

t84_tdlat_2

(TMXyA1kd28e2jUtNQvzw1aoaeaP9EwL9EGT)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Rightarrow (r1_tarski X2 X1)) \Rightarrow (r1_tarski (k3_tarski X0) X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1_tarski X0 (k3_tarski X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (l1_pre_topc X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X1))) \Rightarrow (((v3_pre_topc X3 X1) \Rightarrow (k1_tops_1 X1 X3 = X3)) \wedge ((k1_tops_1 \\ & X0 X2 = X2) \Rightarrow (v3_pre_topc X2 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\ & ((v1_tops_2 X1 X0) \Rightarrow (v3_pre_topc (k5_setfam_1 (u1_struct_0 X0) \\ & X1) X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((r1_tarski\ X1\ X2) \Rightarrow (r1_tarski\ (k1_tops_1 \\ X0\ X1)\ (k1_tops_1\ X0\ X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((r1_tarski\ X1\ X2) \Rightarrow (r1_tarski\ (k2_pre_topc \\ X0\ X1)\ (k2_pre_topc\ X0\ X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow (r1_tarski\ X1\ (k2_pre_topc\ X0\ X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ X0))) \Rightarrow (k5_setfam_1\ X0\ X1 = k3_tarski\ X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ X0))) \Rightarrow (m1_subset_1\ (k5_setfam_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((l1_pre_topc\ X0) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0)))) \Rightarrow (m1_subset_1\ (k2_pre_topc\ X0\ X1)\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((v6_tops_1\ X1\ X0) \Leftrightarrow (X1 = k1_tops_1\ X0\ (k2_pre_topc \\ X0\ X1)))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0)))) \Rightarrow (((v1_tops_2\ X1\ X0) \Rightarrow (\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((X2 \in X1) \Rightarrow (r1_tarski\ X2\ (k1_tops_1 \\ X0\ (k2_pre_topc\ X0\ (k5_setfam_1\ (u1_struct_0\ X0)\ X1)))))) \wedge (\forall X2. \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (((v6_tops_1 \\ X2\ X0) \wedge (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\ X0))) \Rightarrow ((X3 \in X1) \Rightarrow (r1_tarski\ X3\ X2)))) \Rightarrow (r1_tarski\ (k1_tops_1\ X0 \\ (k2_pre_topc\ X0\ (k5_setfam_1\ (u1_struct_0\ X0)\ X1)))\ X2)))))) \end{aligned}$$