

t38_matrix_8

(TMZbpJLAaJXQvBWSb5be3L7dtXAo8fsKncq)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_matrix_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k4_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k4_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$

be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 \\
& X3) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X3) \wedge (k3_finseq_1 X1 = k1_matrix_1 \\
& X2))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X2) k6_numbers) \vee ((r1_xxreal_0 \\
& (k3_finseq_1 X1) k6_numbers) \vee (k4_matrix_3 X0 (k3_matrix_3 X0 \\
& X2 X3) X1 = k3_matrix_3 X0 (k4_matrix_3 X0 X2 X1) (k4_matrix_3 X0 X3 \\
& X1)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 \\
& X3) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X3) \wedge (k1_matrix_1 X1 = k3_finseq_1 \\
& X2))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \vee ((r1_xxreal_0 \\
& (k3_finseq_1 X2) k6_numbers) \vee (k4_matrix_3 X0 X1 (k3_matrix_3 \\
& X0 X2 X3) = k3_matrix_3 X0 (k4_matrix_3 X0 X1 X2) (k4_matrix_3 X0 X1 \\
& X3)))))))))
\end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge (\\
& (v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\
& (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\
& X1) X0 X0) \Rightarrow (k4_matrix_3 X1 X2 (k12_matrix_1 X1 X0) = X2))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1\ X0)\wedge \\
& (((\neg v2_struct_0\ X1)\wedge(\neg v6_struct_0\ X1)\wedge(v13_algstr_0\ X1)\wedge \\
& ((v33_algstr_0\ X1)\wedge(v3_group_1\ X1)\wedge(v5_group_1\ X1)\wedge(v2_rlvect_1 \\
& X1)\wedge(v3_rlvect_1\ X1)\wedge(v4_rlvect_1\ X1)\wedge(v4_vectsp_1\ X1)\wedge \\
& ((v5_vectsp_1\ X1)\wedge(l6_algstr_0\ X1))))))\wedge(m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0)\wedge(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0))\Rightarrow \\
& (k4_matrix_6\ X0\ X1\ X2\ X3 = k4_matrix_3\ X1\ X2\ X3)
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1\ X0)\wedge \\
& (((\neg v2_struct_0\ X1)\wedge(\neg v6_struct_0\ X1)\wedge(v13_algstr_0\ X1)\wedge \\
& ((v33_algstr_0\ X1)\wedge(v3_group_1\ X1)\wedge(v5_group_1\ X1)\wedge(v2_rlvect_1 \\
& X1)\wedge(v3_rlvect_1\ X1)\wedge(v4_rlvect_1\ X1)\wedge(v4_vectsp_1\ X1)\wedge \\
& ((v5_vectsp_1\ X1)\wedge(l6_algstr_0\ X1))))))\wedge(m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0)\wedge(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0))\Rightarrow \\
& (k2_matrix_6\ X0\ X1\ X2\ X3 = k3_matrix_3\ X1\ X2\ X3)
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_struct_0\ X0))\Rightarrow(\neg v1_xboole_0\ (u1_struct_0\ X0)) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0)\wedge(v7_ordinal1 \\
& X1)\wedge(v7_ordinal1\ X2))\Rightarrow(\forall X3.(m1_matrix_1\ X3\ X0\ X1\ X2)\Rightarrow \\
& ((v1_matrix_1\ X3)\wedge(m2_finseq_1\ X3\ (k3_finseq_2\ X0))))
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.(l6_algstr_0\ X0)\Rightarrow((l2_algstr_0\ X0)\wedge(l5_algstr_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l2_struct_0\ X0)\Rightarrow(l1_struct_0\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(l2_algstr_0\ X0)\Rightarrow((l2_struct_0\ X0)\wedge(l1_algstr_0\ X0)) \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((\neg v2_struct_0 \\
& X1)\wedge(\neg v6_struct_0\ X1)\wedge(v13_algstr_0\ X1)\wedge(v33_algstr_0\ X1)\wedge \\
& ((v3_group_1\ X1)\wedge(v5_group_1\ X1)\wedge(v2_rlvect_1\ X1)\wedge(v3_rlvect_1 \\
