

t26_finseq_7 (TMR-
Cad7YrBmXWsfmfcMpe2wuqqSCQkbhUT5)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ 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 $k11_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_finseq_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (k11_finseq_1 X0 X1 X2 = k7_finseq_1 \\ & (k9_finseq_1 X0) (k10_finseq_1 X1 X2)) \wedge (k11_finseq_1 X0 X1 X2 = \\ & k7_finseq_1 (k10_finseq_1 X0 X1) (k9_finseq_1 X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. (m1_subset_1 X3 X0) \Rightarrow \\ & ((k7_partfun1 X0 (k3_finseq_4 X0 X1 X2 X3) np_1 = X1) \wedge ((k7_partfun1 \\ & X0 (k3_finseq_4 X0 X1 X2 X3) np_2 = X2) \wedge (k7_partfun1 X0 (k3_finseq_4 \\ & X0 X1 X2 X3) np_3 = X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (k1_finseq_7 X0 (k3_finseq_4 \\ & X0 X1 X2 X3) np_3 X4 = k3_finseq_4 X0 X1 X2 X4)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\ & (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (k1_finseq_7 X0 (k3_finseq_4 \\ & X0 X1 X2 X3) np_2 X4 = k3_finseq_4 X0 X1 X4 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

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

Assume the following.

$$r1_xxreal_0 np_2 np_3 \quad (9)$$

Assume the following.

$$r1_xxreal_0 np_1 np_3 \quad (10)$$

Assume the following.

$$r1_xxreal_0 np_1 np_2 \quad (11)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (12)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1_relat_1 (k11_finseq_1 X0 \\ & X1 X2)) \wedge (v1_funct_1 (k11_finseq_1 X0 X1 X2)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1_finseq_1 (k11_finseq_1 X0 X1 X2) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & ((m1_subset_1 X1 X0) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X0)))) \Rightarrow \\ & (m2_finseq_1 (k3_finseq_4 X0 X1 X2 X3) X0) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.k10_finseq_1 X0 X1 = k7_finseq_1 (k9_finseq_1 X0) (k9_finseq_1 X1) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2.(v7_ordinal1 X2) \Rightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (\\ & (((r1_xxreal_0 np_1 X2) \wedge (r1_xxreal_0 X2 (k3_finseq_1 X1)) \wedge \\ & ((r1_xxreal_0 np_1 X3) \wedge (r1_xxreal_0 X3 (k3_finseq_1 X1)))))) \Rightarrow \\ & (k2_finseq_7 X0 X1 X2 X3 = k1_finseq_7 X0 (k1_finseq_7 X0 X1 X2 (k7_partfun1 \\ & X0 X1 X3)) X3 (k7_partfun1 X0 X1 X2))) \wedge ((\neg (r1_xxreal_0 np_1 X2) \wedge \\ & ((r1_xxreal_0 X2 (k3_finseq_1 X1)) \wedge ((r1_xxreal_0 np_1 X3) \wedge (\\ & r1_xxreal_0 X3 (k3_finseq_1 X1)))))) \Rightarrow (k2_finseq_7 X0 X1 X2 X3 = X1)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\ & (k2_finseq_7 X0 (k3_finseq_4 X0 X1 X2 X3) np_2 np_3 = k3_finseq_4 \\ & X0 X1 X3 X2)))) \end{aligned}$$