

t119_abcmiz_1

(TMbbPb4iPZLkRWH1LdEREZeHL8KftqgTM1b)

October 27, 2020

Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v1_instal1 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_msafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_card_3 : \iota \Rightarrow \iota$ be given. Let $k3_msafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $g1_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_lang1 : \iota \Rightarrow o$ be given. Let $l1_lang1 : \iota \Rightarrow o$ be given. Let $u1_lang1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_msafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (r1_tarski X0 X1) \Rightarrow (r1_tarski (k2_xboole_0 X0 X2) (k2_xboole_0 X1 X2)) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow \\ ((r2_pboole X0 X1 X2) \Rightarrow (r1_tarski (k3_card_3 (k3_msafree X0 X1)) (k3_card_3 (k3_msafree X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 (k3_finseq_2 X0)))) \Rightarrow (\forall X2. \forall X3. (g1_lang1 X0 X1 = g1_lang1 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\ & (l1_msualg_1 X0))) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 \\ & X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0))))) \Rightarrow \\ & ((\neg v2_struct_0 (k5_msafree X0 X1)) \wedge (v1_lang1 (k5_msafree X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l1_lang1 X0) \Rightarrow (m1_subset_1 (u1_lang1 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k3_finseq_2 (u1_struct_0 X0)))))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\ & (l1_msualg_1 X0))) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 \\ & X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0))))) \Rightarrow \\ & (l1_lang1 (k5_msafree X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 \\ & X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0))))) \Rightarrow \\ & (k5_msafree X0 X1 = g1_lang1 (k2_xboole_0 (k2_zfmisc_1 (u4_struct_0 \\ & X0) (k1_tarski (u1_struct_0 X0))) (k3_card_3 (k3_msafree (u1_struct_0 \\ & X0) X1))) (k4_msafree X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (8)$$

Assume the following.

$$\forall X0. (l1_msualg_1 X0) \Rightarrow (((v2_struct_0 X0) \wedge (v1_instalg1 X0)) \Rightarrow (v11_struct_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0. (l1_lang1 X0) \Rightarrow ((v1_lang1 X0) \Rightarrow (X0 = g1_lang1 (u1_struct_0 X0) (u1_lang1 X0))) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v11_struct_0 X0) \wedge ((v1_instalg1 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 \\ & X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0))))) \Rightarrow \\ & (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X0)) \wedge \\ & ((v1_funct_1 X2) \wedge (v1_partfun1 X2 (u1_struct_0 X0))))) \Rightarrow ((r2_pboole \\ & (u1_struct_0 X0) X1 X2) \Rightarrow (r1_tarski (u1_struct_0 (k5_msafree X0 \\ & X1)) (u1_struct_0 (k5_msafree X0 X2))))) \end{aligned}$$