t29_topgrp_1 (TM-cNC66QwkhqfM4CKvxNTjMbkfwuS1GoGMU)

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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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0))) \Rightarrow (\forall X1.((v2\_pre\_topc\ X1) \wedge (l1\_pre\_topc\ X1)) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)))))) \Rightarrow ((v3\_tops\_2\ X2\ X0\ X1) \Leftrightarrow ((k1\_relset\_1\ (u1\_struct\_0\ X0)\ X2 = k2\_struct\_0\ X0) \wedge ((k2\_relset\_1\ (u1\_struct\_0\ X1)\ X2 = k2\_struct\_0\ X1) \wedge ((v2\_funct\_1\ X2) \wedge (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))) \Rightarrow (k8\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ (k2\_pre\_topc\ X1\ X3) = k2\_pre\_topc\ X0\ (k8\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow ((k7\_relset\_1\ X0\ X1\ X2\ X0 = k2\_relset\_1\ X1\ X2) \wedge (k8\_relset\_1\ X0\ X1\ X2\ X1 = k1\_relset\_1\ X0\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (m1\_subset\_1\ (k8\_relset\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(l1\_pre\_topc\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((v3\_tops\_2\ X2\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ (u1\_struct\_0\ X0)\ X2 = k2\_struct\_0\ X0)\wedge((k2\_relset\_1\ (u1\_struct\_0\ X1)\ X2 = k2\_struct\_0\ X1)\wedge((v2\_funct\_1\ X2)\wedge((v5\_pre\_topc\ X2\ X0\ X1)\wedge(v5\_pre\_topc\ (k2\_tops\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2)\ X1\ X0)))))))) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_tops\_1\ X1\ X0)\Leftrightarrow(k2\_pre\_topc\ X0\ X1 = k2\_struct\_0\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_tops\_1\ X1\ X0)\Leftrightarrow(k2\_pre\_topc\ X0\ X1 = u1\_struct\_0\ X0))) \tag{6}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow(\forall X3.((v1\_tops\_1\ X3\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1)))))\Rightarrow((v3\_tops\_2\ X2\ X0\ X1)\Rightarrow(v1\_tops\_1\ (k8\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ X0)))))$$