

t13_algstr_1
(TMQR4PSMEuVjfbAj1GwiLBCCNjEB3R63n7X)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v21_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_algstr_1 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ 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. Let $k9_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v23_algstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v17_algstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20_algstr_0 : \iota \Rightarrow o$ be given. Let $v19_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l4_algstr_0 X0)) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v21_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_algstr_1 X0) \wedge (l4_algstr_0 X0)))))) \Leftrightarrow ((\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 X0 X1 (k5_struct_0 X0) = X1)) \wedge ((\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\exists X2. (m1_subset_1 X2 (u1_struct_0 X0)) \wedge (k6_algstr_0 X0 X1 X2 = k5_struct_0 X0))) \wedge (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 X0 (k6_algstr_0 X0 X1 X2) X3 = k6_algstr_0 X0 X1 (k6_algstr_0 X0 X2 X3))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((l4_algstr_0 X0) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k9_algstr_0 X0 X1) (u1_struct_0 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l4_algstr_0 X0)) \Rightarrow ((v4_vectsp_1 X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 (k5_struct_0 X0) = X1) \wedge (k6_algstr_0 X0 (k5_struct_0 X0) X1 = X1))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l4_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (((v23_algstr_0 X1 X0) \wedge (v17_algstr_0 X1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 = k9_algstr_0 X0 X1) \Leftrightarrow (k6_algstr_0 \\ & X0 X2 X1 = k5_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l4_algstr_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow ((v23_algstr_0 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \wedge (k6_algstr_0 X0 X2 X1 = k5_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0) \Rightarrow ((v20_algstr_0 X0) \Leftrightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v17_algstr_0 X1 X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v21_algstr_0 X0) \wedge ((v5_algstr_1 \\ & X0) \wedge (l4_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (v23_algstr_0 X1 X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_algstr_0 X0) \Rightarrow ((v21_algstr_0 X0) \Rightarrow ((v19_algstr_0 \\ & X0) \wedge (v20_algstr_0 X0))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((\neg v2_struct_0 X0) \wedge ((v21_algstr_0 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_algstr_1 X0) \wedge (l4_algstr_0 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 \\ & X0 (k9_algstr_0 X0 X1) X1 = k5_struct_0 X0) \wedge (k6_algstr_0 X0 X1 (k9_algstr_0 \\ & X0 X1) = k5_struct_0 X0))) \end{aligned}$$