

# t103\_group\_3

(TMSH9Wr9hkcGZR4Y3N6TWpwYJz8isA5WV7w)

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  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r5\_group\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((v15\_algstr\_0 X1) \wedge (m1\_group\_2 \\ & X1 X0)) \Rightarrow (r1\_group\_2 X0 (k6\_group\_3 X0 X1 (k1\_group\_1 X0)) X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((v15\_algstr\_0 X1) \wedge (m1\_group\_2 \\ & X1 X0)) \Rightarrow (\forall X2.((v15\_algstr\_0 X2) \wedge (m1\_group\_2 X2 X0)) \Rightarrow ( \\ & (r5\_group\_3 X0 X1 X2) \Leftrightarrow (\exists X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0)) \wedge (r1\_group\_2 X0 X2 (k6\_group\_3 X0 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (((v15\_algstr\_0 X1) \wedge \\ & (m1\_group\_2 X1 X0)) \wedge ((v15\_algstr\_0 X2) \wedge (m1\_group\_2 X2 X0)))) \Rightarrow \\ & ((r1\_group\_2 X0 X1 X2) \Rightarrow (r1\_group\_2 X0 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((m1\_group\_2 X1 X0) \wedge \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((v15\_algstr\_0 (k6\_group\_3 \\ & X0 X1 X2)) \wedge (m1\_group\_2 (k6\_group\_3 X0 X1 X2) X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l3\_algstr\_0 X0) \Rightarrow (m1\_subset\_1 (k1\_group\_1 X0) (u1\_struct\_0 X0)) \quad (5)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((v15\_algstr\_0 X1) \wedge (m1\_group\_2 X1 X0)) \Rightarrow (r5\_group\_3 X0 X1 X1))$$