

t22_topdim_1
(TMHjA4HUDWb6NWLJb9eMc6bHy8pUqU1ZQ3S)

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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 $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_topdim_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topdim_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_topdim_1 : \iota \Rightarrow o$ be given. Let $k4_topdim_1 : \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k1_pre_topc X0 X1)))) \Rightarrow \\ & ((X3 = X2) \Rightarrow (k1_pre_topc (k1_pre_topc X0 X1) X3 = k1_pre_topc X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_topdim_1 \\ & (k1_pre_topc X0 X1)) \Rightarrow (v1_topdim_1 X1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_topdim_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow ((v3_topdim_1 (k1_pre_topc X0 X1)) \wedge (k4_topdim_1 (k1_pre_topc \\ & X0 X1) = k2_topdim_1 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_pre_topc \\ & (k1_pre_topc X0 X1)) \wedge (v2_pre_topc (k1_pre_topc X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow \\ & (l1_pre_topc X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_pre_topc\ (k1_pre_topc\ X0\ X1))\wedge(m1_pre_topc\ (k1_pre_topc\ X0\ X1)\ X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} &\forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ &\quad (m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2. \\ &\quad (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X3. \\ &\quad (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ (k1_pre_topc\ X0\ X1))))\Rightarrow \\ &\quad (((X3 = X2)\wedge(v1_topdim_1\ X3\ (k1_pre_topc\ X0\ X1)))\Rightarrow((v1_topdim_1 \\ &\quad X2\ X0)\wedge(k2_topdim_1\ (k1_pre_topc\ X0\ X1)\ X3 = k2_topdim_1\ X0\ X2)))))) \end{aligned}$$