

t54_matrix_6 (TMLjE-
bKf7pZpZDiCQg4Z1KZj7CYmcdP8UFV)

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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 $r1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge (\\ & (v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 \\ & X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge (v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\ & X1) X0 X0) \Rightarrow (\forall X3.(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0) \Rightarrow \\ & ((r1_matrix_6 X0 X1 X2 X3) \Rightarrow (r1_matrix_6 X0 X1 (k4_matrix_6 X0 X1 \\ & X2 X2) X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\ & ((v33_algstr_0 X1) \wedge (v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge \\ & ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))))) \wedge ((m1_matrix_1 \\ & X2 (u1_struct_0 X1) X0 X0) \wedge (m1_matrix_1 X3 (u1_struct_0 X1) X0 X0))) \Rightarrow \\ & ((r1_matrix_6 X0 X1 X2 X3) \Rightarrow (r1_matrix_6 X0 X1 X3 X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((v7_ordinal1\ X0) \wedge \\
& ((\neg v2_struct_0\ X1) \wedge (\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge \\
& ((v33_algstr_0\ X1) \wedge (v3_group_1\ X1) \wedge (v5_group_1\ X1) \wedge (v2_rlvect_1 \\
& X1) \wedge (v3_rlvect_1\ X1) \wedge (v4_rlvect_1\ X1) \wedge (v4_vectsp_1\ X1) \wedge \\
& (v5_vectsp_1\ X1) \wedge (l6_algstr_0\ X1)))))) \wedge ((m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0) \wedge (m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0))) \Rightarrow \\
& (m1_matrix_1\ (k4_matrix_6\ X0\ X1\ X2\ X3)\ (u1_struct_0\ X1)\ X0\ X0)
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (v7_ordinal1\ X0) \Rightarrow (\forall X1. ((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge (v33_algstr_0\ X1) \wedge \\
& (v3_group_1\ X1) \wedge (v5_group_1\ X1) \wedge (v2_rlvect_1\ X1) \wedge (v3_rlvect_1 \\
& X1) \wedge (v4_rlvect_1\ X1) \wedge (v4_vectsp_1\ X1) \wedge (v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))) \Rightarrow (\forall X2. (m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3. (m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\
& ((r1_matrix_6\ X0\ X1\ X2\ X3) \Rightarrow (r1_matrix_6\ X0\ X1\ (k4_matrix_6\ X0\ X1 \\
& X2\ X2)\ (k4_matrix_6\ X0\ X1\ X3\ X3))))))
\end{aligned}$$