

t27_connsp_2 (TM-
PETR76RLMDM2rqeC1fwbcZLoV7tN5vQxA)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)) \Rightarrow ((m1_connsp_2 \\ & X2 X0 X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \wedge ((v3_pre_topc X3 X0) \wedge ((r1_tarski X3 X2) \wedge (X1 \in X3))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((v3_pre_topc \\ & X1 X0) \wedge (X2 \in X1)) \Rightarrow (m1_connsp_2 X1 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow ((X2 \in k2_pre_topc X0 X1) \Leftrightarrow ((\neg v2_struct_0 X0) \wedge (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg (v3_pre_topc \\ & X3 X0) \wedge ((X2 \in X3) \wedge (r1_xboole_0 X1 X3))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((r1_xboole_0 X1 X2) \Leftrightarrow (r1_tarski \\ & X1 (k3_subset_1 X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Rightarrow(r1_xboole_0 X1 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge \\ (l1_pre_topc X0)))\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(\forall X2. \\ (m1_connsp_2 X2 X0 X1)\Rightarrow(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarSKI X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow \\ (X2 \in X1)) \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((X2 \in k2_pre_topc \\ X0 X1)\Leftrightarrow(\forall X3.(m1_connsp_2 X3 X0 X2)\Rightarrow(\neg r1_xboole_0 X3 X1)))))) \end{aligned}$$