

t15_c0sp1 (TMXMrjEacKC- qzyLiDxvMhKQfDQJnkRQbvou)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_c0sp1 : \iota \Rightarrow \iota$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k6_numbers : \iota$ 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 $v2_funcsdom : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v1_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $l1_funcsdom : \iota \Rightarrow o$ be given. Let $m2_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k1_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v4_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_c0sp1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g1_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_c0sp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_funcsdom : \iota \Rightarrow \iota$ be given. Let $v1_funcsdom : \iota \Rightarrow o$ be given. Let $k6_c0sp1 : \iota \Rightarrow \iota$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_funcsdom : \iota \Rightarrow \iota$ be given. Let $k8_funcsdom : \iota \Rightarrow \iota$ be given. Let $k7_funcsdom : \iota \Rightarrow \iota$ be given. Let $k6_funcsdom : \iota \Rightarrow \iota$ be given. Let $k5_funcsdom : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_rlvect_1 : \iota \Rightarrow \iota$ be given.

Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v2_funcsdom X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v5_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 X0) \wedge (\\
& l1_funcsdom X0)))))))))) \Rightarrow (\forall X1. (m2_c0sp1 X1 X0) \Rightarrow (\\
& (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 \\
& X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((X2 = X4) \wedge \\
& (X3 = X5)) \Rightarrow (k3_rlvect_1 X1 X2 X3 = k3_rlvect_1 X0 X4 X5)))))) \wedge ((\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& (u1_struct_0 X1)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (((X2 = X4) \wedge (X3 = \\
& X5)) \Rightarrow (k8_group_1 X1 X2 X3 = k8_group_1 X0 X4 X5)))))) \wedge ((\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 k1_numbers) \Rightarrow (\\
& (X2 = X3) \Rightarrow (k1_rlvect_1 X1 X2 X4 = k1_rlvect_1 X0 X3 X4)))) \wedge ((k1_group_1 \\
& X1 = k1_group_1 X0) \wedge (k4_struct_0 X1 = k4_struct_0 X0))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_rlvect_1 X0) \wedge \\
& ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge ((v2_funcsdom X0) \wedge ((v3_group_1 \\
& X0) \wedge ((v5_group_1 X0) \wedge ((v1_vectsp_1 X0) \wedge ((v3_vectsp_1 X0) \wedge (\\
& l1_funcsdom X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow (((v4_c0sp1 X1 X0) \wedge (v3_c0sp1 X1 X0)) \Rightarrow ((v1_xboole_0 \\
& X1) \vee (m2_c0sp1 (g1_funcsdom X1 (k2_c0sp1 X0 X1) (k1_c0sp1 X0 X1) \\
& (k5_c0sp1 X0 X1) (k4_c0sp1 X0 X1) (k3_c0sp1 X0 X1)) X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge (m1_funct_2 \\
& X2 X0 X1)) \Rightarrow (\forall X3. (m2_funct_2 X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 \\
& X2))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& (((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 \\
& X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X3)\wedge(\\
& (v1_funct_2 X3 (k2_zfmisc_1 k1_numbers X0) X0)\wedge(m1_subset_1 X3 \\
& (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers X0) X0))))\wedge \\
& ((m1_subset_1 X4 X0)\wedge(m1_subset_1 X5 X0))))\Rightarrow(\forall X6.\forall X7. \\
& \forall X8.\forall X9.\forall X10.\forall X11.(g1_funcsdom X0 \\
& X1 X2 X3 X4 X5 = g1_funcsdom X6 X7 X8 X9 X10 X11)\Rightarrow((X0 = X6)\wedge((X1 = X7)\wedge \\
& ((X2 = X8)\wedge((X3 = X9)\wedge((X4 = X10)\wedge(X5 = X11))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v13_algstr_0 (k12_funcsdom X0)\wedge((v3_group_1 (k12_funcsdom \\
& X0)\wedge((v5_group_1 (k12_funcsdom X0)\wedge((v1_vectsp_1 (k12_funcsdom \\
& X0)\wedge((v3_vectsp_1 (k12_funcsdom X0)\wedge((v2_rlvect_1 (k12_funcsdom \\
& X0)\wedge((v3_rlvect_1 (k12_funcsdom X0)\wedge((v4_rlvect_1 (k12_funcsdom \\
& X0)\wedge((v5_rlvect_1 (k12_funcsdom X0)\wedge((v6_rlvect_1 (k12_funcsdom \\
& X0)\wedge((v7_rlvect_1 (k12_funcsdom X0)\wedge((v1_funcsdom (k12_funcsdom \\
& X0)\wedge(v2_funcsdom (k12_funcsdom X0))))))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(v2_struct_0 (k12_funcsdom X0)\wedge(v1_funcsdom (k12_funcsdom X0)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xboole_0 X0)\Rightarrow((v1_xboole_0 (k6_c0sp1 X0))\wedge \\
& ((v3_c0sp1 (k6_c0sp1 X0) (k12_funcsdom X0))\wedge(v4_c0sp1 (k6_c0sp1 \\
& X0) (k12_funcsdom X0)))
\end{aligned} \tag{7}$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \tag{8}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l1_funcsdom X0)\Rightarrow((l6_algstr_0 X0)\wedge(l1_rlvect_1 X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (12)$$

