

# t63\_group\_3

## (TMVeerM7dCFi4tn7ybkHNkAuCti41M9imYr)

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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  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_group\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_group\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ (v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1))) \Rightarrow (\forall X2. (m1\_group\_2 \\ X2 X1) \Rightarrow (\forall X3. (m1\_group\_2 X3 X1) \Rightarrow ((r1\_struct\_0 (k9\_group\_2 \\ X1 X2 X3) X0) \Leftrightarrow ((r1\_struct\_0 X2 X0) \wedge (r1\_struct\_0 X3 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ (v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3. (m1\_group\_2 X3 X1) \Rightarrow ((r1\_struct\_0 \\ (k6\_group\_3 X1 X3 X2) X0) \Leftrightarrow (\exists X4. (m1\_subset\_1 X4 (u1\_struct\_0 \\ X1)) \wedge ((X0 = k2\_group\_3 X1 X4 X2) \wedge (r1\_struct\_0 X3 X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((k2\_group\_3 X0 X1 X2 = k2\_group\_3 \\ X0 X3 X2) \Rightarrow (X1 = X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (((v15\_algstr\_0 X1) \wedge \\ (m1\_group\_2 X1 X0)) \wedge ((v15\_algstr\_0 X2) \wedge (m1\_group\_2 X2 X0)))) \Rightarrow \\ (r1\_group\_2 X0 X1 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge((m1\_group\_2 X1 X0)\wedge(m1\_group\_2 X2 X0)))\Rightarrow(k10\_group\_2 X0 X1 X2 = k9\_group\_2 X0 X1 X2) \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge((m1\_group\_2 X1 X0)\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow((v15\_algstr\_0 (k6\_group\_3 X0 X1 X2))\wedge(m1\_group\_2 (k6\_group\_3 X0 X1 X2) X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge((m1\_group\_2 X1 X0)\wedge(m1\_group\_2 X2 X0)))\Rightarrow((v15\_algstr\_0 (k10\_group\_2 X0 X1 X2))\wedge(m1\_group\_2 (k10\_group\_2 X0 X1 X2) X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.((v15\_algstr\_0 X1)\wedge(m1\_group\_2 X1 X0))\Rightarrow(\forall X2.((v15\_algstr\_0 X2)\wedge(m1\_group\_2 X2 X0))\Rightarrow((r1\_group\_2 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((r1\_struct\_0 X1 X3)\Leftrightarrow(r1\_struct\_0 X2 X3)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge((m1\_group\_2 X1 X0)\wedge(m1\_group\_2 X2 X0)))\Rightarrow(k10\_group\_2 X0 X1 X2 = k10\_group\_2 X0 X2 X1) \quad (10)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0)\Rightarrow((v15\_algstr\_0 X0)\Rightarrow(X0 = g3\_algstr\_0 (u1\_struct\_0 X0) (u2\_algstr\_0 X0))) \quad (11)$$

**Theorem 1**

$$\forall X0.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_group\_2 X2 X0)\Rightarrow(\forall X3.(m1\_group\_2 X3 X0)\Rightarrow(r1\_group\_2 X0 (k6\_group\_3 X0 (k10\_group\_2 X0 X2 X3) X1) (k10\_group\_2 X0 (k6\_group\_3 X0 X2 X1) (k6\_group\_3 X0 X3 X1))))))$$