

t27_toprealc
(TMMhcT7ZwLi37ge5R6XpyBqAwK3u6UGzf78)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_rlvect_1 X0) \wedge (l2_algstr_0 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 X0 (k1_algstr_0 X0 X1 X2) X3 = k1_algstr_0 \\ & X0 X1 (k5_algstr_0 X0 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0))))) \Rightarrow (\forall X1.(m1_subset_1 X1 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2) = k4_struct_0 X0) \Rightarrow \\ & (X1 = X2)) \wedge (((X1 = X2) \Rightarrow (k1_algstr_0 X0 X1 (k4_algstr_0 X0 X2) = k4_struct_0 X0) \wedge ((k5_algstr_0 X0 X1 X2 = k4_struct_0 X0) \Rightarrow (X1 = X2)) \wedge ((X1 = X2) \Rightarrow (k5_algstr_0 X0 X1 X2 = k4_struct_0 X0))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((v4_rlvect_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_algstr_0 X0 X1 (k4_struct_0 X0) = X1))) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0))))) \Rightarrow (\forall X1.(m1_subset_1 X1 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k5_algstr_0 X0 (k1_algstr_0 X0 X1 X2) X2 = X1))) \end{aligned}$$