

t108\_group\_2 (TMGiZ-  
aBkDR5PRsvrjrQEKm3kPXkyvLVSizB)

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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  $k13\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_group\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (r1\_struct\_0 X1 (k1\_group\_1 X0))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_group\_2 X3 X1) \Rightarrow ((X0 \in k14\_group\_2 X1 X3 X2) \Leftrightarrow (\exists X4.(m1\_subset\_1 X4 (u1\_struct\_0 X1)) \wedge ((X0 = k6\_algstr\_0 X1 X4 X2) \wedge (r1\_struct\_0 X3 X4)))))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_group\_2 X3 X1) \Rightarrow ((X0 \in k13\_group\_2 X1 X3 X2) \Leftrightarrow (\exists X4.(m1\_subset\_1 X4 (u1\_struct\_0 X1)) \wedge ((X0 = k6\_algstr\_0 X1 X2 X4) \wedge (r1\_struct\_0 X3 X4)))))) \quad (3)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow (m1\_subset\_1 (k1\_group\_1 X0) (u1\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3\_algstr\_0 X0) \Rightarrow ((v1\_group\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow ((X1 = k1\_group\_1 X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow ((k6\_algstr\_0 X0 X2 X1 = X2) \wedge (k6\_algstr\_0 \\ X0 X1 X2 = X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow ((v2\_group\_1 X0) \Rightarrow (v1\_group\_1 X0)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(m1\_group\_2 X2 X0) \Rightarrow ((X1 \in k13\_group\_2 X0 X2 X1) \wedge \\ (X1 \in k14\_group\_2 X0 X2 X1)))) \end{aligned}$$