

t24_tsep_1

(TMcaftoWvfDUrY8QA2b5iBUddb1XJgYAiex)

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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 $v1_borsuk_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tsep_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (m1_subset_1 (u1_struct_0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 = u1_struct_0 X1) \Rightarrow ((v1_borsuk_1 X1 X0) \wedge (m1_pre_topc X1 X0)) \Leftrightarrow (v4_pre_topc X2 X0)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge (((v4_pre_topc X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge ((v4_pre_topc X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v4_pre_topc (k2_xboole_0 X1 X2) X0)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \wedge (((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \wedge ((\neg v2_struct_0 X2) \wedge (m1_pre_topc X2 X0)))) \Rightarrow ((\neg v2_struct_0 (k1_tsep_1 X0 X1 X2)) \wedge ((v1_pre_topc (k1_tsep_1 X0 X1 X2)) \wedge (m1_pre_topc (k1_tsep_1 X0 X1 X2) X0))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge (m1_pre_topc X2 X0)) \Rightarrow (\forall X3.((\neg v2_struct_0 X3) \wedge ((v1_pre_topc \\
& X3) \wedge (m1_pre_topc X3 X0))) \Rightarrow ((X3 = k1_tsep_1 X0 X1 X2) \Leftrightarrow (u1_struct_0 \\
& X3 = k2_xboole_0 (u1_struct_0 X1) (u1_struct_0 X2))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v1_borsuk_1 X1 X0) \wedge (\\
& m1_pre_topc X1 X0))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v1_borsuk_1 \\
& X2 X0) \wedge (m1_pre_topc X2 X0))) \Rightarrow ((v1_borsuk_1 (k1_tsep_1 X0 X1 X2) \\
& X0) \wedge (m1_pre_topc (k1_tsep_1 X0 X1 X2) X0))))
\end{aligned}$$