

t72_memstr_0

(TMHNfxwPRAdEhZiaiRPJd2jq9W1gKmu3ooJ)

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Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & \quad v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge \\ & (v1_funct_1 X2)) \Rightarrow (k1_funct_4 (k1_funct_4 X0 X1) X2 = k1_funct_4 \\ & \quad X0 (k1_funct_4 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & \quad (k1_funct_4 X2 X1) X0 = k1_funct_1 X1 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & \quad X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((v1_relat_1 X1)\wedge((v4_relat_1 \\ &X1 X0)\wedge(v1_funct_1 X1)))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 X0)\wedge \\ &(v1_funct_1 X2))))\Rightarrow((v1_relat_1 (k1_funct_4 X1 X2))\wedge((v4_relat_1 \\ &(k1_funct_4 X1 X2) X0)\wedge(v1_funct_1 (k1_funct_4 X1 X2)))) \end{aligned} \quad (6)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((\neg v1_setfam_1 X0)\wedge((v2_memstr_0 X1 X0)\wedge \\ &(l1_memstr_0 X1 X0)))\Rightarrow((v1_relat_1 (k2_memstr_0 X0 X1))\wedge((v2_relat_1 \\ &(k2_memstr_0 X0 X1))\wedge((v4_relat_1 (k2_memstr_0 X0 X1) (u1_struct_0 \\ &X1))\wedge((v1_funct_1 (k2_memstr_0 X0 X1))\wedge(v1_partfun1 (k2_memstr_0 \\ &X0 X1) (u1_struct_0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.(((v1_relat_1 X0)\wedge(v1_funct_1 \\ &X0))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v5_funct_1 X1 X0)))\wedge \\ &((v1_relat_1 X2)\wedge((v1_funct_1 X2)\wedge(v5_funct_1 X2 X0))))\Rightarrow((\\ &v1_relat_1 (k1_funct_4 X1 X2))\wedge((v1_funct_1 (k1_funct_4 X1 X2))\wedge \\ &(v5_funct_1 (k1_funct_4 X1 X2) X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k16_funcop_1 X0 X1))\wedge(v1_funct_1 (k16_funcop_1 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1 X0)\wedge(v7_ordinal1 X1))\Rightarrow(m1_subset_1 (k7_nat_d X0 X1) k5_numbers) \quad (11)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_setfam_1 X0)\wedge((\neg v2_struct_0 \\ & X1)\wedge((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 \\ & X0))))\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 (u1_struct_0 X1))\wedge \\ & (v1_funct_1 X2)\wedge(v5_funct_1 X2 (k2_memstr_0 X0 X1))))))\Rightarrow(m2_subset_1 \\ & (k5_memstr_0 X0 X1 X2) k1_numbers k5_numbers) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0))\wedge((\\ & v1_relat_1 X1)\wedge(v1_funct_1 X1)))\Rightarrow((v1_relat_1 (k1_funct_4 X0 \\ & X1))\wedge(v1_funct_1 (k1_funct_4 X0 X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k16_funcop_1 X0 X1 = k7_funcop_1 (k1_tarski X0) X1 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 X0))))\Rightarrow \\ & (\forall X2.((v1_relat_1 X2)\wedge((v4_relat_1 X2 (u1_struct_0 X1))\wedge \\ & (v1_funct_1 X2)\wedge(v5_funct_1 X2 (k2_memstr_0 X0 X1))))\Rightarrow(k5_memstr_0 \\ & X0 X1 X2 = k1_funct_1 X2 (k4_struct_0 X1))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarski X1) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 X0))))\Rightarrow \\ & (\forall X2.((v1_relat_1 X2)\wedge((v4_relat_1 X2 (u1_struct_0 X1))\wedge \\ & ((v1_funct_1 X2)\wedge(v5_funct_1 X2 (k2_memstr_0 X0 X1))))\Rightarrow(\forall X3. \\ & (v7_ordinal1 X3)\Rightarrow(k10_memstr_0 X0 X1 X2 X3 = k1_funct_4 X2 (k7_memstr_0 \\ & X0 X1 (k7_nat.d (k5_memstr_0 X0 X1 X2) X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\ & ((v2_memstr_0 X1 X0)\wedge((v3_memstr_0 X1 X0)\wedge(l1_memstr_0 X1 X0))))\Rightarrow \\ & (\forall X2.(v7_ordinal1 X2)\Rightarrow(k7_memstr_0 X0 X1 X2 = k16_funcop_1 \\ & (k4_struct_0 X1) X2)) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc.1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam.1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (\forall X3. \\ & ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 \\ & X3) \wedge (v5_funct_1 X3 (k2_memstr_0 X0 X1)))))) \Rightarrow (\forall X4.(v7_ordinal1 \\ & X4) \Rightarrow ((k4_struct_0 X1 \in k9_xtuple_0 X3) \Rightarrow (k10_memstr_0 X0 X1 (k1_funct_4 \\ & X2 X3) X4 = k1_funct_4 X2 (k10_memstr_0 X0 X1 X3 X4)))))) \end{aligned}$$