

## t149\_sheffer2

(TMaU8CQBP1qxop8nCtny8JvFG4VqdXuPqJN)

October 27, 2020

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.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_sheffer1 X0) \wedge ((v11\_sheffer1 \\ X0) \wedge ((v12\_sheffer1 X0) \wedge (l1\_sheffer1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (k5\_sheffer1 X0 X2 X1 = k5\_sheffer1 X0 X1 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_sheffer1 X0)) \Rightarrow ((v12\_sheffer1 \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow (k5\_sheffer1 X0 (k5\_sheffer1 X0 X1 (k5\_sheffer1 \\ X0 X2 X3)) (k5\_sheffer1 X0 X1 (k5\_sheffer1 X0 X2 X3)) = k5\_sheffer1 \\ X0 (k5\_sheffer1 X0 (k5\_sheffer1 X0 X2 X2) X1) (k5\_sheffer1 X0 (k5\_sheffer1 \\ X0 X3 X3) X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_sheffer1 X0)) \Rightarrow ((v11\_sheffer1 \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k5\_sheffer1 X0 X1 (k5\_sheffer1 \\ X0 X2 (k5\_sheffer1 X0 X2 X2)) = k5\_sheffer1 X0 X1 X1)))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_sheffer1 X0) \wedge ((v11\_sheffer1 \\ & X0) \wedge ((v12\_sheffer1 X0) \wedge (l1\_sheffer1 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\ & (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (k5\_sheffer1 X0 (k5\_sheffer1 \\ & X0 (k5\_sheffer1 X0 X2 (k5\_sheffer1 X0 X4 X1)) (k5\_sheffer1 X0 X2 ( \\ & k5\_sheffer1 X0 X4 X1))) (k5\_sheffer1 X0 (k5\_sheffer1 X0 (k5\_sheffer1 \\ & X0 X4 (k5\_sheffer1 X0 X3 (k5\_sheffer1 X0 X3 X3))) X2) (k5\_sheffer1 \\ & X0 (k5\_sheffer1 X0 X1 X1) X2)) = k5\_sheffer1 X0 (k5\_sheffer1 X0 (k5\_sheffer1 \\ & X0 (k5\_sheffer1 X0 X1 X1) X2) (k5\_sheffer1 X0 (k5\_sheffer1 X0 X4 ( \\ & k5\_sheffer1 X0 X3 (k5\_sheffer1 X0 X3 X3))) X2)) (k5\_sheffer1 X0 ( \\ & k5\_sheffer1 X0 (k5\_sheffer1 X0 X1 X1) X2) (k5\_sheffer1 X0 (k5\_sheffer1 \\ & X0 X4 (k5\_sheffer1 X0 X3 (k5\_sheffer1 X0 X3 X3))) X2)))))) \end{aligned}$$