

t146_sheffer2 (TMjYjCuvaqTUiGEaWamGhNa-
JsiCXDeeeRJ3M)

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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.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_sheffer1 X0) \wedge ((v11_sheffer1 \\ & X0) \wedge ((v12_sheffer1 X0) \wedge (l1_sheffer1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 (k5_sheffer1 X0 X1 (k5_sheffer1 X0 (k5_sheffer1 \\ & X0 X3 X3) X2)) (k5_sheffer1 X0 X1 (k5_sheffer1 X0 (k5_sheffer1 X0 \\ & X3 X3) X2))) (k5_sheffer1 X0 (k5_sheffer1 X0 X3 X1) (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 X2 X2) X1)) = k5_sheffer1 X0 X1 (k5_sheffer1 X0 \\ & (k5_sheffer1 X0 X3 X3) X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_sheffer1 X0) \wedge ((v11_sheffer1 \\ & X0) \wedge ((v12_sheffer1 X0) \wedge (l1_sheffer1 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 (k5_sheffer1 X0 X1 (k5_sheffer1 X0 (k5_sheffer1 \\ & X0 X3 X3) X2)) (k5_sheffer1 X0 X1 (k5_sheffer1 X0 (k5_sheffer1 X0 \\ & X3 X3) X2))) (k5_sheffer1 X0 (k5_sheffer1 X0 X3 X1) (k5_sheffer1 \\ & X0 (k5_sheffer1 X0 X2 X2) X1)) = k5_sheffer1 X0 (k5_sheffer1 X0 X2 \\ & (k5_sheffer1 X0 X3 X1) X1)))))) \end{aligned} \tag{2}$$

Theorem 1

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