

t94_finseq_3 (TMHXVGgud- CLUoT8jUc9byX1k94ctTRnEkyS)

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Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge ((v3_card_1 X1 X0) \wedge (v1_finseq_1 X1)))) \Rightarrow (k4_finseq_1 X1 = k2_finseq_1 X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k10_finseq_1 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = np_2) \wedge ((k1_funct_1 X2 np_1 = X0) \wedge (k1_funct_1 X2 np_2 = X1)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

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.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \text{ } np_2) \wedge (m2_subset_1 \text{ } np_2 \text{ } k1_numbers \text{ } k5_numbers)) \wedge \\ & ((m1_subset_1 \text{ } np_2 \text{ } k5_numbers) \wedge (m1_subset_1 \text{ } np_2 \text{ } k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0. ((v1_relat_1 \text{ } X0) \wedge ((v1_funct_1 \text{ } X0) \wedge (v1_finseq_1 \text{ } X0))) \Rightarrow (k4_finseq_1 \text{ } X0 = k9_xtuple_0 \text{ } X0) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 (k10_finseq_1 \text{ } X0 \text{ } X1)) \wedge (v1_funct_1 (k10_finseq_1 \text{ } X0 \text{ } X1)) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0 (k2_tarski \text{ } X0 \text{ } X1) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. v3_card_1 (k10_finseq_1 \text{ } X0 \text{ } X1) \text{ } np_2 \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. v1_finseq_1 (k10_finseq_1 \text{ } X0 \text{ } X1) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 \text{ } X0) \wedge (v1_funct_1 \text{ } X0)) \Rightarrow ((v2_funct_1 \text{ } X0) \Leftrightarrow \\ & (\forall X1. \forall X2. ((X1 \in k9_xtuple_0 \text{ } X0) \wedge ((X2 \in k9_xtuple_0 \text{ } X0) \wedge (k1_funct_1 \text{ } X0 \text{ } X1 = k1_funct_1 \text{ } X0 \text{ } X2)))) \Rightarrow (X1 = X2))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (X2 = k2_tarski \text{ } X0 \text{ } X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (m1_subset_1 \text{ } X0 \text{ } k4_ordinal1) \Rightarrow (v7_ordinal1 \text{ } X0) \quad (15)$$

Theorem 1 $\forall X0. \forall X1. (X0 \neq X1) \Leftrightarrow (v2_funct_1 (k10_finseq_1 \text{ } X0 \text{ } X1)).$