& X1)\wedge(v4_rlvect_1\ X1)\wedge(v4_vectsp_1\ X1)\wedge(v5_vectsp_1\ X1)\wedge \\
& (l6_algstr_0\ X1))))))\wedge(m1_matrix_1\ X2\ (u1_struct_0\ X1) \\
& X0\ X0))\Rightarrow(m1_matrix_1\ (k5_matrix_6\ X0\ X1\ X2)\ (u1_struct_0\ X1)\ X0 \\
& X0)
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge(\neg v6_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v33_algstr_0 X1)\wedge((v3_group_1 X1)\wedge((v5_group_1 X1)\wedge((v2_rlvect_1 \\
& X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v4_vectsp_1 X1)\wedge \\
& ((v5_vectsp_1 X1)\wedge(l6_algstr_0 X1))))))))))\wedge((m1_matrix_1 \\
& X2 (u1_struct_0 X1) X0 X0)\wedge(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0)))\Rightarrow \\
& (m1_matrix_1 (k4_matrix_6 X0 X1 X2 X3) (u1_struct_0 X1) X0 X0)
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0)\wedge \\
& (((\neg v2_struct_0 X1)\wedge(\neg v6_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v33_algstr_0 X1)\wedge((v3_group_1 X1)\wedge((v5_group_1 X1)\wedge((v2_rlvect_1 \\
& X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v4_vectsp_1 X1)\wedge \\
& ((v5_vectsp_1 X1)\wedge(l6_algstr_0 X1))))))))))\wedge((m1_matrix_1 \\
& X2 (u1_struct_0 X1) X0 X0)\wedge(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0)))\Rightarrow \\
& (m1_matrix_1 (k2_matrix_6 X0 X1 X2 X3) (u1_struct_0 X1) X0 X0)
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l6_algstr_0 X0))\wedge \\
& (v7_ordinal1 X1))\Rightarrow(m1_matrix_1 (k12_matrix_1 X0 X1) (u1_struct_0 \\
& X0) X1 X1)
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\
& ((\neg v6_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v33_algstr_0 X1)\wedge(\\
& (v3_group_1 X1)\wedge((v5_group_1 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 \\
& X1)\wedge((v4_rlvect_1 X1)\wedge((v4_vectsp_1 X1)\wedge((v5_vectsp_1 X1)\wedge \\
& (l6_algstr_0 X1))))))))))\Rightarrow(\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\
& X1) X0 X0)\Rightarrow(\forall X3.(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0)\Rightarrow \\
& ((r1_matrix_8 X0 X1 X2 X3)\Leftrightarrow(\exists X4.(m1_matrix_1 X4 (u1_struct_0 \\
& X1) X0 X0)\wedge((v1_matrix_6 X4 X0 X1)\wedge(X2 = k4_matrix_6 X0 X1 (k4_matrix_6 \\
& X0 X1 (k5_matrix_6 X0 X1 X4) X3) X4))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge \\
& ((\neg v6_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v33_algstr_0 X1)\wedge(\\
& (v3_group_1 X1)\wedge((v5_group_1 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 \\
& X1)\wedge((v4_rlvect_1 X1)\wedge((v4_vectsp_1 X1)\wedge((v5_vectsp_1 X1)\wedge \\
& (l6_algstr_0 X1))))))))))\Rightarrow(\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\
& X1) X0 X0)\Rightarrow((v1_matrix_6 X2 X0 X1)\Rightarrow(\forall X3.(m1_matrix_1 X3 \\
& (u1_struct_0 X1) X0 X0)\Rightarrow((X3 = k5_matrix_6 X0 X1 X2)\Leftrightarrow(r2_matrix_6 \\
& X0 X1 X3 X2))))))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\
& ((r2_matrix_6\ X0\ X1\ X2\ X3) \Leftrightarrow ((k4_matrix_3\ X1\ X2\ X3 = k4_matrix_3\ X1 \\
& X3\ X2) \wedge (k4_matrix_3\ X1\ X2\ X3 = k12_matrix_1\ X1\ X0))))))
\end{aligned} \tag{18}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\
& ((r1_matrix_8\ X0\ X1\ X2\ X3) \Rightarrow ((r1_xxreal_0\ X0\ k6_numbers) \vee (r1_matrix_8 \\
& X0\ X1\ (k2_matrix_6\ X0\ X1\ X2\ (k12_matrix_1\ X1\ X0))\ (k2_matrix_6\ X0 \\
& X1\ X3\ (k12_matrix_1\ X1\ X0))))))
\end{aligned}$$