

t42_matrixr2

(TMMoLbpSsoNuLqwo8pSDv8HCT3aXthcsQkz)

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Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k3_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrixr1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vectsp_1 : \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ 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 $l3_struct_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $k33_binop_2 : \iota$ be given. Let $k35_binop_2 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
 & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & (m1_matrix_1 X1 (u1_struct_0 X0) k6_numbers k6_numbers) \Rightarrow (k12_matrix_3 \\
 & k6_numbers X0 X1 = k5_struct_0 X0))
 \end{aligned}
 \tag{1}$$

Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \quad (2)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(m1_matrix_1 \ X1 \ k1_numbers \ X0 \ X0))\Rightarrow(k2_matrixr2 \ X0 \ X1 = k1_matrixr1 \ X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \ X1)\wedge((v1_funct_2 \ X1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)\wedge(m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0))))\wedge((v1_funct_1 \ X2)\wedge \\ & (v1_funct_2 \ X2 \ (k2_zfmisc_1 \ X0 \ X0) \ X0)\wedge(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X0) \ X0))))\wedge((m1_subset_1 \ X3 \ X0)\wedge \\ & (m1_subset_1 \ X4 \ X0))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8. \\ & \forall X9.(g6_algstr_0 \ X0 \ X1 \ X2 \ X3 \ X4 = g6_algstr_0 \ X5 \ X6 \ X7 \ X8 \ X9)\Rightarrow \\ & ((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & (\neg v6_struct_0 \ k2_vectsp_1)\wedge((v13_algstr_0 \ k2_vectsp_1)\wedge((\\ & v33_algstr_0 \ k2_vectsp_1)\wedge((v36_algstr_0 \ k2_vectsp_1)\wedge((v2_rlvect_1 \ k2_vectsp_1)\wedge \\ & (v3_rlvect_1 \ k2_vectsp_1)\wedge((v4_rlvect_1 \ k2_vectsp_1)\wedge \\ & ((v3_group_1 \ k2_vectsp_1)\wedge((v5_group_1 \ k2_vectsp_1)\wedge((v3_vectsp_1 \ k2_vectsp_1)\wedge \\ & ((v5_vectsp_1 \ k2_vectsp_1)\wedge(v6_vectsp_1 \ k2_vectsp_1)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$(v36_algstr_0 \ k2_vectsp_1)\wedge(v4_vectsp_1 \ k2_vectsp_1) \quad (8)$$

Assume the following.

$$(\neg v2_struct_0 \ k2_vectsp_1)\wedge(v36_algstr_0 \ k2_vectsp_1) \quad (9)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (10)$$

Assume the following.

$$\forall X0.(l2_struct_0 \ X0)\Rightarrow(m1_subset_1 \ (u2_struct_0 \ X0) \ (u1_struct_0 \ X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0 X0) \Rightarrow & ((v1_funct_1 (u2_algstr_0 X0)) \wedge \\ & ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 X0) \Rightarrow & ((v1_funct_1 (u1_algstr_0 X0)) \wedge \\ & ((v1_funct_2 (u1_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((l2_algstr_0 X0) \wedge (l5_algstr_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (17)$$

Assume the following.

$$(v36_algstr_0 k2_vectsp_1) \wedge (l6_algstr_0 k2_vectsp_1) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_matrix_1 \\ X1 k1_numbers X0 X0)) \Rightarrow (m1_matrix_1 (k2_matrixr2 X0 X1) (u1_struct_0 \\ k2_vectsp_1) X0 X0) \end{aligned} \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v7_ordinal1 X0) \wedge (((\neg v2_struct_0 \\ X1) \wedge ((\neg v6_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v33_algstr_0 X1) \wedge \\ ((v3_group_1 X1) \wedge (v5_group_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 \\ X1) \wedge ((v4_rlvect_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge \\ (l6_algstr_0 X1)))))))))) \wedge (m1_matrix_1 X2 (u1_struct_0 X1) \\ X0 X0)) \Rightarrow (m1_subset_1 (k12_matrix_3 X0 X1 X2) (u1_struct_0 X1)) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0) \Rightarrow (k5_struct_0 X0 = u3_struct_0 X0) \quad (21)$$

Assume the following.

$$k2_vectsp_1 = g6_algstr_0 k1_numbers k33_binop_2 k35_binop_2 \quad (22)$$

$$np_1 k6_numbers$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \quad (23)$$

$$X1 k1_numbers X0 X0) \Rightarrow (k3_matrixr2 X0 X1 = k12_matrix_3 X0 k2_vectsp_1$$

$$(k2_matrixr2 X0 X1)))$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_card_1 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (27)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((v36_algstr_0 X0) \Rightarrow (X0 = g6_algstr_0 \quad (28)$$

$$(u1_struct_0 X0) (u1_algstr_0 X0) (u2_algstr_0 X0) (u3_struct_0$$

$$X0) (u2_struct_0 X0)))$$

Theorem 1

$$\forall X0.(m1_matrix_1 X0 k1_numbers k6_numbers k6_numbers) \Rightarrow$$

$$(k3_matrixr2 k6_numbers X0 = np_1)$$