

t47\_group\_6  
(TMVvB7F2VifxnzLEycv86efSZ6ZQmMrz5aP)

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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  $r1\_group\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_group\_2 : \iota \Rightarrow \iota$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  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.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2.\forall X3. \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 (u1\_struct\_0 X1) (u1\_struct\_0 X0)) \wedge ((v1\_group\_6 X3 X1 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X0)))))))) \Rightarrow ((r1\_struct\_0 (k10\_group\_6 X1 X0 X3) X2) \Leftrightarrow (\exists X4.(m1\_subset\_1 X4 (u1\_struct\_0 X1)) \wedge (X2 = k3\_funct\_2 (u1\_struct\_0 X1) (u1\_struct\_0 X0) X3 X4)))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow ((r1\_struct\_0 (k6\_group\_2 X1) X0) \Leftrightarrow (X0 = k1\_group\_1 X1)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((\neg v2\_struct\_0 X1) \wedge (( \\ & v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))))) \Rightarrow ((v1\_funct\_1 \\ & (k7\_group\_6 X0 X1)) \wedge ((v1\_funct\_2 (k7\_group\_6 X0 X1) (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge (v1\_group\_6 (k7\_group\_6 X0 X1) X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge \\ & ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge ((\neg v2\_struct\_0 X1) \wedge (( \\ & v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))))) \Rightarrow ((v1\_funct\_1 \\ & (k7\_group\_6 X0 X1)) \wedge ((v1\_funct\_2 (k7\_group\_6 X0 X1) (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 (k7\_group\_6 X0 X1) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow ((v15\_algstr\_0 (k6\_group\_2 X0)) \wedge (m1\_group\_2 \\ & (k6\_group\_2 X0) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 \\ & X0) \wedge ((v3\_group\_1 X0) \wedge (l3\_algstr\_0 X0)))) \wedge (((\neg v2\_struct\_0 X1) \wedge \\ & ((v2\_group\_1 X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \wedge ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge ((v1\_group\_6 \\ & X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X1)))))))))) \Rightarrow ((v15\_algstr\_0 (k10\_group\_6 X0 \\ & X1 X2)) \wedge (m1\_group\_2 (k10\_group\_6 X0 X1 X2) X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\ & X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1)))))) \Rightarrow \\ & ((X2 = k7\_group\_6 X0 X1) \Leftrightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0) \Rightarrow (k3\_funct\_2 (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 X3 = k1\_group\_1 \\ & X1)))))) \end{aligned} \quad (8)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\
& X1) \wedge (v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (r1\_group\_2 X1 (k10\_group\_6 \\
& X0 X1 (k7\_group\_6 X0 X1)) (k6\_group\_2 X1))
\end{aligned}$$