

t11_sheffer1

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Let $v7_robbins1 : \iota \Rightarrow o$ 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 $l3_lattices : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v6_lattices X0) \wedge ((v11_lattices X0) \wedge ((v7_robbins1 X0) \wedge ((v1_sheffer1 X0) \wedge ((v3_sheffer1 X0) \wedge ((v4_sheffer1 X0) \wedge (l3_lattices X0)))))))))) \Rightarrow (v8_lattices X0) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v9_lattices X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 (k1_lattices X0 X1 X2) = X1)))) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v8_lattices X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 (k2_lattices X0 X1 X2) X2 = X2)))) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v3_sheffer1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 (k2_lattices X0 X2 X3) = k2_lattices X0 (k1_lattices X0 X1 X2) (k1_lattices X0 X1 X3)))))) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v2_sheffer1 \\ X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k1_lattices X0 X1 X2 = X2) \wedge \\ (k1_lattices X0 X2 X1 = X2))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v1_sheffer1 \\ X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k2_lattices X0 X1 X2 = X2) \wedge \\ (k2_lattices X0 X2 X1 = X2))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v11_lattices \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 (k1_lattices X0 X2 X3) = k1_lattices \\ X0 (k2_lattices X0 X1 X2) (k2_lattices X0 X1 X3))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v6_lattices \\ X0) \wedge ((v11_lattices X0) \wedge ((v7_robbins1 X0) \wedge ((v1_sheffer1 X0) \wedge \\ ((v2_sheffer1 X0) \wedge ((v3_sheffer1 X0) \wedge ((v4_sheffer1 X0) \wedge (l3_lattices \\ X0)))))))))) \Rightarrow (v9_lattices X0) \end{aligned}$$