

t12_matrix_8 (TMHBGeViUheq- pAg2YGBf1fxEEHyenN1UYd1E)

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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 $v1_matrix_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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. Let $k5_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k12_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
 & ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge (\\
 & (v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\
 & X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\
 & (l6_algstr_0 X1)))))))))) \Rightarrow ((k5_matrix_6 X0 X1 (k12_matrix_1 \\
 & X1 X0) = k12_matrix_1 X1 X0) \wedge (v1_matrix_6 (k12_matrix_1 X1 X0) X0 \\
 & X1)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\
& ((r1_matrix_6\ X0\ X1\ X2\ X3) \Rightarrow ((r1_xxreal_0\ X0\ k6_numbers) \vee (r1_matrix_6 \\
& X0\ X1\ (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ X2)\ (k5_matrix_1\ X0\ (u1_struct_0 \\
& X1)\ X3))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((\neg v6_struct_0\ X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0\ X0) \wedge ((v3_group_1\ X0) \wedge ((v5_group_1\ X0) \wedge (\\
& (v2_rlvect_1\ X0) \wedge ((v3_rlvect_1\ X0) \wedge ((v4_rlvect_1\ X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1\ X0) \wedge (l6_algstr_0\ X0)))))))))) \Rightarrow (\forall X1. \\
& (m1_matrix_1\ X1\ (u1_struct_0\ X0)\ k6_numbers\ k6_numbers) \Rightarrow (k12_matrix_3 \\
& k6_numbers\ X0\ X1 = k5_struct_0\ X0))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\neg(k6_numbers \neq X0) \wedge (r1_xxreal_0\ X0\ k6_numbers)) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow ((\neg r1_xxreal_0\ X0\ k6_numbers) \Rightarrow ((v1_matrix_8\ X2\ X0\ X1) \Leftrightarrow \\
& (v1_matrix_8\ (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ X2)\ X0\ X1))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\
& ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge (\\
& (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\
& X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\
& (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0) \Rightarrow ((v1_matrix_6\ X2\ X0\ X1) \Leftrightarrow (k12_matrix_3\ X0\ X1\ X2 \neq k4_struct_0 \\
& X1)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\ X1)\ X0\ X0) \Rightarrow (m1_matrix_1\ (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ X2)\ (u1_struct_0 \\ X1)\ X0\ X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\ X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\ (((v1_matrix_8\ X2\ X0\ X1) \wedge ((v1_matrix_8\ X3\ X0\ X1) \wedge (r1_matrix_6 \\ X0\ X1\ X2\ X3))) \Rightarrow (v1_matrix_8\ (k4_matrix_6\ X0\ X1\ X2\ X3)\ X0\ X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\ X1)\ X0\ X0) \Rightarrow (((v1_matrix_6\ X2\ X0\ X1) \wedge (v1_matrix_8\ X2\ X0\ X1)) \Rightarrow (X2 = \\ k12_matrix_1\ X1\ X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge ((v33_algstr_0\ X1) \wedge \\ (v3_group_1\ X1) \wedge ((v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge ((v3_rlvect_1 \\ X1) \wedge ((v4_rlvect_1\ X1) \wedge ((v4_vectsp_1\ X1) \wedge ((v5_vectsp_1\ X1) \wedge \\ (l6_algstr_0\ X1)))))))))) \Rightarrow (k5_matrix_1\ X0\ (u1_struct_0\ X1) \\ (k12_matrix_1\ X1\ X0) = k12_matrix_1\ X1\ X0)) \end{aligned} \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1\ X0)\wedge \\
& ((\neg v2_struct_0\ X1)\wedge(\neg v6_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge \\
& ((v33_algstr_0\ X1)\wedge((v3_group_1\ X1)\wedge((v5_group_1\ X1)\wedge((v2_rlvect_1 \\
& X1)\wedge((v3_rlvect_1\ X1)\wedge((v4_rlvect_1\ X1)\wedge((v4_vectsp_1\ X1)\wedge \\
& ((v5_vectsp_1\ X1)\wedge(l6_algstr_0\ X1))))))))))\wedge((m1_matrix_1 \\
& X2\ (u1_struct_0\ X1)\ X0\ X0)\wedge(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0)))\Rightarrow \\
& (k4_matrix_6\ X0\ X1\ X2\ X3 = k4_matrix_3\ X1\ X2\ X3)
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v7_ordinal1\ X0)\wedge(\neg v2_struct_0\ X1)\wedge \\
& ((\neg v6_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge((v33_algstr_0\ X1)\wedge(\\
& (v3_group_1\ X1)\wedge((v5_group_1\ X1)\wedge((v2_rlvect_1\ X1)\wedge((v3_rlvect_1 \\
& X1)\wedge((v4_rlvect_1\ X1)\wedge((v4_vectsp_1\ X1)\wedge((v5_vectsp_1\ X1)\wedge \\
& (l6_algstr_0\ X1))))))))))\Rightarrow(v2_matrix_6\ (k12_matrix_1\ X1 \\
& X0)\ X0\ X1)
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge(l6_algstr_0\ X0))\wedge \\
& (v7_ordinal1\ X1))\Rightarrow(m1_matrix_1\ (k12_matrix_1\ X0\ X1)\ (u1_struct_0 \\
& X0)\ X1\ X1)
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge \\
& ((\neg v6_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge((v33_algstr_0\ X1)\wedge(\\
& (v3_group_1\ X1)\wedge((v5_group_1\ X1)\wedge((v2_rlvect_1\ X1)\wedge((v3_rlvect_1 \\
& X1)\wedge((v4_rlvect_1\ X1)\wedge((v4_vectsp_1\ X1)\wedge((v5_vectsp_1\ X1)\wedge \\
& (l6_algstr_0\ X1))))))))))\Rightarrow(\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0)\Rightarrow((v2_matrix_6\ X2\ X0\ X1)\Leftrightarrow(k5_matrix_1\ X0\ (u1_struct_0 \\
& X1)\ X2 = X2)))
\end{aligned} \tag{15}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge \\
& ((\neg v6_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge((v33_algstr_0\ X1)\wedge(\\
& (v3_group_1\ X1)\wedge((v5_group_1\ X1)\wedge((v2_rlvect_1\ X1)\wedge((v3_rlvect_1 \\
& X1)\wedge((v4_rlvect_1\ X1)\wedge((v4_vectsp_1\ X1)\wedge((v5_vectsp_1\ X1)\wedge \\
& (l6_algstr_0\ X1))))))))))\Rightarrow(\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\
& X1)\ X0\ X0)\Rightarrow(\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0)\Rightarrow \\
& (((v1_matrix_8\ X2\ X0\ X1)\wedge((v1_matrix_8\ X3\ X0\ X1)\wedge(r1_matrix_6 \\
& X0\ X1\ X2\ X3)))\Rightarrow(v1_matrix_8\ (k4_matrix_6\ X0\ X1\ (k5_matrix_1\ X0\ (\\
& u1_struct_0\ X1)\ X2)\ (k5_matrix_1\ X0\ (u1_struct_0\ X1)\ X3))\ X0\ X1))))))
\end{aligned}$$