

t48\_topgrp\_1  
(TMZWdWW9GNUZ9KcqzZDE2WveGznSqxxxt9D)

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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  $v3\_topgrp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_topgrp\_1 : \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $m3\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m2\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v2\_group\_1 \\
& X0) \wedge ((v3\_group\_1 X0) \wedge ((v3\_topgrp\_1 X0) \wedge (l1\_topgrp\_1 X0)))))) \Rightarrow \\
& (m3\_topgrp\_1 (k3\_group\_1 X0) X0)
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0))) \Rightarrow (k7\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X0) (k3\_group\_1 X0) X1 = k1\_group\_2 X0 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m3\_topgrp\_1\ X1\ X0)\Leftrightarrow(m2\_topgrp\_1\ X1\ X0)) \quad (4)$$

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.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m2\_topgrp\_1\ X1\ X0)\Rightarrow(v3\_tops\_2\ X1\ X0\ X0)) \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge((v2\_group\_1 \\ X0)\wedge((v3\_group\_1\ X0)\wedge((v3\_topgrp\_1\ X0)\wedge(l1\_topgrp\_1\ X0))))))\Rightarrow \\ (\forall X1.((v4\_pre\_topc\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (u1\_struct\_0\ X0))))\Rightarrow(v4\_pre\_topc\ (k1\_group\_2\ X0\ X1)\ X0)) \end{aligned}$$