

l6_midsp_3

(TMXJ6dnY4hKpggbfHrHt5jWjLaTnvxnF4Kk)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_midsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 (k2_funct_7 X0 X2 X1) X2 = X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ & X0)\wedge((m1_subset_1 X1 k5_numbers)\wedge((m1_subset_1 X2 (k4_finseq_2 \\ & X1 X0))\wedge((m1_subset_1 X3 k5_numbers)\wedge(m1_subset_1 X4 X0))))\Rightarrow \\ & (k1_midsp_3 X0 X1 X2 X3 X4 = k2_funct_7 X2 X3 X4) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.\forall X2.(X1 \in k4_finseq_2 \\ & X0 X2)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v3_card_1 X1 X0)\wedge \\ & (v1_finseq_1 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v7_ordinal1 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow \\ & (\neg v1_xboole_0 (k4_finseq_2 X0 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k4_finseq_2 \\ & X0 X1) X1) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(v7_ordinal1 X1))\Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k4_finseq_2 X1 X0))\Rightarrow(v3_card_1 X2 \\ & X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v6_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow \\ & (v7_ordinal1 X1)) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ & X1 k5_numbers)\Rightarrow(\forall X2.(\neg v1_xboole_0 X2)\Rightarrow(\forall X3.(m1_subset_1 \\ & X3 X2)\Rightarrow(\forall X4.(m2_finseq_2 X4 X2 (k4_finseq_2 X0 X2))\Rightarrow((X1 \in \\ & k2_finseq_1 X0)\Rightarrow(k1_funct_1 (k1_midsp_3 X2 X0 X4 X1 X3) X1 = X3)))))) \end{aligned}$$