

t15_scmfsa_m

(TMPp3gobJcMUJZZ42cirKVqng68CA7H1bXy)

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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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_scmfsa_2 : \iota$ be given. Let $k2_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k6_seq_4 : \iota \Rightarrow \iota$ be given. Let $k2_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xxreal_2 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v4_membered : \iota \Rightarrow o$ be given. Let $v5_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ (\exists X1.(m1_subset_1 X1 k5_numbers) \wedge (X0 = k4_scmfsa_2 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_finset_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k2_scmfsa_2))) \Rightarrow (\neg k2_scmfsa_m X0 \in X0) \quad (3)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow (\neg (X0 \neq X1) \wedge (k4_scmfsa_2 X0 = k4_scmfsa_2 X1))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v6_membered X0)) \Rightarrow (k6_seq_4 X0 = k2_xxreal_2 X0) \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X1 X0) \wedge \\ & (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (X1 \neq k2_nat_1 \\ & (k2_nat_1 X0 np_1) X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((v6_membered X0) \wedge (v1_xxreal_2 X0)) \Rightarrow ((v1_xxreal_0 (k2_xxreal_2 X0)) \wedge (v7_ordinal1 (k2_xxreal_2 X0))) \quad (9)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_finset_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k2_scmf_sa_2))) \Rightarrow \\ & ((v1_ami_2 (k2_scmf_sa_m X0)) \wedge (m1_subset_1 (k2_scmf_sa_m X0) (\\ & u1_struct_0 k1_scmf_sa_2))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_membered X0) \wedge (v1_xxreal_2 X0)) \Rightarrow (\forall X1. \\ & (v1_xxreal_0 X1) \Rightarrow ((X1 = k2_xxreal_2 X0) \Leftrightarrow ((X1 \in X0) \wedge (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1_xxreal_0 X1 X2))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_finset_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k2_scmf_sa_2))) \Rightarrow \\ & (\forall X1.((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\ & ((X1 = k2_scmf_sa_m X0) \Leftrightarrow (\exists X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 k5_numbers)))) \wedge ((X1 = k4_scmf_sa_2 (k6_seq_4 X2)) \wedge \\ & (X2 = ReplSep (toset (\lambda X3 : \iota.m2_subset_1 X3 k1_numbers k5_numbers)) \\ & (\lambda X3 : \iota.\neg k4_scmf_sa_2 X3 \in X0) (\lambda X3 : \iota.X3)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (15)$$

Assume the following.

$$\forall X0.((v6_membered\ X0)\wedge(\neg v1_xboole_0\ X0))\Rightarrow((v6_membered\ X0)\wedge((\neg v1_xboole_0\ X0)\wedge(v1_xxreal_2\ X0))) \quad (16)$$

Assume the following.

$$\forall X0.(v4_membered\ X0)\Rightarrow(v3_membered\ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (18)$$

Assume the following.

$$\forall X0.(v5_membered\ X0)\Rightarrow(v4_membered\ X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (20)$$

Assume the following.

$$\forall X0.(v6_membered\ X0)\Rightarrow(v5_membered\ X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k5_numbers))\Rightarrow(v6_membered\ X0) \quad (22)$$

Theorem 1

$$\forall X0.(m2_subset_1\ X0\ k1_numbers\ k5_numbers)\Rightarrow(\forall X1.(m2_subset_1\ X1\ k1_numbers\ k5_numbers)\Rightarrow(\forall X2.((v1_finset_1\ X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ k2_scmfsa_2)))\Rightarrow((k2_scmfsa_m\ X2 = k4_scmfsa_2\ X0)\Rightarrow((k4_scmfsa_2\ X1 \in X2)\vee(r1_xxreal_0\ X0\ X1))))))$$