

t51\_finseq\_6  
(TMaUV9hd4QiRyVhyG3RfzHtLp6MGQqZRFt6)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_finseq\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k11\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 \\ & (k9\_finseq\_1 X0) (k10\_finseq\_1 X1 X2)) \wedge (k11\_finseq\_1 X0 X1 X2 = \\ & k7\_finseq\_1 (k10\_finseq\_1 X0 X1) (k9\_finseq\_1 X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2. (m2\_finseq\_1 X2 X0) \Rightarrow ((X1 \in k10\_xtuple\_0 X2) \Rightarrow (k1\_finseq\_5 \\ & X0 X2 X1 = k7\_finseq\_1 (k5\_finseq\_4 X2 X1) (k12\_finseq\_1 X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \neg (X0 \neq X1) \wedge ((X2 \neq X1) \wedge (k5\_finseq\_4 \\ & (k11\_finseq\_1 X0 X2 X1) X1 \neq k10\_finseq\_1 X0 X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & ((m1\_subset\_1 X1 X0) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X0)))) \Rightarrow \\ & (k3\_finseq\_4 X0 X1 X2 X3 = k11\_finseq\_1 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (k12\_finseq\_1 X0 X1 = k5\_finseq\_1 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k10\_xtuple\_0 (k11\_finseq\_1 X0 X1 X2) = k1\_enumset1 X0 X1 X2 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge((m1\_subset\_1 X1 X0)\wedge((m1\_subset\_1 X2 X0)\wedge(m1\_subset\_1 X3 X0))))\Rightarrow (m2\_finseq\_1 (k3\_finseq\_4 X0 X1 X2 X3) X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(X3 = k1\_enumset1 X0 X1 X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(\neg(X4\neq X0)\wedge((X4\neq X1)\wedge(X4\neq X2)))) \quad (9)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(\forall X3.(m1\_subset\_1 X3 X0)\Rightarrow(\neg(X1\neq X2)\wedge((X3\neq X2)\wedge(k1\_finseq\_5 X0 (k3\_finseq\_4 X0 X1 X3 X2) X2\neq k3\_finseq\_4 X0 X1 X3 X2))))))$$