

t43_matrix_8 (TMVuM- CUqkqt3hYDw1XhkWo5by8VpkJi6izm)

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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 $v1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_matrix_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge (\\
& (v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\
& (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\
& X1) X0 X0) \Rightarrow (\forall X3.(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0) \Rightarrow \\
& (\forall X4.(m1_matrix_1 X4 (u1_struct_0 X1) X0 X0) \Rightarrow (((v1_matrix_6 \\
& X2 X0 X1) \wedge ((v1_matrix_6 X3 X0 X1) \wedge (v1_matrix_6 X4 X0 X1))) \Rightarrow ((v1_matrix_6 \\
& (k4_matrix_6 X0 X1 (k4_matrix_6 X0 X1 X2 X3) X4) X0 X1) \wedge (k5_matrix_6 \\
& X0 X1 (k4_matrix_6 X0 X1 (k4_matrix_6 X0 X1 X2 X3) X4) = k4_matrix_6 \\
& X0 X1 (k4_matrix_6 X0 X1 (k5_matrix_6 X0 X1 X4) (k5_matrix_6 X0 X1 \\
& X3)) (k5_matrix_6 X0 X1 X2)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge (\\
& (v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\
& (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\
& X1) X0 X0) \Rightarrow ((v1_matrix_6 X2 X0 X1) \Rightarrow ((v1_matrix_6 (k5_matrix_6 \\
& X0 X1 X2) X0 X1) \wedge (k5_matrix_6 X0 X1 (k5_matrix_6 X0 X1 X2) = X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7_ordinal1\ X0) \wedge ((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ & ((v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \wedge (m1_matrix_1\ X2\ (u1_struct_0\ X1) \\ & X0\ X0)) \Rightarrow (m1_matrix_1\ (k5_matrix_6\ X0\ X1\ X2)\ (u1_struct_0\ X1)\ X0 \\ & X0) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1\ X0) \Rightarrow (\forall X1. ((\neg v2_struct_0\ X1) \wedge \\ & ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\ & (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2. (m1_matrix_1\ X2\ (u1_struct_0 \\ & X1)\ X0\ X0) \Rightarrow (\forall X3. (m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\ & ((r1_matrix_8\ X0\ X1\ X2\ X3) \Leftrightarrow (\exists X4. (m1_matrix_1\ X4\ (u1_struct_0 \\ & X1)\ X0\ X0) \wedge ((v1_matrix_6\ X4\ X0\ X1) \wedge (X2 = k4_matrix_6\ X0\ X1\ (k4_matrix_6 \\ & X0\ X1\ (k5_matrix_6\ X0\ X1\ X4)\ X3)\ X4)))))) \end{aligned} \tag{4}$$

Theorem 1

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