# t99_sheffer2 (TMJ3TkPQno6z3NbFqWeqrhK74LsS1BLtGvA)

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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.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_sheffer1\ X0) \wedge ((v11\_sheffer1\ X0) \wedge ((v12\_sheffer1\ X0) \wedge (l1\_sheffer1\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X2)\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X1\ X1)\ X2))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X2\ (k5\_sheffer1\ X0\ X3\ X1))\ (k5\_sheffer1\ X0\ X2\ (k5\_sheffer1\ X0\ X3\ X1))) = k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X1\ X1)\ (k5\_sheffer1\ X0\ X1\ X1))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X2))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X2\ X2)\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_sheffer1\ X0) \wedge ((v11\_sheffer1\ X0) \wedge ((v12\_sheffer1\ X0) \wedge (l1\_sheffer1\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X2)\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X1\ X1)\ X2))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X2\ (k5\_sheffer1\ X0\ X3\ X1))\ (k5\_sheffer1\ X0\ X2\ (k5\_sheffer1\ X0\ X3\ X1))) = k5\_sheffer1\ X0\ X2\ (k5\_sheffer1\ X0\ X3\ X1))))) \tag{2}$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_sheffer1\ X0)\wedge((v11\_sheffer1\ X0)\wedge((v12\_sheffer1\ X0)\wedge(l1\_sheffer1\ X0)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(k5\_sheffer1\ X0\ X1\ (k5\_sheffer1\ X0\ X3\ X2) = k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X2\ X2)\ (k5\_sheffer1\ X0\ X2\ X2))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X1))\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X1\ X1)\ (k5\_sheffer1\ X0\ (k5\_sheffer1\ X0\ X3\ X3)\ X1))))))$$