

## t7\_finseq\_7

(TMTb3XURgp6sFxoLyM9YmaUjZR5iLyzaiEE)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X1 \in k1\_relset\_1 k5\_numbers X0) \Leftrightarrow \\ & ((r1\_xxreal\_0 np\_1 X1) \wedge (r1\_xxreal\_0 X1 (k3\_finseq\_1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & (X1 \in k9\_xtuple\_0 X0) \Rightarrow (X2 \in k10\_xtuple\_0 (k2\_funct\_7 X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((m1\_finseq\_1 X1 X0) \wedge (v7\_ordinal1 X2) \wedge (m1\_subset\_1 X3 X0))) \Rightarrow \\ & (k1\_finseq\_7 X0 X1 X2 X3 = k2\_funct\_7 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))\Rightarrow((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0)))) \quad (7)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow \\ &(\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow \\ &(((r1\_xxreal\_0 np\_1 X3)\wedge(r1\_xxreal\_0 X3 (k3\_finseq\_1 X1)))\Rightarrow \\ &(X2 \in k10\_xtuple\_0 (k1\_finseq\_7 X0 X1 X3 X2)))))) \end{aligned}$$