

t12_scmpds_8 (TMEwMzgqEWmR- PdZV3ekKA5yYE5x4F1RUbeY)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $np_2 : \iota$ be given. Let $v5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmpds_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ 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 $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

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.

$$\forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow (\forall X1. (m1_subset_1 X1 k5_numbers) \Rightarrow (\neg X0 \in k9_xtuple_0 (k7_memstr_0 np_2 k1_scmpds_2 X1))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge ((v1_partfun1 X1 (u1_struct_0 \\ & k1_scmpds_2)) \wedge (v5_memstr_0 X1 np_2 k1_scmpds_2 k6_numbers)))))) \Rightarrow \\ & (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 k1_scmpds_2)) \wedge \\ & (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\\ & \forall X3. ((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X4. ((v1_ami_2 X4) \wedge (m1_subset_1 X4 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X5. (v1_int_1 X5) \Rightarrow ((r1_xxreal_0 k6_numbers (k1_funct_1 \\ & X1 (k2_scmpds_2 (k1_funct_1 X1 X3) X5))) \Rightarrow (k6_scmpds_4 (k1_scmpds_8 \\ & X3 X5 X2) X1 X0 = k1_funct_4 X1 (k7_memstr_0 np_2 k1_scmpds_2 (k2_nat_1 \\ & (k5_card_1 X2) np_2)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 np_2 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (10)$$

Assume the following.

$$\begin{aligned} & (v2_memstr_0 k1_scmpds_2 np_2) \wedge ((v3_memstr_0 k1_scmpds_2 np_2) \wedge \\ & (v1_extpro_1 k1_scmpds_2 np_2)) \end{aligned} \quad (11)$$

Assume the following.

$$(\neg v2_struct_0\ k1_scmpds_2) \wedge (v1_extpro_1\ k1_scmpds_2\ np_2) \quad (12)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1\ X1\ X0 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1\ X1\ X0) \Rightarrow ((l1_memstr_0\ X1\ X0) \wedge (l1_compos_1\ X1)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_setfam_1\ X0) \wedge (((\neg v2_struct_0\ X1) \wedge ((v2_memstr_0\ X1\ X0) \wedge ((v3_memstr_0\ X1\ X0) \wedge (l1_memstr_0\ X1\ X0)))) \wedge (v7_ordinal1\ X2))) \Rightarrow ((v1_relat_1\ (k7_memstr_0\ X0\ X1\ X2)) \wedge ((v4_relat_1\ (k7_memstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X1)) \wedge ((v1_funct_1\ (k7_memstr_0\ X0\ X1\ X2)) \wedge (v5_funct_1\ (k7_memstr_0\ X0\ X1\ X2)\ (k2_memstr_0\ X0\ X1)))))) \end{aligned} \quad (15)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(v1_finset_1\ X0) \Rightarrow (m1_subset_1\ (k5_card_1\ X0)\ k4_ordinal1) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k5_numbers) \wedge (v7_ordinal1\ X1)) \Rightarrow (m2_subset_1\ (k2_nat_1\ X0\ X1)\ k1_numbers\ k5_numbers) \quad (18)$$

Assume the following.

$$(v1_extpro_1\ k1_scmpds_2\ np_2) \wedge (l1_extpro_1\ k1_scmpds_2\ np_2) \quad (19)$$

Assume the following.

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

Assume the following.

$$\forall X0.((\neg v1_xboole_0\ X0) \wedge (v7_ordinal1\ X0)) \Rightarrow ((\neg v1_xboole_0\ X0) \wedge ((v7_ordinal1\ X0) \wedge (\neg v1_setfam_1\ X0))) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\ & X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\ & X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge ((v1_partfun1 X1 (u1_struct_0 \\ & k1_scmpds_2)) \wedge (v5_memstr_0 X1 np_2 k1_scmpds_2 k6_numbers)))))) \Rightarrow \\ & (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 \\ & X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 k1_scmpds_2)) \wedge \\ & (v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 X2)))))) \Rightarrow (\\ & \forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X4.((v1_ami_2 X4) \wedge (m1_subset_1 X4 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X5.(v1_int_1 X5) \Rightarrow ((r1_xreal_0 k6_numbers (k1_funct_1 \\ & X1 (k2_scmpds_2 (k1_funct_1 X1 X3) X5))) \Rightarrow (k1_funct_1 (k6_scmpds_4 \\ & (k1_scmpds_8 X3 X5 X2) X1 X0) X4 = k1_funct_1 X1 X4)))))) \end{aligned}$$