

t49\_group\_9  
(TMJjY1rHVRXtPX6S7V7Exv9V48eXXzRT7j3)

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  $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  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  $v7\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k10\_group\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_group\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\
& X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2.((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1)) \wedge ((v1\_group\_6 \\
& X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1)))))) \Rightarrow (k2\_relset\_1 (u1\_struct\_0 X1) X2 = \\
& u1\_struct\_0 (k10\_group\_6 X0 X1 X2))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (l1\_group\_9 X1 X0) \Rightarrow (l3\_algstr\_0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2\_struct\_0 \\
& X1)\wedge((v2\_group\_1 X1)\wedge((v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge( \\
& l1\_group\_9 X1 X0)))))\wedge(((\neg v2\_struct\_0 X2)\wedge((v2\_group\_1 X2)\wedge \\
& ((v3\_group\_1 X2)\wedge((v3\_group\_9 X2 X0)\wedge(l1\_group\_9 X2 X0)))))\wedge \\
& ((v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 (u1\_struct\_0 X1) (u1\_struct\_0 \\
& X2))\wedge((v1\_group\_6 X3 X1 X2)\wedge((v7\_group\_9 X3 X0 X1 X2)\wedge(m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X2))))))))))\Rightarrow \\
& ((v2\_group\_9 (k14\_group\_9 X0 X1 X2 X3) X0)\wedge(m1\_group\_9 (k14\_group\_9 \\
& X0 X1 X2 X3) X0 X2))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 \\
& X0)\wedge((v3\_group\_1 X0)\wedge(l3\_algstr\_0 X0))))\wedge(((\neg v2\_struct\_0 X1)\wedge \\
& ((v2\_group\_1 X1)\wedge((v3\_group\_1 X1)\wedge(l3\_algstr\_0 X1))))\wedge((v1\_funct\_1 \\
& X2)\wedge((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge((v1\_group\_6 \\
& X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1))))))))\Rightarrow((v15\_algstr\_0 (k10\_group\_6 X0 \\
& X1 X2))\wedge(m1\_group\_2 (k10\_group\_6 X0 X1 X2) X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 X1)\wedge( \\
& (v3\_group\_1 X1)\wedge((v3\_group\_9 X1 X0)\wedge(l1\_group\_9 X1 X0))))\Rightarrow( \\
& \forall X2.((\neg v2\_struct\_0 X2)\wedge((v2\_group\_1 X2)\wedge((v3\_group\_1 \\
& X2)\wedge((v3\_group\_9 X2 X0)\wedge(l1\_group\_9 X2 X0))))\Rightarrow(\forall X3.( \\
& (v1\_funct\_1 X3)\wedge((v1\_funct\_2 X3 (u1\_struct\_0 X1) (u1\_struct\_0 \\
& X2))\wedge((v1\_group\_6 X3 X1 X2)\wedge((v7\_group\_9 X3 X0 X1 X2)\wedge(m1\_subset\_1 \\
& X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X2))))))))\Rightarrow \\
& (\forall X4.((v2\_group\_9 X4 X0)\wedge(m1\_group\_9 X4 X0 X2))\Rightarrow((X4 = k14\_group\_9 \\
& X0 X1 X2 X3)\Leftrightarrow(u1\_struct\_0 X4 = k7\_reset\_1 (u1\_struct\_0 X1) (u1\_struct\_0 \\
& X2) X3 (u1\_struct\_0 X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_group\_1 X0)\wedge((v3\_group\_1 \\
& X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_group\_1 \\
& X1)\wedge((v3\_group\_1 X1)\wedge(l3\_algstr\_0 X1))))\Rightarrow(\forall X2.((v1\_funct\_1 \\
& X2)\wedge((v1\_funct\_2 X2 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge((v1\_group\_6 \\
& X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X1))))))))\Rightarrow(\forall X3.((v15\_algstr\_0 X3)\wedge( \\
& m1\_group\_2 X3 X1))\Rightarrow((X3 = k10\_group\_6 X0 X1 X2)\Leftrightarrow(u1\_struct\_0 X3 = \\
& k7\_reset\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1) X2 (u1\_struct\_0 \\
& X0))))))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge (v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge (v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0))) \Rightarrow ( \\ & \quad \forall X2. ((\neg v2\_struct\_0 X2) \wedge (v2\_group\_1 X2) \wedge (v3\_group\_1 \\ & \quad X2) \wedge (v3\_group\_9 X2 X0) \wedge (l1\_group\_9 X2 X0))) \Rightarrow (\forall X3. ( \\ & \quad (v1\_funct\_1 X3) \wedge (v1\_funct\_2 X3 (u1\_struct\_0 X1) (u1\_struct\_0 \\ & X2)) \wedge (v1\_group\_6 X3 X1 X2) \wedge (v7\_group\_9 X3 X0 X1 X2) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X2)))))) \Rightarrow \\ & \quad (k2\_relset\_1 (u1\_struct\_0 X2) X3 = u1\_struct\_0 (k14\_group\_9 X0 \\ & \quad X1 X2 X3))) \end{aligned}$$