

t5_jgraph_5

(TMVJp3D1pNiceE75RsEcyJpWR7bjAjPgFRX)

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Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_tops_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(l1_pre_topc X1) \Rightarrow (\forall X2. \\
 & (\neg v2_struct_0 X2) \wedge (l1_pre_topc X2)) \Rightarrow (\forall X3. ((v1_funct_1 \\
 & X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X0) (u1_struct_0 X2)) \wedge (m1_subset_1 \\
 & X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X2)))))) \Rightarrow \\
 & (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X2) \\
 & (u1_struct_0 X1)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (u1_struct_0 X2) (u1_struct_0 X1)))))) \Rightarrow (((v5_pre_topc X3 X0 X2) \wedge \\
 & (v5_pre_topc X4 X2 X1)) \Rightarrow (v5_pre_topc (k1_partfun1 (u1_struct_0 \\
 & X0) (u1_struct_0 X2) (u1_struct_0 X2) (u1_struct_0 X1) X3 X4) X0 \\
 & X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((l1_pre_topc X0) \wedge (l1_pre_topc X1)) \Rightarrow (\\
 & \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
 & X0) (u1_struct_0 X1)))) \Rightarrow (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\
 & X0) (u1_struct_0 X1)) \wedge (v3_tops_2 X2 X0 X1))) \Rightarrow ((v1_funct_1 X2) \wedge \\
 & ((v2_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 \\
 & X1)) \wedge ((v2_funct_2 X2 (u1_struct_0 X1)) \wedge (v5_pre_topc X2 X0 X1))))))
 \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ & (l1_pre_topc\ X1)) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge (l1_pre_topc \\ & X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ (u1_struct_0 \\ & X0)\ (u1_struct_0\ X1)) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & (u1_struct_0\ X0)\ (u1_struct_0\ X1)))))) \Rightarrow (\forall X4.((v1_funct_1 \\ & X4) \wedge ((v1_funct_2\ X4\ (u1_struct_0\ X1)\ (u1_struct_0\ X2)) \wedge (m1_subset_1 \\ & X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X1)\ (u1_struct_0\ X2)))))) \Rightarrow \\ & (((v3_tops_2\ X4\ X1\ X2) \wedge (v5_pre_topc\ X3\ X0\ X1)) \Rightarrow (v5_pre_topc\ (k1_partfun1 \\ & (u1_struct_0\ X0)\ (u1_struct_0\ X1)\ (u1_struct_0\ X1)\ (u1_struct_0 \\ & X2)\ X3\ X4)\ X0\ X2)))))) \end{aligned}$$