

t105\_group\_9  
(TMHMJ5z7j85atdE7ULZe7V2utK2dMvfoYXa)

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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  $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v8\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k20\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k2\_finseq\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \quad \forall X2. ((v8\_group\_9 X2 X0 X1) \wedge (m2\_finseq\_1 X2 (k6\_group\_9 \\ & \quad X0 X1))) \Rightarrow (\forall X3. (m2\_finseq\_1 X3 (k6\_group\_9 X0 X1)) \Rightarrow (\forall X4. \\ & \quad (v7\_ordinal1 X4) \Rightarrow (((X4 \in k4\_finseq\_1 X2) \wedge ((k1\_nat\_1 X4 np\_1 \in \\ & \quad k4\_finseq\_1 X2) \wedge ((k1\_funct\_1 X2 X4 = k1\_funct\_1 X2 (k1\_nat\_1 X4 \\ & \quad np\_1))) \wedge (X3 = k2\_finseq\_3 X4 X2)))) \Rightarrow (v8\_group\_9 X3 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. (\neg v1\_xboole\_0 X1) \Rightarrow ( \\ & \quad \forall X2. (m2\_finseq\_1 X2 X1) \Rightarrow (m2\_finseq\_1 (k2\_finseq\_3 X0 X2) \\ & \quad X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\
& (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\
& \forall X2. ((v8\_group\_9 X2 X0 X1) \wedge (m2\_finseq\_1 X2 (k6\_group\_9 \\
& X0 X1))) \Rightarrow (\forall X3. ((v8\_group\_9 X3 X0 X1) \wedge (m2\_finseq\_1 X3 (k6\_group\_9 \\
& X0 X1))) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow (((X4 \in k4\_finseq\_1 X2) \wedge \\
& ((k1\_nat\_1 X4 np\_1) \in k4\_finseq\_1 X2) \wedge ((k1\_funct\_1 X2 X4 = k1\_funct\_1 \\
& X2 (k1\_nat\_1 X4 np\_1)) \wedge (X3 = k2\_finseq\_3 X4 X2)))) \Rightarrow (k20\_group\_9 \\
& X0 X1 X3 = k2\_finseq\_3 X4 (k20\_group\_9 X0 X1 X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\
& \forall X2. ((v8\_group\_9 X2 X0 X1) \wedge (m2\_finseq\_1 X2 (k6\_group\_9 \\
& X0 X1))) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow (((X3 \in k4\_finseq\_1 (k20\_group\_9 \\
& X0 X1 X2)) \wedge (\forall X4. ((\neg v2\_struct\_0 X4) \wedge ((v2\_group\_1 X4) \wedge ( \\
& (v3\_group\_1 X4) \wedge ((v3\_group\_9 X4 X0) \wedge (l1\_group\_9 X4 X0)))) \Rightarrow ( \\
& (X4 = k1\_funct\_1 (k20\_group\_9 X0 X1 X2) X3) \Rightarrow (v7\_struct\_0 X4)))) \Rightarrow \\
& ((X3 \in k4\_finseq\_1 X2) \wedge ((k1\_nat\_1 X3 np\_1) \in k4\_finseq\_1 X2) \wedge (k1\_funct\_1 \\
& X2 X3 = k1\_funct\_1 X2 (k1\_nat\_1 X3 np\_1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\
& \neg v1\_xboole\_0 (k6\_group\_9 X0 X1))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\
& \forall X2. ((v8\_group\_9 X2 X0 X1) \wedge (m2\_finseq\_1 X2 (k6\_group\_9 \\
& X0 X1))) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_finseq\_1 \\
& X3))) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow (((X3 = k20\_group\_9 X0 X1 X2) \wedge \\
& ((X4 \in k4\_finseq\_1 X3) \wedge (\forall X5. ((\neg v2\_struct\_0 X5) \wedge ((v2\_group\_1 \\
& X5) \wedge ((v3\_group\_1 X5) \wedge ((v3\_group\_9 X5 X0) \wedge (l1\_group\_9 X5 X0)))) \Rightarrow \\
& ((X5 = k1\_funct\_1 X3 X4) \Rightarrow (v7\_struct\_0 X5)))))) \Rightarrow (((v8\_group\_9 ( \\
& k2\_finseq\_3 X4 X2) X0 X1) \wedge (m2\_finseq\_1 (k2\_finseq\_3 X4 X2) (k6\_group\_9 \\
& X0 X1))) \wedge (\forall X5. ((v8\_group\_9 X5 X0 X1) \wedge (m2\_finseq\_1 X5 (k6\_group\_9 \\
& X0 X1))) \Rightarrow ((X5 = k2\_finseq\_3 X4 X2) \Rightarrow (k20\_group\_9 X0 X1 X5 = k2\_finseq\_3 \\
& X4 X3))))))
\end{aligned}$$