

t8_sheffer1 (TMTMS-
GyewnL2wTP9CANndKXyTPXWzS4Vn7f)

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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 $v1_sheffer1 : \iota \Rightarrow o$ 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 $v5_sheffer1 : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ 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. Let $k2_sheffer1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_lattices X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k2_lattices X0 X1 X2) (u1_struct_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_lattices X0)) \Rightarrow ((v5_sheffer1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 X1 = X1))) \quad (3)$$

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.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v2_sheffer1 \\ & X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((X1 = k2_sheffer1 \\ & X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k1_lattices \\ & X0 X1 X2 = X2) \wedge (k1_lattices X0 X2 X1 = X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v4_lattices \\ & X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 X2 = k1_lattices \\ & X0 X2 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v2_sheffer1 \\ & X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k1_lattices X0 X1 X2 = X2) \wedge \\ & (k1_lattices X0 X2 X1 = X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v1_sheffer1 \\ & X0) \Leftrightarrow (\exists X1.(m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k2_lattices X0 X1 X2 = X2) \wedge \\ & (k2_lattices X0 X2 X1 = X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v11_lattices \\ & X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 (k1_lattices X0 X2 X3) = k1_lattices \\ & X0 (k2_lattices X0 X1 X2) (k2_lattices X0 X1 X3)))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v6_lattices \\ & X0) \wedge ((v11_lattices X0) \wedge ((v1_sheffer1 X0) \wedge ((v2_sheffer1 X0) \wedge \\ & ((v3_sheffer1 X0) \wedge ((v4_sheffer1 X0) \wedge (l3_lattices X0)))))))))) \Rightarrow \\ & (v5_sheffer1 X0) \end{aligned}$$