

t19_scmfsa_2
(TMS6XsiivL38jJmuFpTQc7Aif92GxkxWsfR)

October 27, 2020

Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k7_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_ami_3 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k10_ami_3 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $k4_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v2_compos_0 : \iota \Rightarrow o$ 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 $k6_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $k3_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_ami_3))) \Rightarrow \\ (\exists X1.(m1_subset_1 X1 k5_numbers) \wedge (X0 = k10_ami_3 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_ami_3))) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge (v1_compos_0 X0)) \wedge \\ (m1_subset_1 X1 X0)) \Rightarrow (k2_compos_0 X0 X1 = k4_xtuple_0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k1_xtuple_0 (k4_tarski X0 X1) = X0 \quad (5)$$

Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow ((v1_compos_0 (u1_compos_1 X0)) \wedge ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 X0)) \wedge (v5_compos_0 (u1_compos_1 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (m1_subset_1 (k7_scmfsa_2 X0 X1) (u1_compos_1 k1_scmfsa_2)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow (m1_subset_1 (k6_scmfsa_2 X0 X1) (u1_compos_1 k1_scmfsa_2)) \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow ((v1_ami_2 (k4_scmfsa_2 X0)) \wedge (m1_subset_1 (k4_scmfsa_2 X0) (u1_struct_0 k1_scmfsa_2))) \quad (10)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3) \wedge (l1_extpro_1 k1_scmfsa_2 np_3) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.(((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2)) \Rightarrow ((X2 = \\ & k7_scmfsa_2 X0 X1) \Leftrightarrow (\exists X3.(((v1_ami_2 X3) \wedge (m1_subset_1 X3 \\ & (u1_struct_0 k1_ami_3))) \wedge (\exists X4.(((v1_ami_2 X4) \wedge (m1_subset_1 \\ & X4 (u1_struct_0 k1_ami_3))) \wedge ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = k3_ami_3 \\ & X3 X4)))))))))) \quad (12) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X1.(((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2)) \Rightarrow ((X2 = \\ & k6_scmfsa_2 X0 X1) \Leftrightarrow (\exists X3.(((v1_ami_2 X3) \wedge (m1_subset_1 X3 \\ & (u1_struct_0 k1_ami_3))) \wedge (\exists X4.(((v1_ami_2 X4) \wedge (m1_subset_1 \\ & X4 (u1_struct_0 k1_ami_3))) \wedge ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = k2_ami_3 \\ & X3 X4)))))))))) \quad (13) \end{aligned}$$

Assume the following.

$$\forall X0.k4_xtuple_0 X0 = k1_xtuple_0 (k1_xtuple_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k4_scmf_sa_2 X0 = k10_ami_3 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3_xtuple_0 X0 X1 X2 = k4_tarski (k4_tarski X0 X1) X2 \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_ami_3))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_ami_3))) \Rightarrow \\ & (k3_ami_3 X0 X1 = k3_xtuple_0 np_2 k1_xboole_0 (k10_finseq_1 X0 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (19)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\ & (k2_compos_0 (u1_compos_1 k1_scmf_sa_2) (k7_scmf_sa_2 X0 X1) = np_2)) \end{aligned}$$