

t5_topalg_5
(TMUGK4SbCg3TPF_xVXtkVHUD5csn2N5TM9Q3)

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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 $g1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $r1_connsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (((X2 = X3) \wedge (g1_pre_topc (\\ & u1_struct_0 X0) (u1_pre_topc X0) = g1_pre_topc (u1_struct_0 X1) \\ & (u1_pre_topc X1))) \Rightarrow (k2_pre_topc X0 X2 = k2_pre_topc X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((r1_connsp_1 X0 X1 X2) \Leftrightarrow ((r1_xboole_0 (k2_pre_topc \\ & X0 X1) X2) \wedge (r1_xboole_0 X1 (k2_pre_topc X0 X2)))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X5.(m1_subset_1 \\ & X5 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((g1_pre_topc (u1_struct_0 \\ & X0) (u1_pre_topc X0) = g1_pre_topc (u1_struct_0 X1) (u1_pre_topc \\ & X1)) \wedge ((X2 = X4) \wedge ((X3 = X5) \wedge (r1_connsp_1 X1 X2 X3)))) \Rightarrow (r1_connsp_1 \\ & X0 X4 X5)))))) \end{aligned}$$