

## t28\_group\_9

(TMP7W3MbVb6khHXc1P2Dqj2oHpNLx551xB2)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k16\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v1\_group\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k15\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((v15\_algstr\_0 X1) \wedge ((v1\_group\_3 \\ & X1 X0) \wedge (m1\_group\_2 X1 X0))) \Rightarrow (\forall X2.((v15\_algstr\_0 X2) \wedge \\ & (v1\_group\_3 X2 X0) \wedge (m1\_group\_2 X2 X0))) \Rightarrow (k2\_group\_2 X0 (k8\_group\_2 \\ & X0 X1) (k8\_group\_2 X0 X2) = k2\_group\_2 X0 (k8\_group\_2 X0 X2) (k8\_group\_2 \\ & X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. ((v4\_group\_9 X2 X0 X1) \wedge (m1\_group\_9 X2 X0 X1)) \Rightarrow ((v15\_algstr\_0 \\ & (g3\_algstr\_0 (u1\_struct\_0 X2) (u2\_algstr\_0 X2))) \wedge ((v1\_group\_3 \\ & (g3\_algstr\_0 (u1\_struct\_0 X2) (u2\_algstr\_0 X2)) X1) \wedge (m1\_group\_2 \\ & (g3\_algstr\_0 (u1\_struct\_0 X2) (u2\_algstr\_0 X2)) X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\ X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X0) X0))))\Rightarrow(\forall X2.\forall X3.(g3\_algstr\_0 X0 X1 = g3\_algstr\_0 \\ X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3\_algstr\_0 X0)\Rightarrow((v1\_funct\_1 (u2\_algstr\_0 X0))\wedge \\ ((v1\_funct\_2 (u2\_algstr\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ u1\_struct\_0 X0)) (u1\_struct\_0 X0))\wedge(m1\_subset\_1 (u2\_algstr\_0 \\ X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) ( \\ u1\_struct\_0 X0)) (u1\_struct\_0 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 X1)\wedge( \\ (v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge(l1\_group\_9 X1 X0))))\Rightarrow( \\ \forall X2.(m1\_group\_9 X2 X0 X1)\Rightarrow((\neg v2\_struct\_0 X2)\wedge((v2\_group\_1 \\ X2)\wedge((v3\_group\_1 X2)\wedge((v3\_group\_9 X2 X0)\wedge(l1\_group\_9 X2 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge(l3\_algstr\_0 \\ X0)))\Rightarrow(\forall X1.(m1\_group\_2 X1 X0)\Rightarrow((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 \\ X1)\wedge(l3\_algstr\_0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_group\_9 X1 X0)\Rightarrow(l3\_algstr\_0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 \\ X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.(m1\_group\_2 X1 X0)\Rightarrow(k8\_group\_2 \\ X0 X1 = u1\_struct\_0 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 X1)\wedge( \\ (v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge(l1\_group\_9 X1 X0))))\Rightarrow( \\ \forall X2.(m1\_group\_9 X2 X0 X1)\Rightarrow(\forall X3.(m1\_group\_9 X3 X0 \\ X1)\Rightarrow(k16\_group\_9 X0 X1 X2 X3 = k2\_group\_2 X1 (k15\_group\_9 X0 X1 X2) \\ (k15\_group\_9 X0 X1 X3)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 X1)\wedge \\ (v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge(l1\_group\_9 X1 X0))))\Rightarrow( \\ \forall X2.(m1\_group\_9 X2 X0 X1)\Rightarrow(k15\_group\_9 X0 X1 X2 = u1\_struct\_0 \\ X2)) \end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} \forall X0.(l3\_algstr\_0 X0)\Rightarrow((v15\_algstr\_0 X0)\Rightarrow(X0 = g3\_algstr\_0 \\ (u1\_struct\_0 X0) (u2\_algstr\_0 X0))) \end{aligned} \tag{11}$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 X1)\wedge \\ (v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge(l1\_group\_9 X1 X0))))\Rightarrow( \\ \forall X2.((v2\_group\_9 X2 X0)\wedge(v4\_group\_9 X2 X0 X1)\wedge(m1\_group\_9 \\ X2 X0 X1))\Rightarrow(\forall X3.((v2\_group\_9 X3 X0)\wedge((v4\_group\_9 X3 X0 \\ X1)\wedge(m1\_group\_9 X3 X0 X1))\Rightarrow(k16\_group\_9 X0 X1 X2 X3 = k16\_group\_9 \\ X0 X1 X3 X2))) \end{aligned}$$