

t35_matrix15

(TMEhpMCQnGugcJfHf6FrD7nsxqiN1sVyNXk)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k4_matrix15 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
 & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((v1_matrix_1 \\
 & X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
 & ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
 & X0)))) \Rightarrow ((k1_matrix_1 X2 = k3_finseq_1 X3) \Rightarrow (k4_matrix_3 X0 X2 (\\
 & k6_matrix_3 X0 X3 X1) = k6_matrix_3 X0 (k4_matrix_3 X0 X2 X3) X1))))))
 \end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((v1_matrix_1 \\
& X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
& ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow ((k1_matrix_1 X2 = k3_finseq_1 X3) \Rightarrow (k4_matrix_3 X0 (k6_matrix_3 \\
& X0 X2 X1) X3 = k6_matrix_3 X0 (k4_matrix_3 X0 X2 X3) X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 \\
& X0) \wedge ((v13_algstr_0 X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge \\
& ((v5_group_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 \\
& X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \wedge \\
& (((v1_matrix_1 X1) \wedge (m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \wedge (m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow ((v1_matrix_1 (k6_matrix_3 \\
& X0 X1 X2) \wedge (m2_finseq_1 (k6_matrix_3 X0 X1 X2) (k3_finseq_2 (u1_struct_0 \\
& X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow ((X3 = k6_matrix_3 X0 X1 X2) \Leftrightarrow ((k3_finseq_1 X3 = k3_finseq_1 \\
& X1) \wedge ((k1_matrix_1 X3 = k1_matrix_1 X1) \wedge (\forall X4. (v7_ordinal1 \\
& X4) \Rightarrow (\forall X5. (v7_ordinal1 X5) \Rightarrow ((k4_tarski X4 X5 \in k2_matrix_1 \\
& X1) \Rightarrow (k3_matrix_1 (u1_struct_0 X0) X3 X4 X5 = k8_group_1 X0 X2 (k3_matrix_1 \\
& (u1_struct_0 X0) X1 X4 X5))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (k4_matrix15 X0 X1 X2 = ReplSep (toset (\lambda X3 : \\
& \iota.(v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
& X0)))) (\lambda X3 : \iota.(k3_finseq_1 X3 = k1_matrix_1 X1) \wedge ((k1_matrix_1 \\
& X3 = k1_matrix_1 X2) \wedge (k4_matrix_3 X0 X1 X3 = X2))) (\lambda X3 : \iota.X3))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((v1_matrix_1 \\
& X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
& ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X4. ((v1_matrix_1 X4) \wedge (m2_finseq_1 X4 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((X2 \in k4_matrix15 X0 X3 X4) \Rightarrow ((k6_matrix_3 \\
& X0 X2 X1 \in k4_matrix15 X0 X3 (k6_matrix_3 X0 X4 X1)) \wedge (X2 \in k4_matrix15 \\
& X0 (k6_matrix_3 X0 X3 X1) (k6_matrix_3 X0 X4 X1))))))
\end{aligned}$$