

t16_tmap_1 (TMFqEYG- bcx16adefvvG15ZpgwRgwWpPHtNh)

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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 $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((v3_pre_topc \\ & X1 X0) \wedge (X2 \in X1)) \Rightarrow (m1_connsp_2 X1 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ & \forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 (k1_tsep_1 X0 X1 X2))) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\ & (u1_struct_0 X2)) \Rightarrow (((X4 = X3) \wedge (X5 = X3)) \Rightarrow (\forall X6.(m1_connsp_2 \\ & X6 X1 X4) \Rightarrow (\forall X7.(m1_connsp_2 X7 X2 X5) \Rightarrow (\exists X8.(m1_subset_1 \\ & X8 (k1_zfmisc_1 (u1_struct_0 (k1_tsep_1 X0 X1 X2)))) \wedge ((v3_pre_topc \\ & X8 (k1_tsep_1 X0 X1 X2)) \wedge ((X3 \in X8) \wedge (r1_tarski X8 (k2_xboole_0 X6 \\ & X7))))))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v2_pre_topc \\ & X0) \wedge (l1_pre_topc X0))) \wedge (((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 \\ & X0)) \wedge ((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)))) \Rightarrow (((\neg v2_struct_0 \\ & (k1_tsep_1 X0 X1 X2)) \wedge ((v1_pre_topc (k1_tsep_1 X0 X1 X2)) \wedge (v2_pre_topc \\ & (k1_tsep_1 X0 X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_pre_topc\ X1\ X0)\Rightarrow(l1_pre_topc\ X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0)\wedge(l1_pre_topc\ X0))\wedge(((\neg v2_struct_0\ X1)\wedge(m1_pre_topc\ X1\ X0))\wedge((\neg v2_struct_0\ X2)\wedge(m1_pre_topc\ X2\ X0))))\Rightarrow((\neg v2_struct_0\ (k1_tsep_1\ X0\ X1\ X2))\wedge \\ &((v1_pre_topc\ (k1_tsep_1\ X0\ X1\ X2))\wedge(m1_pre_topc\ (k1_tsep_1\ X0\ X1\ X2)\ X0))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge(m1_pre_topc\ X1\ X0))\Rightarrow(\\ &\forall X2.((\neg v2_struct_0\ X2)\wedge(m1_pre_topc\ X2\ X0))\Rightarrow(\forall X3. \\ &(m1_subset_1\ X3\ (u1_struct_0\ (k1_tsep_1\ X0\ X1\ X2)))\Rightarrow(\forall X4. \\ &(m1_subset_1\ X4\ (u1_struct_0\ X1))\Rightarrow(\forall X5.(m1_subset_1\ X5 \\ &(u1_struct_0\ X2))\Rightarrow(((X4 = X3)\wedge(X5 = X3))\Rightarrow(\forall X6.(m1_connsp_2 \\ &X6\ X1\ X4)\Rightarrow(\forall X7.(m1_connsp_2\ X7\ X2\ X5)\Rightarrow(\exists X8.(m1_connsp_2 \\ &X8\ (k1_tsep_1\ X0\ X1\ X2)\ X3)\wedge(r1_tarski\ X8\ (k2_xboole_0\ X6\ X7)))))))))) \end{aligned}$$