

t103_matrix13

(TMXTbcS83VEXzJCqoLZRfk3UkHnjMrtofKF)

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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 $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_matrix13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v2_setfam_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\
& (\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_matrix_1 X3 X2 X0 X1) \Rightarrow (\forall X4. \\
& (v7_ordinal1 X4) \Rightarrow ((X4 \in k2_finseq_1 X0) \Rightarrow (k1_funct_1 X3 X4 = k8_matrix_1 \\
& X2 X3 X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X0)\wedge(\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge \\ & ((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 \\ & X0)\wedge((v4_rlvect_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge \\ & (l6_algstr_0 X0))))))))))\wedge((v7_ordinal1 X1)\wedge((v7_ordinal1 \\ & X2)\wedge(m1_matrix_1 X3 (u1_struct_0 X0) X1 X2))))\Rightarrow(k9_matrix13 X0 \\ & X1 X2 X3 = k10_xtuple_0 X3) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.((\neg v7_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_zfmisc_1 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge(\\ & (v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & X0)))))) \end{aligned} \quad (7)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (12)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (m1_subset_1 (k2_finseq_1 X0) (k1_zfmisc_1 k5_numbers)) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)))) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow ((X1 = k3_finseq_1 X0) \Leftrightarrow (k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 X0))) \Rightarrow ((m1_matrix_1 X3 X0 X1 X2) \Leftrightarrow (k3_finseq_1 X3 = X1) \wedge (\forall X4.(m2_finseq_1 X4 X0) \Rightarrow ((X4 \in k10_xtuple_0 X3) \Rightarrow (k3_finseq_1 X4 = X2)))))))) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0.(\neg v1_zfmisc_1 X0) \Rightarrow (\neg v2_setfam_1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(l4_struct_0 X0) \Rightarrow ((\neg v6_struct_0 X0) \Rightarrow (\neg v7_struct_0 X0)) \quad (21)$$

Assume the following.

$$\forall X0.(\neg v2_setfam_1 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (v7_ordinal1\ X1) \Rightarrow (\forall X2. (v7_ordinal1 \\ & X2) \Rightarrow (\forall X3. ((\neg v2_struct_0\ X3) \wedge (\neg v6_struct_0\ X3) \wedge ((v13_algstr_0 \\ & X3) \wedge ((v33_algstr_0\ X3) \wedge (v3_group_1\ X3) \wedge (v5_group_1\ X3) \wedge \\ & (v2_rlvect_1\ X3) \wedge (v3_rlvect_1\ X3) \wedge (v4_rlvect_1\ X3) \wedge (v4_vectsp_1 \\ & X3) \wedge (v5_vectsp_1\ X3) \wedge (l6_algstr_0\ X3)))))) \Rightarrow (\forall X4. \\ & (m1_matrix_1\ X4\ (u1_struct_0\ X3)\ X2\ X1) \Rightarrow ((X0 \in k9_matrix13\ X3\ X2 \\ & X1\ X4) \Leftrightarrow (\exists X5. (v7_ordinal1\ X5) \wedge ((X5 \in k2_finseq_1\ X2) \wedge (X0 = \\ & k8_matrix_1\ (u1_struct_0\ X3)\ X4\ X5)))))) \end{aligned}$$