

t67_tsep_1

(TMJgHxHbEyWYr6yDiJu99irH2nkDetEUxUg)

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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 $v1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_connsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\\ \forall X2.((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow ((r3_tsep_1 \\ X0 X1 X2) \Rightarrow (r1_tsep_1 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v3_pre_topc \\ X1 X0) \wedge (v3_pre_topc X2 X0)) \Rightarrow ((r1_xboole_0 X1 X2) \Leftrightarrow (r1_connsp_1 \\ X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow \\ (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (3)$$

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.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_pre_topc\ X1\ X0) \Rightarrow \\
& (\forall X2.(m1_pre_topc\ X2\ X0) \Rightarrow ((r3_tsep_1\ X0\ X1\ X2) \Leftrightarrow (\forall X3. \\
& (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\forall X4. \\
& (m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (((X3 = u1_struct_0 \\
& X1) \wedge (X4 = u1_struct_0\ X2)) \Rightarrow (r1_connsp_1\ X0\ X3\ X4))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_struct_0\ X0) \Rightarrow (\forall X1.(l1_struct_0\ X1) \Rightarrow ((\\
& r1_tsep_1\ X0\ X1) \Leftrightarrow (r1_xboole_0\ (u1_struct_0\ X0)\ (u1_struct_0\ X1))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_pre_topc\ X1\ X0) \Rightarrow \\
& ((v1_tsep_1\ X1\ X0) \Leftrightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (\\
& u1_struct_0\ X0))) \Rightarrow ((X2 = u1_struct_0\ X1) \Rightarrow (v3_pre_topc\ X2\ X0))))))
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge ((v1_tsep_1\ X1\ X0) \wedge (m1_pre_topc \\
& X1\ X0))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge ((v1_tsep_1\ X2\ X0) \wedge (\\
& m1_pre_topc\ X2\ X0))) \Rightarrow ((r1_tsep_1\ X1\ X2) \Leftrightarrow (r3_tsep_1\ X0\ X1\ X2))))))
\end{aligned}$$