

t71_tdlat_2
(TMKw885LU9UEjetahFhab7VjtNVcik3a1m1)

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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 $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_xboole_0 : \iota$ be given. Let $v4_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Rightarrow (r1_tarski\ X1\ X2)) \Rightarrow ((X0 = k1_xboole_0) \vee (r1_tarski\ X1\ (k1_setfam_1\ X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ X2))) \Rightarrow (m1_subset_1\ X0\ X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1_tarski\ (k1_setfam_1\ X1)\ X0) \quad (3)$$

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.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski\ X0\ X1) \wedge (r1_tarski\ X0\ X2)) \Rightarrow (r1_tarski\ X0\ (k3_xboole_0\ X1\ X2)) \quad (5)$$

Assume the following.

$$\forall X0. (l1_pre_topc\ X0) \Rightarrow (\forall X1. (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\forall X2. (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((r1_tarski\ X1\ X2) \Rightarrow (r1_tarski\ (k1_tops_1\ X0\ X1)\ (k1_tops_1\ X0\ X2)))))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((r1_tarski\ X1\ X2) \Rightarrow (r1_tarski\ (k2_pre_topc \\ X0\ X1)\ (k2_pre_topc\ X0\ X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski\ (k3_xboole_0\ X0\ X1)\ X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ X0)) \Rightarrow (k9_subset_1\ X0\ X1\ X2 = k3_xboole_0\ X1\ X2) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ X0))) \Rightarrow (k6_setfam_1\ X0\ X1 = k1_setfam_1\ X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ X0))) \Rightarrow (m1_subset_1\ (k6_setfam_1\ X0\ X1)\ (k1_zfmisc_1\ X0)) \quad (11)$$

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.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((v4_tops_1\ X1\ X0) \Leftrightarrow ((r1_tarski\ (k1_tops_1 \\ X0\ (k2_pre_topc\ X0\ X1))\ X1) \wedge (r1_tarski\ X1\ (k2_pre_topc\ X0\ (k1_tops_1 \\ X0\ X1)))))) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((X2 \in X1) \Rightarrow (r1_tarski (k9_subset_1 (u1_struct_0 \\ & X0) (k6_setfam_1 (u1_struct_0 X0) X1) (k2_pre_topc X0 (k1_tops_1 \\ & X0 (k6_setfam_1 (u1_struct_0 X0) X1)))) X2))) \wedge ((X1 = k1_xboole_0) \vee \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\ & (((v4_tops_1 X2 X0) \wedge (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((X3 \in X1) \Rightarrow (r1_tarski X2 X3)))) \Rightarrow (r1_tarski \\ & X2 (k9_subset_1 (u1_struct_0 X0) (k6_setfam_1 (u1_struct_0 X0) \\ & X1) (k2_pre_topc X0 (k1_tops_1 X0 (k6_setfam_1 (u1_struct_0 X0) \\ & X1)))))))))) \end{aligned}$$