

t8_matrix_4 (TMQh- pNT8LRHZfHBZrSx2iypG9p59WnPuyBD)

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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 $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k3_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge ((k1_matrix_1 \\
& X1 = k1_matrix_1 X2) \wedge (k1_matrix_4 X0 X1 X2 = k1_matrix_3 X0 (k3_finseq_1 \\
& X1) (k1_matrix_1 X1)))) \Rightarrow (X1 = X2))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (k2_matrix_3 X0 (k2_matrix_3 X0 X1) = X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(\neg v6_struct_0 X0)\wedge \\ & ((v13_algstr_0 X0)\wedge(v33_algstr_0 X0)\wedge(v3_group_1 X0)\wedge(v5_group_1 \\ & X0)\wedge(v2_rlvect_1 X0)\wedge(v3_rlvect_1 X0)\wedge(v4_rlvect_1 X0)\wedge \\ & (v4_vectsp_1 X0)\wedge(v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))\wedge \\ & ((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ X0))))\Rightarrow((v1_matrix_1 (k2_matrix_3 X0 X1)\wedge(m2_finseq_1 (k2_matrix_3 \\ X0 X1) (k3_finseq_2 (u1_struct_0 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(\neg v6_struct_0 X0)\wedge(v13_algstr_0 \\ & X0)\wedge(v33_algstr_0 X0)\wedge(v3_group_1 X0)\wedge(v5_group_1 X0)\wedge \\ & (v2_rlvect_1 X0)\wedge(v3_rlvect_1 X0)\wedge(v4_rlvect_1 X0)\wedge(v4_vectsp_1 \\ & X0)\wedge(v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))\Rightarrow(\forall X1. \\ & ((v1_matrix_1 X1)\wedge(m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ X0))))\Rightarrow(\forall X2.((v1_matrix_1 X2)\wedge(m2_finseq_1 X2 (k3_finseq_2 \\ (u1_struct_0 X0))))\Rightarrow((X2 = k2_matrix_3 X0 X1)\Leftrightarrow((k3_finseq_1 X2 = \\ k3_finseq_1 X1)\wedge((k1_matrix_1 X2 = k1_matrix_1 X1)\wedge(\forall X3. \\ (v7_ordinal1 X3)\Rightarrow(\forall X4.(v7_ordinal1 X4)\Rightarrow((k4_tarski X3 \\ X4 \in k2_matrix_1 X1)\Rightarrow(k3_matrix_1 (u1_struct_0 X0) X2 X3 X4 = k4_algstr_0 \\ X0 (k3_matrix_1 (u1_struct_0 X0) X1 X3 X4)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(\neg v6_struct_0 X0)\wedge(v13_algstr_0 \\ & X0)\wedge(v33_algstr_0 X0)\wedge(v3_group_1 X0)\wedge(v5_group_1 X0)\wedge \\ & (v2_rlvect_1 X0)\wedge(v3_rlvect_1 X0)\wedge(v4_rlvect_1 X0)\wedge(v4_vectsp_1 \\ & X0)\wedge(v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))\Rightarrow(\forall X1. \\ & ((v1_matrix_1 X1)\wedge(m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ X0))))\Rightarrow(\forall X2.((v1_matrix_1 X2)\wedge(m2_finseq_1 X2 (k3_finseq_2 \\ (u1_struct_0 X0))))\Rightarrow(k1_matrix_4 X0 X1 X2 = k3_matrix_3 X0 X1 (k2_matrix_3 \\ X0 X2)))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\ & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ & X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\ & (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge ((k1_matrix_1 \\ & X1 = k1_matrix_1 X2) \wedge (k3_matrix_3 X0 X1 X2 = k1_matrix_3 X0 (k3_finseq_1 \\ & X1) (k1_matrix_1 X1)))) \Rightarrow (X2 = k2_matrix_3 X0 X1)))) \end{aligned}$$