

t30_matrix_6

(TMKpiE8nhLnRu2hbbVZMxKWaWs4jwxU2fBv)

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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 $v12_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 \in k2_zfmisc_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k1_algstr_0 X0 X1 (k4_algstr_0 X0 X1) = k4_struct_0 X0) \wedge (k1_algstr_0 X0 (k4_algstr_0 X0 X1) X1 = k4_struct_0 X0))) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\ & \forall X2.(m1_matrix_1\ X2\ X1\ X0\ X0) \Rightarrow ((k3_finseq_1\ X2 = X0) \wedge ((k1_matrix_1 \\ & X2 = X0) \wedge (k2_matrix_1\ X2 = k2_zfmisc_1\ (k2_finseq_1\ X0)\ (k2_finseq_1 \\ & X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0) \wedge ((v13_algstr_0\ X0) \wedge ((v33_algstr_0 \\ & X0) \wedge ((v3_rlvect_1\ X0) \wedge ((v4_rlvect_1\ X0) \wedge ((v3_group_1\ X0) \wedge (\\ & (v5_group_1\ X0) \wedge ((v4_vectsp_1\ X0) \wedge ((v5_vectsp_1\ X0) \wedge (l6_algstr_0 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow ((k8_group_1\ X0 \\ & X1\ X2 = k4_struct_0\ X0) \Leftrightarrow ((X1 = k4_struct_0\ X0) \vee (X2 = k4_struct_0 \\ & X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0) \Leftrightarrow (m1_finseq_1\ X1\ X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0) \wedge ((v5_group_1 \\ & X0) \wedge (l3_algstr_0\ X0))) \wedge ((m1_subset_1\ X1\ (u1_struct_0\ X0)) \wedge (\\ & m1_subset_1\ X2\ (u1_struct_0\ X0)))) \Rightarrow (k8_group_1\ X0\ X1\ X2 = k6_algstr_0 \\ & X0\ X1\ X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0) \wedge ((\neg v1_xboole_0 \\ & X1) \wedge (m1_matrix_1\ X2\ X1\ X0\ X0))) \Rightarrow (k5_matrix_1\ X0\ X1\ X2 = k4_matrix_1 \\ & X1\ X2) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ & ((v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \wedge (m1_matrix_1\ X2\ (u1_struct_0\ X1) \\ & X0\ X0))) \Rightarrow (k1_matrix_6\ X0\ X1\ X2 = k2_matrix_3\ X1\ X2) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0\ (u1_struct_0\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v7_ordinal1 X1)\wedge(v7_ordinal1 X2)))\Rightarrow(\forall X3.(m1_matrix_1 X3 X0 X1 X2)\Rightarrow((v1_matrix_1 X3)\wedge(m2_finseq_1 X3 (k3_finseq_2 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0)\Rightarrow(m1_subset_1 (k5_struct_0 X0) (u1_struct_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0)))\wedge((v7_ordinal1 X2)\wedge(v7_ordinal1 X3)))\Rightarrow(m1_subset_1 (k3_matrix_1 X0 X1 X2 X3) X0) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\wedge((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 X0))))))\Rightarrow((v1_matrix_1 (k2_matrix_3 X0 X1)\wedge(m2_finseq_1 (k2_matrix_3 X0 X1) (k3_finseq_2 (u1_struct_0 X0)))) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7_ordinal1\ X0) \wedge ((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ & ((v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \wedge (m1_matrix_1\ X2\ (u1_struct_0\ X1) \\ & X0\ X0)) \Rightarrow (m1_matrix_1\ (k1_matrix_6\ X0\ X1\ X2)\ (u1_struct_0\ X1)\ X0 \\ & X0) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l1_algstr_0\ X0) \wedge ((m1_subset_1 \\ & X1\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ X2\ (u1_struct_0\ X0)))) \Rightarrow (m1_subset_1 \\ & (k1_algstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0\ X0) \wedge (l4_algstr_0\ X0)) \Rightarrow ((v6_vectsp_1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (k6_algstr_0 \\ & X0\ (k5_struct_0\ X0)\ X1 = X1))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0\ X0) \wedge (l6_algstr_0\ X0)) \Rightarrow ((v5_vectsp_1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow (\forall X3. (m1_subset_1\ X3 \\ & (u1_struct_0\ X0)) \Rightarrow ((k6_algstr_0\ X0\ X1\ (k1_algstr_0\ X0\ X2\ X3) = k1_algstr_0 \\ & X0\ (k6_algstr_0\ X0\ X1\ X2)\ (k6_algstr_0\ X0\ X1\ X3)) \wedge (k6_algstr_0\ X0 \\ & (k1_algstr_0\ X0\ X2\ X3)\ X1 = k1_algstr_0\ X0\ (k6_algstr_0\ X0\ X2\ X1)\ (\\ & k6_algstr_0\ X0\ X3\ X1)))))) \end{aligned} \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1\ X0) \Rightarrow (\forall X1. ((\neg v2_struct_0\ X1) \wedge \\ & ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\ & (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2. (m1_matrix_1\ X2\ (u1_struct_0 \\ & X1)\ X0\ X0) \Rightarrow ((v3_matrix_6\ X2\ X0\ X1) \Leftrightarrow (k5_matrix_1\ X0\ (u1_struct_0 \\ & X1)\ X2 = k1_matrix_6\ X0\ X1\ X2)))) \end{aligned} \quad (23)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\
& (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow (\forall X2.((v1_matrix_1 \\
& X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 X0))) \Rightarrow ((X2 = k4_matrix_1 X0 X1) \Leftrightarrow \\
& ((k3_finseq_1 X2 = k1_matrix_1 X1) \wedge (\forall X3.(v7_ordinal1 \\
& X3) \Rightarrow (\forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X3 X4 \in k2_matrix_1 \\
& X2) \Leftrightarrow (k4_tarski X4 X3 \in k2_matrix_1 X1)))) \wedge (\forall X3.(v7_ordinal1 \\
& X3) \Rightarrow (\forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X4 X3 \in k2_matrix_1 \\
& X1) \Rightarrow (k3_matrix_1 X0 X2 X3 X4 = k3_matrix_1 X0 X1 X4 X3))))))))) \\
& \hspace{15em} (24)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((X2 = k2_matrix_3 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = \\
& k3_finseq_1 X1) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X1) \wedge (\forall X3. \\
& (v7_ordinal1 X3) \Rightarrow (\forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X3 \\
& X4 \in k2_matrix_1 X1) \Rightarrow (k3_matrix_1 (u1_struct_0 X0) X2 X3 X4 = k4_algstr_0 \\
& X0 (k3_matrix_1 (u1_struct_0 X0) X1 X3 X4)))))))))) \\
& \hspace{15em} (25)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge \\
& ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 \\
& X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow ((v12_vectsp_1 X0) \Leftrightarrow (k1_algstr_0 \\
& X0 (k5_struct_0 X0) (k5_struct_0 X0) \neq k4_struct_0 X0)) \\
& \hspace{15em} (26)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l4_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v4_vectsp_1 \\
& X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_vectsp_1 X0) \wedge (v6_vectsp_1 X0)))) \\
& \hspace{15em} (27)
\end{aligned}$$

Assume the following.

$$\forall X0.(l4_struct_0 X0) \Rightarrow ((\neg v6_struct_0 X0) \Rightarrow (\neg v7_struct_0 X0)) \quad (28)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((\neg v7_struct_0 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (29)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\ & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge ((v12_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (\\ & \forall X3.(m1_matrix_1 X3 (u1_struct_0 X0) X1 X1) \Rightarrow (((v3_matrix_6 \\ & X3 X1 X0) \wedge (X2 \in k2_finseq_1 X1)) \Rightarrow (k3_matrix_1 (u1_struct_0 X0) \\ & X3 X2 X2 = k4_struct_0 X0)))))) \end{aligned}$$