

t70_tops_3

(TMS7XRRBXNBMnhs1YzrCkhq8JaA6Tmq6HKm)

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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 $v1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $v3_tops_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \quad \forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\\ & \quad \forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\\ & \quad ((r1_tarski X2 X3) \wedge (v3_tops_1 X3 X1)) \Rightarrow (v3_tops_1 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow \\ & \quad (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow \\ & \quad (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \quad \forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\\ & \quad \forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\\ & \quad \forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\\ & \quad ((v3_pre_topc X2 X0) \wedge ((X2 = u1_struct_0 X1) \wedge ((X3 = X4) \wedge (v3_tops_1 X3 X0)))) \Rightarrow (v3_tops_1 X4 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_pre_topc\ X1\ X0) \Rightarrow \\ & ((v1_tsep_1\ X1\ X0) \Leftrightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (\\ & u1_struct_0\ X0))) \Rightarrow ((X2 = u1_struct_0\ X1) \Rightarrow (v3_pre_topc\ X2\ X0)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge ((v1_tsep_1\ X1\ X0) \wedge (m1_pre_topc \\ & X1\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0 \\ & X1))) \Rightarrow ((X2 = X3) \Rightarrow ((v3_tops_1\ X2\ X0) \Leftrightarrow (v3_tops_1\ X3\ X1)))))) \end{aligned}$$