

t91\_group\_2  
(TMZhHNzs3jG9Ebxse1DrhrkWVn6yqhrFA4G)

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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  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  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.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ( \\ l3\_algstr\_0 X1))) \Rightarrow (\forall X2. (m1\_group\_2 X2 X1) \Rightarrow ((r1\_struct\_0 \\ X2 X0) \Rightarrow (r1\_struct\_0 X1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((m1\_group\_2 X1 X0) \wedge \\ (m1\_group\_2 X2 X0))) \Rightarrow (k10\_group\_2 X0 X1 X2 = k9\_group\_2 X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge (l3\_algstr\_0 \\ X0))) \Rightarrow (\forall X1. (m1\_group\_2 X1 X0) \Rightarrow ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\ X1) \wedge (l3\_algstr\_0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 \\ & X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge((m1\_group\_2 X1 X0)\wedge \\ & (m1\_group\_2 X2 X0)))\Rightarrow((v15\_algstr\_0 (k10\_group\_2 X0 X1 X2))\wedge( \\ & m1\_group\_2 (k10\_group\_2 X0 X1 X2) X0)) \end{aligned} \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 \\ & X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.(m1\_group\_2 X1 X0)\Rightarrow(\forall X2. \\ & (m1\_group\_2 X2 X0)\Rightarrow(\forall X3.(m1\_group\_2 X3 X0)\Rightarrow(((m1\_group\_2 \\ & X1 X2)\wedge(m1\_group\_2 X1 X3))\Rightarrow(m1\_group\_2 X1 (k10\_group\_2 X0 X2 X3)))))) \end{aligned}$$