

t26_robbins1

(TMEs3ScfyBFid61ASNCxpMp4WzzV8aiF8qs)

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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 $v6_robbins1 : \iota \Rightarrow o$ be given. Let $l2_robbins1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $l1_robbins1 : \iota \Rightarrow o$ be given. Let $v7_robbins1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ & X0) \wedge ((v6_robbins1 X0) \wedge (l2_robbins1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k6_robbins1 \\ & X0 X1 (k6_robbins1 X0 X2 X3) = k6_robbins1 X0 (k6_robbins1 X0 X1 X2) \\ & X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ & X0) \wedge ((v5_lattices X0) \wedge (l2_robbins1 X0)))) \wedge ((m1_subset_1 X1 \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k6_robbins1 \\ & X0 X1 X2 = k4_robbins1 X0 X1 X2) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ & X0) \wedge (l2_robbins1 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k5_robbins1 X0 X1 X2 = k1_lattices \\ & X0 X1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l2_robbins1 X0) \Rightarrow ((l2_lattices X0) \wedge (l1_robbins1 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v4_lattices \\ & X0) \wedge ((v5_lattices X0) \wedge (l2_robbins1 X0))) \wedge ((m1_subset_1 X1 \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k6_robbins1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v4_lattices \\ & X0) \wedge (l2_robbins1 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ & m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k5_robbins1 \\ & X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_robbins1 X0)) \wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_robbins1 \\ & X0 X1) (u1_struct_0 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v7_robbins1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_lattices \\ & X0 X1 X1 = X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_robbins1 X0)) \Rightarrow ((v6_robbins1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 (k3_robbins1 \\ & X0 (k1_lattices X0 (k3_robbins1 X0 X1) (k3_robbins1 X0 X2))) (k3_robbins1 \\ & X0 (k1_lattices X0 (k3_robbins1 X0 X1) X2)) = X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v5_lattices \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 (k1_lattices X0 X2 X3) = k1_lattices \\ & X0 (k1_lattices X0 X1 X2) X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_robbins1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (k4_robbins1 X0 X1 X2 = k3_robbins1 X0 (k1_lattices \\ & X0 (k3_robbins1 X0 X1) (k3_robbins1 X0 X2)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ X0) \wedge ((v5_lattices X0) \wedge (l2_robbins1 X0)))) \wedge ((m1_subset_1 X1 \\ (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k6_robbins1 \\ X0 X1 X2 = k6_robbins1 X0 X2 X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ X0) \wedge (l2_robbins1 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (k5_robbins1 X0 X1 X2 = k5_robbins1 \\ X0 X2 X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. (l2_robbins1 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ X0) \wedge ((v5_lattices X0) \wedge (v6_robbins1 X0)))) \Rightarrow ((\neg v2_struct_0 X0) \wedge \\ (v7_robbins1 X0))) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ X0) \wedge ((v6_robbins1 X0) \wedge (l2_robbins1 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k5_robbins1 \\ X0 (k6_robbins1 X0 X1 X2) (k6_robbins1 X0 X1 X3) = k5_robbins1 X0 (\\ k5_robbins1 X0 (k6_robbins1 X0 (k6_robbins1 X0 X1 X2) X3) (k6_robbins1 \\ X0 (k6_robbins1 X0 X1 X2) (k3_robbins1 X0 X3))) (k6_robbins1 X0 (\\ k6_robbins1 X0 X1 (k3_robbins1 X0 X2) X3)))))) \end{aligned}$$