

t20_nfcont_3

(TMUXyjNCgcFU5rthuemfNDmXACJcHGzbRsb)

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 $k1_numbers : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_nfcont_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((r1_tarski X0 X1) \wedge \\ & (r1_tarski X2 X3)) \Rightarrow (r1_tarski (k3_xboole_0 X0 X2) (k3_xboole_0 \\ & X1 X3)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1. \forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X3. ((\\
& v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\
& (u1_struct_0 X0)))))) \Rightarrow (((r1_tarski X1 (k9_subset_1 k1_numbers \\
& (k1_relset_1 k1_numbers X2) (k1_relset_1 k1_numbers X3))) \wedge ((\\
& v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) X2 X1) X0) \wedge \\
& (v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) X3 X1) X0))) \Rightarrow \\
& ((v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) (k6_vfunct_1 \\
& k1_numbers X0 X2 X3) X1) X0) \wedge (v1_nfcont_3 (k2_partfun1 k1_numbers \\
& (u1_struct_0 X0) (k2_vfunct_1 k1_numbers X0 X2 X3) X1) X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\
& ((v5_rlvect_1 X2) \wedge ((v6_rlvect_1 X2) \wedge ((v7_rlvect_1 X2) \wedge ((v8_rlvect_1 \\
& X2) \wedge ((v3_normsp_0 X2) \wedge ((v4_normsp_0 X2) \wedge ((v2_normsp_1 X2) \wedge \\
& (l1_normsp_1 X2)))))))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\
& (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
& X2)))))) \Rightarrow (((v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 \\
& X2) X3 X0) X2) \wedge (r1_tarski X1 X0)) \Rightarrow (v1_nfcont_3 (k2_partfun1 k1_numbers \\
& (u1_struct_0 X2) X3 X1) X2)))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski (k3_xboole_0 X0 X1) X0 \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{7}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v5_rlvect_1 X0)\wedge \\ & ((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 X0)\wedge((v3_normsp_0 X0)\wedge((v4_normsp_0 X0)\wedge((v2_normsp_1 X0)\wedge(l1_normsp_1 X0))))))))))\Rightarrow \\ & (\forall X1.\forall X2.\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 X0))))))\Rightarrow \\ & (\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 X0))))))\Rightarrow(((r1_tarski X1 (k1_relset_1 k1_numbers X3))\wedge((r1_tarski X2 (k1_relset_1 k1_numbers X4))\wedge \\ & ((v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) X3 X1) X0)\wedge(v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) X4 X2) X0))))\Rightarrow((v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) (k6_vfunct_1 k1_numbers X0 X3 X4) (k3_xboole_0 X1 X2)) X0)\wedge(v1_nfcont_3 (k2_partfun1 k1_numbers (u1_struct_0 X0) (k2_vfunct_1 k1_numbers X0 X3 X4) (k3_xboole_0 X1 X2)) X0)))))) \end{aligned}$$