

l52_rltopsp1

(TMQbGgt8KkraSfCKUha941nj1gdYiVitkDk)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ 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 $v6_rltopsp1 : \iota \Rightarrow o$ be given. Let $v7_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k3_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (((k1_algstr_0 X0 X1 X3 = k1_algstr_0 \\
& X0 X1 X4) \vee (k1_algstr_0 X0 X3 X1 = k1_algstr_0 X0 X4 X1)) \Rightarrow (X3 = X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow \\ & (((X1 = k1_xboole_0)\Rightarrow(X0 = k1_xboole_0))\Rightarrow((v2_funct_1 X2)\Leftrightarrow(\forall X3. \\ & \forall X4.((X3 \in X0)\wedge((X4 \in X0)\wedge(k1_funct_1 X2 X3 = k1_funct_1 X2 \\ & X4)))\Rightarrow(X3 = X4)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1_rlvect_1 X0)\Rightarrow(l2_algstr_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0)\Rightarrow((l1_rlvect_1 X0)\wedge(l1_pre_topc X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_rltopsp1 X0))\wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow((v1_funct_1 (k3_rltopsp1 \\ & X0 X1))\wedge((v1_funct_2 (k3_rltopsp1 X0 X1) (u1_struct_0 X0) (u1_struct_0 \\ & X0))\wedge(m1_subset_1 (k3_rltopsp1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_rltopsp1 X0))\Rightarrow(\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X0))\wedge(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))))\Rightarrow \\ & ((X2 = k3_rltopsp1 X0 X1)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0))\Rightarrow(k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X2 X3 = k1_algstr_0 \\ & X0 X1 X3)))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge((v13_algstr_0 \\ & X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ & ((v5_rlvect_1 X0)\wedge((v6_rlvect_1 X0)\wedge((v7_rlvect_1 X0)\wedge((v8_rlvect_1 \\ & X0)\wedge((v6_rltopsp1 X0)\wedge((v7_rltopsp1 X0)\wedge(l1_rltopsp1 X0))))))))))\Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(v2_funct_1 (k3_rltopsp1 \\ & X0 X1))) \end{aligned}$$