

t5_robins4

(TMEu27D3ETojPfQaSQu mk9xDzioLrBxdRbW)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v12_lattices : \iota \Rightarrow o$ be given. Let $v10_robins1 : \iota \Rightarrow o$ be given. Let $v8_robins3 : \iota \Rightarrow o$ be given. Let $v9_robins3 : \iota \Rightarrow o$ be given. Let $l4_robins1 : \iota \Rightarrow o$ be given. Let $v1_robins4 : \iota \Rightarrow o$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_robins1 : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ 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 $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $r1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v5_lattices : \iota \Rightarrow o$ be given. Let $v7_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v6_lattices X0) \wedge (l1_lattices X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k4_lattices X0 X1 X2 = k2_lattices X0 X1 X2) \tag{1}$$

Assume the following.

$$\forall X0. (l4_robins1 X0) \Rightarrow ((l2_robins1 X0) \wedge (l3_lattices X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \tag{3}$$

Assume the following.

$$\forall X0. (l2_robins1 X0) \Rightarrow ((l2_lattices X0) \wedge (l1_robins1 X0)) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_robins1 X0)) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_robins1 X0 X1) (u1_struct_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l2_lattices X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k1_lattices X0 X1 X2) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l3_lattices X0))\Rightarrow((v9_lattices X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k2_lattices X0 X1 (k1_lattices X0 X1 X2) = X1)))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l2_robbins1 X0))\Rightarrow((v9_robbins3 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(k1_lattices X0 X1 (k3_robbins1 X0 X1) = k1_lattices X0 X2 (k3_robbins1 X0 X2)))))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l4_robbins1 X0))\Rightarrow((v1_robbins4 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_lattices X0 X1 X2)\Rightarrow(X2 = k1_lattices X0 X1 (k2_lattices X0 (k3_robbins1 X0 X1) X2)))))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l3_lattices X0))\Rightarrow((v12_lattices X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow((r1_lattices X0 X1 X3)\Rightarrow(k1_lattices X0 X1 (k2_lattices X0 X2 X3) = k2_lattices X0 (k1_lattices X0 X1 X2) X3)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v6_lattices X0)\wedge(l1_lattices X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k4_lattices X0 X1 X2 = k4_lattices X0 X2 X1) \quad (11)$$

Assume the following.

$$\forall X0.(l3_lattices X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge(v10_lattices X0))\Rightarrow((\neg v2_struct_0 X0)\wedge((v4_lattices X0)\wedge((v5_lattices X0)\wedge((v6_lattices X0)\wedge((v7_lattices X0)\wedge((v8_lattices X0)\wedge(v9_lattices X0)))))))) \quad (12)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v12_lattices X0) \wedge ((v10_robbins1 X0) \wedge ((v8_robbins3 X0) \wedge ((v9_robbins3 X0) \wedge (l4_robbins1 X0))))))) \Rightarrow (v1_robbins4 X0)$$