

t4_topalg_5
(TMWjcAHQqhjztvqdNUkf6oDhu12i4Zv4nU1)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ 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 $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_pre_topc X2 X1) \Rightarrow (m1_pre_topc \\ & X2 X0))) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((v1_pre_topc (k1_pre_topc X0 X1)) \wedge (m1_pre_topc \\ & (k1_pre_topc X0 X1) X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\forall X2.((v1_pre_topc X2) \wedge (m1_pre_topc \\ & X2 X0)) \Rightarrow ((X2 = k1_pre_topc X0 X1) \Leftrightarrow (k2_struct_0 X2 = X1)))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X1))) \Rightarrow ((X2 = X3) \Rightarrow (k1_pre_topc X0 X2 = k1_pre_topc \\ & X1 X3)))))) \end{aligned}$$