

t28_matrix_6

(TMX67Z1UqkhzqviLbV7RQqBFX3pEsrFZAok)

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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 $v7_ordinal1 : \iota \Rightarrow o$ 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 $v2_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $l2_algstr_0 : \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
 & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & (v7_ordinal1 X1) \Rightarrow (\forall X2. (m1_matrix_1 X2 (u1_struct_0 X0) \\
 & X1 X1) \Rightarrow (k5_matrix_1 X1 (u1_struct_0 X0) (k1_matrix_6 X1 X0 X2) = \\
 & k1_matrix_6 X1 X0 (k5_matrix_1 X1 (u1_struct_0 X0) X2))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& (\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\
& (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ (k2_matrix_6\ X0\ X1\ X2\ X3) = k2_matrix_6 \\
& X0\ X1\ (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ X2)\ (k5_matrix_1\ X0\ (u1_struct_0 \\
& X1)\ X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1\ X0) \wedge \\
& (((\neg v2_struct_0\ X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge \\
& ((v33_algstr_0\ X1) \wedge ((v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge \\
& ((v5_vectsp_1\ X1) \wedge (l6_algstr_0\ X1)))))))))) \wedge ((m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0) \wedge (m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0))) \Rightarrow \\
& (k3_matrix_6\ X0\ X1\ X2\ X3 = k1_matrix_4\ X1\ X2\ X3)
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1\ X0) \wedge \\
& (((\neg v2_struct_0\ X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge \\
& ((v33_algstr_0\ X1) \wedge ((v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1 \\
& X1) \wedge ((v3_rlvect_1\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge \\
& ((v5_vectsp_1\ X1) \wedge (l6_algstr_0\ X1)))))))))) \wedge ((m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0) \wedge (m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0))) \Rightarrow \\
& (k2_matrix_6\ X0\ X1\ X2\ X3 = k3_matrix_3\ X1\ X2\ X3)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0) \wedge (((\neg v2_struct_0 \\
& X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \wedge (m1_matrix_1\ X2\ (u1_struct_0\ X1) \\
& X0\ X0))) \Rightarrow (k1_matrix_6\ X0\ X1\ X2 = k2_matrix_3\ X1\ X2)
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0 \\
(u1_struct_0\ X0)) \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0) \wedge ((v7_ordinal1 \\
& X1) \wedge (v7_ordinal1\ X2))) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ X0\ X1\ X2) \Rightarrow \\
& ((v1_matrix_1\ X3) \wedge (m2_finseq_1\ X3\ (k3_finseq_2\ X0))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge (\neg v6_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge \\ & ((v33_algstr_0 X1) \wedge (v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge \\ & ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))))) \wedge (m1_matrix_1 \\ & X2 (u1_struct_0 X1) X0 X0) \wedge (m1_matrix_1 X3 (u1_struct_0 X1) X0 X0))) \Rightarrow \\ & (m1_matrix_1 (k2_matrix_6 X0 X1 X2 X3) (u1_struct_0 X1) X0 X0) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge (\neg v6_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v33_algstr_0 X1) \wedge \\ & ((v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 \\ & X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge (v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))))))) \wedge (m1_matrix_1 X2 (u1_struct_0 X1) \\ & X0 X0)) \Rightarrow (m1_matrix_1 (k1_matrix_6 X0 X1 X2) (u1_struct_0 X1) X0 \\ & X0) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((\neg v6_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v33_algstr_0 X1) \wedge \\ & (v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 \\ & X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge (v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\ & X1) X0 X0) \Rightarrow ((v2_matrix_6 X2 X0 X1) \Leftrightarrow (k5_matrix_1 X0 (u1_struct_0 \\ & X1) X2 = X2))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (k1_matrix_4 X0 X1 X2 = k3_matrix_3 X0 X1 (k2_matrix_3 \\
& X0 X2))))
\end{aligned} \tag{14}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (v7_ordinal1 X1) \Rightarrow (\forall X2. (m1_matrix_1 X2 (u1_struct_0 X0) \\
& X1 X1) \Rightarrow (\forall X3. (m1_matrix_1 X3 (u1_struct_0 X0) X1 X1) \Rightarrow (((\\
& v2_matrix_6 X2 X1 X0) \wedge (v2_matrix_6 X3 X1 X0) \Rightarrow (v2_matrix_6 (k3_matrix_6 \\
& X1 X0 X2 X3) X1 X0))))))
\end{aligned}$$