1_xxreal_0 \\
 & X4 (k17_complex1 (k11_complex1 (k7_partfun1 k2_numbers X2 X6) \\
 & (k7_partfun1 k2_numbers X2 X3)))))))))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 \\
& X1)\wedge((v4_normsp_0 X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge \\
& ((v4_clvect_1 X1)\wedge((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 \\
& X1))))))))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) k2_numbers))))\Rightarrow \\
& ((r4_ncfcont2 X0 X1 X2)\Leftrightarrow((r1_tarski X0 (k1_relset_1 (u1_struct_0 \\
& X1) X2))\wedge(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow(\neg(\neg r1_xxreal_0 \\
& X3 k6_numbers)\wedge(\forall X4.(m1_subset_1 X4 k1_numbers)\Rightarrow(\neg(\neg \\
& r1_xxreal_0 X4 k6_numbers)\wedge(\forall X5.(m1_subset_1 X5 (u1_struct_0 \\
& X1))\Rightarrow(\forall X6.(m1_subset_1 X6 (u1_struct_0 X1))\Rightarrow(\neg(X5 \in X0)\wedge \\
& ((X6 \in X0)\wedge((\neg r1_xxreal_0 X4 (k1_normsp_0 X1 (k5_algstr_0 X1 X5 \\
& X6))))\wedge(r1_xxreal_0 X3 (k17_complex1 (k11_complex1 (k7_partfun1 \\
& k2_numbers X2 X5) (k7_partfun1 k2_numbers X2 X6)))))))))))))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v3_normsp_0 \\
& X1)\wedge((v4_normsp_0 X1)\wedge((v2_clvect_1 X1)\wedge((v3_clvect_1 X1)\wedge \\
& ((v4_clvect_1 X1)\wedge((v5_clvect_1 X1)\wedge((v8_clvect_1 X1)\wedge(l2_clvect_1 \\
& X1))))))))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) k2_numbers))))\Rightarrow \\
& ((r4_ncfcont2 X0 X1 X2)\Rightarrow(r10_ncfcont1 X1 X2 X0)))
\end{aligned}$$