

t4_tdlat_3 (TMMxDH- PHZ6rkwr8BfSqUsVEiU8ApAGS4XDt)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k4_xboole_0 X0 (k2_xboole_0 X1 X2) = k3_xboole_0 (k4_xboole_0 X0 X1) (k4_xboole_0 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(k4_xboole_0 X0 X1 = k1_xboole_0) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((r1_xboole_0 \\ X1 X2) \wedge (v3_pre_topc X1 X0)) \Rightarrow (r1_xboole_0 X1 (k2_pre_topc X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc X0)\wedge(l1_pre_topc X0))\wedge((v4_pre_topc X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(v3_pre_topc (k3_subset_1 (u1_struct_0 X0) X1) X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_pre_topc X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_tops_1 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Leftrightarrow(k3_xboole_0 X0 X1 = k1_xboole_0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (13)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(k1_tops_1 X0 X1 = k3_subset_1 (u1_struct_0 X0) (k2_pre_topc X0 (k3_subset_1 (u1_struct_0 X0) X1)))) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2. \\ & (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(((k4_subset_1 \\ & (u1_struct_0\ X0)\ X1\ X2 = u1_struct_0\ X0)\wedge(v4_pre_topc\ X1\ X0))\Rightarrow(\\ & k4_subset_1\ (u1_struct_0\ X0)\ X1\ (k1_tops_1\ X0\ X2) = u1_struct_0 \\ & X0)))) \end{aligned}$$