

t6_algstr_1 (TMR-
WmxnGztQAq6kjBGas6y8NFKiTJTKmQBC)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v4_algstr_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v6_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_algstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_algstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_algstr_1 : \iota \Rightarrow o$ be given. Let $v2_algstr_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (1)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow ((v6_algstr_0 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v3_algstr_0 X1 X0))) \quad (2)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow ((v5_algstr_0 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v2_algstr_0 X1 X0))) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow ((v3_algstr_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge (k1_algstr_0 X0 X1 X3 = X2)))))) \quad (4)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v3_algstr_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X2 X1 = k1_algstr_0 X0 X3 X1) \Rightarrow (X2 = X3)))))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow ((v2_algstr_1 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \wedge (k1_algstr_0 X0 X3 X1 = X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow ((v2_algstr_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 \\ X0 X1 X2 = k1_algstr_0 X0 X1 X3) \Rightarrow (X2 = X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v5_algstr_0 \\ X0) \wedge ((v6_algstr_0 X0) \wedge ((v2_algstr_1 X0) \wedge (v3_algstr_1 X0)))))) \Rightarrow \\ ((\neg v2_struct_0 X0) \wedge (v4_algstr_1 X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v4_algstr_1 \\ X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v5_algstr_0 X0) \wedge ((v6_algstr_0 X0) \wedge \\ (v2_algstr_1 X0) \wedge (v3_algstr_1 X0)))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_algstr_0 X0)) \Rightarrow ((v4_algstr_1 \\ X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \wedge (k1_algstr_0 X0 X1 X3 = X2)))))) \wedge ((\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\ (k1_algstr_0 X0 X3 X1 = X2)))))) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 X2 = k1_algstr_0 \\ X0 X1 X3) \Rightarrow (X2 = X3)))))) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X2 X1 = k1_algstr_0 \\ X0 X3 X1) \Rightarrow (X2 = X3)))))))))) \end{aligned}$$