

t9_fsm_1
(TMR1J6XYJeEn7a9eW5rxWiA9sxcnJ4drxTr)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (3)$$

Assume the following.

$$\forall X0. \exists X1. (m1_finseq_1 X1 X0) \wedge ((v1_relat_1 X1) \wedge (v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_xboole_0 X1) \wedge ((v1_finset_1 X1) \wedge (v1_finseq_1 X1)))))) \quad (4)$$

Assume the following.

$$\forall X0. v1_xboole_0 (k6_finseq_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k9_xtuple_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.m2_finseq_1 (k6_finseq_1 X0) X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((\neg v2_struct_0 X2) \wedge (l2_fsm_1 X2 X0 X1)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (\forall X4.(m2_finseq_1 X4 \\ X0) \Rightarrow (\forall X5.(m2_finseq_1 X5 X1) \Rightarrow ((X5 = k4_fsm_1 X0 X1 X2 X3 X4) \Leftrightarrow \\ & ((k3_finseq_1 X5 = k3_finseq_1 X4) \wedge (\forall X6.(m1_subset_1 X6 \\ k5_numbers) \Rightarrow ((X6 \in k4_finseq_1 X4) \Rightarrow (k1_funct_1 X5 X6 = k1_funct_1 \\ & (u3_fsm_1 X0 X1 X2) (k4_tarski (k1_funct_1 (k2_fsm_1 X0 X2 X3 X4) \\ & X6) (k1_funct_1 X4 X6))))))))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((\neg v2_struct_0 X2) \wedge (l2_fsm_1 X2 X0 X1)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (k4_fsm_1 X0 X1 X2 X3 (k6_finseq_1 \\ & X0) = k6_finseq_1 X1)))) \end{aligned}$$