

t12_nfcont_3

(TMF58kuaZKHxdHvCSt6SVxGQX6TbvPvC9Ls)

October 27, 2020

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 $v1_funct_1 : \iota \Rightarrow o$ 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 $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_nfcont_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_normsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_normsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_normsp_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_seq_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers \\
& k1_numbers) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\
& k1_numbers)))))) \Rightarrow ((r1_tarski (k2_relset_1 k1_numbers X3) (k9_subset_1 \\
& k1_numbers (k1_relset_1 k1_numbers X1) (k1_relset_1 k1_numbers \\
& X2))) \Rightarrow ((r2_funct_2 k5_numbers (u1_struct_0 X0) (k8_funct_2 k5_numbers \\
& (u1_struct_0 X0) k1_numbers X3 (k6_vfunct_1 k1_numbers X0 X1 X2)) \\
& (k2_normsp_1 X0 (k8_funct_2 k5_numbers (u1_struct_0 X0) k1_numbers \\
& X3 X1) (k8_funct_2 k5_numbers (u1_struct_0 X0) k1_numbers X3 X2))) \wedge \\
& (r2_funct_2 k5_numbers (u1_struct_0 X0) (k8_funct_2 k5_numbers \\
& (u1_struct_0 X0) k1_numbers X3 (k2_vfunct_1 k1_numbers X0 X1 X2)) \\
& (k3_normsp_1 X0 (k8_funct_2 k5_numbers (u1_struct_0 X0) k1_numbers \\
& X3 X1) (k8_funct_2 k5_numbers (u1_struct_0 X0) k1_numbers X3 X2))))))))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (((v3_normsp_1 X1 X0) \wedge (v3_normsp_1 \\
& X2 X0)) \Rightarrow (k6_normsp_1 X0 (k3_normsp_1 X0 X1 X2) = k5_algstr_0 X0 (\\
& k6_normsp_1 X0 X1) (k6_normsp_1 X0 X2)))))) \\
& \tag{3}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (((v3_normsp_1 X1 X0) \wedge (v3_normsp_1 \\
& X2 X0)) \Rightarrow (k6_normsp_1 X0 (k2_normsp_1 X0 X1 X2) = k3_rlvect_1 X0 (\\
& k6_normsp_1 X0 X1) (k6_normsp_1 X0 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (((v3_normsp_1 X1 X0) \wedge (v3_normsp_1 \\
& X2 X0)) \Rightarrow (v3_normsp_1 (k3_normsp_1 X0 X1 X2) X0))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k5_numbers (u1_struct_0 X0)))))) \Rightarrow (((v3_normsp_1 X1 X0) \wedge (v3_normsp_1 \\
& X2 X0)) \Rightarrow (v3_normsp_1 (k2_normsp_1 X0 X1 X2) X0))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski (k3_xboole_0 X0 X1) X0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))\wedge((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((r2_funct_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v2_rlvect_1 X1)\wedge \\ & (v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v5_rlvect_1 X1)\wedge((v6_rlvect_1 \\ & X1)\wedge((v7_rlvect_1 X1)\wedge((v8_rlvect_1 X1)\wedge((v3_normsp_0 X1)\wedge \\ & ((v4_normsp_0 X1)\wedge((v2_normsp_1 X1)\wedge(l1_normsp_1 X1))))))))))\wedge \\ & (((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (u1_struct_0 X1)))))\wedge((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow(k6_vfunct_1 X0 X1 X2 \\ & X3 = k1_vfunct_1 X0 X1 X2 X3) \end{aligned} \quad (13)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v2_rlvect_1 X0)\wedge(l1_algstr_0 \\ & X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ & X0))))\Rightarrow(k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k2_zfmisc_1 X0 X1) \quad (17)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (21)$$

Assume the following.

