

t118_finseq_3

(TMVKjNsqaWjN2ziZup5E2wvv5agkCQS6zRr)

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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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ X1))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X0) (k3_finseq_1 X1)) \Leftrightarrow (r1_tarski \\ (k1_relset_1 k5_numbers X0) (k1_relset_1 k5_numbers X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ (k3_finseq_1 X0 = k1_card_1 X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (\\ v1_card_1 (k1_card_1 X0))) \quad (4)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1.(r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge \\ (X0 \neq X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0)\wedge(v1_finset_1 X0))\Rightarrow(v7_ordinal1 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xxreal_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow ((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finset_1 X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v1_card_1 X0)\Rightarrow(v3_ordinal1 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(r2_xboole_0 X0 X1)\Rightarrow(\neg r2_xboole_0 X1 X0) \quad (12)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow ((\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))\Rightarrow((\neg r1_xxreal_0 (k3_finseq_1 X1) (k3_finseq_1 X0))\Leftrightarrow(r2_xboole_0 (k1_relset_1 k5_numbers X0) (k1_relset_1 k5_numbers X1))))))$$