

t15_group_1

(TMd5cGhd9h5r5EnXRw4jsYGc95fMWe8uyC2)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l3_algstr_0 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k6_algstr_0 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_algstr_0 X0) \Rightarrow ((v3_group_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 \\ & X0 (k6_algstr_0 X0 X1 X2) X3 = k6_algstr_0 X0 X1 (k6_algstr_0 X0 X2 \\ & X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_algstr_0 X0) \Rightarrow ((v2_group_1 X0) \Leftrightarrow (\exists X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow ((k6_algstr_0 X0 X2 X1 = X2) \wedge ((k6_algstr_0 X0 X1 X2 = X2) \wedge (\exists X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \wedge ((k6_algstr_0 X0 X2 X3 = X1) \wedge \\ & (k6_algstr_0 X0 X3 X2 = X1)))))))) \end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\exists X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \wedge (k6_algstr_0 X0 X1 X3 = X2)))) \end{aligned}$$