

# t57\_topgrp\_1

(TMTsTsGdc988g8fdqU62AMfvZfpoQeYSPzd)

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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  $v1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k4\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k1\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k6\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge (l1\_pre\_topc \\
& X1)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow (\forall X3.((v1\_tops\_1 \\
& X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((v3\_tops\_2 \\
& X2 X0 X1) \Rightarrow (v1\_tops\_1 (k7\_relset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& X1) X2 X3) X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \Rightarrow (\forall X1. \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k7\_relset\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k1\_topgrp\_1 X0 X2) X1 = k4\_group\_2 X0 X2 X1)))
\end{aligned} \tag{2}$$

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.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (v2\_pre\_topc X0) \wedge \\ & ((v2\_group\_1 X0) \wedge (v3\_group\_1 X0) \wedge (v4\_topgrp\_1 X0) \wedge (l1\_topgrp\_1 \\ & X0)))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (k6\_topgrp\_1 X0 \\ & X1 = k1\_topgrp\_1 X0 X1) \end{aligned} \quad (4)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge (v2\_pre\_topc X0) \wedge \\ & ((v2\_group\_1 X0) \wedge (v3\_group\_1 X0) \wedge (v4\_topgrp\_1 X0) \wedge (l1\_topgrp\_1 \\ & X0)))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m3\_topgrp\_1 (k6\_topgrp\_1 \\ & X0 X1) X0) \end{aligned} \quad (7)$$

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**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v2\_pre\_topc X0) \wedge ((v2\_group\_1 \\ & X0) \wedge (v3\_group\_1 X0) \wedge (v4\_topgrp\_1 X0) \wedge (l1\_topgrp\_1 X0)))) \Rightarrow \\ & (\forall X1. ((v1\_tops\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ & u1\_struct\_0 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0) \Rightarrow (v1\_tops\_1 (k4\_group\_2 X0 X2 X1) X0))) \end{aligned}$$