

t19_group_7
(TMcMcNEfbTa3n5NKr8fb48ad8Z3qUGPtvRC)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_group_7 : \iota \Rightarrow o$ be given. Let $v4_group_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_group_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k10_finseq_1 X0 X1) \Leftrightarrow ((k3_finseq_1 \\ & X2 = np_2) \wedge ((k1_funct_1 X2 np_1 = X0) \wedge (k1_funct_1 X2 np_2 = X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l3_algstr_0 X1)) \Rightarrow ((v1_relat_1 (k10_finseq_1 \\ & X0 X1)) \wedge ((v4_relat_1 (k10_finseq_1 X0 X1) (k2_tarski np_1 np_2)) \wedge \\ & ((v1_funct_1 (k10_finseq_1 X0 X1)) \wedge ((v1_partfun1 (k10_finseq_1 \\ & X0 X1) (k2_tarski np_1 np_2)) \wedge (v1_group_7 (k10_finseq_1 X0 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge \\ & (v1_group_7 X1)))))) \wedge (m1_subset_1 X2 X0)) \Rightarrow (k1_group_7 X0 X1 X2 = \\ & k1_funct_1 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k10_finseq_1 X0 X1))\wedge(v1_funct_1 (k10_finseq_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1_xboole_0 (k2_tarski X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l3_algstr_0 X0))\wedge \\ & ((\neg v2_struct_0 X1)\wedge(l3_algstr_0 X1)))\Rightarrow((v1_partfun1 (k10_finseq_1 \\ & X0 X1) (k2_tarski np_1 np_2))\wedge(v1_group_7 (k10_finseq_1 X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.v1_finseq_1 (k10_finseq_1 X0 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge \\ & (v4_relat_1 X1 X0)\wedge((v1_funct_1 X1)\wedge((v1_partfun1 X1 X0)\wedge(v1_group_7 \\ & X1))))\Rightarrow((v4_group_7 X1 X0)\Leftrightarrow(\forall X2.(m1_subset_1 X2 X0)\Rightarrow \\ & (v5_group_1 (k1_group_7 X0 X1 X2)))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_tarski X0 X1)\Leftrightarrow(\forall X3. (X3 \in X2)\Leftrightarrow((X3 = X0)\vee(X3 = X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v5_group_1 X0)\wedge(l3_algstr_0 \\ & X0)))\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v5_group_1 X1)\wedge(l3_algstr_0 \\ & X1)))\Rightarrow((v1_relat_1 (k10_finseq_1 X0 X1))\wedge((v4_relat_1 (k10_finseq_1 \\ & X0 X1) (k2_tarski np_1 np_2))\wedge((v1_funct_1 (k10_finseq_1 X0 \\ & X1)\wedge((v1_partfun1 (k10_finseq_1 X0 X1) (k2_tarski np_1 np_2))\wedge \\ & ((v1_group_7 (k10_finseq_1 X0 X1))\wedge(v4_group_7 (k10_finseq_1 \\ & X0 X1) (k2_tarski np_1 np_2)))))))))) \end{aligned}$$