

t57_tdlat_2

(TMJFqiN8QBrkRBAMQP5kYMHGFoWduzAPY8i)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ 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.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k1_tops_1 X0 X1) (k1_tops_1 X0 X2)))))) \quad (5)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k2_pre_topc X0 X1) (k2_pre_topc X0 X2)))))) \quad (6)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (r1_tarski\ X1\ (k2_pre_topc\ X0\ X1))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (r1_tarski\ (k1_tops_1\ X0\ X1)\ X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ X0))) \Rightarrow (k5_setfam_1\ X0\ X1 = k3_tarski\ X1) \quad (9)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ X0))) \Rightarrow (m1_subset_1\ (k5_setfam_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (m1_subset_1\ (k2_pre_topc\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (m1_subset_1\ (k1_tops_1\ X0\ X1)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski\ X0\ X1) \wedge (r1_tarski\ X1\ X0)) \quad (14)$$

Theorem 1

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