

t5_topreala
(TMa99iHX3QdkM2DHoAb1Qw9RUdNRuPifEwp)

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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 $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((m1_connsp_2 \\ X1 X0 X2) \Rightarrow (X2 \in X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((v3_pre_topc \\ X1 X0) \wedge (X2 \in X1)) \Rightarrow (m1_connsp_2 X1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow \\ ((v3_pre_topc X2 X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \wedge ((v3_pre_topc X3 X0) \wedge (k9_subset_1 (u1_struct_0 \\ X1) X3 (k2_struct_0 X1) = X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (m1_connsp_2 \\ (k2_struct_0 X0) X0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_pre_topc\ X1\ X0)\Rightarrow(l1_pre_topc\ X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge \\ (l1_pre_topc\ X0)))\wedge(m1_subset_1\ X1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2. \\ (m1_connsp_2\ X2\ X0\ X1)\Rightarrow(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0\ X0\ X1)\Leftrightarrow(\forall X3. \\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (8)$$

Assume the following.

$$\forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ (m1_pre_topc\ X1\ X0)\Rightarrow(v2_pre_topc\ X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc \\ X0)))\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge(m1_pre_topc\ X1\ X0))\Rightarrow(\\ \forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1 \\ X3\ (u1_struct_0\ X1))\Rightarrow(\forall X4.((v3_pre_topc\ X4\ X0)\wedge(m1_connsp_2 \\ X4\ X0\ X2))\Rightarrow(\forall X5.(m1_subset_1\ X5\ (k1_zfmisc_1\ (u1_struct_0 \\ X1)))\Rightarrow(((X2 = X3)\wedge(X5 = k9_subset_1\ (u1_struct_0\ X1)\ X4\ (k2_struct_0 \\ X1)))\Rightarrow((v3_pre_topc\ X5\ X1)\wedge(m1_connsp_2\ X5\ X1\ X3)))))))) \end{aligned}$$