

t13_scm_1

(TMSfwknA3Ci5JXVDSnoK8rBdoSSxxB6Cnqb)

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Let $v1_int_1 : \iota \Rightarrow o$ 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 $k1_ami_3 : \iota$ 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 $np_2 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_ami_3 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $np_3 : \iota$ be given. Let $m1_scm_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_afinsq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_numbers : \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(k1_funct_1 (k16_afinsq_1 \\ & X0 X1 X2 X3) k6_numbers = X0) \wedge ((k1_funct_1 (k16_afinsq_1 X0 X1 X2 \\ & X3) np_1 = X1) \wedge ((k1_funct_1 (k16_afinsq_1 X0 X1 X2 X3) np_2 = X2) \wedge \\ & (k1_funct_1 (k16_afinsq_1 X0 X1 X2 X3) np_3 = X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.k1_afinsq_1 (k16_afinsq_1 X0 X1 X2 X3) = np_4 \tag{2}$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{3}$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\neg(r1_xxreal_0\ X0\ np_3)\wedge((X0\neq k6_numbers)\wedge((X0\neq np_1)\wedge((X0\neq np_2)\wedge(X0\neq np_3)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow((\neg r1_xxreal_0\ (k1_nat_1\ X1\ np_1)\ X0)\Leftrightarrow(r1_xxreal_0\ X0\ X1))) \quad (5)$$

Assume the following.

$$((v2_xxreal_0\ np_3)\wedge(m2_subset_1\ np_3\ k1_numbers\ k5_numbers))\wedge((m1_subset_1\ np_3\ k5_numbers)\wedge(m1_subset_1\ np_3\ k1_numbers)) \quad (6)$$

Assume the following.

$$((v2_xxreal_0\ np_1)\wedge(m2_subset_1\ np_1\ k1_numbers\ k5_numbers))\wedge((m1_subset_1\ np_1\ k5_numbers)\wedge(m1_subset_1\ np_1\ k1_numbers)) \quad (7)$$

Assume the following.

$$v1_xboole_0\ np_0 \quad (8)$$

Assume the following.

$$k2_xcmplx_0\ np_1\ np_3 = np_4 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((\neg v1_xboole_0\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))))\Rightarrow(\forall X2.(m2_subset_1\ X2\ X0\ X1)\Leftrightarrow(m1_subset_1\ X2\ X1)) \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k5_numbers)\wedge(v7_ordinal1\ X1))\Rightarrow(k2_nat_1\ X0\ X1 = k2_xcmplx_0\ X0\ X1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(m1_subset_1\ X1\ k5_numbers))\Rightarrow(k1_nat_1\ X0\ X1 = k2_xcmplx_0\ X0\ X1) \quad (14)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_int_1 X0) \wedge \\ & (v1_int_1 X1) \wedge ((v1_int_1 X2) \wedge (v1_int_1 X3))) \Rightarrow (v5_relat_1 (\\ & k16_afinsq_1 X0 X1 X2 X3) k4_numbers) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v5_ordinal1 (k16_afinsq_1 \\ & X0 X1 X2 X3)) \wedge (v1_finset_1 (k16_afinsq_1 X0 X1 X2 X3)) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v1_relat_1 (k16_afinsq_1 \\ & X0 X1 X2 X3)) \wedge (v1_funct_1 (k16_afinsq_1 X0 X1 X2 X3)) \end{aligned} \quad (18)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (19)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v5_relat_1 X0 k4_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v5_ordinal1 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (\forall X1. ((v1_relat_1 \\ & X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_ami_3)) \wedge ((v1_funct_1 X1) \wedge \\ & ((v5_funct_1 X1 (k2_memstr_0 np_2 k1_ami_3)) \wedge (v1_partfun1 X1 \\ & (u1_struct_0 k1_ami_3)))))) \Rightarrow ((m1_scm_1 X1 X0) \Leftrightarrow (\forall X2. (\\ & m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow ((\neg r1_xreal_0 (k1_afinsq_1 \\ & X0) X2) \Rightarrow (k1_funct_1 X1 (k10_ami_3 X2) = k1_funct_1 X0 X2)))))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 \\ & X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0. (v1_int_1 X0) \Rightarrow (\forall X1. (v1_int_1 X1) \Rightarrow (\forall X2. \\ & (v1_int_1 X2) \Rightarrow (\forall X3. (v1_int_1 X3) \Rightarrow (\forall X4. ((v1_relat_1 \\ & X4) \wedge ((v4_relat_1 X4 (u1_struct_0 k1_ami_3)) \wedge ((v1_funct_1 X4) \wedge \\ & ((v5_funct_1 X4 (k2_memstr_0 np_2 k1_ami_3)) \wedge (v1_partfun1 X4 \\ & (u1_struct_0 k1_ami_3)))))) \Rightarrow (((k1_funct_1 X4 (k10_ami_3 k6_numbers) = \\ & X0) \wedge ((k1_funct_1 X4 (k10_ami_3 np_1) = X1) \wedge ((k1_funct_1 X4 (k10_ami_3 \\ & np_2) = X2) \wedge (k1_funct_1 X4 (k10_ami_3 np_3) = X3)))) \Rightarrow (m1_scm_1 \\ & X4 (k16_afinsq_1 X0 X1 X2 X3)))))) \end{aligned}$$