

t63\_group\_2  
(TMZY8LUe1y4fjdAo2rU14TEVhzKjFsder5C)

October 27, 2020

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  $k6\_group\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (k1\_group\_1 \\ & X1 = k1\_group\_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow \\ & (k6\_domain\_1 X0 X1 = k1\_tarski X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 \\ & (u1\_struct\_0 X0)) \end{aligned} \quad (4)$$

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.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow (l1\_struct\_0 X0) \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow (m1\_subset\_1 (k1\_group\_1 X0) (u1\_struct\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((v15\_algstr\_0 X1) \wedge (m1\_group\_2 X1 X0)) \Rightarrow ((X1 = k6\_group\_2 X0) \Leftrightarrow (u1\_struct\_0 X1 = k6\_domain\_1 (u1\_struct\_0 X0) (k1\_group\_1 X0)))) \quad (9)$$

Assume the following.

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

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_group\_2 X1 X0) \Rightarrow (k6\_group\_2 X1 = k6\_group\_2 X0))$$