

t25_scmfsa10
(TMJJ3aHxKa5JQUjQ947wkxVYQfcSJsWzh7f)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_compos_0 : \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $np_8 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_card_3 : \iota \Rightarrow \iota$ be given. Let $k3_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v2_card_3 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_card_3 : \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $v2_compos_0 : \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v3_compos_0 : \iota \Rightarrow o$ be given. Let $v5_compos_0 : \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $k1_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ami_3 : \iota$ be given. Let $k9_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$(k2_finseq_1\ np_1 = k1_tarski\ np_1) \wedge (k2_finseq_1\ np_2 = k2_tarski\ np_1\ np_2) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. k2_zfmisc_1\ (k1_tarski\ X0)\ (k1_tarski\ X1) = k1_tarski\ (k4_tarski\ X0\ X1) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_ami_2 \\ X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k2_compos_0 \\ (u1_compos_1 k1_scmfsa_2) (k13_scmfsa_2 X0 X1) = np_8)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v4_funct_1 X0) \wedge (v2_card_3 X0)) \Rightarrow (\forall X1.((v1_relat_1 \\ X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 \in X0) \Rightarrow (k9_xtuple_0 X1 = k9_card_3 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k7_funcop_1 X0 X1 = k2_funcop_1 X0 X1 \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2_xtuple_0 (k4_tarski X0 X1) = X1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k1_xtuple_0 (k4_tarski X0 X1) = X0 \quad (8)$$

Assume the following.

$$\exists X0.(m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge (v1_ami_2 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v1_xboole_0 X0) \wedge ((v1_compos_0 X0) \wedge \\ (v2_compos_0 X0))) \wedge (m1_subset_1 X1 (k1_compos_0 X0))) \Rightarrow (v2_card_3 \\ (k3_compos_0 X0 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v1_xboole_0 X0) \wedge (v1_compos_0 X0)) \wedge \\ (m1_subset_1 X1 (k1_compos_0 X0))) \Rightarrow (((\neg v1_xboole_0 (k3_compos_0 \\ X0 X1)) \wedge (v4_funct_1 (k3_compos_0 X0 X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_compos_1 X0) \Rightarrow ((v1_compos_0 (u1_compos_1 X0)) \wedge \\ ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 \\ X0)) \wedge (v5_compos_0 (u1_compos_1 X0))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (13)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k9_finseq_1 X0)) \wedge (v1_funct_1 (k9_finseq_1 X0)) \quad (14)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.m1_subset_1 (k1_funct_7 X0 X1) X1 \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (m1_subset_1 (k13_scmfsa_2 X0 X1) (u1_compos_1 k1_scmfsa_2)) \quad (17)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow ((v1_relat_1 (k10_card_3 X0)) \wedge (v1_funct_1 (k10_card_3 X0))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k9_finseq_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k2_finseq_1 np_1) \wedge (k1_funct_1 X1 np_1 = X0))) \quad (19)$$

Assume the following.

$$\forall X0.k5_xtuple_0 X0 = k2_xtuple_0 (k1_xtuple_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3_xtuple_0 X0 X1 X2 = k4_tarski (k4_tarski X0 X1) X2 \quad (22)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_compos_0 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_compos_0 X0)) \Rightarrow (k3_compos_0 X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 X0) (\lambda X2 : \iota.k2_compos_0 X0 X2 = X1) (\lambda X2 : \iota.k5_xtuple_0 X2)))) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.k2_funcop_1 X0 X1 = k2_zfmisc_1 X0 (k1_tarski X1) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2)) \Rightarrow ((X2 = k13_scmfsa_2 X0 X1) \Leftrightarrow (\exists X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 \\ k1_ami_3)))) \wedge ((X1 = X3) \wedge (X2 = k9_ami_3 X0 X3)))))) \end{aligned} \quad (27)$$

Assume the following.

$$\begin{aligned} \forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k10_card_3 X0) \Leftrightarrow ((k9_xtuple_0 X1 = k9_card_3 X0) \wedge (\forall X2. \\ (X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X2 = k5_card_3 X2 X0)))))) \end{aligned} \quad (28)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_ami_3))) \Rightarrow (k9_ami_3 X0 X1 = k3_xtuple_0 np_8 \\ (k9_finseq_1 X0) (k9_finseq_1 X1))) \end{aligned} \quad (29)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (31)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (32)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_compos_0 (u1_compos_1 k1_scmfsa_2))) \Rightarrow \\ ((X0 = np_8) \Rightarrow (k9_xtuple_0 (k10_card_3 (k3_compos_0 (u1_compos_1 \\ k1_scmfsa_2) X0)) = k1_tarski np_1)) \end{aligned}$$