

t6_c0sp2 (TMKzZTtDyTFuJBCYfVifbUCUD- JuT427juqV)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_c0sp2 : \iota \Rightarrow \iota$ be given. Let $k1_c0sp2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ 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 $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ 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 $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k12_funcsdom : \iota \Rightarrow \iota$ be given. Let $v1_funcsdom : \iota \Rightarrow o$ be given. Let $k2_c0sp2 : \iota \Rightarrow \iota$ 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 $l1_struct_0 : \iota \Rightarrow o$ 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 $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X1) \wedge (m1_funct_2 X2 X0 X1)) \Rightarrow (\forall X3. (m2_funct_2 X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 X2)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X2 X0)) \Rightarrow (k8_funcop_1 X0 X1 X2 = k2_funcop_1 X1 X2) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \tag{6}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 \\ & X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X3)\wedge(\\ & (v1_funct_2 X3 (k2_zfmisc_1 k1_numbers X0) X0)\wedge(m1_subset_1 X3 \\ & (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers X0) X0))))\wedge \\ & ((m1_subset_1 X4 X0)\wedge(m1_subset_1 X5 X0))))\Rightarrow(\forall X6.\forall X7. \\ & \forall X8.\forall X9.\forall X10.\forall X11.(g1_funcsdom X0 \\ & X1 X2 X3 X4 X5 = g1_funcsdom X6 X7 X8 X9 X10 X11)\Rightarrow((X0 = X6)\wedge((X1 = X7)\wedge \\ & ((X2 = X8)\wedge((X3 = X9)\wedge((X4 = X10)\wedge(X5 = X11))))))) \end{aligned} \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v13_algstr_0 (k12_funcsdom X0)\wedge((v3_group_1 (k12_funcsdom \\ & X0)\wedge((v5_group_1 (k12_funcsdom X0)\wedge((v1_vectsp_1 (k12_funcsdom \\ & X0)\wedge((v3_vectsp_1 (k12_funcsdom X0)\wedge((v2_rlvect_1 (k12_funcsdom \\ & X0)\wedge((v3_rlvect_1 (k12_funcsdom X0)\wedge((v4_rlvect_1 (k12_funcsdom \\ & X0)\wedge((v5_rlvect_1 (k12_funcsdom X0)\wedge((v6_rlvect_1 (k12_funcsdom \\ & X0)\wedge((v7_rlvect_1 (k12_funcsdom X0)\wedge((v1_funcsdom (k12_funcsdom \\ & X0)\wedge(v2_funcsdom (k12_funcsdom X0))))))))))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(\neg v2_struct_0 (k12_funcsdom X0)\wedge(v1_funcsdom (k12_funcsdom X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ & X0)))\Rightarrow((v3_c0sp1 (k2_c0sp2 X0) (k12_funcsdom (u1_struct_0 X0))\wedge \\ & (v4_c0sp1 (k2_c0sp2 X0) (k12_funcsdom (u1_struct_0 X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\neg v1_xboole_0 (k2_c0sp2 X0)) \quad (14)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (15)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (16)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(l1_funcsdom X0) \Rightarrow ((l6_algstr_0 X0) \wedge (l1_rlvect_1 X0)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (21)$$

Assume the following.

$$\forall X0.m2_funct_2 (k9_funcsdom X0) X0 k1_numbers (k9_funct_2 X0 k1_numbers) \quad (22)$$

Assume the following.

$$\forall X0.m2_funct_2 (k8_funcsdom X0) X0 k1_numbers (k9_funct_2 X0 k1_numbers) \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_funct_1 (k7_funcsdom X0)) \wedge ((v1_funct_2 (k7_funcsdom \\ & X0) (k2_zfmisc_1 k1_numbers (k9_funct_2 X0 k1_numbers)) (k9_funct_2 \\ & X0 k1_numbers)) \wedge (m1_subset_1 (k7_funcsdom X0) (k1_zfmisc_1 (\\ & k2_zfmisc_1 (k2_zfmisc_1 k1_numbers (k9_funct_2 X0 k1_numbers)) \\ & (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (24)$$

Assume the following.

$$\begin{aligned} \forall X0. (&v1_funct_1 (k6_funcsdom X0)) \wedge ((v1_funct_2 (k6_funcsdom \\ X0) (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) \\ (k9_funct_2 X0 k1_numbers)) \wedge (m1_subset_1 (k6_funcsdom X0) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 \\ X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0. (&v1_funct_1 (k5_funcsdom X0)) \wedge ((v1_funct_2 (k5_funcsdom \\ X0) (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) \\ (k9_funct_2 X0 k1_numbers)) \wedge (m1_subset_1 (k5_funcsdom X0) (k1_zfmisc_1 \\ (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 \\ X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (m1_subset_1 (k2_c0sp2 X0) (k1_zfmisc_1 (u1_struct_0 (\\ k12_funcsdom (u1_struct_0 X0)))))) \end{aligned} \quad (27)$$

Assume the following.

$$\forall X0. (v1_funcsdom (k12_funcsdom X0)) \wedge (l1_funcsdom (k12_funcsdom X0)) \quad (28)$$

Assume the following.

$$\begin{aligned} \forall X0. k12_funcsdom X0 = g1_funcsdom (k9_funct_2 X0 k1_numbers) \\ (k6_funcsdom X0) (k5_funcsdom X0) (k7_funcsdom X0) (k9_funcsdom \\ X0) (k8_funcsdom X0) \end{aligned} \quad (29)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (k4_struct_0 X0 = u2_struct_0 X0) \quad (30)$$

Assume the following.

$$\forall X0. k8_funcsdom X0 = k8_funcop_1 k5_numbers X0 k6_numbers \quad (31)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (k3_c0sp2 X0 = g1_funcsdom (k2_c0sp2 X0) (k2_c0sp1 (k12_funcsdom \\ (u1_struct_0 X0) (k2_c0sp2 X0)) (k1_c0sp1 (k12_funcsdom (u1_struct_0 \\ X0) (k2_c0sp2 X0)) (k5_c0sp1 (k12_funcsdom (u1_struct_0 X0) \\ (k2_c0sp2 X0)) (k4_c0sp1 (k12_funcsdom (u1_struct_0 X0) (k2_c0sp2 \\ X0)) (k3_c0sp1 (k12_funcsdom (u1_struct_0 X0) (k2_c0sp2 X0)))))) \end{aligned} \quad (32)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (k1_c0sp2 X0 X1 = k7_funcop_1 (u1_struct_0 X0) X1)) \quad (33)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (34)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (35)$$

Assume the following.

$$\forall X0.(l1_funcsdom X0) \Rightarrow ((v1_funcsdom X0) \Rightarrow (X0 = g1_funcsdom (u1_struct_0 X0) (u2_algstr_0 X0) (u1_algstr_0 X0) (u1_rlvect_1 X0) (u3_struct_0 X0) (u2_struct_0 X0))) \quad (36)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (k4_struct_0 (k3_c0sp2 X0) = k1_c0sp2 X0 k6_numbers)$$