

t66_tops_1 (TMHdCdBsBVddqsWLkNex- teqN7qC7Hf1ARUk)

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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 $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v4_pre_topc X1 X0) \Rightarrow (k2_pre_topc X0 X1 = X1)) \wedge (((v2_pre_topc X0) \wedge (k2_pre_topc X0 X1 = X1)) \Rightarrow (v4_pre_topc X1 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k2_pre_topc X0 X1) (k2_pre_topc X0 X2)))))) \quad (2)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (r1_tarski (k1_tops_1 X0 X1) X1)) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (v4_pre_topc (k2_pre_topc X0 X1) X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((v5_tops_1\ X1\ X0) \Leftrightarrow (X1 = k2_pre_topc\ X0\ (k1_tops_1\ X0\ X1)))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((v4_tops_1\ X1\ X0) \Leftrightarrow ((r1_tarski\ (k1_tops_1\ X0\ (k2_pre_topc\ X0\ X1))\ X1) \wedge (r1_tarski\ X1\ (k2_pre_topc\ X0\ (k1_tops_1\ X0\ X1)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski\ X0\ X1) \wedge (r1_tarski\ X1\ X0)) \quad (9)$$

Theorem 1

$$\forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1.(l1_pre_topc\ X1) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X1))) \Rightarrow (((v4_pre_topc\ X3\ X1) \wedge (v4_tops_1\ X3\ X1)) \Rightarrow (v5_tops_1\ X3\ X1)) \wedge ((v5_tops_1\ X2\ X0) \Rightarrow ((v4_pre_topc\ X2\ X0) \wedge (v4_tops_1\ X2\ X0)))))))$$