

t94_sheffer2 (TMQR-
dRhb8ziGrZMPN4s4fZ1FMEDNNA1LVC6)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_sheffer1 : \iota \Rightarrow o$ be given. Let $v11_sheffer1 : \iota \Rightarrow o$ be given. Let $v12_sheffer1 : \iota \Rightarrow o$ be given. Let $l1_sheffer1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_sheffer1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_sheffer1 \\ & X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0)))) \Rightarrow (m1_subset_1 (k5_sheffer1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_sheffer1 X0)) \Rightarrow ((v10_sheffer1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 X0 (k5_sheffer1 X0 X1 (k5_sheffer1 \\ & X0 X2 X3)) (k5_sheffer1 X0 X1 (k5_sheffer1 X0 X2 X3)) = k5_sheffer1 \\ & X0 (k5_sheffer1 X0 (k5_sheffer1 X0 X2 X2) X1) (k5_sheffer1 X0 (k5_sheffer1 \\ & X0 X3 X3) X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_sheffer1 X0)) \Rightarrow ((v10_sheffer1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 X1 X1) (k5_sheffer1 X0 X1 X1) = X1))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_sheffer1 X0) \wedge ((v11_sheffer1 \\ & X0) \wedge ((v12_sheffer1 X0) \wedge (l1_sheffer1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 (k5_sheffer1 X0 (k5_sheffer1 X0 X3 X3) X2) (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 X1 X1) X2)) (k5_sheffer1 X0 (k5_sheffer1 X0 X2 \\ & (k5_sheffer1 X0 X3 X1)) (k5_sheffer1 X0 X2 (k5_sheffer1 X0 X3 X1))) = \\ & k5_sheffer1 X0 X2 (k5_sheffer1 X0 X3 X1)))))) \end{aligned}$$