

t21_fsm_3
(TMWfFgF67GGGneLcNZzQ6kiAxerTon2Zy6F)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_fsm_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k8_afinsq_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k8_afinsq_1 X0))) \Rightarrow \\ (\forall X3. ((\neg v2_struct_0 X3) \wedge (l2_fsm_3 X3 X0 X2)) \Rightarrow ((X1 \in k6_fsm_3 X0 X2 X3) \Leftrightarrow (\neg r1_xboole_0 (k3_rewrite3 X0 X2 X3 X1 (u1_fsm_3 X0 X2 X3)) \\ (u2_fsm_3 X0 X2 X3))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k8_afinsq_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k8_afinsq_1 X0))) \Rightarrow \\ (\forall X3. ((\neg v2_struct_0 X3) \wedge (l2_fsm_3 X3 X0 X2)) \Rightarrow (\forall X4. \\ (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X3))) \Rightarrow ((X1 \in k5_fsm_3 X0 X2 X3 X4) \Leftrightarrow (\neg r1_xboole_0 (k3_rewrite3 X0 X2 X3 X1 X4) (u2_fsm_3 X0 X2 X3))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((m1_subset_1 \\ & X1 (k1_zfmisc_1 (k8_afinsq_1 X0)))\wedge(l1_fsm_3 X2 X0 X1)))\Rightarrow(m1_subset_1 \\ & (u1_fsm_3 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k8_afinsq_1 X0))))\Rightarrow(\forall X2.(l2_fsm_3 X2 X0 X1)\Rightarrow(l1_fsm_3 \\ & X2 X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((m1_subset_1 \\ & X1 (k1_zfmisc_1 (k8_afinsq_1 X0)))\wedge((\neg v2_struct_0 X2)\wedge(l2_fsm_3 \\ & X2 X0 X1))))\Rightarrow(m1_subset_1 (k6_fsm_3 X0 X1 X2) (k1_zfmisc_1 (k8_afinsq_1 \\ & X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((m1_subset_1 X1 (k1_zfmisc_1 (k8_afinsq_1 X0)))\wedge((\neg v2_struct_0 \\ & X2)\wedge(l2_fsm_3 X2 X0 X1))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X2))))))\Rightarrow(m1_subset_1 (k5_fsm_3 X0 X1 X2 X3) (k1_zfmisc_1 (k8_afinsq_1 \\ & X0))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k8_afinsq_1 X0)))\Rightarrow(\forall X2.((\neg v2_struct_0 X2)\wedge(l2_fsm_3 \\ & X2 X0 X1))\Rightarrow(k6_fsm_3 X0 X1 X2 = k5_fsm_3 X0 X1 X2 (u1_fsm_3 X0 X1 X2)))) \end{aligned}$$