

t6_petri

(TMYA4hBkmSfZKErcyYf2tu7BF7Yd8tPKPD7)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $v2_petri : \iota \Rightarrow o$ be given. Let $v3_petri : \iota \Rightarrow o$ be given. Let $l1_petri : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k8_petri : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_petri : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_petri : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_petri : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (k1_xtuple_0 (k4_tarski X0 X1) = X0) \wedge (k2_xtuple_0 (k4_tarski X0 X1) = X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (\forall X3. (m1_petri X3 X0 X1 X2) \Leftrightarrow (m1_subset_1 X3 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_petri X0) \wedge ((v3_petri X0) \wedge (l1_petri X0)))))) \wedge (m1_subset_1 X1 (u1_petri X0)) \Rightarrow (k2_petri X0 X1 = k1_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X1)))) \Rightarrow (k1_domain_1 X0 X1 X2 X3 = k4_tarski X2 X3) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.((v2_petri X0) \wedge (l1_petri X0)) \Rightarrow (\neg v1_xboole_0 (u1_petri X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_petri X0) \Rightarrow (m1_subset_1 (u1_petri X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u4_struct_0 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.(l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(l1_petri X0) \Rightarrow (l5_struct_0 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_petri X0) \wedge ((v3_petri X0) \wedge (l1_petri X0)))))) \wedge (m1_subset_1 X1 (u1_petri X0))) \Rightarrow (m1_subset_1 (k2_petri X0 X1) (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_petri X0) \wedge ((v3_petri X0) \wedge (l1_petri X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u4_struct_0 X0))) \Rightarrow (k8_petri X0 X1 = ReplSep (toset (\lambda X2 : \iota. m1_subset_1 X2 (u1_struct_0 X0)) (\lambda X2 : \iota. \exists X3. (m1_petri X3 (u1_struct_0 X0) (u4_struct_0 X0) (u1_petri X0)) \wedge (\exists X4.(m1_subset_1 X4 (u4_struct_0 X0)) \wedge ((X4 \in X1) \wedge (X3 = k1_domain_1 (u1_struct_0 X0) (u4_struct_0 X0) X2 X4)))) (\lambda X2 : \iota. X2)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(v1_xboole_0 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X1 X0))) \Rightarrow (v1_xboole_0 X2)) \quad (12)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v2_petri X0) \wedge ((v3_petri X0) \wedge (l1_petri X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u4_struct_0 X0))) \Rightarrow (\forall X2.(X2 \in k8_petri X0 X1) \Leftrightarrow (\exists X3.(m1_petri X3 (u1_struct_0 X0) (u4_struct_0 X0) (u1_petri X0)) \wedge (\exists X4.(m1_subset_1 X4 (u4_struct_0 X0)) \wedge ((X4 \in X1) \wedge (X3 = k4_tarski X2 X4))))))$$