

t64_finseq_2

(TMcFc2VpEAxwC4KZtwSWxXcT81BfgzxtKiu)

October 27, 2020

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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (((r1_tarski (k2_zfmisc_1 (k10_xtuple_0 X1) (k10_xtuple_0 X2)) (k9_xtuple_0 X3)) \wedge (X0 = k3_xxreal_0 (k3_finseq_1 X1) (k3_finseq_1 X2)))) \Rightarrow (k9_xtuple_0 (k3_funcop_1 X3 X1 X2) = k2_finseq_1 X0)))))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (v7_ordinal1 (k3_xxreal_0 X0 X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge (v1_funct_1 \\ & X0)) \wedge (((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \wedge ((v1_relat_1 X2) \wedge \\ & v1_funct_1 X2)))) \Rightarrow ((v1_relat_1 (k3_funcop_1 X0 X1 X2)) \wedge (v1_funct_1 \\ & (k3_funcop_1 X0 X1 X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. v1_card_1 (k1_card_1 X0) \quad (6)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow ((v1_finseq_1 X0) \Leftrightarrow (\exists X1. (v7_ordinal1 X1) \wedge (k9_xtuple_0 X0 = k2_finseq_1 X1))) \quad (7)$$

Assume the following.

$$\forall X0. ((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (8)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0))) \quad (9)$$

Assume the following.

$$\forall X0. (v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1. ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((r1_tarski \\ & (k2_zfmisc_1 (k10_xtuple_0 X0) (k10_xtuple_0 X1)) (k9_xtuple_0 \\ & X2)) \Rightarrow ((v1_relat_1 (k3_funcop_1 X2 X0 X1)) \wedge ((v1_funct_1 (k3_funcop_1 \\ & X2 X0 X1)) \wedge (v1_finseq_1 (k3_funcop_1 X2 X0 X1)))))) \end{aligned}$$