

t12_margrel1
(TMYZqgn4WAd931v3kYPeX6qRCx6doTiSpv2)

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Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_margrel1 : \iota$ be given. Let $k7_margrel1 : \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k1_xboolean : \iota$ be given. Let $k2_xboolean : \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k4_xboolean X0 X0 = X0) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k4_xboolean X0 (k3_xboolean X0) = k1_xboolean) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xboolean X0) \Rightarrow (&((X0 = k7_margrel1) \Rightarrow (k3_xboolean \\ X0 = k8_margrel1)) \wedge (&((k3_xboolean X0 = k8_margrel1) \Rightarrow (X0 = k7_margrel1)) \wedge \\ &(((X0 = k8_margrel1) \Rightarrow (k3_xboolean X0 = k7_margrel1)) \wedge ((k3_xboolean \\ X0 = k7_margrel1) \Rightarrow (X0 = k8_margrel1)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow ((k4_xboolean X0 X1 = k2_xboolean) \Rightarrow ((X0 = k2_xboolean) \wedge (X1 = k2_xboolean)))) \quad (4)$$

Assume the following.

$$k8_margrel1 = k2_xboolean \quad (5)$$

Assume the following.

$$k7_margrel1 = k1_xboolean \quad (6)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k3_xboolean (k3_xboolean X0) = X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean\ X0)\wedge(v1_xboolean\ X1))\Rightarrow(v1_xboolean\ (k4_xboolean\ X0\ X1)) \quad (8)$$

Assume the following.

$$v1_xboolean\ k2_xboolean \quad (9)$$

Assume the following.

$$v1_xboolean\ k1_xboolean \quad (10)$$

Assume the following.

$$\forall X0.(v1_xboolean\ X0)\Leftrightarrow((X0 = k1_xboolean)\vee(X0 = k2_xboolean)) \quad (11)$$

Assume the following.

$$k2_xboolean = np_1 \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xboolean\ X0)\Rightarrow(\forall X1.(v1_xboolean\ X1)\Rightarrow((\\ & (k4_xboolean\ X0\ X1 = k8_margrel1)\Rightarrow((X0 = k8_margrel1)\wedge(X1 = k8_margrel1))))\wedge \\ & (((X0 = k8_margrel1)\wedge(X1 = k8_margrel1))\Rightarrow(k4_xboolean\ X0\ X1 = \\ & k8_margrel1))\wedge(\neg(k4_xboolean\ X0\ X1 = k7_margrel1)\wedge((X0\neq k7_margrel1)\wedge \\ & (X1\neq k7_margrel1)))\wedge(((X0 = k7_margrel1)\vee(X1 = k7_margrel1))\Rightarrow \\ & (k4_xboolean\ X0\ X1 = k7_margrel1)))) \end{aligned}$$