

l23_petri_2

(TMaQ96oSDd9QgepQg33ooKRtbKtufpawbVW)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. k3_xboole_0 X0 k1_xboole_0 = k1_xboole_0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\exists X0. v1_xboole_0 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \wedge ((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k1_funct_4 X0 \\ & X1)) \wedge (v1_funct_1 (k1_funct_4 X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge \\ (v1_funct_1 X2)) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow \\ (\forall X4.((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow (((k3_xboole_0 \\ (k9_xtuple_0 X0) (k9_xtuple_0 X1) = k1_xboole_0) \wedge ((k3_xboole_0 \\ (k9_xtuple_0 X0) (k9_xtuple_0 X2) = k1_xboole_0) \wedge ((k3_xboole_0 \\ (k9_xtuple_0 X0) (k9_xtuple_0 X3) = k1_xboole_0) \wedge ((k3_xboole_0 \\ (k9_xtuple_0 X1) (k9_xtuple_0 X2) = k1_xboole_0) \wedge ((k3_xboole_0 \\ (k9_xtuple_0 X1) (k9_xtuple_0 X3) = k1_xboole_0) \wedge ((k3_xboole_0 \\ (k9_xtuple_0 X2) (k9_xtuple_0 X3) = k1_xboole_0) \wedge (X4 = k1_funct_4 \\ (k1_funct_4 (k1_funct_4 X0 X1) X2) X3)))))) \Rightarrow ((\forall X5.(X5 \in \\ k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X4 X5 = k1_funct_1 X0 X5)) \wedge ((\forall X5. \\ (X5 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X4 X5 = k1_funct_1 X1 X5)) \wedge ((\forall X5. \\ (X5 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X4 X5 = k1_funct_1 X2 X5)) \wedge ((\forall X5. \\ (X5 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 X4 X5 = k1_funct_1 X3 X5)))))))))) \end{aligned}$$