

t1_fsm_1
(TMYzbSx8Eyz82NzFqXGpZSHfdeQ7y3tBfWn)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_fsm_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ 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 $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ 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 $k1_fsm_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((X1 = k9_finseq_1 X0) \Leftrightarrow ((k3_finseq_1 X1 = np_1) \wedge (k1_funct_1 X1 np_1 = X0))) \quad (2)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (3)$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \quad (4)$$

Assume the following.

$$v1_xboole_0 \ np_0 \tag{5}$$

Assume the following.

$$k2_xcmplx_0 \ np_0 \ np_1 = np_1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 \ X1 \ X0) \Leftrightarrow (m1_finseq_1 \ X1 \ X0) \tag{7}$$

Assume the following.

$$\forall X0.k9_finseq_1 \ X0 = k5_finseq_1 \ X0 \tag{8}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{9}$$

Assume the following.

$$\forall X0.((v1_relat_1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finseq_1 \ X0))) \Rightarrow (k3_finseq_1 \ X0 = k1_card_1 \ X0) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 \ X0) \wedge (m1_subset_1 \ X1 \ X0)) \Rightarrow (k12_finseq_1 \ X0 \ X1 = k5_finseq_1 \ X1) \tag{12}$$

Assume the following.

$$\forall X0.\exists X1.(m1_finseq_1 \ X1 \ X0) \wedge ((v1_relat_1 \ X1) \wedge ((v4_relat_1 \ X1 \ k5_numbers) \wedge ((v5_relat_1 \ X1 \ X0) \wedge ((v1_funct_1 \ X1) \wedge ((v1_xboole_0 \ X1) \wedge ((v1_finset_1 \ X1) \wedge (v1_finseq_1 \ X1))))))) \tag{13}$$

Assume the following.

$$v6_membered \ k4_ordinal1 \tag{14}$$

Assume the following.

$$\forall X0.v1_xboole_0 \ (k6_finseq_1 \ X0) \tag{15}$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0) \Rightarrow ((v1_xboole_0 \ (k1_card_1 \ X0)) \wedge (v1_card_1 \ (k1_card_1 \ X0))) \tag{16}$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k5_finseq_1 X0) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge (l1_fsm_1 X1 X0)) \wedge ((m1_subset_1 X2 (u1_struct_0 \\ & X1)) \wedge (m1_finseq_1 X3 X0)))) \Rightarrow (m2_finseq_1 (k2_fsm_1 X0 X1 X2 X3) \\ & (u1_struct_0 X1)) \end{aligned} \quad (19)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota. v1_xboole_0 X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & (l1_fsm_1 X1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow \\ & (\forall X3. (m2_finseq_1 X3 X0) \Rightarrow (\forall X4. (m2_finseq_1 X4 (\\ & u1_struct_0 X1)) \Rightarrow ((X4 = k2_fsm_1 X0 X1 X2 X3) \Leftrightarrow ((k1_funct_1 X4 np_1 = \\ & X2) \wedge ((k3_finseq_1 X4 = k2_nat_1 (k3_finseq_1 X3) np_1) \wedge (\forall X5. \\ & (v7_ordinal1 X5) \Rightarrow (\neg (r1_xxreal_0 np_1 X5) \wedge (r1_xxreal_0 X5 (\\ & k3_finseq_1 X3)) \wedge (\forall X6. (m1_subset_1 X6 X0) \Rightarrow (\forall X7. \\ & (m1_subset_1 X7 (u1_struct_0 X1)) \Rightarrow (\forall X8. (m1_subset_1 X8 \\ & (u1_struct_0 X1)) \Rightarrow (\neg (X6 = k1_funct_1 X3 X5) \wedge ((X7 = k1_funct_1 X4 \\ & X5) \wedge ((X8 = k1_funct_1 X4 (k1_nat_1 X5 np_1)) \wedge (k1_fsm_1 X0 X1 X6 \\ & X7 = X8)))))))))))))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow ((v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)))) \quad (22)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (23)$$

Assume the following.

$$\forall X0. (v6_membered X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (24)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & (l1_fsm_1 X1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow \\ & (k2_fsm_1 X0 X1 X2 (k6_finseq_1 X0) = k12_finseq_1 (u1_struct_0 \\ & X1) X2))) \end{aligned}$$