

t56_matrix16

(TMUtQp64GJedMPD51jZDymgev3R6kxCZH9r)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ 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 $v5_matrix16 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v33_algstr_0 X1) \wedge \\ & ((v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 \\ & X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge (v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\ & X1) X0 X0) \Rightarrow ((v5_matrix16 X2 X1) \Rightarrow (v5_matrix16 (k1_matrix_6 X0 X1 \\ & X2) X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge \\ & ((v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 \\ & X1) X0 X0) \Rightarrow (\forall X3.(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0) \Rightarrow \\ & (((v5_matrix16 X2 X1) \wedge (v5_matrix16 X3 X1)) \Rightarrow (v5_matrix16 (k2_matrix_6 \\ & X0 X1 X2 X3) X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\ & ((v33_algstr_0 X1) \wedge ((v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge \\ & ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))))) \wedge ((m1_matrix_1 \\ & X2 (u1_struct_0 X1) X0 X0) \wedge (m1_matrix_1 X3 (u1_struct_0 X1) X0 X0))) \Rightarrow \\ & (k3_matrix_6 X0 X1 X2 X3 = k1_matrix_4 X1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\ & ((v33_algstr_0 X1) \wedge ((v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge \\ & ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))))) \wedge ((m1_matrix_1 \\ & X2 (u1_struct_0 X1) X0 X0) \wedge (m1_matrix_1 X3 (u1_struct_0 X1) X0 X0))) \Rightarrow \\ & (k2_matrix_6 X0 X1 X2 X3 = k3_matrix_3 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge \\ & ((v3_group_1 X1) \wedge ((v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\ & (l6_algstr_0 X1)))))))))) \wedge (m1_matrix_1 X2 (u1_struct_0 X1) \\ & X0 X0))) \Rightarrow (k1_matrix_6 X0 X1 X2 = k2_matrix_3 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v7_ordinal1 X1)\wedge(v7_ordinal1 X2)))\Rightarrow(\forall X3.(m1_matrix_1 X3 X0 X1 X2)\Rightarrow((v1_matrix_1 X3)\wedge(m2_finseq_1 X3 (k3_finseq_2 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (11)$$

Assume the following.

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

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))))))\Rightarrow(\forall X1.((v1_matrix_1 X1)\wedge(m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 X0))))\Rightarrow(\forall X2.((v1_matrix_1 X2)\wedge(m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0))))\Rightarrow(k1_matrix_4 X0 X1 X2 = k3_matrix_3 X0 X1 (k2_matrix_3 X0 X2)))) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (14)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.(((\neg v2_struct_0 X1)\wedge((\neg v6_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge((v33_algstr_0 X1)\wedge((v3_group_1 X1)\wedge((v5_group_1 X1)\wedge((v2_rlvect_1 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge((v4_vectsp_1 X1)\wedge((v5_vectsp_1 X1)\wedge(l6_algstr_0 X1))))))))))))))\Rightarrow(\forall X2.(m1_matrix_1 X2 (u1_struct_0 X1) X0 X0)\Rightarrow(\forall X3.(m1_matrix_1 X3 (u1_struct_0 X1) X0 X0)\Rightarrow(((v5_matrix16 X2 X1)\wedge(v5_matrix16 X3 X1))\Rightarrow(v5_matrix16 (k3_matrix_6 X0 X1 X2 X3) X1))))))$$