

t51_robins1

(TMaLMVUrhc2QmtSoHxW9rxDuodaXp1GNrf)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v5_lattices : \iota \Rightarrow o$ be given. Let $l2_robins1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $l1_robins1 : \iota \Rightarrow o$ be given. Let $k3_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ & X0) \wedge ((v5_robins1 X0) \wedge (l2_robins1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (k9_robins1 X0 (k5_robins1 X0 X1 X2) (k9_robins1 X0 X1 X2) = \\ & X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ & X0) \wedge (l2_robins1 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k5_robins1 X0 X1 X2 = k1_lattices \\ & X0 X1 X2) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l2_robins1 X0) \Rightarrow ((l2_lattices X0) \wedge (l1_robins1 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_robins1 X0)) \wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_robins1 \\ & X0 X1) (u1_struct_0 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l2_lattices X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_lattices X0 X1 X2) (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k13_robbins1 X0 X1) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k12_robbins1 X0 X1) (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\wedge(m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k11_robbins1 X0 X1) (u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge(l2_lattices X0))\Rightarrow((v5_lattices X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(k1_lattices X0 X1 (k1_lattices X0 X2 X3) = k1_lattices X0 (k1_lattices X0 X1 X2) X3)))))) \quad (9)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k15_robbins1 X0 X1 = k1_lattices X0 (k11_robbins1 X0 X1) (k1_lattices X0 (k12_robbins1 X0 X1) X1)))) \quad (10)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k14_robbins1 X0 X1 = k1_lattices X0 (k11_robbins1 X0 X1) (k12_robbins1 X0 X1)))) \quad (11)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k13_robbins1 X0 X1 = k1_lattices X0 (k11_robbins1 X0 X1) X1))) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_robbins1 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k12_robbins1 X0 X1 = k1_lattices \\ X0 X1 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_robbins1 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k11_robbins1 X0 X1 = k3_robbins1 \\ X0 (k1_lattices X0 (k3_robbins1 X0 X1) X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_robbins1 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow (k9_robbins1 X0 X1 X2 = k3_robbins1 X0 (k1_lattices \\ X0 (k3_robbins1 X0 X1) X2)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ X0) \wedge (l2_robbins1 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k5_robbins1 X0 X1 X2 = k5_robbins1 \\ X0 X2 X1) \end{aligned} \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ X0) \wedge ((v5_robbins1 X0) \wedge (l2_robbins1 X0))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (k9_robbins1 X0 (k5_robbins1 X0 (k13_robbins1 \\ X0 X1) (k15_robbins1 X0 X1)) (k11_robbins1 X0 X1) = X1)) \end{aligned}$$