$$\forall X0.(l1_normsp_1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l2_normsp_0 X0)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ X0))\Rightarrow(m1_subset_1 (k9_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (23)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ X2)\wedge(((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X2)\wedge(m1_subset_1 X3 \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))\wedge((v1_relat_1 X4)\wedge((v5_relat_1 \\ X4 X1)\wedge(v1_funct_1 X4))))\Rightarrow((v1_funct_1 (k8_funct_2 X0 X1 X2 X3 \\ X4))\wedge((v1_funct_2 (k8_funct_2 X0 X1 X2 X3 X4) X0 X1)\wedge(m1_subset_1 \\ (k8_funct_2 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X1)\wedge((v5_relat_1 \\ X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(m1_subset_1 (k7_partfun1 X0 X1 X2) X0) \quad (25)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& \quad (((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge \\
& \quad (v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 \\
& \quad X1) \wedge ((v7_rlvect_1 X1) \wedge ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge \\
& \quad ((v4_normsp_0 X1) \wedge ((v2_normsp_1 X1) \wedge (l1_normsp_1 X1)))))))))) \wedge \\
& \quad (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad X0 (u1_struct_0 X1)))))) \wedge ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \Rightarrow ((v1_funct_1 (k6_vfunct_1 \\
& \quad X0 X1 X2 X3)) \wedge (m1_subset_1 (k6_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 (u1_struct_0 X1))))))
\end{aligned} \tag{26}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l2_algstr_0 \\
& \quad X0)) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& \quad X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 \\
& \quad X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0)))))) \Rightarrow ((v1_funct_1 (k3_normsp_1 X0 X1 X2)) \wedge ((v1_funct_2 \\
& \quad (k3_normsp_1 X0 X1 X2) k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 \\
& \quad (k3_normsp_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0))))))
\end{aligned} \tag{27}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& \quad (((\neg v2_struct_0 X1) \wedge (l2_algstr_0 X1)) \wedge (((v1_funct_1 X2) \wedge (m1_subset_1 \\
& \quad X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1)))))) \wedge ((v1_funct_1 \\
& \quad X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& \quad X1)))))) \Rightarrow ((v1_funct_1 (k2_vfunct_1 X0 X1 X2 X3)) \wedge (m1_subset_1 \\
& \quad (k2_vfunct_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\
& \quad X1))))))
\end{aligned} \tag{28}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l2_algstr_0 \\
& \quad X0)) \wedge (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers (u1_struct_0 \\
& \quad X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers (u1_struct_0 \\
& \quad X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0)))))) \Rightarrow ((v1_funct_1 (k2_normsp_1 X0 X1 X2)) \wedge ((v1_funct_2 \\
& \quad (k2_normsp_1 X0 X1 X2) k5_numbers (u1_struct_0 X0)) \wedge (m1_subset_1 \\
& \quad (k2_normsp_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (u1_struct_0 \\
& \quad X0))))))
\end{aligned} \tag{29}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (30)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ (l2_algstr_0 X1))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\ X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow(\forall X3. \\ ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ (u1_struct_0 X1))))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\ X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((X4 = k2_vfunct_1 \\ X0 X1 X2 X3)\Leftrightarrow((k1_relset_1 X0 X4 = k9_subset_1 X0 (k1_relset_1 X0 \\ X2) (k1_relset_1 X0 X3))\wedge(\forall X5.(m1_subset_1 X5 X0)\Rightarrow((X5 \in \\ k1_relset_1 X0 X4)\Rightarrow(k7_partfun1 (u1_struct_0 X1) X4 X5 = k5_algstr_0 \\ X1 (k7_partfun1 (u1_struct_0 X1) X2 X5) (k7_partfun1 (u1_struct_0 \\ X1) X3 X5)))))))))) \end{aligned} \quad (31)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ (l2_algstr_0 X1))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\ X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow(\forall X3. \\ ((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 \\ (u1_struct_0 X1))))))\Rightarrow(\forall X4.((v1_funct_1 X4)\wedge(m1_subset_1 \\ X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 X1))))))\Rightarrow((X4 = k1_vfunct_1 \\ X0 X1 X2 X3)\Leftrightarrow((k1_relset_1 X0 X4 = k9_subset_1 X0 (k1_relset_1 X0 \\ X2) (k1_relset_1 X0 X3))\wedge(\forall X5.(m1_subset_1 X5 X0)\Rightarrow((X5 \in \\ k1_relset_1 X0 X4)\Rightarrow(k7_partfun1 (u1_struct_0 X1) X4 X5 = k1_algstr_0 \\ X1 (k7_partfun1 (u1_struct_0 X1) X2 X5) (k7_partfun1 (u1_struct_0 \\ X1) X3 X5)))))))))) \end{aligned} \quad (32)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge ((v3_normsp_0 \\
& X0) \wedge ((v4_normsp_0 X0) \wedge ((v2_normsp_1 X0) \wedge (l1_normsp_1 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& k1_numbers (u1_struct_0 X0)))))) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow \\
& ((r1_nfcont_3 X0 X1 X2) \Leftrightarrow ((X2 \in k1_relset_1 k1_numbers X1) \wedge (\forall X3. \\
& ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 k5_numbers k1_numbers) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow (((\\
& r1_tarski (k2_relset_1 k1_numbers X3) (k1_relset_1 k1_numbers \\
& X1)) \wedge ((v2_comseq_2 X3) \wedge (k2_seq_2 X3 = X2))) \Rightarrow ((v3_normsp_1 (k8_funct_2 \\
& k5_numbers (u1_struct_0 X0) k1_numbers X3 X1) X0) \wedge (k7_partfun1 \\
& (u1_struct_0 X0) X1 X2 = k6_normsp_1 X0 (k8_funct_2 k5_numbers (\\
& u1_struct_0 X0) k1_numbers X3 X1)))))))))
\end{aligned} \tag{33}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{34}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \tag{35}$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_relat_1 X1)) \tag{36}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{37}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (\\
& (v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\
& X1) \wedge ((v5_rlvect_1 X1) \wedge ((v6_rlvect_1 X1) \wedge ((v7_rlvect_1 X1) \wedge \\
& ((v8_rlvect_1 X1) \wedge ((v3_normsp_0 X1) \wedge ((v4_normsp_0 X1) \wedge ((v2_normsp_1 \\
& X1) \wedge (l1_normsp_1 X1)))))))))) \Rightarrow (\forall X2. ((v1_funct_1 \\
& X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers (u1_struct_0 \\
& X1)))))) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k2_zfmisc_1 k1_numbers (u1_struct_0 X1)))))) \Rightarrow (((X0 \in k9_subset_1 \\
& k1_numbers (k1_relset_1 k1_numbers X2) (k1_relset_1 k1_numbers \\
& X3)) \wedge ((r1_nfcont_3 X1 X2 X0) \wedge (r1_nfcont_3 X1 X3 X0))) \Rightarrow ((r1_nfcont_3 \\
& X1 (k6_vfunct_1 k1_numbers X1 X2 X3) X0) \wedge (r1_nfcont_3 X1 (k2_vfunct_1 \\
& k1_numbers X1 X2 X3) X0))))))
\end{aligned}$$