

## t29\_finseq\_6

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Let  $k6\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $np\_2 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2))) \Rightarrow ((X2 = k10\_finseq\_1 X0 X1) \Leftrightarrow ((k3\_finseq\_1 X2 = np\_2) \wedge ((k1\_funct\_1 X2 np\_1 = X0) \wedge (k1\_funct\_1 X2 np\_2 = X1)))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = np\_1) \wedge (k1\_funct\_1 X1 np\_1 = X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k4\_finseq\_1 X1 = k2\_finseq\_1 np\_1) \wedge (k10\_xtuple\_0 X1 = k1\_tarski X0))) \quad (3)$$

Assume the following.

$$(k2\_finseq\_1 np\_1 = k1\_tarski np\_1) \wedge (k2\_finseq\_1 np\_2 = k2\_tarski np\_1 np\_2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k4\_finseq\_4 (k10\_finseq\_1 X0 X1) X0 = np\_1 \quad (5)$$

Assume the following.

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

Assume the following.

$$k6\_xcmplx\_0 np\_2 np\_1 = np\_1 \quad (7)$$

Assume the following.

$$k2\_xcmplx\_0 np\_1 np\_1 = np\_2 \quad (8)$$

Assume the following.

$$\forall X0.k9\_finseq\_1 X0 = k5\_finseq\_1 X0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v7\_ordinal\_1 X0) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow \\ & (k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k10\_xtuple\_0 (k10\_finseq\_1 X0 X1) = k2\_tarSKI X0 X1 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 (k10\_finseq\_1 X0 X1)) \wedge (v1\_funct\_1 (k10\_finseq\_1 X0 X1)) \quad (12)$$

Assume the following.

$$\forall X0.v1\_finseq\_1 (k5\_finseq\_1 X0) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.v1\_finseq\_1 (k10\_finseq\_1 X0 X1) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 (k9\_finseq\_1 X0)) \wedge (v1\_funct\_1 (k9\_finseq\_1 X0)) \quad (15)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow \\
& \quad (\forall X1.(X1 \in k10\_xtuple\_0 X0) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge \\
& ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2))) \Rightarrow ((X2 = k6\_finseq\_4 X0 X1) \Leftrightarrow \\
& ((k3\_finseq\_1 X2 = k6\_xcmplx\_0 (k3\_finseq\_1 X0) (k4\_finseq\_4 X0 \\
& X1)) \wedge (\forall X3.(v7\_ordinal1 X3) \Rightarrow ((X3 \in k4\_finseq\_1 X2) \Rightarrow (k1\_funct\_1 \\
& X2 X3 = k1\_funct\_1 X0 (k1\_nat\_1 X3 (k4\_finseq\_4 X0 X1))))))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(X2 = k2\_tarski X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1)))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(X1 = k1\_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow \\
& (X2 = X0))
\end{aligned} \tag{18}$$

**Theorem 1**

$$\forall X0.\forall X1.k6\_finseq\_4 (k10\_finseq\_1 X0 X1) X0 = k9\_finseq\_1 X1$$