

t63_matrixr2

(TMMr9oP11dUigxAq7DJNSdbRonMs7T5kBsx)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k4_matrixr2 : \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ 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 $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $k2_vectsp_1 : \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ 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 $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k35_binop_2 : \iota$ be given. Let $k33_binop_2 : \iota$ be given. Let $k12_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_matrixr1 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((v1_funct_1 \\ & X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))\wedge(((v1_funct_1 X2)\wedge \\ & (v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))\wedge((m1_subset_1 X3 X0)\wedge \\ & (m1_subset_1 X4 X0))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8. \\ & \forall X9.(g6_algstr_0 X0 X1 X2 X3 X4 = g6_algstr_0 X5 X6 X7 X8 X9)\Rightarrow \\ & ((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (4)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (5)$$

Assume the following.

$$(\neg v2_struct_0 k2_vectsp_1)\wedge(v36_algstr_0 k2_vectsp_1) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v7_ordinal1 \\ & X1)\wedge(v7_ordinal1 X2)))\Rightarrow(\forall X3.(m1_matrix_1 X3 X0 X1 X2)\Rightarrow \\ & ((v1_matrix_1 X3)\wedge(m2_finseq_1 X3 (k3_finseq_2 X0)))) \end{aligned} \quad (9)$$

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.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (12)$$

Assume the following.

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

Assume the following.

$$m2_subset_1 \ k6_numbers \ k1_numbers \ k5_numbers \quad (14)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 \ k35_binop_2) \wedge ((v1_funct_2 \ k35_binop_2 \ (k2_zfmisc_1 \\ & k1_numbers \ k1_numbers) \ k1_numbers) \wedge (m1_subset_1 \ k35_binop_2 \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \\ & k1_numbers)))) \quad (16) \end{aligned}$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 \ k33_binop_2) \wedge ((v1_funct_2 \ k33_binop_2 \ (k2_zfmisc_1 \\ & k1_numbers \ k1_numbers) \ k1_numbers) \wedge (m1_subset_1 \ k33_binop_2 \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers) \\ & k1_numbers)))) \quad (17) \end{aligned}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge (l6_algstr_0 \ X0)) \wedge \\ & (v7_ordinal1 \ X1)) \Rightarrow (m1_matrix_1 \ (k12_matrix_1 \ X0 \ X1) \ (u1_struct_0 \\ & X0) \ X1 \ X1) \quad (19) \end{aligned}$$

Assume the following.

$$\forall X0. (l3_struct_0 \ X0) \Rightarrow (k5_struct_0 \ X0 = u3_struct_0 \ X0) \quad (20)$$

Assume the following.

$$\forall X0. (l2_struct_0 \ X0) \Rightarrow (k4_struct_0 \ X0 = u2_struct_0 \ X0) \quad (21)$$

Assume the following.

$$\begin{aligned} k2_vectsp_1 = g6_algstr_0 \ k1_numbers \ k33_binop_2 \ k35_binop_2 \\ np_1 \ k6_numbers \quad (22) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. k4_tarski \ X0 \ X1 = k2_tarski \ (k2_tarski \ X0 \\ X1) \ (k1_tarski \ X0) \quad (23) \end{aligned}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (k4_matrixr2 X0 = k2_matrixr1 (k12_matrix_1 k2_vectsp_1 X0)) \quad (24)$$

Assume the following.

$$\forall X0.((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 (u1_struct_0 k2_vectsp_1)))) \Rightarrow (k2_matrixr1 X0 = X0) \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow (\forall X1. \\ & (v7_ordinal1 X1) \Rightarrow (\forall X2.(m1_matrix_1 X2 (u1_struct_0 X0) \\ & X1 X1) \Rightarrow ((X2 = k12_matrix_1 X0 X1) \Leftrightarrow ((\forall X3.(v7_ordinal1 X3) \Rightarrow \\ & ((k4_tarski X3 X3 \in k2_matrix_1 X2) \Rightarrow (k3_matrix_1 (u1_struct_0 \\ & X0) X2 X3 X3 = k5_struct_0 X0)))) \wedge (\forall X3.(v7_ordinal1 X3) \Rightarrow (\\ & \forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X3 X4 \in k2_matrix_1 X2) \Rightarrow \\ & ((X3 = X4) \vee (k3_matrix_1 (u1_struct_0 X0) X2 X3 X4 = k4_struct_0 X0)))))))))) \quad (26) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (27)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (29)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((v36_algstr_0 X0) \Rightarrow (X0 = g6_algstr_0 (u1_struct_0 X0) (u1_algstr_0 X0) (u2_algstr_0 X0) (u3_struct_0 X0) (u2_struct_0 X0))) \quad (30)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow ((\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow ((k4_tarski X1 X1 \in k2_matrix_1 (k4_matrixr2 X0) \Rightarrow \\ & (k3_matrix_1 k1_numbers (k4_matrixr2 X0) X1 X1 = np_1))) \wedge (\forall X1. \\ & (m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow \\ & ((k4_tarski X1 X2 \in k2_matrix_1 (k4_matrixr2 X0) \Rightarrow ((X1 = X2) \vee (k3_matrix_1 \\ & k1_numbers (k4_matrixr2 X0) X1 X2 = k6_numbers))))))) \end{aligned}$$