

t33_scmfsa_2 (TMPcbWKQH-
FxbHA1HmcnnKWX6M6K1Fqh9toM)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_4 : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_scmfsa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_8 : \iota$ be given. Let $k1_ami_3 : \iota$ be given. Let $k5_ami_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmfsa_2 : \iota$ be given. Let $k2_scm_inst : \iota$ 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 $k2_ami_2 : \iota$ 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 $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow ((r1_xxreal_0 (k2_compos_0 (u1_compos_1 k1_scmfsa_2) X0) np_8) \Rightarrow (m1_subset_1 X0 (u1_compos_1 k1_ami_3))) \quad (2)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 (u1_compos_1 k1_ami_3)) \Rightarrow (\neg (k2_compos_0 (u1_compos_1 k1_ami_3) X0 = np_4) \wedge (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_ami_3))) \Rightarrow (\forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_ami_3))) \Rightarrow (X0 \neq k5_ami_3 X1 X2)))) \quad (3)$$

Assume the following.

$$r1_xxreal_0 np_4 np_8 \quad (4)$$

Assume the following.

$$k2_scmfsa_2 = k2_scm_inst \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1_xboole_0 X0)\wedge(v1_compos_0 X0))\wedge(m1_subset_1 X1 X0))\Rightarrow(k2_compos_0 X0 X1 = k4_xtuple_0 X1) \quad (6)$$

Assume the following.

$$k2_ami_2 = k2_scm_inst \quad (7)$$

Assume the following.

$$\forall X0.(l1_compos_1 X0)\Rightarrow((v1_compos_0 (u1_compos_1 X0))\wedge((v2_compos_0 (u1_compos_1 X0))\wedge((v3_compos_0 (u1_compos_1 X0))\wedge(v5_compos_0 (u1_compos_1 X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge(l1_compos_1 X1)) \quad (9)$$

Assume the following.

$$m1_subset_1 k2_scmfsa_2 (k1_zfmisc_1 (u1_struct_0 k1_scmfsa_2)) \quad (10)$$

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.

$$(v1_extpro_1 k1_ami_3 np_2)\wedge(l1_extpro_1 k1_ami_3 np_2) \quad (12)$$

Assume the following.

$$\forall X0.k4_xtuple_0 X0 = k1_xtuple_0 (k1_xtuple_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_ami_2 X0)\Leftrightarrow(X0 \in k2_ami_2) \quad (14)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2)))\Rightarrow \\ &(\forall X1.((v1_ami_2 X1)\wedge(m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))\Rightarrow \\ &(\forall X2.(m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2))\Rightarrow((X2 = \\ &k9_scmfsa_2 X0 X1)\Leftrightarrow(\exists X3.((v1_ami_2 X3)\wedge(m1_subset_1 X3 \\ &(u1_struct_0 k1_ami_3)))\wedge(\exists X4.((v1_ami_2 X4)\wedge(m1_subset_1 \\ &X4 (u1_struct_0 k1_ami_3))))\wedge((X0 = X3)\wedge((X1 = X4)\wedge(X2 = k5_ami_3 \\ &X3 X4))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0)\Rightarrow(\neg v1_xboole_0 X0) \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow & (\neg(k2_compos_0 \\ & (u1_compos_1 k1_scmfsa_2) X0 = np_4) \wedge (\forall X1.((v1_ami_2 \\ & X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X2. \\ & ((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ & (X0 \neq k9_scmfsa_2 X1 X2)))) \end{aligned}$$