

## t123\_finseq\_6

(TMbvkBYyiMfREM3E2kjcGMxisoq9nsmhTam)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$m1\_subset\_1 \ k1\_xboole\_0 \ k4\_ordinal1 \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow ((\neg r1\_xxreal\_0 \ np\_1 \ X0) \Rightarrow (X0 = k6\_numbers)) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.(v7\_ordinal1 \ X1) \Rightarrow ((\neg r1\_xxreal\_0 \ (k1\_nat\_1 \ X1 \ np\_1) \ X0) \Leftrightarrow (r1\_xxreal\_0 \ X0 \ X1))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 \ X0) \Rightarrow (\forall X1.(m2\_finseq\_1 \ X1 \ X0) \Rightarrow (\forall X2.(v7\_ordinal1 \ X2) \Rightarrow ((r1\_xxreal\_0 \ np\_1 \ X2) \Rightarrow (k3\_finseq\_6 \ X0 \ X1 \ np\_1 \ X2 = k17\_finseq\_1 \ X0 \ X2 \ X1)))) \tag{4}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 \ X0) \Rightarrow (\forall X1.(v7\_ordinal1 \ X1) \Rightarrow (\forall X2. ((v1\_relat\_1 \ X2) \wedge ((v1\_funct\_1 \ X2) \wedge (v1\_finseq\_1 \ X2))) \Rightarrow ((r1\_xxreal\_0 \ X0 \ X1) \Rightarrow (k1\_funct\_1 \ (k16\_finseq\_1 \ X1 \ X2) \ X0 = k1\_funct\_1 \ X2 \ X0)))) \tag{5}$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \text{ } np\_1) \wedge (m2\_subset\_1 \text{ } np\_1 \text{ } k1\_numbers \text{ } k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \text{ } np\_1 \text{ } k5\_numbers) \wedge (m1\_subset\_1 \text{ } np\_1 \text{ } k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$(m2\_subset\_1 \text{ } np\_0 \text{ } k1\_numbers \text{ } k5\_numbers) \wedge ((m1\_subset\_1 \text{ } np\_0 \text{ } k5\_numbers) \wedge (m1\_subset\_1 \text{ } np\_0 \text{ } k1\_numbers)) \quad (7)$$

Assume the following.

$$k2\_xcmplx\_0 \text{ } np\_0 \text{ } np\_1 = np\_1 \quad (8)$$

Assume the following.

$$\neg r1\_xreal\_0 \text{ } np\_1 \text{ } np\_0 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 \text{ } X1 \text{ } X0) \Leftrightarrow (m1\_finseq\_1 \text{ } X1 \text{ } X0) \quad (10)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (11)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 \text{ } X0) \wedge (m1\_subset\_1 \text{ } X1 \text{ } k5\_numbers)) \Rightarrow \\ & (k1\_nat\_1 \text{ } X0 \text{ } X1 = k2\_xcmplx\_0 \text{ } X0 \text{ } X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7\_ordinal1 \text{ } X1) \wedge (m1\_finseq\_1 \\ & X2 \text{ } X0)) \Rightarrow (k17\_finseq\_1 \text{ } X0 \text{ } X1 \text{ } X2 = k16\_finseq\_1 \text{ } X1 \text{ } X2) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2\_finseq\_1 \text{ } X1 \text{ } X0) \Rightarrow ((v1\_funct\_1 \text{ } X1) \wedge ( \\ & (v1\_finseq\_1 \text{ } X1) \wedge (m1\_subset\_1 \text{ } X1 \text{ } (k1\_zfmisc\_1 \text{ } (k2\_zfmisc\_1 \text{ } k5\_numbers \\ & X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_finseq\_1 \text{ } X1 \text{ } X0) \Rightarrow ((v1\_relat\_1 \text{ } X1) \wedge ( \\ & (v1\_funct\_1 \text{ } X1) \wedge (v1\_finseq\_1 \text{ } X1))) \end{aligned} \quad (16)$$

Assume the following.

$$k1\_xboole\_0 = the (\lambda X0 : \iota. v1\_xboole\_0 \text{ } X0) \quad (17)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \text{ } X0 \text{ } k4\_ordinal1) \Rightarrow (v7\_ordinal1 \text{ } X0) \quad (18)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow \\ (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow ( \\ ((r1\_xxreal\_0 np\_1 X3) \wedge ((r1\_xxreal\_0 X3 X2) \wedge (r1\_xxreal\_0 X2 \\ (k3\_finseq\_1 X1)))))) \Rightarrow (k1\_funct\_1 (k3\_finseq\_6 X0 X1 np\_1 X2) X3 = \\ k1\_funct\_1 X1 X3)))))) \end{aligned}$$