

t18_finseq_4
(TMJkSVCWWFEf2chY2Kgao6WLnyBngfdc4KV)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ 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 $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_relat_1 X3) \wedge \\ ((v1_funct_1 X3) \wedge (v1_finseq_1 X3))) \Rightarrow ((X3 = k11_finseq_1 X0 X1 \\ X2) \Leftrightarrow ((k3_finseq_1 X3 = np_3) \wedge ((k1_funct_1 X3 np_1 = X0) \wedge ((k1_funct_1 \\ X3 np_2 = X1) \wedge (k1_funct_1 X3 np_3 = X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$r1_xxreal_0 \ np_3 \ np_3 \quad (6)$$

Assume the following.

$$r1_xxreal_0 \ np_2 \ np_3 \quad (7)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_3 \quad (8)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_2 \quad (9)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_1 \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finseq_1 \ X0))) \Rightarrow \\ (k4_finseq_1 \ X0 = k9_xtuple_0 \ X0) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 \ X0) \wedge \\ ((m1_subset_1 \ X1 \ X0) \wedge ((m1_subset_1 \ X2 \ X0) \wedge (m1_subset_1 \ X3 \ X0)))) \Rightarrow \\ (k3_finseq_4 \ X0 \ X1 \ X2 \ X3 = k11_finseq_1 \ X1 \ X2 \ X3) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (k2_finseq_1 \ X0 = k1_finseq_1 \ X0) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_relat_1 \ (k11_finseq_1 \ X0 \\ X1 \ X2)) \wedge (v1_funct_1 \ (k11_finseq_1 \ X0 \ X1 \ X2)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. v3_card_1 \ (k11_finseq_1 \ X0 \ X1 \\ X2) \ np_3 \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. v1_finseq_1 \ (k11_finseq_1 \ X0 \\ X1 \ X2) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge((m1_subset_1 X1 X0)\wedge(m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X0)))\Rightarrow(m2_finseq_1 (k3_finseq_4 X0 X1 X2 X3) X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(\forall X2.(X2 \in k9_xtuple_0 X1)\Rightarrow(k7_partfun1 X0 X1 X2 = k1_funct_1 X1 X2)) \quad (20)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(k1_finseq_1 X0 = ReplSep (toset (\lambda X1 : \iota.m2_subset_1 X1 k1_numbers k5_numbers)) (\lambda X1 : \iota.(r1_xreal_0 np_1 X1)\wedge(r1_xreal_0 X1 X0)) (\lambda X1 : \iota.X1)) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (23)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 X0)\Rightarrow(\forall X3.(m1_subset_1 X3 X0)\Rightarrow(((k7_partfun1 X0 (k3_finseq_4 X0 X1 X2 X3) np_1 = X1)\wedge((k7_partfun1 X0 (k3_finseq_4 X0 X1 X2 X3) np_2 = X2)\wedge(k7_partfun1 X0 (k3_finseq_4 X0 X1 X2 X3) np_3 = X3))))))$$