Assume the following.

$$\forall X0.m2_funct_2 (k9_funcsdom X0) X0 k1_numbers (k9_funct_2 X0 k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.m2_funct_2 (k8_funcsdom X0) X0 k1_numbers (k9_funct_2 X0 k1_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_funct_1 (k7_funcsdom X0))\wedge((v1_funct_2 (k7_funcsdom X0) (k2_zfmisc_1 k1_numbers (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers))\wedge(m1_subset_1 (k7_funcsdom X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_funct_1 (k6_funcsdom X0))\wedge((v1_funct_2 (k6_funcsdom X0) (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers))\wedge(m1_subset_1 (k6_funcsdom X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow((\neg v1_xboole_0 (k6_c0sp1 X0))\wedge(m1_subset_1 (k6_c0sp1 X0) (k1_zfmisc_1 (u1_struct_0 (k12_funcsdom X0)))))) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_funct_1 (k5_funcsdom X0))\wedge((v1_funct_2 (k5_funcsdom X0) (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers))\wedge(m1_subset_1 (k5_funcsdom X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(v1_funcsdom (k12_funcsdom X0))\wedge(l1_funcsdom (k12_funcsdom X0)) \quad (19)$$

Assume the following.

$$\forall X0. k12_funcsdom\ X0 = g1_funcsdom\ (k9_funct_2\ X0\ k1_numbers) \\ (k6_funcsdom\ X0)\ (k5_funcsdom\ X0)\ (k7_funcsdom\ X0)\ (k9_funcsdom \\ X0)\ (k8_funcsdom\ X0) \quad (20)$$

Assume the following.

$$\forall X0. (l2_struct_0\ X0) \Rightarrow (k4_struct_0\ X0 = u2_struct_0\ X0) \quad (21)$$

Assume the following.

$$\forall X0. k8_funcsdom\ X0 = k8_funcop_1\ k5_numbers\ X0\ k6_numbers \quad (22)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0\ X0) \Rightarrow (k7_c0sp1\ X0 = g1_funcsdom\ (k6_c0sp1 \\ X0)\ (k2_c0sp1\ (k12_funcsdom\ X0)\ (k6_c0sp1\ X0))\ (k1_c0sp1\ (k12_funcsdom \\ X0)\ (k6_c0sp1\ X0))\ (k5_c0sp1\ (k12_funcsdom\ X0)\ (k6_c0sp1\ X0))\ (\\ k4_c0sp1\ (k12_funcsdom\ X0)\ (k6_c0sp1\ X0))\ (k3_c0sp1\ (k12_funcsdom \\ X0)\ (k6_c0sp1\ X0))) \quad (23)$$

Assume the following.

$$\forall X0. (l1_funcsdom\ X0) \Rightarrow ((v1_funcsdom\ X0) \Rightarrow (X0 = g1_funcsdom \\ (u1_struct_0\ X0)\ (u2_algstr_0\ X0)\ (u1_algstr_0\ X0)\ (u1_rlvect_1 \\ X0)\ (u3_struct_0\ X0)\ (u2_struct_0\ X0))) \quad (24)$$

Theorem 1

$$\forall X0. (\neg v1_xboole_0\ X0) \Rightarrow (k4_struct_0\ (k7_c0sp1\ X0) = k8_funcop_1 \\ k5_numbers\ X0\ k6_numbers)$$