

# t64\_finseq\_6 (TMdKyvoHwwtrt- GZxGk1RuvHRq2N9hwuAFrQ)

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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  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k6\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & X1)))) \Rightarrow (\forall X2.(X2 \in k10\_xtuple\_0 X0) \Rightarrow (k6\_finseq\_4 (k7\_finseq\_1 \\ & X0 X1) X2 = k7\_finseq\_1 (k6\_finseq\_4 X0 X2) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow \\ & (\forall X2.(m2\_finseq\_1 X2 X0) \Rightarrow ((X1 \in k10\_xtuple\_0 X2) \Rightarrow (k2\_finseq\_5 \\ & X0 X2 X1 = k7\_finseq\_1 (k12\_finseq\_1 X0 X1) (k6\_finseq\_4 X2 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & X1)))) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 \\ & X2)))) \Rightarrow (k7\_finseq\_1 (k7\_finseq\_1 X0 X1) X2 = k7\_finseq\_1 X0 (k7\_finseq\_1 \\ & X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & X1)))) \Rightarrow (k10\_xtuple\_0 (k7\_finseq\_1 X0 X1) = k2\_xboole\_0 (k10\_xtuple\_0 \\ & X0) (k10\_xtuple\_0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Leftrightarrow(m1\_finseq\_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1 X1 X0)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(k8\_finseq\_1 X0 X1 X2 = k7\_finseq\_1 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1 X1 X0)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(m2\_finseq\_1 (k8\_finseq\_1 X0 X1 X2) X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow((v1\_relat\_1 (k6\_finseq\_4 X0 X1))\wedge((v1\_funct\_1 (k6\_finseq\_4 X0 X1))\wedge(v1\_finseq\_1 (k6\_finseq\_4 X0 X1)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge((m1\_finseq\_1 X1 X0)\wedge(m1\_subset\_1 X2 X0)))\Rightarrow(m2\_finseq\_1 (k2\_finseq\_5 X0 X1 X2) X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow(m2\_finseq\_1 (k12\_finseq\_1 X0 X1) X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (13)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(\forall X2.(m2\_finseq\_1 X2 X0)\Rightarrow(\forall X3.(m2\_finseq\_1 X3 X0)\Rightarrow((X1 \in k10\_xtuple\_0 X2)\Rightarrow(k2\_finseq\_5 X0 (k8\_finseq\_1 X0 X2 X3) X1 = k8\_finseq\_1 X0 (k2\_finseq\_5 X0 X2 X1) X3))))))$$