

t31_finseq_6

(TMNnA1DAcqYTX29N9DS49ACqyojpwr4edJj)

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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 $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_finseq_1 : \iota \Rightarrow \iota$ 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 $k2_finseq_1 : \iota \Rightarrow \iota$ 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 $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge \\ & ((v1_funct_1 X3) \wedge (v1_finseq_1 X3))) \Rightarrow ((X3 = k11_finseq_1 X0 X1 \\ & X2) \Leftrightarrow ((k3_finseq_1 X3 = np_3) \wedge ((k1_funct_1 X3 np_1 = X0) \wedge ((k1_funct_1 \\ & X3 np_2 = X1) \wedge (k1_funct_1 X3 np_3 = X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k10_finseq_1 X0 X1) \Leftrightarrow ((k3_finseq_1 \\ & X2 = np_2) \wedge ((k1_funct_1 X2 np_1 = X0) \wedge (k1_funct_1 X2 np_2 = X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$(k2_finseq_1 np_1 = k1_tarski np_1) \wedge (k2_finseq_1 np_2 = k2_tarski np_1 np_2) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_finseq_4 (k11_finseq_1 X0 X1 X2) X0 = np_1 \tag{4}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$k6_xcmplx_0 \ np_3 \ np_1 = np_2 \quad (7)$$

Assume the following.

$$k2_xcmplx_0 \ np_2 \ np_1 = np_3 \quad (8)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_1 = np_2 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finseq_1 \ X0))) \Rightarrow \\ (k4_finseq_1 \ X0 = k9_xtuple_0 \ X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v7_ordinal1 \ X0) \wedge (m1_subset_1 \ X1 \ k5_numbers)) \Rightarrow \\ (k1_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k10_xtuple_0 \ (k11_finseq_1 \\ X0 \ X1 \ X2) = k1_enumset1 \ X0 \ X1 \ X2 \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_relat_1 \ (k11_finseq_1 \ X0 \\ X1 \ X2)) \wedge (v1_funct_1 \ (k11_finseq_1 \ X0 \ X1 \ X2)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1_relat_1 \ (k10_finseq_1 \ X0 \ X1)) \wedge (v1_funct_1 \\ (k10_finseq_1 \ X0 \ X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. v1_finseq_1 \ (k11_finseq_1 \ X0 \\ X1 \ X2) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.v1_finseq_1 (k10_finseq_1 X0 X1) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow \\ & (\forall X1.(X1 \in k10_xtuple_0 X0)\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge \\ & ((v1_funct_1 X2)\wedge(v1_finseq_1 X2))))\Rightarrow((X2 = k6_finseq_4 X0 X1)\Leftrightarrow \\ & ((k3_finseq_1 X2 = k6_xcmplx_0 (k3_finseq_1 X0) (k4_finseq_4 X0 \\ & X1))\wedge(\forall X3.(v7_ordinal1 X3)\Rightarrow((X3 \in k4_finseq_1 X2)\Rightarrow(k1_funct_1 \\ & X2 X3 = k1_funct_1 X0 (k1_nat_1 X3 (k4_finseq_4 X0 X1)))))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow \\ & (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow((X1 = k3_finseq_1 \\ & X0)\Leftrightarrow(k2_finseq_1 X1 = k9_xtuple_0 X0))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k2_tarski X0 X1)\Leftrightarrow(\forall X3. \\ & (X3 \in X2)\Leftrightarrow((X3 = X0)\vee(X3 = X1))) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(X3 = k1_enumset1 \\ & X0 X1 X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(\neg(X4 \neq X0)\wedge((X4 \neq X1)\wedge(X4 \neq X2)))) \end{aligned} \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.k6_finseq_4 (k11_finseq_1 X0 \\ & X1 X2) X0 = k10_finseq_1 X1 X2 \end{aligned}$$