

t28_sheffer1

(TMNsSrvGhaduJ9sejyqMphNZbcuJEX5esGN)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v17_lattices : \iota \Rightarrow o$ be given. Let $v8_robbins1 : \iota \Rightarrow o$ be given. Let $v9_sheffer1 : \iota \Rightarrow o$ be given. Let $l3_sheffer1 : \iota \Rightarrow o$ be given. Let $v12_sheffer1 : \iota \Rightarrow o$ 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 $k3_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_robbins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $l4_robbins1 : \iota \Rightarrow o$ be given. Let $l1_sheffer1 : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $l1_robbins1 : \iota \Rightarrow o$ be given. Let $k5_sheffer1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Let $v1_sheffer1 : \iota \Rightarrow o$ be given. Let $v2_sheffer1 : \iota \Rightarrow o$ be given. Let $v3_sheffer1 : \iota \Rightarrow o$ be given. Let $v4_sheffer1 : \iota \Rightarrow o$ be given. Let $v7_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ & X0) \wedge ((v6_robbins1 X0) \wedge (l2_robbins1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (k3_robbins1 X0 (k3_robbins1 X0 X1) = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ & X0) \wedge ((v6_robbins1 X0) \wedge (l2_robbins1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k6_robbins1 \\ & X0 X1 (k5_robbins1 X0 X2 X3) = k5_robbins1 X0 (k6_robbins1 X0 X1 X2) \\ & (k6_robbins1 X0 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices \\ X0) \wedge ((v6_robbins1 X0) \wedge (l2_robbins1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow (k3_robbins1 X0 (k5_robbins1 X0 X1 X2) = k6_robbins1 X0 (k3_robbins1 \\ X0 X1) (k3_robbins1 X0 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v4_lattices \\ X0) \wedge (l2_robbins1 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k5_robbins1 X0 X1 X2 = k1_lattices \\ X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v6_lattices X0) \wedge \\ ((v8_lattices X0) \wedge ((v9_lattices X0) \wedge (l3_lattices X0)))))) \wedge (\\ m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 X1 = X1) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l4_robbins1 X0) \Rightarrow ((l2_robbins1 X0) \wedge (l3_lattices X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l3_sheffer1 X0) \Rightarrow ((l1_sheffer1 X0) \wedge (l4_robbins1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2_robbins1 X0) \Rightarrow ((l2_lattices X0) \wedge (l1_robbins1 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_sheffer1 \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (m1_subset_1 (k5_sheffer1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l1_robbins1 X0)) \wedge \\ (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k3_robbins1 \\ X0 X1) (u1_struct_0 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_sheffer1 X0)) \Rightarrow ((v12_sheffer1 \\
& \quad X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& \quad (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 X0 (k5_sheffer1 X0 X1 (k5_sheffer1 \\
& \quad X0 X2 X3)) (k5_sheffer1 X0 X1 (k5_sheffer1 X0 X2 X3)) = k5_sheffer1 \\
& \quad X0 (k5_sheffer1 X0 (k5_sheffer1 X0 X2 X2) X1) (k5_sheffer1 X0 (k5_sheffer1 \\
& \quad X0 X3 X3) X1))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l3_sheffer1 X0)) \Rightarrow ((v9_sheffer1 \\
& \quad X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 \\
& \quad X0 X1 X1 = k3_robbins1 X0 X1)) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices \\
& \quad X0 X1 X2 = k5_sheffer1 X0 (k5_sheffer1 X0 X1 X1) (k5_sheffer1 X0 X2 \\
& \quad X2)))) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 X2 = k5_sheffer1 \\
& \quad X0 (k5_sheffer1 X0 X1 X2) (k5_sheffer1 X0 X1 X2)))) \wedge (\forall X1. \\
& \quad (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& \quad (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 X0 X1 X2 = k1_lattices X0 (k3_robbins1 \\
& \quad X0 X1) (k3_robbins1 X0 X2)))))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v4_lattices \\
& \quad X0) \wedge ((v5_lattices X0) \wedge (l2_robbins1 X0)))) \wedge ((m1_subset_1 X1 \\
& \quad (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k6_robbins1 \\
& \quad X0 X1 X2 = k6_robbins1 X0 X2 X1)
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l4_robbins1 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\
& \quad X0) \wedge ((v17_lattices X0) \wedge (v8_robbins1 X0)))) \Rightarrow ((\neg v2_struct_0 \\
& \quad X0) \wedge ((v10_lattices X0) \wedge ((v6_robbins1 X0) \wedge (v8_robbins1 X0))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\
& \quad X0) \wedge (v17_lattices X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge \\
& \quad ((v6_lattices X0) \wedge ((v11_lattices X0) \wedge ((v1_sheffer1 X0) \wedge ((v2_sheffer1 \\
& \quad X0) \wedge ((v3_sheffer1 X0) \wedge (v4_sheffer1 X0))))))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v10_lattices \\
& \quad X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices X0) \wedge \\
& \quad ((v6_lattices X0) \wedge ((v7_lattices X0) \wedge ((v8_lattices X0) \wedge (v9_lattices \\
& \quad X0))))))))))
\end{aligned} \tag{16}$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (v10_lattices X0) \wedge ((v17_lattices X0) \wedge (v8_robbins1 X0) \wedge ((v9_sheffer1 X0) \wedge (l3_sheffer1 X0)))) \Rightarrow (v12_sheffer1 X0)$$