

# t34\_finseq\_6 (TMUAaK- TPfhvw6WLwKTzmYw81VMycdFZvuTp)

October 27, 2020

Let  $k6\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  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  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\ & (\forall X1.(X1 \in k10\_xtuple\_0 X0) \Rightarrow ((k4\_finseq\_4 X0 X1 = k3\_finseq\_1 X0) \Leftrightarrow (k6\_finseq\_4 X0 X1 = k1\_xboole\_0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_relat\_1 X3) \wedge \\ & ((v1\_funct\_1 X3) \wedge (v1\_finseq\_1 X3))) \Rightarrow ((X3 = k11\_finseq\_1 X0 X1 X2) \Leftrightarrow ((k3\_finseq\_1 X3 = np\_3) \wedge ((k1\_funct\_1 X3 np\_1 = X0) \wedge ((k1\_funct\_1 X3 np\_2 = X1) \wedge (k1\_funct\_1 X3 np\_3 = X2))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \neq X1) \wedge ((X2 \neq X1) \wedge (k4\_finseq\_4 X0 X2 X1) \wedge (X1 \neq np\_3)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k10\_xtuple\_0 (k11\_finseq\_1 X0 X1 X2) = k1\_enumset1 X0 X1 X2 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1 (k11\_finseq\_1 X0 X1 X2)) \wedge (v1\_funct\_1 (k11\_finseq\_1 X0 X1 X2)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1\_finseq\_1 (k11\_finseq\_1 X0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(X3 = k1\_enumset1 \\ X0\ X1\ X2) \Leftrightarrow (\forall X4.(X4 \in X3) \Leftrightarrow (\neg(X4 \neq X0) \wedge ((X4 \neq X1) \wedge (X4 \neq X2)))) \quad (7)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.\neg(X0 \neq X1) \wedge ((X2 \neq X1) \wedge (k6\_finseq\_4 \\ (k11\_finseq\_1\ X0\ X2\ X1)\ X1 \neq k1\_xboole\_0))$$