

t65_finseq_1
(TMQSHxVJnhJaSgfXCzzyYFMcs6td3X92s4Q)

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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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((r1_xxreal_0 X0 (k3_finseq_1 X1)) \Rightarrow (k3_finseq_1 (k16_finseq_1 X0 X1) = X0))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2))) \Rightarrow (\neg(X0 \in k4_finseq_1 X1) \wedge (\forall X3.(v7_ordinal1 X3) \Rightarrow (\neg(X3 = X0) \wedge (k2_nat_1 (k3_finseq_1 X2) X3 \in k4_finseq_1 (k7_finseq_1 X2 X1))))))) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k2_finseq_1 X0 = k1_finseq_1 X0) \quad (5)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow \\ ((v1_relat_1 (k7_finseq_1 X0 X1)) \wedge ((v1_funct_1 (k7_finseq_1 X0 X1)) \wedge (v1_finseq_1 (k7_finseq_1 X0 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (8)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow ((v1_relat_1 (k16_finseq_1 X0 X1)) \wedge ((v1_funct_1 (k16_finseq_1 X0 X1)) \wedge (v1_finseq_1 (k16_finseq_1 X0 X1)))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k7_finseq_1 X0 X1) \Leftrightarrow ((k4_finseq_1 X2 = k2_finseq_1 \\ (k2_nat_1 (k3_finseq_1 X0) (k3_finseq_1 X1)))) \wedge ((\forall X3.(v7_ordinal1 X3) \Rightarrow ((X3 \in k4_finseq_1 X0) \Rightarrow (k1_funct_1 X2 X3 = k1_funct_1 \\ X0 X3))) \wedge (\forall X3.(v7_ordinal1 X3) \Rightarrow ((X3 \in k4_finseq_1 X1) \Rightarrow (k1_funct_1 X2 (k2_nat_1 (k3_finseq_1 X0) X3) = k1_funct_1 X1 X3)))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow ((X1 = k3_finseq_1 X0) \Leftrightarrow (k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k1_finseq_1 X0 = \text{ReplSep} (\text{toset} (\lambda X1 : \iota.m2_subset_1 X1 k1_numbers k5_numbers)) (\lambda X1 : \iota.(r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 X1 X0)) (\lambda X1 : \iota.X1)) \quad (13)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (((r1_xxreal_0 np_1 X2) \wedge \\ & (r1_xxreal_0 X2 (k3_finseq_1 X1))) \Rightarrow (k1_funct_1 (k7_finseq_1 \\ & X0 X1) (k2_nat_1 (k3_finseq_1 X0) X2) = k1_funct_1 X1 X2)))) \end{aligned}$$