

t112_finseq_3 (TM-
MjrN9WV8xQmTERspW5HNE5MhvnNb2PAz1)

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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 $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1_funct_1 (k5_relat_1 X2 X1) X0 = k1_funct_1 X2 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in k1_relset_1 k5_numbers X0) \Leftrightarrow \\ & ((r1_xreal_0 np_1 X1) \wedge (r1_xreal_0 X1 (k3_finseq_1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X0 \in k2_finseq_1 X1) \Leftrightarrow ((r1_xreal_0 np_1 X0) \wedge (r1_xreal_0 X0 X1)))) \quad (3)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((\neg r1_xreal_0 np_1 X0) \Rightarrow (X0 = k6_numbers)) \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1))))\Rightarrow((v1_relat_1\ (k16_finseq_1\ X0\ X1))\wedge((v1_funct_1\ (k16_finseq_1\ X0\ X1))\wedge(v1_finseq_1\ (k16_finseq_1\ X0\ X1)))) \quad (7)$$

Assume the following.

$$k1_xboole_0 = the\ (\lambda X0 : \iota.v1_xboole_0\ X0) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge(v1_funct_1\ X0))\Rightarrow(\forall X1.\forall X2.((X1 \in k9_xtuple_0\ X0)\Rightarrow((X2 = k1_funct_1\ X0\ X1)\Leftrightarrow(k4_tarski\ X1\ X2 \in X0)))\wedge((\neg X1 \in k9_xtuple_0\ X0)\Rightarrow((X2 = k1_funct_1\ X0\ X1)\Leftrightarrow(X2 = k1_xboole_0)))) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1)))\Rightarrow(k16_finseq_1\ X0\ X1 = k5_relat_1\ X1\ (k2_finseq_1\ X0))) \quad (10)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow((v1_relat_1\ X0)\wedge((v4_relat_1\ X0\ k5_numbers)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))) \quad (11)$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\forall X2.((v1_relat_1\ X2)\wedge((v1_funct_1\ X2)\wedge(v1_finseq_1\ X2)))\Rightarrow((r1_xxreal_0\ X0\ X1)\Rightarrow(k1_funct_1\ (k16_finseq_1\ X1\ X2)\ X0 = k1_funct_1\ X2\ X0))))$$