

t9_fsm_3 (TMGx- twiFmpu8ymsVU158LdhcZydXYG3AgL1)

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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 $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k9_flang_1 : \iota \Rightarrow \iota$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_flang_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k5_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k3_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k3_catalan2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k8_afinsq_1 \\ X0)) \Rightarrow (\neg (k1_afinsq_1 X1 = np_1) \wedge (\forall X2. (m1_subset_1 X2 X0) \Rightarrow \\ (\neg (k3_flang_1 X0 X2 = X1) \wedge (X2 = k1_funct_1 X1 k6_numbers)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. k5_afinsq_1 X0 = k3_afinsq_1 X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k3_flang_1 X0 X1 = k3_afinsq_1 X1) \quad (5)$$

Assume the following.

$$\forall X0. k3_catalan2 X0 = k8_afinsq_1 X0 \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k1_afinsq_1 X0 = k1_card_1 X0) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow (k1_card_1 X0 = k9_xtuple_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(v5_ordinal1 (k3_afinsq_1 X0)) \wedge (v1_finset_1 (k3_afinsq_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k3_afinsq_1 X0)) \wedge (v1_funct_1 (k3_afinsq_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.m1_subset_1 (k9_flang_1 X0) (k1_zfmisc_1 (k3_catalan2 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k3_catalan2 X0))) \Rightarrow ((X1 = k9_flang_1 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(m1_subset_1 X3 X0) \wedge ((X3 \in X0) \wedge (X2 = k5_afinsq_1 X3)))))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k5_afinsq_1 X0) \Leftrightarrow ((k9_xtuple_0 X1 = np_1) \wedge (k1_funct_1 X1 k6_numbers = X0))) \quad (13)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k8_afinsq_1 X0)) \Rightarrow ((X1 \in k9_flang_1 X0) \Leftrightarrow (k1_afinsq_1 X1 = np_1)))$$