

## t8\_finseq\_8

(TMd3sAKwxFGXG5B1dMdQfZ9Fo4Pqq1w3vf9)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_finseq\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((r1\_xxreal\_0 X1 X0) \Rightarrow (k7\_nat\_d X1 X0 = k6\_numbers))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (k7\_nat\_d (k2\_xcmplx\_0 X0 X1) X1 = X0)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow (k2\_rfinseq X0 k6\_numbers X1 = X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \ k6\_numbers = X0) \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (r1\_xxreal\_0 X0 (k2\_xcmplx\_0 X0 X1))) \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$v1\_xboole\_0 \ np\_0 \quad (9)$$

Assume the following.

$$k2\_xcmplx\_0 \ np\_0 \ np\_1 = np\_1 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (11)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (12)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1\_finseq\_1 X1 \\ & X0) \wedge ((v7\_ordinal1 X2) \wedge (v7\_ordinal1 X3))) \Rightarrow (k3\_finseq\_8 X0 X1 \\ & X2 X3 = k2\_finseq\_8 X1 X2 X3) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k2\_rfinseq X0 X1 X2 = k1\_rfinseq X1 X2) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 \ k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (k2\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 \ k5\_numbers)) \Rightarrow (k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(v7\_ordinal1\ (k2\_xcmplx\_0\ X0\ X1)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finseq\_1\ X0)))\Rightarrow \\ (\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow( \\ k2\_finseq\_8\ X0\ X1\ X2 = k16\_finseq\_1\ (k7\_nat\_d\ (k1\_nat\_1\ X2\ np\_1) \\ X1)\ (k1\_rfinseq\ (k7\_nat\_d\ X1\ np\_1)\ X0)))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Leftrightarrow(X0 \in k4\_ordinal1) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(k2\_nat\_1\ X0\ X1 = k2\_nat\_1\ X1\ X0) \quad (22)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v7\_ordinal1\ X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \quad (25)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \quad (26)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1 \\ X2\ k5\_numbers)\Rightarrow(k3\_finseq\_8\ X0\ X1\ k6\_numbers\ X2 = k3\_finseq\_8\ X0 \\ X1\ np\_1\ (k2\_nat\_1\ X2\ np\_1))) \end{aligned}$$