

t46_topgrp_1 (TMTZKkn-
JAmKbe2137V1cDDbLH5TvdsVEefW)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_topgrp_1 : \iota \Rightarrow o$ be given. Let $l1_topgrp_1 : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow o$ 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 $k5_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_tops_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k2_topgrp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m3_topgrp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_topgrp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_topgrp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& (l1_pre_topc X1)) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((v3_tops_2 \\
& X2 X0 X1) \Leftrightarrow ((k1_relset_1 (u1_struct_0 X0) X2 = k2_struct_0 X0) \wedge (\\
& (k2_relset_1 (u1_struct_0 X1) X2 = k2_struct_0 X1) \wedge ((v2_funct_1 \\
& X2) \wedge (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& ((v4_pre_topc X3 X0) \Leftrightarrow (v4_pre_topc (k7_relset_1 (u1_struct_0 \\
& X0) (u1_struct_0 X1) X2 X3) X1))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k7_relset_1 (u1_struct_0 \\
& X0) (u1_struct_0 X0) (k2_topgrp_1 X0 X2) X1 = k5_group_2 X0 X2 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m3_topgrp_1 X1 X0) \Leftrightarrow \\
& (m2_topgrp_1 X1 X0))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & ((v2_group_1 X0) \wedge (v3_group_1 X0) \wedge (v4_topgrp_1 X0) \wedge (l1_topgrp_1 \\ & X0)))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (k7_topgrp_1 X0 \\ & X1 = k2_topgrp_1 X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m2_topgrp_1 X1 X0) \Rightarrow \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X0))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. (l1_topgrp_1 X0) \Rightarrow ((l3_algstr_0 X0) \wedge (l1_pre_topc X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & ((v2_group_1 X0) \wedge (v3_group_1 X0) \wedge (v4_topgrp_1 X0) \wedge (l1_topgrp_1 \\ & X0)))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m3_topgrp_1 (k7_topgrp_1 \\ & X0 X1) X0) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m2_topgrp_1 X1 X0) \Rightarrow (v3_tops_2 X1 X0 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge ((v2_group_1 \\ & X0) \wedge (v3_group_1 X0) \wedge (v4_topgrp_1 X0) \wedge (l1_topgrp_1 X0)))) \Rightarrow \\ & (\forall X1. ((v4_pre_topc X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (v4_pre_topc (k5_group_2 X0 X2 X1) X0))) \end{aligned}$$