t47_topgrp_1 (TMRcR5jn2SFnwfBnLssrMkGzHxepinaoNQG)

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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 $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m3\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m2\_topgrp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_pre\_topc\ X1)) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))))) \Rightarrow ((v3\_tops\_2\ X2\ X0\ X1) \Leftrightarrow ((k1\_relset\_1\ (u1\_struct\_0\ X0)\ X2 = k2\_struct\_0\ X0) \wedge ((k2\_relset\_1\ (u1\_struct\_0\ X1)\ X2 = k2\_struct\_0\ X1) \wedge ((v2\_funct\_1\ X2) \wedge (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((v4\_pre\_topc\ X3\ X0) \Leftrightarrow (v4\_pre\_topc\ (k7\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ X1)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge ((v2\_group\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v4\_topgrp\_1\ X0) \wedge (l1\_topgrp\_1\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (m3\_topgrp\_1\ (k1\_topgrp\_1\ X0\ X1)\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.\ (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k7\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (k1\_topgrp\_1\ X0\ X2)\ X1 = k4\_group\_2\ X0\ X2\ X1))) \tag{3}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge ((v4\_topgrp\_1\ X0)\wedge(l1\_topgrp\_1\ X0))))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_funct\_1\ (k1\_topgrp\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_topgrp\_1\ X0\ X1)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(v5\_pre\_topc\ (k1\_topgrp\_1\ X0\ X1)\ X0\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_topgrp\_1\ X0)\Rightarrow((l3\_algstr\_0\ X0)\wedge(l1\_pre\_topc\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0))\wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_funct\_1\ (k1\_topgrp\_1\ X0\ X1))\wedge((v1\_funct\_2\ (k1\_topgrp\_1\ X0\ X1)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k1\_topgrp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)))))) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m2\_topgrp\_1\ X1\ X0)\Rightarrow (v3\_tops\_2\ X1\ X0\ X0)) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge((v2\_group\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_topgrp\_1\ X0)\wedge(l1\_topgrp\_1\ X0))))))\Rightarrow (\forall X1.((v4\_pre\_topc\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(v4\_pre\_topc\ (k4\_group\_2\ X0\ X2\ X1)\ X0)))$$