

t11_connsp_1
(TMWZj9HT8EXs9RCRmh2GUxxqr31sWFAkycb)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_connsp_1 : \iota \Rightarrow o$ 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 $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_struct_0 : \iota \Rightarrow \iota$ 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 $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((k2_struct_0 \\
& X0 = k4_subset_1 (u1_struct_0 X0) X1 X2) \wedge (r1_connsp_1 X0 X1 X2)) \Rightarrow \\
& ((v3_pre_topc X1 X0) \wedge ((v4_pre_topc X1 X0) \wedge ((v3_pre_topc X2 X0) \wedge \\
& (v4_pre_topc X2 X0)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((k2_struct_0 \\
& X0 = k4_subset_1 (u1_struct_0 X0) X1 X2) \wedge ((v3_pre_topc X1 X0) \wedge (\\
& (v3_pre_topc X2 X0) \wedge (r1_xboole_0 X1 X2)))))) \Rightarrow (r1_connsp_1 X0 X1 \\
& X2)))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow ((r1_connsp_1 X0 X1 X2) \Rightarrow (r1_xboole_0 X1 X2))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow ((v1_connsp_1\ X0) \Leftrightarrow (\forall X1.(\\
& \quad m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\forall X2.(\\
& \quad m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\neg(k2_struct_0 \\
& \quad X0 = k4_subset_1\ (u1_struct_0\ X0)\ X1\ X2) \wedge ((r1_connsp_1\ X0\ X1\ X2) \wedge \\
& \quad ((X1 \neq k1_struct_0\ X0) \wedge (X2 \neq k1_struct_0\ X0))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow ((v1_connsp_1 \\
& \quad X0) \Leftrightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow \\
& \quad (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow \\
& \quad (\neg(k2_struct_0\ X0 = k4_subset_1\ (u1_struct_0\ X0)\ X1\ X2) \wedge ((X1 \neq k1_struct_0 \\
& \quad X0) \wedge ((X2 \neq k1_struct_0\ X0) \wedge ((v3_pre_topc\ X1\ X0) \wedge ((v3_pre_topc \\
& \quad X2\ X0) \wedge (r1_xboole_0\ X1\ X2))))))))))
\end{aligned}$$