

t105_seq_4 (TMHN-
VZrqH7wxcVDKcLK6NBxhfbvjWtB3vhR)

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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 $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $k14_seq_4 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k22_seq_4 : \iota \Rightarrow \iota$ be given. Let $k19_seq_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_seq_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k2_numbers (k14_seq_4 X0)) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 k2_numbers (k14_seq_4 X0)) \Rightarrow (r1_xxreal_0 (k22_seq_4 (k15_seq_4 \\ & X0 X1 X2)) (k9_binop_2 (k22_seq_4 X1) (k22_seq_4 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k2_numbers (k14_seq_4 X0)) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 k2_numbers (k14_seq_4 X0)) \Rightarrow (X1 = k15_seq_4 X0 (k19_seq_4 X0 X1 \\ & X2) X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k2_numbers (k14_seq_4 X0)) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 k2_numbers (k14_seq_4 X0)) \Rightarrow (\forall X3.(m2_finseq_2 X3 k2_numbers \\ & (k14_seq_4 X0)) \Rightarrow (k15_seq_4 X0 X1 (k19_seq_4 X0 X2 X3) = k19_seq_4 \\ & X0 (k15_seq_4 X0 X1 X2) X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (8)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers)\wedge \\ & ((m1_subset_1 X1 (k14_seq_4 X0))\wedge(m1_subset_1 X2 (k14_seq_4 X0))))\Rightarrow \\ & (m2_finseq_2 (k19_seq_4 X0 X1 X2) k2_numbers (k14_seq_4 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(m1_finseq_2 (k14_seq_4 X0) k2_numbers) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers)\Rightarrow(\forall X1. \\ & (m2_finseq_2 X1 k2_numbers (k14_seq_4 X0))\Rightarrow(\forall X2.(m2_finseq_2 \\ & X2 k2_numbers (k14_seq_4 X0))\Rightarrow(\forall X3.(m2_finseq_2 X3 k2_numbers \\ & (k14_seq_4 X0))\Rightarrow(r1_xreal_0 (k22_seq_4 (k19_seq_4 X0 X1 X2)) \\ & (k9_binop_2 (k22_seq_4 (k19_seq_4 X0 X1 X3)) (k22_seq_4 (k19_seq_4 \\ & X0 X3 X2)))))) \end{aligned}$$