

t79\_finseq\_3 (TMSAH-  
PnF7LBSaAP116DvGM193cMFyqYE7Lj)

October 27, 2020

Let  $k1\_finseq\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  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  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = np\_1) \wedge (k1\_funct\_1 X1 np\_1 = X0))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k9\_finseq\_1 X0 \neq k10\_finseq\_1 X1 X2 \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow ((k7\_finseq\_1 X0 k1\_xboole\_0 = X0) \wedge (k7\_finseq\_1 k1\_xboole\_0 X0 = X0)) \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow (\forall X2. k1\_finseq\_3 (k7\_finseq\_1 X1 X0) X2 = k7\_finseq\_1 (k1\_finseq\_3 X1 X2) (k1\_finseq\_3 X0 X2))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (k1\_finseq\_3 (k9\_finseq\_1 X0) X1 = k1\_xboole\_0) \Leftrightarrow (X0 \in X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(k1\_finseq\_3 (k9\_finseq\_1 X0) X1 = k9\_finseq\_1 X0) \Leftrightarrow (\neg X0 \in X1) \quad (7)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k5\_finseq\_1 X0)) \wedge (v1\_funct\_1 (k5\_finseq\_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow ((v1\_relat\_1 (k1\_finseq\_3 X0 X1)) \wedge ((v1\_funct\_1 (k1\_finseq\_3 X0 X1)) \wedge (v1\_finseq\_1 (k1\_finseq\_3 X0 X1)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1 X0 X1 = k7\_finseq\_1 (k9\_finseq\_1 X0) (k9\_finseq\_1 X1) \quad (11)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.(k1\_finseq\_3 (k10\_finseq\_1 X0 X1) X2 = k9\_finseq\_1 X1) \Rightarrow ((X0 = X1) \vee ((X0 \in X2) \wedge (\neg X1 \in X2)))$$